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Doris Lee, J.D., assistant vice president for student services
Blanca Guerra, LBSW, MSSW, Registrar
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Administration

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Sandra K. Woodley, Vice Chancellor for Strategic Initiatives
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<td>President</td>
<td>William L. Henrich, MD, MACP</td>
<td>Senior Executive Vice President and Chief Operating Officer</td>
<td>Michael E. Black, MBA</td>
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<td>Vice President for Governmental Relations</td>
<td>Armando Diaz, Med</td>
<td>Vice President and Chief Financial Officer</td>
<td>Andrea Marks, MBA, CPA</td>
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<td>Deborah Morrill, MS</td>
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<td>Dean School of Nursing</td>
<td>Eileen T. Breslin, PhD, RNC</td>
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<td>William W. Dodge, DDS</td>
<td>Associate Dean for Academic Affairs</td>
<td>Birgit Junfin Glass, DDS/MS</td>
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<td>Associate Dean for Student Affairs Dental School</td>
<td>Adriana Segura, DDS, MS</td>
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<td>Associate Dean for Research School of Medicine</td>
<td>Luci K. Leykum, MD, MBA, MSc</td>
<td>Associate Dean for Faculty and Diversity School of Medicine</td>
<td>Gabriel Martyak, DO, MBA</td>
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<td>Bruce J. Nicholson, PhD</td>
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<td>Christi A. Walter, PhD</td>
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<td>Brad H. Pollock, PHD, MPH</td>
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<td>Joel B. Baseman, PhD</td>
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<td>Z. Dave Sharp, PhD</td>
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<td>Betty Dunn, MS, GG(ASCP)/CM</td>
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The Health Science Center

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- Size and Location
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- Campus Facilities
  Visiting the Campus, Speech & Assembly Area, Library Services, Bookstore, Auditorium, Cafeterias (Dining Services), Housing, Transportation, Accessibility for the Disabled, ADA Accommodations

Mission, Role, and Scope

Mission Statement
The mission of The University of Texas Health Science Center at San Antonio is to serve the needs of the citizens of Texas, the nation and the world through programs committed to excellence and designed to:

- Educate health professionals to provide the best possible health care for San Antonio, the entire South Texas community and the State of Texas; to apply state-of-the-art treatment modalities; and to continue to seek information fundamental to the prevention, diagnosis, and treatment of disease.
- Play a major regional, national, and international role as a leading biomedical education and research institution in the discovery of new knowledge and the search for answers to society’s health care needs.
- Be an integral part of the health care delivery system of San Antonio and the entire South Texas community, as well as an important component of the health care delivery system of Texas and the nation.
- Serve as a catalyst for stimulating the life science industry in South Texas, culminating in services and technology transfer that benefit local and state economies.
- Offer continuing education programs and expertise for professional and lay communities.

Purpose
The UT Health Science Center San Antonio’s purpose is to provide the best in health careers education, biomedical research, patient care, and community service to San Antonio and the South Texas/Border Region. Through undergraduate, graduate, and postgraduate programs, the faculty is committed to educating health professionals who will provide excellent patient care and research that can be applied to treat and prevent disease.

The Health Science Center, established in 1959, is a health institution of The University of Texas System and, as such, is committed to pursue the highest standards of achievement in instruction, student performance, research and scholarly accomplishment, patient care, and service. The Health Science Center has established itself as a major research institution, and its faculty plays a major role nationally in the discovery of new knowledge and the search for answers to society’s health care needs.

Faculty members engage in teaching, research, and patient care in a professional environment—one that encompasses a breadth of expertise that would be impossible to achieve in a single department or school. The Health Science Center will nurture this environment and will continue to support this integration. An important element of the educational effort is educating primary care health professionals of the highest quality. Faculty members engage in research and patient care while serving the people of Texas. As members of the only comprehensive academic health science center located in South Texas, the faculty has the unique advantage of focusing research questions on diseases that are prevalent among the citizens of South Texas, the border region, and Mexico. As a leader in health care, the Health Science Center has the responsibility of providing programs and expertise for the ongoing education of the professional and lay communities.

The Health Science Center, through its educational and research roles, provides the human and physical resources that facilitate the continuing development of the biosciences in
the community and the region. Since the legislative chartering of the School of Medicine in 1959, The Health Science Center, with its five health professional schools, has developed into a major health sciences university in the state, nation, and world.

Through the undergraduate, graduate, and post-graduate programs, the faculty is committed to the education of health professionals whose lifelong career objectives will be to provide the best possible health care in the most cost-effective way, to apply contemporary treatment modalities, and to seek information that is fundamental to the treatment and prevention of disease.

The Health Science Center offers more than 68 health-related degree specialties and pre- and post-baccalaureate certificate programs.

The institution consists of the Dental School, the Graduate School of Biomedical Sciences, the School of Medicine, the School of Health Professions, and the School of Nursing, and offers degrees and programs in health-related fields. A Doctor of Pharmacy program is offered jointly with The University of Texas at Austin. In addition, a component of the School of Public Health at The UT Health Science Center at Houston offers the Master of Public Health on this campus.

The Dental School develops and conducts high-quality educational programs offering the opportunity for qualified students to participate in a program leading to the Doctor of Dental Surgery degree, advanced educational programs in a variety of specialty areas, and advanced General Dentistry. The Dental School also offers advanced educational programs in General Dentistry and Pediatric Dentistry in Laredo, Texas. Dental faculty provides these programs in the Departments of Comprehensive Dentistry, Developmental Dentistry, Endodontics, Oral and Maxillofacial Surgery, and Periodontics. The Dental School contributes significantly to the body of basic and applied knowledge related to oral health and provides oral health care services to the population of San Antonio and South Texas.

The Graduate School of Biomedical Sciences currently hosts doctoral programs in Biochemistry, Biomedical Engineering, Cellular and Structural Biology, Microbiology and Immunology, Molecular Medicine, Nursing, Pharmacology, Physiology, and Radiological Sciences. Masters degrees are offered in each of these disciplines as well as in several areas of oral health sciences (Dental Diagnostic Science, Endodontics, Periodontics, and Prosthodontics), Health Professions (Clinical Laboratory Sciences and Dental Hygiene), and Clinical Investigation. The Graduate School jointly administers, with The University of Texas at Austin, a program leading to the Doctor of Pharmacy degree (Pharm.D.). These programmatic vehicles enable the Graduate School of Biomedical Sciences to assert its primary objective of educating students committed to the advancement of knowledge in contemporary areas of the biomedical sciences. A compelling aspect of graduate education in a health science center environment is the opportunity for graduate students to interface with health professionals with diverse technological and conceptual capabilities and perspectives in the biomedical sciences. The proof of accomplishment or enduring value of any educational process must be accounted in the demonstrated productivity and academic achievement of the graduates of the program. Without question, the doctoral and masters programs of the Graduate School of Biomedical Sciences have, during the past three-and-one-half decades, achieved outstanding success in their educational mission of preparing professional scientists who function well in academic, industrial, and government sectors.

The School of Health Professions conducts high-quality educational programs that offer students the opportunity to become competent health care providers in health sciences. Included in the school’s programs are certificate, baccalaureate, post-baccalaureate certificate, masters, and doctoral degree programs. Pre-baccalaureate certificate programs are offered in dental laboratory technology and emergency health sciences. Bachelor’s degrees are offered in clinical laboratory sciences, cytogenetics, dental hygiene, dental laboratory sciences, emergency health sciences, and respiratory care. Post-baccalaureate certificates are offered in clinical laboratory sciences, and cytogenetics. Advanced degree programs include Master of Science in Clinical Laboratory Sciences forensic/analytical toxicology, Master of Science in Dental Hygiene, Master of Occupational Therapy, Doctor of Physical Therapy, and Master of Physician Assistant Studies.

The School of Medicine develops and conducts high-quality educational programs offering the opportunity for students to pursue the Doctor of Medicine degree and for residents and fellows to pursue a full range of residency and fellowship training. Medical clinical faculty provide these programs in the Departments of Medicine, Anesthesiology, Family and Community Medicine, Obstetrics and Gynecology, Ophthalmology, Orthopedics, Otolaryngology-Head and Neck Surgery, Pathology, Pediatrics, Psychiatry, Radiation Oncology, Radiology, Rehabilitation Medicine, Surgery, and Urology. Conducting biomedical and other health-related research is an integral role of the School of Medicine.

The School of Nursing develops and conducts high-quality educational programs offering the opportunity for students to participate in programs leading to the Bachelor of Science in Nursing, Master of Science in Nursing, and Doctor of Philosophy degrees. These educational programs benefit from a faculty that supports competent clinical practice, conducts research focused on patient care, and engages in community service.

Certificate and Degree Programs Length

The following information is based on a student's full-time enrollment during her/his academic career.

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<td>Endodontics</td>
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<td>Pediatric Dentistry</td>
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<td>Periodontics</td>
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UT Health Science Center San Antonio Catalog 2011-2012
Research and Teaching

Faculty excellence at the Health Science Center is demonstrated by members’ participation on many national advisory and governing boards and by their election to high offices in national and professional societies. Faculty recruitment efforts emphasize research as well as teaching. The Health Science Center receives millions of dollars annually in new research, training, and public-service grants and contracts for hundreds of projects. The university endowment is growing at an impressive rate.

With the cooperation of medical institutions in the area and the combined resources of the Southwest Research Consortium—composed of the UT Health Science Center, The University of Texas at San Antonio (UTSA), the Audie L. Murphy Division of the South Texas Veterans Health Care System (VA), Trinity University, St. Mary's University, the Texas Biomedical Research Institute, Southwest Research Institute, the 311th Human Systems Wing at Brooks City-Base, and the San Antonio Military Medical Center—, which consolidates Wilford Hall Medical Center (WHMC) and Brooke Army Medical Center (BAMC) in San Antonio into one medical region with two integrated campuses — both basic and clinical research is under way in such fields as cancer, aging, genetics, immunology, cardiovascular disorders, nutrition, arthritis, osteoporosis, psychiatric disorders, AIDS, new drug development, and reproductive biology.

The University of Texas Institute of Biotechnology (IBT) is located on a 180-acre site in The Texas Research Park, 20 miles west of the central campus. The IBT is joined by the adjacent South Texas Centers for Biology in Medicine and the Sam and Ann Barshop Institute for Longevity and Aging Studies.

The Robert F. McDermott Clinical Science Building, on our Greehey Academic and Research Campus, houses the Research Imaging Center as well as research labs and teaching facilities for the Clinical Pharmacology and Clinical Pharmacy Programs and the Ophthalmology Department.

The School of Health professions programs are located in three campus buildings. The School of Health Professions (SHP Building) is adjacent to the McDermott Building and the Greehey Children’s Cancer Research Institute (GCCRI). The SHP Building houses three School of Health Professions departments including the Dean’s Office and a Graduate School of Biomedical Sciences research center. Departments and programs in the SHP Building are: Clinical Laboratory Sciences, Dental Hygiene, Dietetics and Nutrition, Emergency Health Sciences, Occupational Therapy, Physical Therapy, and Physician Assistant Studies. The Department of Respiratory Care is located in the Medical School building on the main Campus. The Graduate School’s Center for Biomolecular Structure Analysis has a suite of laboratories in the SHP Building for use by scientists throughout South Texas.

The Greehey Children’s Cancer Research Institute (GCCRI) is a unique and specialized cancer research center located at the UT Health Science Center’s Greehey Academic and Research Campus. The mission of the Greehey CCRI is to advance scientific knowledge relevant to childhood cancer and to accelerate the translation of knowledge into novel therapies. Through discovery, development, and dissemination of scientific knowledge with relevancy to childhood cancer, the overarching aim of the Greehey CCRI is to impact the problem of cancer at all ages.

The Cancer Therapy & Research Center (CTRC) at the UT Health Science Center San Antonio is one of the nation’s

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leading academic research and treatment centers, serving more than 4.4 million people in the high-growth corridor of Central and South Texas including Austin, San Antonio, Laredo and the Rio Grande Valley. The CTRC is one of the elite cancer centers in the country to be named a National Cancer Institute (NCI)-designated Cancer Center, and is one of only four in Texas. A world leader in developing new drugs to treat cancer, the CTRC Institute for Drug Development (IDD) is internationally recognized for conducting the largest oncology Phase I clinical drug trials programs in the world. The IDD participates in the clinical and/or preclinical development of many of the cancer drugs approved by the U.S. Food & Drug Administration.

The Medical Arts & Research Center (MARC) is home to the physicians of UT Medicine San Antonio, the clinical practice plan of the School of Medicine at the UT Health Science Center San Antonio. With more than 700 doctors – all faculty from the School of Medicine – UT Medicine San Antonio is the largest multidisciplinary practice plan in South Central Texas with expertise in more than 60 different branches of medicine. Located in the South Texas Medical Center at 8300 Floyd Curl Drive, the MARC features state-of-the-art clinics, diagnostic imaging, an ambulatory center, endoscopic suites, operating rooms, physician’s offices, and a pharmacy. The MARC will complement community physicians who will be invited to refer complex cases to UT Medicine San Antonio specialists and subspecialists.

The South Texas Research Facility (STRF), scheduled for completion in 2011, will be a 190,000-square-foot ultra-modern facility that will house the university’s growing research enterprise, including the Institute for Integration of Medicine and Science and the Center for Healthy Aging. The close proximity of the STRF to the MARC is expected to fuel translational research, thereby moving discoveries from the lab bench to use in the community.

Enrollment
Student retention in the School of Medicine and Dental School is 95 percent to 100 percent annually. Approximately 220 students are admitted to entering classes of the School of Medicine. Approximately 98–100 students are admitted to the Dental School each year.

The School of Nursing and School of Health Professions, with large undergraduate as well as graduate degree programs have more than 34 percent Hispanic student enrollment.

Among its many academic offerings, the Graduate School of Biomedical Sciences prepares school teachers for future Ph.D.-level study by offering a Master of Science degree that equips them as master science teachers in their classrooms.

The Health Science Center offers more than 50 health-related degree specialties and several pre- and post-baccalaureate certificate programs.

Student Enrollment Statistics
(For school year 2010-2011)

Size and Location
The Health Science Center is one of 15 institutions of the University of Texas System. The Health Science Center is composed of eight six campuses in San Antonio and South Texas.

The Joe R. and Teresa Lozano Long Campus is located on more than 100 acres in the heart of San Antonio’s South Texas Medical Center. A few blocks away are the 92-acre Greehey Academic and Research Campus, as is the Medical Arts & Research Center (MARC). The 160-acre Texas Research Park Campus is in west Bexar County. The Cancer Therapy & Research Center (CTRC) is located between the Long and Greehey campuses on Floyd Curl Drive. The university’s South Texas campuses are located in Harlingen, Laredo, and Edinburg.

Students are enrolled in the Health Science Center’s five schools—the Dental School, the Graduate School of Biomedical Sciences, the School of Health Professions, the School of Medicine, and the School of Nursing. Also, programs leading to a Doctor of Pharmacy and a Master of Public Health are jointly conducted with other universities of The University of Texas System.
In addition, more than 200 individuals are pursuing post-doctoral education and several hundred medical interns and residents are training at the institution. Annual research and other sponsored program activity accounts for $259 million (FY 2009). The interdisciplinary aspect of research and patient care is regarded as one of the university’s great strengths. The university’s locations on the northwest side of San Antonio are accessible to those who study and work in the Medical Center complex as well as to patients. Interstate 10 and the city’s major thoroughfare, Loop 410, converge about one mile from the Long and Greehey campuses.

The Health Science Center enjoys a suburban setting, away from congested traffic areas. Built on areas covered with native oak trees, the campuses are designed to preserve large spaces of grass and trees, with the San Antonio campuses overlooking views of the famous Texas Hill Country. The Health Science Center has more than 2 million square feet of education, research, treatment, and administrative facilities. The university employs nearly 6,000 faculty and staff, and has an annual budget of approximately $739 million.

The Greehey Children’s Cancer Research Institute (GCCRI) concentrates on the epidemiology of children’s cancer in the South Texas border region, identifying new targets of therapy in childhood cancer, new drug development, and research in cancer prevention. The GCCRI is located on our Greehey (North) Campus (8403 Floyd Curl Drive), between the CTRC Grossman Campus and the School of Health Professions Building.

Many institutions in San Antonio serve as excellent resources for programs of the Health Science Center. These include facilities of Bexar County’s University Health System, South Texas Veterans Health Care System/Audie Murphy Division, CHRISTUS Santa Rosa Health Care, San Antonio Military Medical Center (SAMMC), the U.S. Air Force School of Aerospace Medicine, San Antonio Metropolitan Health District, Southwest Research Institute, and the Texas Biomedical Research Institute.

The Health Science Center’s Regional Academic Health Center (RAHC) is located in the Lower Rio Grande Valley. Clinical training for third- and fourth-year medical students at the Regional Academic Health Center began in July 2002. Up to 24 medical students may choose to complete their third- and fourth-year medical training at the RAHC and its affiliated clinical sites. The clinical sites include Valley Baptist Medical Center and Su Clinical Familiar, both located in Harlingen. Other clinical sites to be included or under development are community clinics and the offices of private-practice physicians from throughout the Lower Rio Grande Valley. Assignments to the RAHC will, to the extent possible, be based on student preference. Through the RAHC, the Dental School also rotates senior dental students to Su Clinical Familiar (Harlingen, Raymondville, and Santa Rosa) each year as part of a required South Texas rotation as well as to the Brownsville Community Health Center in Brownsville during the summer months.

The Laredo Regional Campus serves the Mid-Rio Grande Border Area. The School of Health Professions offers the Bachelor of Science in Dietetics and Nutrition, Master of Dietetic Studies, and the Master of Physician Assistant Studies at the Laredo Regional Campus. Coursework is provided through distance learning, Web-supported courses, and local faculty. Administrative offices of the Dietetics and Nutrition Program are housed at the regional campus. Educational partnerships with Laredo Community College and Texas A&M International University allow students to complete core curriculum and prerequisite courses in preparation for admission to the professional curriculum. Laredo-area hospitals and health agencies provide excellent sites for clinical education.

The Dental School offers Postgraduate Prosthodontics and Periodontics residency rotations to the Gateway Community Health Center in Laredo. Dental Public Health residents rotate to the Laredo Health Department and will implement a school-based program in the United Independent School District as part of their training. Through the Regional Campus, the Dental School also rotates senior dental students to the Gateway Community Health Center (two sites) and to the Laredo Health Department each year as part of a required South Texas rotation. During the summer months, students also rotate to United Medical Centers, Inc. in Eagle Pass.

In July 2008, the Dental School, through the Regional Campus, initiated two full-time satellite residency programs: Pediatric Dentistry and Advanced Education in General Dentistry. The didactic training is provided at the Regional Campus and the clinical training is provided at the Laredo Health Department.

Teaching Affiliates - San Antonio

Some members of the staff of our teaching affiliates hold joint appointments in the Dental School, Graduate School of Biomedical Sciences, School of Medicine, or School of Nursing and participate in educational research programs. These institutions constitute an important resource for training students and provide needed laboratory space for conducting research.

University Hospital, operated by Bexar County’s University Health System, adjoins the Health Science Center and is connected to the School of Medicine building at several levels. Planned to integrate with the School of Medicine, it is a 12-story facility providing all general hospital and most tertiary care services. The hospital has approved post-graduate training programs in anesthesiology, surgery, internal medicine, obstetrics/gynecology, ophthalmology, orthopedic surgery, otolaryngology/ head and neck surgery, neurosurgery, thoracic surgery, pathology, pediatrics, rehabilitation medicine, psychiatry, radiology, urology, and family practice, as well as more than 20 additional subspecialty residencies and fellowships.

The University Health Center Downtown is an outpatient health center featuring more than 103 specialty clinics as well as adult and pediatric walk-in clinics. Thousands of outpatient visits are conducted there each year. The University Family Health Center Southwest and the University Family Health Center Southeast are community-based outpatient health care centers offering preventive screenings and family health care.
The **South Texas Veterans Health Care System, Audie Murphy Division**, with a bed capacity of 462 for medical, surgical, and psychiatric patients, serves 59 counties of Southwest Texas. The facility provides 40,000 square feet of space for research. It is linked to University Hospital by a crosswalk.

The **CHRISTUS Santa Rosa Health Care** system includes the general hospital, Children’s Hospital, Otto Koehler Radiation Therapy and Research Unit, the Outpatient Clinic in downtown San Antonio, the CHRISTUS Santa Rosa Rehabilitation Hospital, and CHRISTUS Santa Rosa Medical Center Hospital, located in the South Texas Medical Center. CHRISTUS has an extensive medical staff, several primary care and specialty health clinics, and an array of community outreach services.

The hospitals offer diagnostic and treatment facilities that support good health for the mind, body, and spirit. They offer patients a range of services, including comprehensive pediatric care, cardiac care, a transplant institute, rehabilitation services, a comprehensive cancer program, complete obstetrical and newborn services, a surgical unit, diabetes care program, wound care management, and some of the latest diagnostic services.

The **San Antonio Military Medical Center** is the consolidation of Wilford Hall Medical Center (WHMC) and Brooke Army Medical Center (BAMC) in San Antonio into one medical region with two integrated campuses. **Brooke Army Medical Center**, a major military treatment facility, has a bed capacity of 450 and offers definitive medical and surgical care for Army and other authorized personnel. It also provides outpatient care. Internships and residency training programs also are available.

The United States Army Institute of Surgical Research at BAMC has gained international recognition for its outstanding research and excellence in the treatment of serious burn cases. **Wilford Hall USAF Medical Center** operates a 288-bed general hospital that admits more than 15,000 patients annually, and its clinics register nearly 1 million visits from outpatients each year.

The **Baptist Health System**, comprising five hospitals totaling more than 1,500 licensed beds, provides a wide range of hospital services, emergency care, and a variety of educational programs throughout San Antonio. The **University Health System** collaborates with the Baptist Health System in providing aeromedical helicopter services for San Antonio and the surrounding region.

The **San Antonio Metropolitan Health District/Ricardo Salinas Clinic** provides training opportunities for pediatric dentistry residents and dental students under the supervision of Pediatric Dentistry faculty. Pregnant women, young mothers, and children are the primary users of medical and WIC facilities of the Center. Close interactions between the Medical and Dental/WIC clinics promote a significant opportunity to emphasize the relationship between oral health and general health.

The **University Center for Community Health**, another component of the **University Health System**, is located in west San Antonio. Components include the Village of Hope, an ambulatory care center for children with developmental disabilities, and an outpatient hemodialysis unit. The Texas Diabetes Institute, also on San Antonio’s west side, provides a state-of-the-art patient care and education unit, and a clinical research center.

The **University of Texas at San Antonio** (UTSA), a major general academic university offering both undergraduate and graduate programs, is located on a 600-acre campus five miles north of the Health Science Center as well as on an urban campus in downtown San Antonio. Cooperative teaching and research between the two institutions is in progress. The **San Antonio Life Sciences Institute (SALSI)**, a collaboration between **UTSA** and the **Health Science Center**, promotes education, research, and economic development in biomedicine and biotechnology.

The **U.S. Air Force School of Aerospace Medicine**, located at **Brooks City-Base**, is active in research and development in medical aspects of aerospace flight, in clinical practices of special interest to aerospace, and in post-graduate education in aerospace medicine and allied subjects.

The **Child Guidance Center at San Antonio**, a nonprofit tax-exempt organization, treats young people through age 17 who are suffering from mental and emotional ills. Methods of treatment include individual therapy, family therapy, parent counseling, medication, and group therapy sessions. The Guidance Center treats approximately 1,500 patients a year in addition to those served under consultation contracts. Through an affiliation agreement with the **Health Science Center**, the Center provides training for students in the mental health field.

An affiliation agreement is maintained between the **UT Health Science Center San Antonio** and the **Texas Biomedical Research Institute**. This agreement allows the two institutions to share facilities and faculties. The Foundation’s staff works primarily in the fields of cancer, heart, endocrine, and infectious disease with emphasis upon virology and parasitology. The Foundation has 155,000 square feet of offices and laboratories. A large indoor and outdoor animal facility houses a primate colony and other animals to support the biomedical research effort.

An agreement between the **Health Science Center** and the **Southwest Research Institute** allows cooperation in research. The Southwest Research Institute, an independent, nonprofit, applied engineering and physical sciences research and development organization, has its headquarters in San Antonio. Business development offices are located in Houston and Washington, D.C.

The **Southwest Mental Health Center** is a private nonprofit 60-bed psychiatric hospital offering treatment to severely disturbed children and adolescents. In continuous service to the San Antonio community since 1886, the Center serves adolescent and preadolescent children. Multidisciplinary treatment teams consisting of clinical psychologists, psychiatric social workers, special educators, nursing and child care personnel, and recreational/occupational therapists implement the patients’ treatment plan under the direction of the child psychiatry staff. The hospital contains six inpatient units, each
housing eight to 12 patients for stays of approximately 90 days. A major component of the Child Psychiatry Training Program, the Center is a training site for child psychiatry residents and clinical psychology residents. Social workers and special education and nursing students from several area universities gain clinical experience at this institution as well.

The Dental School is affiliated with a number of federally qualified community health centers, local health departments, hospitals, school districts, mental health facilities, military facilities, and nursing homes in San Antonio, Bexar County, and South Texas, as well as Indian Health Service facilities located throughout the United States that serve as clinical training sites in: (a) primary care; (b) preventive dentistry; (c) pediatric dentistry; (d) emergency care and hospital dentistry; (e) alternative dental care delivery, using mobile and portable dental equipment at outreach sites; and (f) practice management training in the offices of private practitioners. Predoctoral dental students receive training (required and elective) at the various sites where they are supervised by full and/or part-time faculty as well as adjunct faculty. Postdoctoral dental students from the various general and specialty residency programs receive training in affiliated hospitals and private practices in Texas.

The School of Health Professions maintains clinical affiliation agreements with more than 250 clinical sites throughout Texas and the nation where students receive substantial portions of their professional education.

The School of Nursing is affiliated with more than 300 community facilities that serve as practice sites for graduate and undergraduate students.

Other Affiliated Institutions and Programs

The South Texas Area Health Education Center (AHEC) is a federally funded program of the Health Science Center and targets a 38-county region of South Texas. Its primary mission is to improve the quantity, quality, and misdistribution of health professionals in this geographic region. It operates through five regional administrative centers located in Corpus Christi, Harlingen, Laredo, Eagle Pass, and San Antonio. These administrative centers determine local community health professional workforce needs, establish priorities by working with community advisory committees, and negotiate with institutions of higher education and health care facilities to acquire educational and clinical training activities addressing identified needs. The network has enhanced the availability of remote clinical experiences for medical, dental, nursing, public health, pharmacy and other health professions students. An extensive community-academic partnership has been established with community-based institutions of higher education, health care facilities, health professional providers, and secondary educational systems throughout the region.

The South Texas Environmental Education and Research Center (STEER) offer an elective course in environmental and border health in Laredo, for medical students and residents, and students in other health care fields. STEER also is involved in research and community activities such as a study of asthma among schoolchildren, and a project to help residents in border colonies chlorinate their drinking water. The Center began in 1996 with funding from the South Texas/Border Region Health Education Initiative.

University Support Services

Office of Student Services

The Office of Student Services represents students’ needs and provides support for student development. The assistant vice president oversees the areas of: application center, registrar, counseling, student health, student life/wellness & recreation, and financial aid. Scheduling of student activities is coordinated with the Office of Student Life (see Student Life below).

Counseling Services

The following Counseling Services for academic, personal adjustment and career problems are provided.

- Individual counseling which includes brief consultation or therapy for issues such as personal or family crisis, adjustment to school, relationship problems, depression, anxiety, interpersonal conflicts, or any aspect of behavior which interferes with effective performance
- Couples counseling for students and their partners who are experiencing relationship problems
- Psychological assessment and career consultation, test-based consultation on career or specialty choice, as well as evaluation of learning abilities and style. Counseling Services does not provide evaluations for educational or testing accommodations
- Off-campus referral sources are provided to students requesting accommodation in an educational program.
- Psychiatric consultation, which includes diagnostic and medication evaluations
- Workshops for test taking, study skills, stress management, and other topics
- Consultation for alcohol or other drug misuse
- Consultation for issues related to sexual harassment

All services are confidential. There are no fees. Appointments can be made by phone (567-2648) or in person. Crisis appointments are provided on request. Counseling Services is located in Room 101F, School of Medicine building.

Registrar

Consistent with federal and state regulations the Office of the Registrar is responsible for preserving and maintaining the academic integrity of The University of Texas Health Science Center at San Antonio. This includes leadership in the areas of student records, registration, computerized student information systems, and office management. The Registrar’s office responsibilities include:
• Oversee the development and maintenance of student academic records, including transcript generation, grade processing, and degree certification.

• Oversee the registration process of all students, including publishing of the Catalog.

• Oversee the related office functions of Commencement, transfer credit evaluation, and degree audit reports.

• Coordinate office reports for internal and external use, with coordination between the Registrar’s Office, Vice President for Academic Administration’s office, and Dean’s Offices, academic departments, Bursar’s Office, or other Health Science Center offices as appropriate.

• Provide information, where appropriate, to all publics, including students, faculty, staff, alumni, and the external community.

• Oversee coordination of office and University publications, including the Catalog, Schedule of Classes, and Academic Calendar.

The Registrar’s Office is the primary contact area for students, faculty, and administration concerning student enrollment, grades, graduation eligibility, and reporting.

Veteran Services and Financial Aid

Students seeking financial assistance in the form of scholarships, grants, and/or loans may seek the help of the Office of Veteran Services and Financial Aid. Counselors specializing in our five individual schools are available. The office offers all forms of assistance, including need-based and non-need-based forms of aid. Students must be accepted for admission, into a degree-seeking program by the appropriate school, prior to receiving an offer of assistance.

Student Health Center

In accordance with both fair business practice regulations in Texas, and insurance requirements, co-pay is required for Student Health Center visits (effective December 1, 2006). Payment can be made by credit card, debit card, or cash at the time of visit. The co-pay is the amount shown on the student’s insurance card. If there is no co-pay amount shown on the card, the student will be expected to pay the full fee for service.

All other health care costs incurred that are covered by insurance will then be billed directly to students’ insurance carriers. The students will not be charged for any balance of these bills after insurance companies’ remittances.

However, not all health care costs are covered by insurance carriers, depending on the individual plan. Under those circumstances, the cost for services rendered will be the students’ responsibilities with the cost payable at the time of the visit by credit or debit card or cash. Services billable to your insurance policy are:

• Screening for, and provision of, required annual TB skin testing.

• Primary care visits including physicals, well-woman exams, and family planning.

• Evaluation and treatment of minor illnesses and injury.

• Assessment for referrals to specialty clinics/labs (co-pay may be required by these external services).

• Travel medications and immunizations for an at-cost charge (available upon request with prior arrangement).

Additional Information:

• Effective as of December 1, 2006, this information supersedes any other information communicated verbally, in printed form, on CDs, or on the Web.

• Students are required to have continuous health insurance coverage while enrolled at the Health Science Center.

• Prior to enrollment, students must submit to the Student Health Center completed immunization records to show full compliance.

• For an appointment: 567-WELL (9355) (after hours: 562-0240)

• Clinic Location: Joe R. and Teresa Lozano Long (Central) Campus, First Floor/School of Nursing building/Room 1.422/Mail Code 7934

• Clinic Hours: 8 a.m.–5 p.m. Tuesday through Friday (until 7 p.m. on Mondays), except holidays

Student Life

In support of the mission of the university as a whole, the Office of Student Life serves to ease the transition of students into and from the Health Science Center, and to support their holistic development at all points in between.

In collaboration with other university community members, this office "connects" students to the university through programs and activities such as new student orientation, the peer advisor program, student organizations and activities, wellness and recreational sports, and commencement.

Scheduling and Facilities Data Management

The Office of Scheduling and Facilities Data Management is responsible for the scheduling of all spaces in the university’s reserve space inventory. Included in this responsibility is the assignment of rooms for classes; publishing of academic class schedules; reservation of space for student, faculty, staff and university events; and the reporting of room and building information to the Texas Higher Education Coordinating Board of all space owned or leased by the Health Science Center.

Registered student, faculty, and staff organizations may reserve facilities for authorized meetings, study-group sessions, and other events through this office. Available facilities include a wide range of large and small classrooms, lecture halls, the auditorium, and several breezeways and courtyards in outdoor areas.

To reserve a room for your next event, complete the Room Reservation Request form online and e-mail to this office. Additional information on fees and policies may be found in
Section 9.1.3 of the *Handbook of Operating Procedures*. For information call 567-2655.

**Information Management and Services (IMS)**

Phone: 210-567-7050 / Fax: 210-567-7053
Location: 3.318 AAB (Academic & Administration Bldg. 3rd Floor)

Information Management and Services (IMS) provide leadership in technology and information-based resources and services for the Health Science Center. IMS incorporates appropriate customer input to establish information/technology policies and standards and provides oversight, advocacy, and services to support the institution and its departments in pursuit of their missions. IMS will also serve as the primary institutional advocate and representative to The University of Texas System and state agencies with regards to information technology and information resources issues and policies.

**Students**

Information Management and Services (IMS) provide services to help students succeed. The following links provide information regarding acquisition of computers and computer equipment, how to log on to and use Blackboard, how to obtain computer warranty service, and how to reset passwords.

**IMS Client Support Services**

IMS Client Support Services (IMCSS) provides e-mail accounts for all students and support for the computing services on campus. The IMCSS Triage Help Desk is available weekdays, from 8:00 a.m. to 5:00 p.m., to answer questions, consult on computer and technology issues, and troubleshoot software, hardware, e-mail, network, configurations, and other problems concerning the university’s information resources. Assistance is also available for the Health Science Center’s free anti-virus software, laptop data encryption, and software available through the Microsoft Campus Agreement. The Help Desk may be reached by e-mail at IMS-SERVICEDESK@uthscsa.edu, by phone at 210-567-7777, or in person at our drop-in center in Room 4.436L of the School of Medicine building (http://ims.uthscsa.edu/index.aspx).

**IMS Computer Store**

The Computer Store is located in IMS Client Support Services, Room 421L MED, and is open Monday–Thursday 8 a.m. – 5 p.m. and Fridays 8 a.m. – 4 p.m. during scheduled university hours of operation. The Store provides informational support for ordering Apple (we are an Authorized Campus Store) and Dell (through SHI) products. Accessories and peripheral items are in stock for purchase; special items may be ordered. Call 567-2832 or -2833 for more information.

**Office of International Services (OIS)**

The UT Health Science Center at San Antonio’s Office of International Services (OIS) is the designated institutional unit authorized to provide advisement, direction, counsel, and assistance regarding institutional visa and immigration issues to campus hiring units and to Health Science Center international faculty, postdoctoral fellows, clinical staff, employees, and students, including short-term international visitors. The OIS also serves as a key institutional partner in the development of official Health Science Center international relationships abroad, including reciprocal exchange agreements, and provides education abroad advisement and support for the Schools, faculty, and students.

Immigration and visa services provided to campus units by the Office of International Services will comply and be in harmony with existing federal law and regulation and will be representative of “best practices” within NAFA, the field of international education, and select peer institutions. Because immigration rules and regulations change often, the Office of International Services should be consulted well in advance in each case involving an international individual, irrespective of their proposed, future role at the Health Science Center. Reliance should not be made on past experiences; every immigration-related case is unique.

It is essential that each school, department, center, institute, and all those who recruit and hire international individuals for employment, offer training and educational opportunities to persons from abroad, or host short-term international visitors at the Health Science Center understand the procedures, time frames, and restrictions involved in the hosting of foreign nationals and plan accordingly. For more information on approximate processing times, please contact the OIS.

**International Personnel, Students, and Professional Guests**

The official appointment, employment, and hosting of international visitors who will be sponsored by and/or affiliated with the Health Science Center in any way will be facilitated directly by the OIS. International visitors should make an appointment to check in with the OIS immediately upon arrival at the Health Science Center. During the check-in process, an OIS Advisor will provide international visitors with an overview of the federal rules and regulations that must be followed in order to maintain lawful visa status while in the United States. The OIS must also report the arrival of all F-1 students and J-1 Exchange Visitors to the U.S. Department of Homeland Security, as per federal directive. Failure to report an international visitor’s arrival in a timely manner to the OIS could jeopardize lawful visa status and hamper the ability to carry out the planned, professional goals and objectives.

It is the responsibility of both the hosting department and the international visitor to be knowledgeable of and comply with all applicable federal rules and regulations governing the employment, training, education, and payment of international visitors by the Health Science Center.

International visitors are personally responsible for maintaining lawful visa status and for being aware of particular visa category requirements and prohibitions, which includes, but is not limited to, the following: restrictions on employment (both in role and location), employment eligibility ending dates, adherence to a single, primary objective while at the Health Science Center, and all governmental or fiduciary rules that...
may require an international visitor to return to the home country at the end of their program.

International visitors and their sponsoring departments are encouraged to contact the OIS if they have any questions about the maintenance of lawful visa status, if they need clarification about what is/is not allowable as per their visa type/category, or if they require general information. For more information about OIS Visa Services Policies and Procedures, please go to http://www.uthscsa.edu/ois or contact an International Advisor directly via E-mail at international@uthscsa.edu or via telephone: (210) 567-6241.

Education Abroad

The University of Texas System requires System campuses to approve, monitor, facilitate, and support bona fide education abroad activities, which may include but is not limited to faculty-led courses abroad, service learning opportunities, medical student clerkship, elective rotation (all clinical programs), research elective, exchange participation, or other academic endeavor.

In some cases, approved student organization activities abroad also fall under University supervision, so students who will engage in any activity outside the United States that is in any way connected to their particular program of study are asked to communicate their plans to the OIS at least one (1) semester prior to the planned education abroad activity.

The following links should be referenced by students and faculty when education abroad issues are raised:

- UT System International Linkages Memo
- UTHSCSA Exchange Agreement and International Affiliates List
- UT System Travel to Restricted Areas Memo
- UTHSCSA Travel to Restricted Areas Waiver Policy & Form
- UTHSCSA Education Abroad Policy UTHSCSA Education Abroad Participation Waiver UTHSCSA Education Abroad Emergency Contact Form

Laboratory Animal Resources

The Department of Laboratory Animal Resources operates a contemporary program of Laboratory Animal Medicine and Care designed to promote the humane care and well-being of all animals used in research, testing, and teaching at the Health Science Center. The department is responsible for all aspects of research animal management including acquisition, husbandry, health care, and research support. The veterinary staff is available to all animal users for assistance with research technology, animal model development, and diagnostic or clinical support. Facilities are available for aseptic surgery, radiographic diagnostics, necropsy and histopathology support, clinical pathology services, and the conventional and specialized housing for the most common laboratory animals, including immuno-compromised rodents. The program is registered with the United States Department of Agriculture, is accredited by the Association for Assessment and Accreditation of Laboratory Animal Care, and has a Letter of Assurance on file with the Office of Protection from Research Risks, National Institutes of Health.

Campus Facilities

The responsibility of The University of Texas System Board of Regents is to operate and maintain an efficient and effective system of institutions of higher education and requires that the time, place, and manner of assembly, speech, and other activities on the grounds and in the buildings and facilities of the UT System or institutions be regulated.

No person, organization, group, association, or corporation may use property, buildings, or facilities owned or controlled by the Health Science Center for any purpose other than in the course of the regular programs or activities related to the role and mission of the university, unless authorized by the Regents’ Rules and Regulations. Any authorized use must be conducted in compliance with the provisions of the Regents’ Rules and Regulations, the university's Handbook of Operating Procedures, and applicable federal, state, and local laws and regulations.

Access to Campus Facilities

Events Jointly Sponsored by a Health Science Center Department and an Outside Organization Policy. Health Science Center facilities may be used by outside organizations with the joint sponsorship of a Health Science Center department. The Health Science Center may recommend joint sponsorship of a project or program when the following listed conditions are met:

1. the educational implications are self-evident and directly supplement the educational purposes of the institution and the academic or administrative mission of the department recommending sponsorship;
2. there will be no private gain for the cooperating individuals, group, or association. The Health Science Center sponsor when entering into a joint sponsorship of any program assumes full responsibility for all details, including cost, as well as approval of subject, contents, and publicity for the event. To the extent that there are charges for Health Science Center services (e.g., printing, housekeeping, parking, security, etc.) for the event, such charges shall be paid by the sponsoring department. It is the responsibility of the sponsoring department to determine an appropriate level of reimbursement, if any, from the outside entity cosponsoring the event and obtain such payments and deposit such payments to the accounts from which charges for the event were made. Regents’ Rules and Regulations apply (from Handbook of Operating Procedures 9.1.4).

Visiting the Campus

The Health Science Center welcomes visitors from the community when arranged with prior notice. To schedule a group visit, the request form found at http://www.uthscsa.edu/outreach should be completed. Individuals may join ongoing prearranged campus visits and can obtain information about dates available by calling (210) 567-3941. Others interested in a campus visit to a specific school or area within the Health Science Center should contact the office of the respective dean. Access to certain areas within the institution may be restricted to ensure public
safety and patient privacy. Restricted areas have their own visitation policy or criterion.

Speech and Assembly Area

Peaceful assembly and speech activities conducted in accordance with applicable state law and Regents’ Rules and Regulations and other university policies as contained in the Health Science Center Handbook of Operating Procedures may be conducted in a designated “free speech” area without prior administrative approval. The Health Science Center has designated a speech and assembly area on the southeast side of the campus approximately 150 yards northwest of the intersection of Floyd Curl Drive and Louis Pasteur Drive. The location is identified by a 2-foot-square marker (from Handbook of Operating Procedures 9.1.9).

Accessibility for the Disabled

The UT Health Science Center at San Antonio does not discriminate against a qualified individual on the basis of disability.

The Health Science Center Police Department provides a map that indicates parking areas designated for the disabled. Adjustments to the Health Science Center facilities have been made in accordance with the American National Standards Institute specifications for physically disabled people, including adjustment to exterior and interior door sizes, to make facilities ADA compliant. In addition, the Health Science Center provides reasonable accommodations to qualified individuals with disabilities to participate in and benefit fully from the institution’s programs, services, and activities.

Students who may require reasonable accommodations based on a covered disability should consult with their associate dean and comply with university policy regarding requesting accommodations as early as possible in advance of when an accommodation will be needed.

Request for ADA Accommodations

A qualified individual with a disability requesting accommodation must submit the appropriate request for accommodation under the Americans with Disabilities Act (ADA) as amended. Students, fellows, and residents must submit a Student/Resident Request for Accommodation under the Americans with Disabilities Act (ADA), form ADA-100, to the ADA Coordinator and a copy to the appropriate Associate Dean.

The ADA Coordinator will determine if additional medical information is needed and will furnish the individual with any forms/questionnaires necessary for the health care provider to complete. The ADA Coordinator will evaluate information to determine eligibility within the guidelines of ADA. The ADA Coordinator will then coordinate with the necessary institutional staff and the individual to identify the essential functions of the job or the program of study and determine whether there is an effective, reasonable accommodation that will enable the employee, student, fellow or resident to perform those essential functions (interactive process). The ADA Coordinator will follow-up on the individual’s status/progress on annual basis, or earlier as need arises.

Reasonable accommodations under the ADA are an ongoing process. At any point in time, the individual receiving the reasonable accommodation may request a reevaluation of their request from the ADA Coordinator. At that point, the interactive process will be implemented in order to deal with any new requests and/or revisions to the initial requests.

The ADA Coordinator shall keep all medical-related information confidential and maintained separately from other personnel records. However, supervisors and managers may be advised of information necessary to make the determinations they are required to make in connection with a request for an accommodation. First aid and safety personnel may be informed, when appropriate, if the disability might require emergency treatment, or if any specific procedures are needed in the case of fire or other evacuations. Government officials investigating compliance with the ADA may also be provided relevant information as requested.

Form ADA-100, and attached documentation submitted to the ADA Coordinator, will be maintained in a confidential manner in accordance with applicable federal and state mandated retention schedules.

Refer to the Handbook of Operating Procedures (HOP), Chapter 4, Section 4.2, Policy 4.2.3, for complete details and procedures for ADA accommodations.

Auditorium

The 751-seat Holly Auditorium on the Health Science Center campus is used for examinations, lectures, convocations, continuing education courses, professional meetings, and community functions sponsored by the university. Exhibits and gatherings are held in the glass-enclosed foyer.

Bookstore

The Bookstore is located on the Joe R. and Teresa Lozano Long (Central) Campus, first floor of Parking Garage B, next to the School of Nursing. The hours of operation are:

- 8 a.m.–5 p.m. Mondays through Thursdays
- 8 a.m.–4 p.m. Fridays and summers (M–F)
- Closed on university holidays

The Bookstore Web site provides classroom course information, including syllabi and faculty curriculum vitae of instructors, under its Textbook link. Textbooks, medical equipment and scrubs, multimedia and software, oral hygiene and dental laboratory supplies, university logo gift items, sundries, and greeting cards are for sale. A fax machine for student use is available. Special orders are welcome.

Textbooks and Supplemental Materials

Textbook and supplemental materials information, including to the maximum extent practicable the International Standard Book Number (ISBN) and retail price information, is available

A student is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may be available from an independent retailer, including an online retailer, at a lower price than the price charged for that textbook by a university-affiliated bookstore.

Cafeterias (Dining Services)

**Dining Services** on and adjacent to the Long, North, and Texas Research Park Campuses

Students, faculty, and staff may purchase meals in the Health Science Center's locations listed below.

**Long (central) Campus:**

The **Texas Star Café** in the Dental School includes a fresh salad bar, fresh made-to order sandwich options, grab-n-go cooler for quick meal options, gourmet burger toppings, and more are available. Monday–Friday / 7:00 a.m. until 2:00 p.m.

The **Italian Bistro Café** on the 3rd floor Lecture Hall Commons serves specialty coffee and pastries in the morning and pizza, calzones, and a variety of salads, soups, and desserts in the afternoon. Monday–Friday / 7:30 a.m.–2:00 p.m.

**SUBWAY** is available on the 3rd floor Lecture Hall Commons for breakfast and lunch. Monday–Friday / 7:00 a.m.–3:00 p.m.

**C-3 Express** is a quick, convenient kiosk for your snack-time needs, also on the 3rd floor Lecture Hall Commons. Monday–Friday / 7:30 a.m.–5:00 p.m.

**North Campus:**

The **French Corner Starbucks** in the Health Professions Building, Room 1.210, offers specialty coffee, pastries, a variety of salads, sandwiches, soups and more. Monday–Friday / 8:00 a.m.–3:30 p.m.

The **French Corner Starbucks** in the Cancer Therapy Research Center, Suite Z100A, Zeller Building, offers specialty coffee, pastries, a variety of salads, sandwiches, soups and more. Monday–Friday / 8:00 a.m.–4:00 p.m.

The Fresh Taste Café on the first floor of the Medical Arts Research Center (MARC) offers breakfast sandwiches, tacos, cereal, pastries, fruit and snacks, lunch grab and go sandwiches, hot toaster/Paneini sandwiches, wraps and pita sandwiches, personal pan pizzas, build your own sandwiches or salads and more. Monday–Thursday / 7:00 a.m.–3:30 p.m. (Fridays until 3:00 p.m.).

**Texas Research Park Campus:**

The **French Corner Starbucks-TRP**, 15255 Lambda Drive, offers specialty coffee, pastries, a variety of salads, sandwiches, soups and more. Monday–Friday / 7:30 a.m.–3:30 p.m.

If you have any questions, please contact the director of **Materials Management**.

**Off-Campus Locations:**

Food service is also available in the **University Hospital cafeteria** next door to the School of Medicine building, and the **V.A. Hospital cafeteria**, next to University Hospital. Eating establishments are also located across Floyd Curl Drive from the central campus at the **Methodist Hospital**, across Medical Drive, and other areas within walking distance from the Long Campus.

**Area Housing**

There are no housing accommodations on the campus of the Health Science Center. Numerous apartments, condominiums, and rental homes, however, are located in the area. Students may view the housing list on the **Office of Student Life** website [http://studentservices.uthscsa.edu/sl_Services.aspx](http://studentservices.uthscsa.edu/sl_Services.aspx)

**Libraries**

The **Libraries** of the UT Health Science Center San Antonio are the Dolph Briscoe, Jr. Library on the Joe R. and Teresa Lozano Long (Central) Campus, the Mario E. Ramirez, M.D. Library in Harlingen (RAHC), the Jesse H. Jones Comprehensive Research Library at the South Texas Research Park, the Regional Campus Library in Laredo, and the Circuit Librarian Health Information Network (CLHIN), which provides information services to participating hospitals in South Texas. The Briscoe Library serves as the primary source and repository of information for the educational, research, and health care functions of the **UT Health Science Center San Antonio**.

The combined collections of the UT Health Science Center **Libraries** include approximately 217,000 print volumes consisting of books and bound periodicals. Through the catalog the library also provides access to more than 13,000 books in electronic format, with the number of e-books increasing monthly. More than 380 electronic journal titles in the health sciences and more than 23,000 electronic journals in a variety of other disciplines are available to UT Health Science students and faculty through statewide and regional library consortia. These collections cover the broad range of health-related sciences—medicine, dentistry, nursing, allied health sciences, and basic biomedical sciences. MEDLINE®, CINAHL®, and other computer databases are available in the library and via the Internet, and most contain links to the full text of articles. Most of the library's electronic resources are available off-campus to faculty, staff, and students.

The P.I. Nixon Medical Historical Library, located on the fifth floor of the Briscoe Library, includes almost 5,000 rare and historic medical books.

Library services include circulation and reserve services, information and reference services; database searches; instructional programs, orientations and information
management classes; and, interlibrary loan services, printing and photocopy services.

Technology services in the Briscoe Library include public computers equipped with productivity software, scanners at select work stations, and computer-assisted instruction. Wireless connections continue to be upgraded along with additional electrical outlets, security locks, and Ethernet laptop connections. Similar services are available at the Ramirez and Laredo libraries. The Jones Comprehensive Research Library offers public computers with productivity software, wireless connections, and Ethernet.

In the Briscoe Library, large monitors are available in some study rooms for use by individuals or small groups. The Collaboratory (Room 4.074) has a projector, white boards, and audio/video conference capabilities for group study, and can accommodate up to eight (8) laptops. The John P. Howe, MD III Conference Room (Room 5.076) is equipped with wireless capability, a podium with Ethernet connections and a projector and screen. A computer classroom on the second floor includes audio/videoconference capabilities which are available for use 24 hours a day seven days a week.

Use of most library computers requires a campus network login. Computer access for the general public is provided at designated guest computers.

The combined libraries provide 164 computers with Internet access and software for student use.

The Mario E. Ramirez, M.D. Library and the Regional Campus Library in Laredo provide services to students who are on rotation in South Texas. These students have full Internet access to the library’s online databases and electronic journals.

Transportation

Buses operated by the metropolitan transit system (VIA) service the Medical Center area from all parts of the city and within the Center. Student rates are provided. The University Police Department provides a scheduled shuttle that runs between the Joe R. and Teresa Lozano Long Central Campus area and the Greehey Campus (Health Professions, McDermott, and GCCRI buildings). The route includes University Plaza, Lot 17. Scheduled shuttle service to the Texas Research Park is also provided.

Additional Information

Statistics such as enrollment totals and faculty directories are kept updated on the Health Science Center’s Web site at http://www.uthscsa.edu.
Students enrolled in the Health Science Center are subject to all established requirements and regulations of this institution as well as those of any support institution in which they may be enrolled. The Catalog is available online and in the Office of Student Services, contain these requirements and regulations.

Background Checks
Recognizing a sound character is vital to health care professions, the Health Science Center is committed to admit and retain students* who meet the high professional standards expected of all health care providers and biomedical researchers. The university shall require applicants and/or continuing students to undergo criminal background checks (CBC).

1. All applicants, on the application forms, shall be informed of the CBC and required to sign and consent to allow a specific school to obtain the CBC as a part of the admission process.
2. The continuing students, when applicable, shall be required to sign a consent form to allow the respective school to obtain the CBC.
3. The applicants/continuing students shall be responsible for the cost associated with the CBC.
4. The applicants/continuing students shall have the opportunity to review a copy of their own reports. And when inconsistent information is obtained through the CBC, the applicant/student shall be provided the opportunity to clarify the matter.
5. The school will follow its own established admission/academic disciplinary procedure following the CBC verification.
6. The CBC results will be kept, confidentially, in separate files, by the respective school as a part of the students’ academic records; for one year from the first day of the school year when the CBC was conducted for applicants and for the duration of a continuing student’s academic career at the Health Science Center.
7. The School will share CBC information with clinical sites consistent with university policy and FERPA.

*Residents, if not employees, are designated as students.

Conduct and Discipline
Students are responsible for knowing and observing the university’s procedures and regulations governing Student Conduct and Discipline and the Rules and Regulations of the Board of Regents. In addition to these regulations, standards of professional conduct may be set by each school of the Health Science Center.

In summary, the Regulations provide that:

Violations of university regulations concerning standards of conduct which compromise professional integrity and/or competence shall be dealt with under Student Conduct and Discipline. The chief student affairs officer shall have responsibility for the administration of discipline in areas not directly related to the academic or professional training of the student. Procedures described in the Student Conduct and Discipline of the Health Science Center will be followed.
The dean of each school shall have the responsibility for the administration of discipline in cases concerning scholastic dishonesty and professional misconduct.

The full text of the Rules and Regulations of the Board of Regents and the university’s Student Conduct and Discipline should be consulted in reference to any questions concerning student conduct and discipline.

The processes afforded a student subject to disciplinary sanctions are governed by Series 50101 of the Rules and Regulations of the Board of Regents of The University of Texas System and the Health Science Center’s Student Conduct and Discipline.

Professional Conduct Guidelines

University students are expected to conduct themselves in a professional manner, not only in interaction with patients, but also with peers, faculty, and staff of the Health Science Center and the community in general. In addition to conventional academic tests and measurement criteria for assessment, students will be evaluated on issues relating to their professional conduct/judgment according to the previously defined standards of the school, program, and profession for which they are in training.

The specific professional discipline/school in which the student is enrolled may have additional and more specific codes of conduct.

Holds

University privileges including registration, advance registration, receipt of a diploma at commencement, and receipt of transcripts are barred to students having outstanding obligations to the university.

Obligations may take the form of unpaid monies, unreturned or damaged equipment, parking fines, or other charges for which a student may become legally indebted to the university; failure to comply with immunization requirements; failure to provide final official transcripts from previous colleges/universities; or administrative actions.

University departments and offices may place “holds” on registration, diplomas, and transcripts for any students having an outstanding obligation.

Student Grievance Procedures

I. Student Academic Grievance Procedure Academic-related grievances must be submitted in writing to the department chair or other designated administrator of the academic program to which the grievance relates. The written grievance must be received no later than four calendar weeks after the alleged incident.

The dean of the school in which the student is enrolled has jurisdiction over the student’s program of study, degree requirements, and all other academic matters, including grievances. Depending upon the specific school, there may be some differences in codes of professional conduct and related issues. Appeals may be made to the Dean, then to the President. The President’s decision is final. Students enrolled in online courses should consult the Distant Learning Education Student Complaint Process section.

II. Student Nonacademic Grievance Procedure Any student who has a nonacademic grievance concerning the interpretation, application, or claimed violation of her/his rights as a Health Science Center student or who feels he/she has been discriminated against or harassed on the basis of age, color, disability, family status, gender, national origin, race, religion, veteran status, sexual orientation, or sexual harassment has the opportunity to seek resolution of such grievance.

This policy also may include any official publication of the Health Science Center that may be perceived to be misleading or a misrepresentation of the facts. In cases where the complaint is related to official publications, the complaints may be submitted, in writing, at any time to the chief student affairs officer. If the complaint cannot be resolved at this level, appeals may be made to the President of the Health Science Center.

The student nonacademic grievance procedure may be handled through the mediation of designated officers of the schools or through other grievance procedures specific to various acts or issues.

A. Student program and student activity-related grievances should be submitted in writing to the director or coordinator of the specific Office of Student Services’ division. Appeals must be in writing and may be directed to the chief student affairs officer and then to the Assistant Vice President for Student Services for final disposition.

B. In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA), the grievance procedures described in this document should be followed for complaints alleging discrimination on the basis of disability.

No qualified student shall, on the basis of disability, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any academic program or activity at the Health Science Center.

C. Complaints alleging sexual assault and/or sexual harassment should be addressed in accordance with the policies and procedures set forth in this Catalog (see General Regulations and Requirements, Sexual Assault Policy).

III. Procedure for Informal Resolution A student who feels that he/she is a victim of harassment or discrimination or who feels that her/his rights as a student have been violated, may attempt to
resolve the matter informally; the student may schedule a discussion or conference with the individual accused of the act, omission, or issue over which the student grieves. The informal discussion(s) or conference(s) should be conducted less than 30 calendar days from the date the student knew or should have known of the offensive act or issue—if an informal resolution is not forthcoming, the student has a time limit of 30 calendar days from the date he/she knew or should have known of the offensive act or issue to file a formal written grievance.

IV. Procedure for Formal Resolution

This procedure is intended to provide students with an opportunity to formally grieve any perceived act, omission, or issue of a nonacademic nature which adversely affects the grieving student and for which no other grievance or appeals procedure is provided in The University of Texas System or in the policies or procedures of the Health Science Center.

Students considering filing a grievance may contact the chief student affairs officer or the appropriate associate dean of student affairs to receive instructions. (See Student Conduct and Discipline).

A. The formal written grievance should be initiated as soon as possible.
   
   If the student chooses not to attempt informal resolution of a grievance, he/she must file a formal written grievance not more than 30 calendar days from the date he/she knew or should have known of the offensive act or issue.

   If the student attempts informal resolution and then chooses to file a formal written grievance, he/she should file the written grievance within five working days from the last informal attempt at resolution. Also, the formal written grievance must be filed not more than 30 calendar days from the date the student knew or should have known of the offensive act or issue.

B. The student may file the written grievance, setting out a complete description of the grievance (and the proposed remedy). If the accused individual is a Health Science Center employee, the employee’s immediate supervisor receives the written grievance. The deans and/or the chief student affairs officer can assist students in identifying the accused individual’s supervisor, so that the written grievance may be filed with the appropriate person.

   If the accused individual is a student, the written grievance is given to the associate dean of student affairs of the accused student’s school.

   Where the grievance does not involve an individual, the grievance may be filed with the administrator responsible for the program issue or issues involved. Copies of the grievance will be made available to the grieving student, the associate dean of her/his school, the individual accused of the act or omission grieved, the accused individual’s supervisor, and the administrator to whom the grievance is presented.

C. The administrator hearing the grievance may, at her/his discretion, hold discussions with or without the accused to hear and resolve the grievance, schedule a meeting between the student and the party accused, and/or involve other parties in facilitating a resolution of the grievance. The administrator has 10 working days from receipt of the written grievance to resolve the grievance, after which time the student, if not satisfied, may appeal to the dean of her/his school. If the student wishes an alternate hearing officer, her/his request must be submitted, in writing, to the dean of the appropriate school or to the President not more than five calendar days from notification of the hearing.

D. If the decision of the grievance officer is to affirm the grievance, any resulting directive to the accused must be in writing and must be pursuant to a meeting between the accused and the accused’s associate dean or supervisor. Denial of the grievance also must be in writing.

E. Within five working days of the student’s receipt of the decision of the Dean, the student may appeal the Dean’s decision to the President. If no decision is rendered by the Dean within 14 working days from the delivery of the written grievance to the Dean, the written grievance and grievance record may be sent by the student to the President. The President may take whatever action is deemed appropriate.

F. The decision of the President of the Health Science Center is final.

Use of Student Social Security Number

Disclosure of your Social Security Number (SSN) is requested for the student records system of the Health Science Center and for compliance with federal and state reporting requirements. Federal law requires that you provide your SSN if you are applying for financial aid. Although an SSN is not required for admission to the university, failure to provide your SSN may result in delays in processing your application or in the university’s inability to match your application with transcripts, test scores, and other materials.

Student SSNs are maintained and used by the university for financial aid, internal verification, and administrative purposes, and for reports to federal and state agencies as required by law. The privacy and confidentiality of student records are protected by law and the university will not disclose your SSN without your consent for any other purposes except as allowed by law. In accordance with Section 559.003(a) of the Texas Government Code, with few exceptions, the individual is entitled on request to be informed about the information that the institution collects about the individual; under Sections 552.021 and 552.023 to receive and review the information;
and under Section 559.004 to have the institution correct information about the individual that is incorrect.

Student Records

The Health Science Center is in compliance with the Family Educational Rights and Privacy Act of 1974 and the Texas Public Information Act (Government Code 552) concerning the privacy of educational records and the rights of students to inspect and review those records. (See Family Educational Rights and Privacy Act in the Privacy Rights section of this Catalog.) The assistant vice president coordinates the inspection and review procedures of student education records that include student personal, academic, financial, and disciplinary records. The institutional policies are available in the Registrar's Office.

Internet Access

Students can access their personal and academic information through the Health Science Center Internet portal at http://inside.uthscsa.edu.

This secured site provides a variety of information for students including enrollment, financial aid, student account, address and telephone numbers, and grades.

Privacy Rights of Students

The Family Educational Rights and Privacy Act of 1974 is a federal law which provides that the institution will maintain the confidentiality of student education records. For details, see the Privacy Rights section in this Catalog.

The Student Records policy includes the following procedures.

No one shall have access to a student’s education records without the written consent of the student except for:

- persons within the institution acting in the student’s educational interest and within the limitations of their need to know;
- officials of other institutions in which students seek to enroll;
- accrediting agencies carrying out their accreditation function;
- in compliance with a judicial order;
- persons acting in an emergency in order to protect the health or safety of students or other persons;
- persons or organizations providing students financial aid;
- federal, state, or local officials or agencies authorized by law;
- parents of a dependent student, as defined in Section 152 of Internal Revenue Code of 1986, provided a reasonable effort is made to notify the student in advance; to an alleged victim of any crime of violence, the results of the alleged perpetrator’s disciplinary proceeding may be released; and organizations conducting studies for specific educational purposes. (Organizations must submit a “Request to Review Student Records” form that is available from the Registrar’s Office.)

Admission Records: The American Association of Collegiate Registrars and Admission Officers (AACRAO) recommends that student files for any admitted student be reviewed in order to remove any items which have fulfilled their admissions-related purpose but will no longer be required in the student’s academic career. Due to this recommendation by AACRAO, the student file will be reviewed after the student is enrolled and admissions records will be purged using these guidelines.

Healthcare Records: The Student Health Center (SHC) is and has been maintaining student treatment records via a paper system. In an effort to be more effective and provide students with more efficient and coordinated care, the SHC initiated efforts to retire their current paper system and migrate information to an electronic record keeping system called EPIC. To accomplish this migration, it requires students consent and agreement. The health care records of those that do not consent will remain solely with the Student Health Center. All students who visit the SHC for treatment must indicate their consent or non-consent to usage of the EPIC system. Please refer to the EPIC Information and Consent form for additional information.

Deceased Students: Records of deceased students, current or former, will be reviewed within 90 days after death and purged of all documents except the barest essentials such as the transcript.

Student Directory Information

Student directory information is available on the Health Science Center’s public Web site http://adminweb.uthscsa.edu/StudDirect/. This general directory contains a student’s name, school, field of study, telephone number, and e-mail address, among other data, unless restricted by the student.

Restricting Student Directory Information

Current students may elect to withhold certain directory information. Restrictions can be self-selected in the Student Center on inside.uthscsa.edu (instructions for Student Center.) The change will take 24 hours to reflect in the system. Alumni, former students, and current students can also request restriction assistance in a dated writing to the Office of the Registrar. PLEASE BE AWARE that any requested withholding of information, whether accomplished online by the student or via the Registrar’s Office, will be in effect from that date forward until and unless the student again changes the restriction selection. PLEASE ALSO BE AWARE that withholding of certain information may impact individual student data to educational resources such as the National Student Clearinghouse that services a variety of educational activities. To ensure continuity, all self-selected restrictions or written requests should be made to be effective by the Census Day of each term.
Student Right to Access, Copy, and Challenge Educational Records

Students have the right to inspect and review information contained in their education records. The records will be made available within 45 days after a written request is made to the chief student affairs officer. Students may have copies of their records. These copies will be made at the student’s expense at rates authorized in the Texas Public Information Act (Texas Government Code 552). Official copies of academic records or transcripts will not be released for students who have a delinquent financial obligation or financial “hold” at the university.

Students have the right to challenge the contents of their education records if they believe the records contain information which is inaccurate, misleading, or otherwise in violation of their privacy or other rights. The full procedure to challenge records is published in the Family Educational Rights and Privacy Act of 1974 (FERPA), a copy of which appears in this Catalog.

Limitations of Student Right to Access, Copy, and Challenge Educational Records

Students cannot inspect or review the following confidential records:

- financial information submitted by their parents;
- confidential letters and recommendations associated with admissions, employment, job placement, or honors to which they have waived their right to inspect; or
- confidential letters and recommendations placed in the files prior to January 1, 1975.

Student right to access does not extend to records of instructional, administrative, and educational personnel, nor to records of the law enforcement unit, student counseling records, or student health records. Health records may be reviewed by a physician of the student’s choice.

Equal Opportunity

To the extent provided by the law, no person shall be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity sponsored or conducted by The University of Texas System or any of its component institutions on the basis of race, color, national origin, religion, veteran status, disability, sex, age, or sexual orientation. The component institutions of the UT System will make maximum use of resources, consistent with standards of appropriate accrediting bodies and enrollment and admissions policies approved by the Board, to admit and educate as many qualified students as possible. The procedure for discrimination complaints can be found in the Health Science Center’s Handbook of Operating Procedures, Chapter 4, Section 4.2, Policy 4.2.1.

Your Right to Know

The Jeanne Clery Act is the landmark federal law that requires colleges and universities to disclose information about crime on and around their campus.

The university is committed to assisting the health science center community in providing for its own safety and security. Information regarding campus security, personal safety, crime prevention, university police law enforcement authority, crime reporting policies, crime statistics for the most recent three-year period, and disciplinary procedures is available on the health science center police department.

If you would like a paper copy of this information, you may contact the crime prevention office at 210-562-9092.

The “Clery Act” is named in memory of a 19-year-old Lehigh University freshman named Jeanne Ann Clery who was sexually assaulted and murdered in her residence hall room on April 5, 1986.

Insurance

Professional Liability Insurance

Students enrolled in a health component institution of The University of Texas System in a program that involves direct patient care activities are required to purchase professional liability insurance as a prerequisite to enrollment. The policy extends coverage to the insured only while he/she is enrolled in classes.

Student Health Insurance

The Texas Education Code Section 51.952 and the UT System Board of Regents require all Health Science Center students to maintain a valid major health insurance policy/coverage upon enrollment, and continuing while registered at the Health Science Center. The requirement may be satisfied by either the student’s enrollment in the UT System student health insurance plan (United Healthcare), or by the student presenting proof of comparable health insurance from another source, following policy guidelines issued by the UT System Chancellor. Each student must provide proof through The Portal (Student Self-Service) each school (academic) year. Unless proof of proper insurance coverage is provided before the first day of classes, you will be charged for a policy with United Healthcare insurance. The United Healthcare fee is non-removable once the payment due date passes, and non-refundable once paid.

You may wish to find a policy more suited to you and your family's needs, perhaps through your parents' or spouse's insurance plan. It all depends on how much coverage you would like. As a student at the Health Science Center, you may have more health insurance needs than the group plan offers. The United Healthcare group plan is negotiated by the UT System with input from student representatives from all UT campuses, but sometimes may be more suitable to an
undergraduate student’s needs. You will need to make that decision on your own.

Some items you should review and compare in an insurance plan include deductibles, co-pays, complexity of reimbursement process, coverage and exclusions, prescription coverage, emergency costs, hospitalization costs, general medical care costs, physician network, services available online, wellness management programs, disease management plans, etc. The Health Science Center does not endorse nor recommend any insurance plans.

Beginning in the fall of 2008, the university’s Student Health Center began providing more services at no cost. However, services such as labs, X-rays, specialists, etc. are charged to the student through their particular health plan.

If you have your own health insurance plan, complete the Health Insurance Verification Form, and return it to the Student Health Center, with a copy of your health insurance card, before the first day of classes. If you have not provided coverage prior to the first day of classes, you will be billed for a United Healthcare insurance policy.

The current annual premium for a student health insurance policy may be included in the calculation of financial need for purposes of determining financial aid awards. The premium amount is subject to review and negotiation with the insurance company.

Health Insurance Portability and Accountability Act (HIPAA)

One of the main reasons the Health Insurance Portability and Accountability Act (HIPAA) was established was to protect the privacy and security of patients’ health information. All students at the Health Science Center must adhere to all of the regulations under this act. Refer to the HIPAA Web site (http://www.uthscsa.edu/hipaa/) for details about this Act and how it impacts you as a student. Your school may also provide further details and forms required for students under this Act. Additional information about patient privacy policies and procedures is included in the Health Science Center’s Handbook of Operating Procedures (HOP), Chapters 5 (security policies) and 11 (privacy policies).

Health Insurance Requirements for Certain International Students

Students holding nonimmigrant visas are required to maintain approved comprehensive health insurance or coverage while enrolled at institutions of The University of Texas System. Each institution of the UT System is authorized to assess each such student a health insurance fee (as an incidental fee authorized by Texas Education Code Section 54.504) in the amount of the premium charged by the UT System sponsored student health insurance plan for the student’s participation in the plan and, in the case of a student who holds a J-1 visa, for participation by each of the student’s dependents as required by applicable federal regulations.

The institution shall waive the fee where the student provides evidence acceptable to the institution that demonstrates continuing coverage under the UT System Employee Group Insurance Plan or a comparable mandatory employee plan; continuing mandatory coverage through a government sponsored health plan (which covers health care in the United States and complies with the federal Civil Rights Restoration Act of 1987); or, continuing coverage that satisfies the requirements of the Department of State (DOS) regulations with regard to J-1 and J-2 visa holders.

The institution shall require any student who is granted a waiver to immediately notify the institution should there be a lapse in the coverage for which the waiver was granted.

This requirement does not apply to students who do not hold a nonimmigrant visa, including students from a bordering nation who are attending an institution in a county adjacent to that nation.

Important Information about Bacterial Meningitis

Pursuant to SB 1107 recently enacted by the State of Texas, all new students enrolling in the UT Health Science Center must provide proof that the meningitis vaccination was administered at least 10 days prior to the first day of the term. Vaccinations must have been received or renewed within the last 5 years. The legislation provides two exceptions: a) students who are over 30 years of age and b) students taking 100% of classes online.

Students who qualify for exceptions and wish to exercise the same must complete an exception form. Failure to do so consistent with the noted timeframe will preclude registration.

Bacterial Meningitis is a serious, contagious, potentially deadly disease that can progress extremely fast, so take utmost caution. It is an inflammation of the membranes that surround the brain and spinal cord. The bacteria that cause meningitis can also infect the blood. This disease strikes about 3,000 Americans each year, including 100–125 on college campuses, leading to 5–15 deaths among college students every year. There is a treatment, but those who survive may develop severe health problems or disabilities. Keeping up to date with recommended immunizations and maintain health habits such as getting plenty of rest and avoiding close contact with sick people, are ways to prevent Meningitis.

What are the symptoms?

- High fever
- Severe headache
- Vomiting
- Rash or purple patches on skin
- Stiff neck
- Light sensitivity
- Nausea
- Confusion and sleepiness
- Seizures
- Lethargy
There may be a rash of tiny, red-purple spots caused by bleeding under the skin. These can occur anywhere on the body.

The more symptoms, the higher the risk, so when these symptoms appear seek immediate medical attention. How is bacterial meningitis diagnosed? Diagnosis is made by a medical provider and is usually based on a combination of clinical symptoms and laboratory results from spinal fluid and blood tests.

Early diagnosis and treatment can greatly improve the likelihood of recovery.

How is the disease transmitted?
- The disease is transmitted when people exchange saliva (such as by kissing, or by sharing drinking containers, utensils, cigarettes, toothbrushes, etc.) or come in contact with respiratory or throat secretions.
- Exposure to saliva by sharing cigarettes, water bottles, eating utensils, food, kissing, etc.
- Living in close conditions (such as sharing a room/suite in a dorm or group home).

What are the possible consequences of the disease?
- Death (in 8 to 24 hours from perfectly well)
- Permanent brain damage
- Kidney failure
- Learning disability
- Hearing loss, blindness
- Limb damage (fingers, toes, arms, legs) that requires amputation
- Gangrene
- Coma
- Convulsions

Can the disease be treated?
- Antibiotic treatment, if received early, can save lives and chances of recovery are increased. However, permanent disability or death can still occur.
- Vaccinations are available and should be considered for:
  - those living in close quarters and
  - college students 25 years old or younger.
- Vaccinations are effective against 4 of the 5 most common bacterial types that cause 70% of the disease in the U.S. (but does not protect against all types of meningitis).
- Vaccinations take 7–10 days to become effective, with protection lasting 3–5 years.
- The cost of vaccine varies so check with your health care provider.
- Vaccination is very safe – most common side effects are redness and minor pain at injection site for up to two days.

How can I find out more information?
- Contact your own health care provider.
- Contact the Student Health Center at 567-WELL (9355).
- Contact Web sites:
  - http://www.cdc.gov/ncidod/dbmd/diseaseinfo
  - http://www.acha.org (Under "Show resources on," select "Meningitis.")

Hazing Offenses

Hazing in state educational institutions is prohibited by both state law (Sections 51.936 and 37.151, Texas Education Code), and by the Rules and Regulations of the Board of Regents of The University of Texas System (Series 50101, Section 2.8). Individuals or organizations engaging in hazing could be subject to fines and charged with criminal offenses. Additionally, the law does not affect or in any way restrict the right of the university to enforce its own rules against hazing.

According to the law, a person commits a hazing offense if the person engages in hazing; solicits, directs, encourages, aids, or attempts to aid another in hazing; intentionally, knowingly, or recklessly allows hazing to occur; or fails to report firsthand knowledge that a hazing incident is planned or has occurred in writing to the chief student affairs officer. The fact that a person consented to or acquiesced in a hazing activity is not a defense to prosecution for hazing under this law.

An organization commits an offense if the organization condones or encourages hazing or if an officer or any combination of members, pledges, or alumni of the organization commits or assists in the commission of hazing.

The law defines hazing as any intentional, knowing, or reckless act, occurring on or off the campus of an educational institution, by one person alone or acting with others, directed against a student, that endangers the mental or physical health or safety of a student for the purpose of pledging, being initiated into, affiliating with, holding office in, or maintaining membership in an organization whose members are or include students at an educational institution.

Hazing includes but is not limited to:

1. any type of physical brutality, such as whipping, beating, striking, branding, electronic shocking, placing of harmful substance on the body, or similar activity;

2. any type of physical activity, such as sleep deprivation, exposure to the elements, confinement in a small place, calisthenics, or other activity that subjects the student to an unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student;

3. any activity involving consumption of food, liquid, alcoholic beverage, liquor, drug, or other substance that subjects the student to an unreasonable risk of harm or which adversely affects the mental or physical health or safety of the student;

4. any activity that intimidates or threatens the student with ostracism; that subjects the student to extreme mental stress, shame, or humiliation; or that adversely affects the mental health or dignity of the student or discourages the student from entering or remaining registered in an educational institution, or that may reasonably be expected to cause a student to leave the organization or the institution rather than submit to acts described in this subsection; and
5. any activity that induces, causes, or requires the student to perform a duty or task which involves a violation of the Penal Code. The fact that a person consented to or acquiesced in a hazing activity is not a defense to prosecution.

Any student who engages in conduct that constitutes hazing is subject to disciplinary action regardless of whether he or she is charged with a criminal offense.

Series 50101, Section 2.8, of the Rules and Regulations of the Board of Regents of The University of Texas System, provides that:

1. hazing with or without the consent of a student is prohibited by the System, and a violation of that prohibition renders both the person inflicting the hazing and the person submitting to the hazing subject to discipline;

2. initiations or activities by organizations may include no feature which is dangerous, harmful, or degrading to the student and a violation of this prohibition renders both the organization and participating individuals subject to discipline.

Activities which under certain conditions constitute acts that are dangerous, harmful, or degrading, in violation of the Rules and Regulations of the Board of Regents of The University of Texas System include but are not limited to:

- calisthenics, such as sit-ups, push-ups, or any other form of physical exercise;
- total or partial nudity at any time;
- the eating or ingestion of any unwanted substance;
- the wearing or carrying of any obscene or physically burdensome article;
- paddle swats, including the trading of swats;
- pushing, shoving, tackling, or any other physical contact;
- throwing oil, syrup, flour, or any harmful substance on a person;
- rat court, kangaroo court, or other individual interrogation;
- forced consumption of alcoholic beverages either by threats of peer pressure;
- lineups intended to demean or intimidate;
- transportation and abandonment (road trips, kidnappings, walks, rides, drops);
- confining individuals in an area that is uncomfortable or dangerous (hot box effect, high temperature, too small);
- any type of personal servitude that is demeaning or of personal benefit to the individual members;
- wearing of embarrassing or uncomfortable clothing;
- assigning pranks such as stealing, painting objects, harassing other organizations;
- intentionally messing up the house or room for clean up;
- demeaning names;
- yelling and screaming; and
- requiring boxing matches or fights for entertainment.

In an effort to encourage reporting of hazing incidents, the law grants immunity from civil or criminal liability to any person who reports a specific hazing event in good faith and without malice to the chief student affairs officer and immunizes that person from participation in any judicial proceeding resulting from that report. The penalty for failure to report is a fine of up to $1,000, up to 180 days in jail, or both. Penalties for other hazing offenses vary according to the severity of the injury that results and range from $500 to $10,000 in fines and up to two years confinement.

The law does not affect or in any way limit the right of the university to enforce its own rules against hazing.

**Information Security and Assurance**

The Health Science Center’s information resources are strategic and vital assets belonging to the people of Texas and support the institution’s teaching, education, patient care, research, and public service missions. The Department of Information Security and Assurance (IMS-ISA) is responsible for providing leadership to ensure security measures are implemented to protect information resources from accidental or unauthorized access, disclosure, modification, or destruction, as well as ensure the availability, integrity, and confidentiality of information. While the IMS-ISA provides leadership, information security is the responsibility of all information systems users and therefore students are expected to comply with the following Information Security policies:

**Handbook of Operating Procedures, Section 5.8**

**Information Security**

**Handbook of Operating Procedures**

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**Sexual Assault Policy**

The policy of The UT Health Science Center San Antonio is to strive to maintain an environment that is free from intimidation and one in which students may be educated to their fullest potential. The Health Science Center fosters an understanding of difference and cultivates the ethical and moral issues that are the basis of a humane social order. The Health Science Center does not tolerate physical abuse, threats of violence,
physical assault, or any form of sexual assault, including, but not limited to, acquaintance or date rape.

A student who individually, or in concert with others, participates or attempts to participate in a sexual offense, including, but not limited to, sexual assault or abuse of, threats against, or the unwanted touching of any other person, can be subject to disciplinary action by the Health Science Center, notwithstanding any action that may or may not be taken by the civil authorities. In addition to incidents that occur on the Health Science Center campus, the Health Science Center may take disciplinary action in response to incidents that take place during official functions of the university or those sponsored by registered student organizations or incidents that have “an affiliation” to the interests of the Health Science Center, regardless of the location in which they occur.

Anyone who is a victim of any form of sexual assault should immediately call the police (911). The police will provide transportation to the University Hospital Emergency Center for medical treatment and evidence collection. Reporting an assault does not mean that the victim must press charges, take the case to criminal trial or pursue a Health Science Center disciplinary hearing. Even if a victim has not decided whether to press charges, informing the police and going to the hospital will allow for her/his emotional and medical needs to be attended to and will preserve the victim’s option to press charges.

A student may file a written complaint against another student by directly contacting the chief student affairs officer or the appropriate associate dean for student affairs. The written complaint must be submitted within 30 working days of the alleged violation. The student may choose to file a complaint with the chief student affairs officer or with her/his associate dean for student affairs whether or not he/she chooses to press criminal charges. The chief student affairs officer shall immediately refer the complaint to the appropriate associate dean for student affairs. The student who files a complaint against a faculty or staff member may contact her/his associate dean for student affairs or the chief student affairs officer.

The written complaint and subsequent record of any administrative adjudication is confidential. This record is maintained in the office of the appropriate dean or the chief student affairs officer, whoever conducted the administrative action.

The Health Science Center Student Counseling Service (210-567-2648) and the Sexual Assault Crisis and Resource Center Hotline (210-349-7273) are available to provide support services for anyone affected by any form of sexual assault. Students who may have been assaulted by someone who is not affiliated with the Health Science Center may contact any of the available Health Science Center support services.

When a student reports that the campus regulations prohibiting sexual assault have been violated, certain provisions that provide for the protection of the emotional health and physical safety of the complainant can be made available. Such provisions may include modification of a student’s educational environment, (e.g., change in laboratory assignment or alteration of clinical schedule). Such modification will be facilitated through the associate dean for student affairs in the student’s respective school. If the complainant provides evidence that the accused student presents a continuing danger to person or property or poses an ongoing threat of disrupting the academic process, the associate dean for student affairs may take interim disciplinary action against the accused student as appropriate. Disciplinary action may include, but not be limited to, the following: verbal warning, written warning, counseling, suspension, or dismissal.

**Sexual Harassment & Sexual Misconduct**

(from the Health Science Center’s Handbook of Operating Procedures (HOP), Chapter 4, Section 4.2, Policy 4.2.2.)

**POLICY**

The UT Health Science Center San Antonio is committed to the principle that the university’s working and learning environment be free from inappropriate conduct of a sexual nature. Sexual misconduct and sexual harassment in any form will not be tolerated and individuals who engage in such conduct will be subject to disciplinary action.

**POLICY**

This policy applies to all university administrators, faculty, staff, residents, fellows, students, visitors and applicants for employment or admission. It applies not only to unwelcome conduct that violates state and federal laws concerning sexual harassment but also to inappropriate conduct of a sexual nature. It is also applicable regardless of the gender of the complainant or the alleged harasser.

**STATUTORY**

Sexual harassment is a form of sex discrimination under Title VII of the Civil Rights Act of 1964, Title IX of the Civil Rights Act of 1972, and the Texas Labor Code (located under “Texas Statutes”), Chapter 21, and it is illegal, and actionable under civil and criminal law.

**DEFINITIONS**

A. Sexual Misconduct. Sexual misconduct includes unwelcome sexual advances, requests for sexual favors, or verbal or physical conduct of a sexual nature directed towards another individual that does not rise to the level of sexual harassment but is unprofessional and inappropriate for the workplace or classroom.

B. Sexual Harassment. Sexual harassment, includes unwelcome sexual advances, requests for sexual favors, verbal or physical conduct of sexual nature when:

1. submission to such conduct is made either explicitly or implicitly a term or condition of employment or student status;

2. submission to or rejection of such conduct is used as a basis for evaluation in making personnel or academic decisions affecting that individual; or

3. such conduct has the purpose or effect of unreasonably interfering with an individual’s
performance as an administrator, faculty member, staff, resident, fellow or student, or creating an intimidating, hostile or offensive environment.

C. Examples. Examples of behavior that could be considered sexual misconduct or sexual harassment include but are not limited to:

1. physical contact of a sexual nature including touching, patting, hugging, or brushing against a person’s body;
2. explicit or implicit propositions or offers to engage in sexual activity;
3. comments of a sexual nature including sexually explicit statements, questions, jokes or anecdotes; remarks of a sexual nature about a person’s clothing or body; remarks about sexual activity; speculation about sexual experience;
4. exposure to sexually oriented graffiti, pictures, posters, or materials; and/or
5. physical interference with or restriction of an individual’s movements.

CONSENSUAL RELATIONSHIPS

It is the policy of The UT Health Science Center San Antonio that the following romantic or sexual relationships are strongly discouraged.

- Between a faculty member and a student, resident or fellow who is enrolled in the faculty member’s course or who is otherwise under the supervision of the faculty member, or
- Between a supervisor and a person under her or his supervision.

This policy is not intended to discourage the interaction of faculty and students, residents or fellows and supervisors and employees where it is appropriate and ethical; however, it is intended to clarify that romantic or sexual relationships often create situations that lead to sexual harassment, conflicts of interest, favoritism, and low morale. Therefore, such relationships are strongly discouraged.

Every consenting romantic and sexual relationship between a faculty member and a student, resident or fellow or between supervisor and employee may potentially evolve into a sexual harassment case with serious implications, either from a subsequent change of attitude by the parties involved or from a contemporary complaint from a disadvantaged third party. Faculty members exercise power over students, residents or fellows, as do supervisors over employees, whether in evaluating them, making recommendations for their promotion or future employment, or conferring other benefits. Others may be adversely affected by the relationship in that it places the faculty member or supervisor in a position to favor or advance one individual’s interest at the expense of others.

As provided in the American Association of University Professors policy on consensual relationships, faculty are expected to be aware of their professional responsibilities in their relationships with students and “avoid apparent or actual conflict or interest, favoritism, or bias.” These relationships are viewed as damaging to the university environment and therefore are strongly discouraged.

Complaints concerning consensual relationships by non-participating individuals whose work or school environment is adversely affected by the behavior will be treated as third-party sexual harassment or sexual misconduct complaints.

RESOLUTION OPTIONS

A person who believes that he or she has been subjected to discrimination or harassment in violation of this policy and seeks to take action may use either the informal resolution process or the formal complaint process or both. The informal resolution and formal complaint resolution process described in this policy are not mutually exclusive and neither is required as a pre-condition for choosing the other; however, they cannot both be used at the same time.

INFORMAL RESOLUTION

This process may be used as a prelude to filing a formal complaint or as an alternative. It is not necessary that this option be used. Anyone who believes that he or she has been subject to sexual harassment or sexual misconduct may immediately file a formal complaint as described in Section VI of this policy. An individual wishing to utilize the informal resolution process should contact the EEO/AA Office or the appropriate Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education of the School of Medicine as appropriate.

1. Informal Assistance. The individual is provided assistance in attempting to resolve possible sexual harassment or sexual misconduct if the individual does not wish to file a formal complaint. Such assistance includes strategies for the individual to effectively inform the offending party that his or her behavior is unwelcome and should cease action by an appropriate university official to stop the unwelcome conduct, or mediation. However, the university may take more formal action to ensure an environment free of sexual harassment or sexual misconduct.

2. Timeframe. Informal resolutions will be completed in a timely manner from receipt of a request for informal resolution.

3. Confidentiality and Documentation. The university shall document informal resolutions. The EEO/AA Office shall retain the official documentation. The Associate Deans will forward documentation of informal resolutions to the EEO/AA Office at the conclusion of the process for which they are responsible to conduct. The university will endeavor to maintain confidentiality to the extent permitted by law.

The university will attempt to find the right balance between the individual’s desire for privacy and confidentiality with the responsibility of the university to provide an environment free of sexual harassment.

COMPLAINT PROCEDURES
(This complaint procedure also constitutes the grievance procedures for complaints alleging unlawful sex discrimination required under Title IX of the Education Amendments of 1972. As used herein, “complaint” is synonymous with “grievance.”)

A. Reporting

1. The UT Health Science Center San Antonio encourages any person who believes that he or she has been subjected to sexual misconduct or sexual harassment to immediately report the incident to the appropriate supervisor of the accused faculty member or employee, to the EEO/AA Office or when a student, resident or fellow is the complainant or the accused individual, to the appropriate Associate Dean for Student Affairs or Associate Dean for Graduate Medical Education of the School of Medicine. In no case will a complainant be required to report such conduct to the person accused of the misconduct. The complainant will be advised of the procedures for filing a formal complaint of sexual harassment or sexual misconduct. When a supervisor or Associate Dean for Student Affairs or Associate Dean for Graduate Medical Education of the School of Medicine receives a complaint, he or she will immediately notify the EEO/AA Office.

2. Complaints should be filed as soon as possible after the conduct giving rise to the complaint, but no later than 180 days after the event occurred.

3. In order to initiate the investigation process, the complainant should submit a signed, written statement setting out the details of the conduct that is the subject of the complaint, including the complainant’s name, signature, and contact information; the name of the person directly responsible for the alleged violation; a detailed description of the conduct or event that is the basis of the alleged violation; the date(s) and location(s) of the occurrence(s); the names of any witnesses to the occurrence(s); the resolution sought; and any documents or information that is relevant to the complaint. While an investigation may begin on the basis of an oral complaint, the complainant is strongly encouraged to file a written complaint. When a supervisor or the Associate Dean of Students or Associate Dean for Graduate Medical Education of the School of Medicine receives a complaint, he or she shall immediately notify the EEO/AA Office.

B. Complaint Investigation

1. The Associate Dean for Student Affairs or Associate Dean for Graduate Medical Education of the School of Medicine and/or the Executive Director of the EEO/AA Office as appropriate, is responsible for investigating formal complaints. If the complaint is not in writing, the investigator should prepare a statement of what he or she understands the complaint to be and seek to obtain verification of the complaint from the complainant.

2. Within ten working days of receipt of a complaint the Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education of the School of Medicine and/or the Executive Director of the EEO/AA Office as appropriate will authorize an investigation of the complaint.

3. As part of the investigation process, the accused individual shall be provided with a copy of the allegations and allowed the opportunity to respond verbally and/or in writing within a reasonable timeframe.

4. The complainant and the accused individual may present any document or information that is believed to be relevant to the complaint.

5. Any persons thought to have information relevant to the complaint shall be interviewed and such interviews shall be appropriately documented. Other acceptable methods for gathering information include but are not limited to visual inspection of materials alleged to be offensive and follow-up interviews as necessary.

6. The investigation of a complaint will be concluded as soon as possible after receipt of the written complaint. In investigations exceeding 60 days, a justification for the delay shall be presented to and reviewed by the Executive Director of the EEO/AA Office. The complainant, accused individual and supervisor shall be provided an update on the progress of the investigation after the review.

7. Upon completion of the investigation, a written report will be issued. The report shall include: a recommendation of whether a violation of the policy occurred, an analysis of the facts discovered during the investigation, and recommended disciplinary action if a violation of the policy occurred. The written report will be sent to the appropriate administrative official.

8. Written notifications of the findings of the investigation and outcome will be sent to the complainant and the respondent by the appropriate administrative official. The complainant and the respondent have seven (7) working days from the date of the notification letter to submit comments regarding the investigation to the administrative official. However, if a complaint is filed against a student then the complainant and respondent may not receive or comment on the notification letter in accordance with the Family Education Rights and Privacy Act’s restrictions on disclosure of educational records.

9. Within thirty (30) working days of receiving any comments submitted by the complainant or respondent, the appropriate administrative official will take one of the following actions: a) request further
10. If the appropriate administrative official determines that this policy was violated, he or she will take disciplinary action that is appropriate for the severity of the conduct. Disciplinary actions can include, but are not limited to, verbal reprimands, written reprimands, imposition of conditions, reassignment, suspension, and dismissal.

11. The complainant and the respondent shall be informed in writing of the administrative official’s decision. However, if a complaint is filed against a student, then the determination letter sent to the complainant will be written in compliance with the Family Education Rights and Privacy Act.

12. Implementation of disciplinary action against faculty and employees will be handled in accordance with the university’s policy and procedures for discipline and dismissal of faculty and employees. The Associate Dean for Students or the Associate Dean for Graduate Medical Education of the School of Medicine will impose disciplinary action, if any, against a student, resident or fellow in accordance with the university’s appropriate disciplinary procedures.

13. The Executive Director of the EEO/AA Office will monitor the circumstances surrounding the complaint through complaint resolution.

PROVISIONS APPLICABLE TO ALL COMPLAINTS

A. Assistance. During the complaint process, a complainant or respondent may be assisted by a person of her or his choice; however, the assistant may not examine witnesses or otherwise actively participate in a meeting or interview.

B. Retaliation. An administrator, faculty member, student, resident, fellow or employee who retaliates in any way against an individual who has brought a complaint pursuant to this policy or an individual who has participated in an investigation of such a complaint is subject to disciplinary action, including dismissal.

C. False Complaints. Any person who knowingly and intentionally files a false complaint under this policy or any person who knowingly and intentionally makes false statements within the course of the investigation is subject to disciplinary action up to and including dismissal from the university.

D. Confidentiality and Documentation. The university shall document complaints and their resolution. The Office of Equal Employment Opportunity/Affirmative Action shall retain the official documentation. The Associate Deans will forward documentation of resolutions to the EEO/AA Office at the conclusion of the process for which they are responsible to conduct. To the extent permitted by law, complaints and information received during the investigation will remain confidential. Relevant information will be provided only to those persons who need to know in order to achieve a timely resolution of the complaint.

DISSEMINATION OF POLICY

A. The policy will be made available to all faculty, employees, students, residents and fellows. Periodic notices sent to students, residents, fellow employees and faculty about the university’s Sexual Harassment and Sexual Misconduct Policy will include information about the complaint procedure and will refer individuals to designated offices for additional information.

B. The university periodically will educate and train employees and supervisors regarding the policy and conduct that could constitute a violation of the policy.

All civil rights discrimination issues are covered under Chapter 4, Section 4.2, Section 4.2.1, “Nondiscrimination Policy and Complaint Procedure,” of the Handbook of Operating Procedures (HOP).

Confidentiality

The Health Science Center will, to the extent possible, maintain the confidentiality of information received as a result of the charge and investigation.

Resources for Persons Affected by Sexual Assault

The university’s Sexual Assault Policy is listed above. Several educational and prevention programs and support services address the issue of sexual assault. Phone numbers are provided for additional information.

Student Counseling Service: 567-2648

- Individual counseling for all students affected by sexual assault
- Consultation on sexual harassment
- Referral to other resources
- Workshops on any related topic as requested
- Workshops on date rape, assault

Student Health Center: 567-WELL (9355)

University Police Department: 567-2800

Emergency Numbers: 911 from campus telephone (not cell phone) / call 210-567-8911 from a cell phone on campus to get UT Police (911 from a cell on campus will get San Antonio Police.)
• crime prevention presentations which include issues related to assault
• RAD (Rape Aggression Defense) courses offered. For more information call 562-9095.
• Safety escort service — on request at any time (567-2800)
• Crime statistics information
• Referral to campus and off-campus services

Methodist Specialty & Transplant Hospital: 575-8110

• Examination and treatment of sexual assault victims
• Referral to other services

Rape Crisis and Resource Center: 521-7273

• Rape crisis support group
• Adults molested as children group
• Teenage survivors of sexual assault or abuse group
• Sexual harassment support group
• Male survivors of sexual abuse/assault group
• Referral services

Brochures, pamphlets, and other printed material are available from the various campus resources.

Student Safety on Campus

The University Police Department is the agency responsible for law enforcement, security, and emergency response on the campus. A system of card-reader-controlled doors, emergency telephones and intercoms, exterior lighting, a closed-circuit television monitoring system, gated entry, late-entry doors for access to campus buildings, and police patrols are all part of the campus security program. Security awareness and crime prevention programs are provided to inform students and staff of security measures and devices in place, as well as services available through the University Police Department. Detailed information about all of these systems and programs is included in the University Police section below.

HSC Alert and Emergency Information

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<th>Important Numbers</th>
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<td><strong>Emergencies</strong></td>
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<td>911 (from a campus “land line” phone = UT Police)</td>
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<td>(911 from a cell phone on campus = San Antonio Police.)</td>
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<td><strong>24-hour Message</strong></td>
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<td>210-567-7669 (567-SNOW)</td>
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<td>956-565-UTEL</td>
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<td><strong>Buildings/Utilities</strong></td>
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<td>210-567-2885</td>
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<td>After Hours:</td>
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<td>210-567-2947</td>
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<td><strong>Computer Systems</strong></td>
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<td>210-567-2069</td>
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<td><strong>Environmental Health and Safety</strong></td>
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<td>210-567-2955</td>
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<td><strong>Network/Phones</strong></td>
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210-567-2061

Police Non-emergency

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<td>Edinburg:</td>
<td>956-316-7151</td>
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<tr>
<td>Harlingen:</td>
<td>956-365-8900</td>
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<tr>
<td>Laredo:</td>
<td>956-523-7414</td>
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<tr>
<td>San Antonio:</td>
<td>210-567-2800</td>
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HSC Alert

The UT Health Science Center has an emergency notification service called HSC Alert on the university portal (see below).

This service allows faculty, staff, students and residents on all campuses of the Health Science Center to sign up to be notified—via text messaging—in the event of an emergency or imminent campus closure. The text message can be received on your designated mobile phone, PDA, Blackberry/Treo, alphanumeric pager, or e-mail address. The cost of this service is being underwritten by the Health Science Center and is free to those who sign up.

This service adds another immediate mechanism to the several existing communication methods that we have in place to alert the university community to an emergency situation, such as global e-mails, notices on our Web site and the “snow” information lines—210-567-SNOW and 956-365-UTEL.

The system is used only for emergency contact purposes and last-minute campus closures. For example, it will send notifications regarding a life-threatening situation, major facility emergency or evacuation, and/or severe weather. HSC Alert will not be used to distribute general informational notices, advertising, or other unsolicited content. Please note that subscribers to HSC Alert will pay no fees for the service other than any regular fees charged by their wireless carriers to receive text messages.

Subscribing is on a voluntary opt-in basis. Subscribers may register two mobile devices and two e-mail addresses (i.e., work and/or personal e-mail addresses).

To Register

First, sign in on the portal http://inside.uthscsa.edu with your username and password. Once inside the portal click on the “Services” tab. Then, to opt-in to the service, go to the “Emergency Text Messaging” blue box on the left of the screen. Then click on the “Sign Up” link under “HSC Alert.” You will need to have with you the mobile phone(s), PDA(s) and/or pager(s) from which you want to receive HSC Alert messages. The reason for this is that sign up requires that a validation number be sent to the mobile device(s) you choose. You must receive this validation number—and enter it into the registration system—prior to completing the sign-up process.

After your initial registration, you must maintain your account by updating it with your most current information. For example, you are responsible for entering into the HSC Alert system database any changes you make to your mobile phone number, carrier, e-mail address, etc.
Campus Awareness Requires Everyone (CARE)

We value every member of our Health Science Center family and strive to ensure that everyone has the resources and support needed to succeed collectively. Sometimes, as the year progresses, issues such as financial concerns, problems with relationships or challenging coursework can cause unmanageable stress. This pressure can overflow into campus life, stifle productivity and cause an unfavorable working environment.

The Behavior Intervention Team developed the Web site C.A.R.E. (Campus Awareness Requires Everyone) at http://care.uthscsa.edu to help address and prevent these types of difficulties. The Web site offers resources for faculty and staff, students, residents and even parents that direct them to the help they may need. It also provides training and resources that can prepare everyone to take action in preventing campus violence or reacting to a dangerous situation.

If you are concerned about someone or are worried about how you are dealing with stress yourself, please call (210) 567-CARE (2273), a special phone number dedicated for this purpose.

If you notice a dangerous or alarming situation on campus, please immediately call the Health Science Center Police Department (911 from campus phone / 567-8911 from cell phone). In addition, if you notice a friend or co-worker who is under unmanageable stress or whose behavior is out of character, show that you care by trying to help them. Consult the C.A.R.E. Web site or call 210-567-CARE (2273) for advice or assistance.

Emergency Information Outlets

Emergency Response and Evacuation Plan (http://research.uthscsa.edu/safety/evacplans.shtml)

The Office of Environmental Health and Safety shows emergency exits in campus buildings, and lists procedures for emergency response.

Hurricane Preparedness (http://www.nhc.noaa.gov/HAW2/english/disaster_prevention.shtml)

The National Hurricane Center describes how to prepare for the hazards of a hurricane.


The Department of Homeland Security rates the risk of a terrorist attack based on the government's five-color security advisory system. The Homeland Security Advisory System is designed to guide our protective measures when specific information to a particular sector or geographic region is received. It combines threat information with vulnerability assessments and provides communications to public safety officials and the public.
University Public Safety and Police

Michael Parks, Director of Public Safety and Chief of Police

567-2800 University Police Building

http://www.uthscsa.edu/utpolice

• Call 911 for any Campus Emergency from a university phone (from a cell phone dial 567-8911 for UT Police; if you dial 911 from a cell phone on campus, you will get the San Antonio Police Department.)

Mission of the University Police Department

The mission of the University Police Department is to support the Health Science Center in its training of health care specialists by:

1. ensuring that faculty, staff, and students enjoy a safe place to teach, work, and study;
2. protecting state and personal property within our jurisdiction;
3. assisting and directing the many visitors and patients at the campus;
4. presenting structured programs to faculty, staff, and students that identifies their role in Crime Prevention;
5. ensuring cost-effective use of available resources in pursuit of its mission.

Overall, this department exists for the:

1. prevention of criminal activity;
2. detection of criminal activity;
3. apprehension of criminal offenders;
4. protection of Constitutional guarantees;
5. control of traffic; and
6. creation and maintenance of a feeling of security on the campus.

All criminal offenses and traffic violations that occur on university property are to be reported to the University Police Department. Students and employees should report these offenses to the University Police by calling ext. 7-2800 (567-2800) or by using an emergency intercom.

The University Police Department is a community oriented department operating 24 hours a day, seven days a week. The department is charged with the responsibility of providing law enforcement and security service to those persons directly or indirectly associated with the Health Science Center; of protecting lives as well as the property of the individual and the university against negligence or malicious destruction; of preserving order; and of enforcing the general laws of the State of Texas, the Rules and Regulations of the Board of Regents of the UT System, and applicable Health Science Center policies and procedures. The department includes duly commissioned peace officers (as authorized by Article 51.203 of the Texas Education Code) and noncommissioned personnel.

Parking & Traffic

Students may park in any parking lot, within any Zone, for which they have been issued a permit.

A parking permit must hang from the car’s interior rearview mirror. Parking permits may be purchased in the Parking Service Office, next to the Bookstore, in Parking Garage B (adjacent to the School of Nursing). For more information go to the Police Department Web site or call 562-PARK.

Special parking areas are provided for the disabled, car pools, two-wheeled vehicles, and bicycles. Self-adhering decals are affixed to two-wheeled vehicles.

Parking on the campuses of the Health Science Center is established in zones. Spaces are available for both reserved and non-reserved parking. Reserved spaces are marked as such, and are reserved for a specific permit holder. A set number of spaces in each zone category and the number of reserved spaces within each zone have been established. All staff and students are eligible for any parking zone that is available at the time of registering or hiring date. A Waiting List for more desirable parking spaces or assignments is available to everyone. The wait list is maintained by the Parking Service Office.

Zone I parking spaces are located within the parking garages, with Reserved spaces being specifically assigned to the permit holder and Non-Reserved spaces designating the roof spaces.

All Zone I parking, including roof spaces, are reserved 24 hours a day, seven days a week. Zone II parking areas are denoted by silver signs, and are located nearest to the buildings. Zone III parking areas are located just beyond the Zone II areas, and are denoted by red signs. Zone IV parking areas are located farther from the buildings, and are denoted by blue signs. Zone V parking areas are located only at the Lot #17 area, near the School of Health Professions Building, and denoted by black signs. Shuttle-bus service connects that parking area with all areas of the campus. Motorcycles and bicycles must be parked in specifically designated areas.

Parking permits expire August 31 of each year. Permit fees are paid in one payment for the full permit year. Incoming students pay for the full permit year, plus a prorated amount for the months remaining from their enrollment registration to the current expiration date. Annual fees for the various permits as of September 2010 are: $62.99 monthly for Garage Zone I Reserved, $39.37 monthly for Garage Roof permits, $47.24 monthly for all other reserved spaces in each zone, $31.50 monthly for Zone II non-reserved, $15.75 monthly for Zone III non-reserved, $7.87 monthly for Zone IV non-reserved, $6.75 monthly for Zone V non-reserved, $8.65 monthly for Zone VI non-reserved (can be used in Edinburg, Harlingen, and Laredo only), $4.50 monthly for Motorcycles, and $13.50 annually for Bicycles. Permit fees will increase 4% per annum through 2013 to provide increased service and capital improvements. Car Pool permits are available for each zone of parking at varying amounts. Car Pools must consist of at least three persons with separate domiciles if residing inside Loop 1604, and at least two members with separate domiciles if residing outside Loop.
1604. Permits may be purchased at the Parking Service Office next to the University Bookstore Monday–Friday from 7:45 a.m.–5:15 p.m. Additional information and forms are available on our Web site, http://www.uthscsa.edu/utpolice/. We can also be reached by phone at 210-562-PARK (7275) or e-mail parking@uthscsa.edu.

Students are required to be familiar with and follow parking and traffic regulations published by University Police and issued to each permit holder.

University Police Department is responsible for enforcing Parking and Traffic Regulations that have been established by the President pursuant to the Rules and Regulations of the Board of Regents of the UT System, Rule 80109, as well as enforcement of Texas vehicle inspection laws for vehicles parking or driving on campus.

Parking citations can be paid at the Parking Service Office during all hours of operation. Citations may be appealed to the Chief of Police by submitting a completed appeal form, within 10 calendar days of the citation’s date of issue, to the Parking Service Office. Any person appealing a citation who is not satisfied with the decision of the Chief of Police may have the appeal further reviewed by the University Parking and Traffic Committee. The complete guidance for submitting appeals is contained in the Parking and Traffic Regulations.

Services provided for students include:

- escorting persons to cars at any time when safety is a concern within campus boundaries;
- unlocking vehicles when keys are locked inside;
- managing the campus “Lost and Found”;
- providing a boost for dead vehicle batteries;
- fingerprinting services provided for a fee for licensure and as part of “Operation Identification” (free for children);
- publishing monthly crime statistics; and
- publishing law enforcement and security information.

In addition to entry control stations at each entrance to the campus, intercoms can be used for direct communication with University Police. The intercom locations are:

- in or adjacent to campus parking lots,
- late entry doors, and
- all elevators.

Campus Security Policies and Crime Statistics

This information is being provided as part of the Health Science Center’s commitment to security and personal safety on campus. This document serves as the University Police statement required for compliance with the Student Right-To-Know Act and Crime Awareness and Campus Security Act of 1990.

Your Right to Know

The Jeanne Clery Act is the landmark federal law that requires colleges and universities to disclose information about crime on and around their campus. The UT Health Science Center is committed to assisting the Health Science Center community in providing for its own safety and security. Information regarding campus security, personal safety, crime prevention, university police law enforcement authority, crime reporting policies, crime statistics for the most recent three-year period, and disciplinary procedures is available on the UTHSCSA police department.

If you would like a paper copy of this information, you may contact the crime prevention office at 210-562-9092.

The “Clery Act” is named in memory of a 19-year-old Lehigh University freshman named Jeanne Ann Clery who was sexually assaulted and murdered in her residence hall room on April 5, 1986.

The Health Science Center, a state-supported member institution of The University of Texas System, is located within the San Antonio Metropolitan area. (For information on The University of Texas Institute of Biotechnology (UTIBT), see “The University of Texas Institute of Biotechnology Law Enforcement and Security Information,” Policies and Crime Statistics booklet.) The Joe R. and Teresa Lozano Long (Central) Campus is located in the heart of the South Texas Medical Center at 7703 Floyd Curl Drive. An extension to the Joe R. and Teresa Lozano Long (Central) Campus, the Greehey Academic and Research Campus, is located at 8403 Floyd Curl Drive. Other extension campuses are located in Harlingen (RAHC), Laredo, and Edinburg.

More than 3,000 students are enrolled in The Health Science Center and approximately 6,000 faculty and staff are employed by the university. Patients and visitors to the campuses number approximately 300,000 annually.

Reporting of Criminal Actions, Suspicious Activities, or Emergencies

The University Police Department is the agency responsible for law enforcement, security, and emergency response at the Health Science Center. The office, located on the Joe R. and Teresa Lozano Long (Central) Campus (7703 Floyd Curl Dr.) in the University Police Building, is open 24 hours a day, seven days a week. The department is staffed by professional personnel, including certified licensed police officers, certified communications operators, Public Safety Officers (PSOs), and civilian administrative support personnel. All police officers are armed.

To report a crime or emergency, members of the campus community can contact the University Police Department by calling 567-2800 or 911. Both numbers are answered by a certified communications officer. For this purpose, free on-campus public telephones are located in hallways and other public areas of all campus buildings.

A number of marked interior and exterior emergency telephones and intercoms are located throughout the campus. These telephones and emergency intercoms can be used to report a criminal incident, suspicious activity, a fire, or any other type of emergency. They also may be used to request a personal escort anywhere on campus.
Access to Campus Facilities

Most campus buildings and facilities, including the RAHC and the Regional Campus (Laredo), are accessible to members of the campus community and their guests, patients, and visitors during normal business hours (8 a.m.–5 p.m., Monday–Friday) and for limited designated hours on Saturdays (excluding most holidays). Students have access to the buildings during all scheduled class sessions including laboratory, library study, and research periods.

All campus buildings are locked after normal business hours, weekends, and holidays. Persons needing to enter a building must possess a card/key for entry at designated late-entry doors. Late-entry doors are equipped with a card reader and some have an intercom and closed-circuit television camera. The electronic access control system can both deny or allow access through a building’s exterior door and maintains a central record of which access cards have been used (and when) to gain access.

All exterior building doors on the campus are equipped with electronic alarms that annunciate at the University Police Department when opened during prohibited hours. Each alarm is responded to by a police officer, Public Safety Officer, or both.

Maintenance of Campus Security Devices

The University is committed to campus security and safety. Exterior lighting is an important part of this commitment. Parking lots, pedestrian walkways, and building interiors are well lighted. Formal surveys of exterior lighting on campus are conducted by representatives of the Physical Plant Department. Officers of the University Police Department conduct campus lighting surveys on a daily basis. Additionally, formal surveys are conducted biweekly of all electronic security devices, emergency telephones, and intercoms. Members of the campus community are encouraged to report any exterior lighting, emergency telephone, or intercom deficiencies to the University Police Department at 567-2800.

Exterior doors on campus buildings are locked and secured daily by University Police officers or Public Safety Officers. Doors and security hardware operating deficiencies are reported daily by these officers. Deficiencies are reported to the Communications Center where they are recorded. The Communications Center Supervisor ensures that appropriate work/job orders are opened and repairs made.

Crime prevention specialists of the University Police Department regularly survey the grounds of the campus and report shrubbery, trees, and other vegetation that should be trimmed for safety purposes.

Most parking lots and public areas of the campus are surveyed by closed-circuit television cameras monitored by the University Police Department. Parking lots are actively patrolled by police officers and Public Safety Officers of the University Police Department.

Law Enforcement Authority and Interagency Relationships

The law enforcement officers (police officers) of the University Police Department receive their police authority from article 51.203 of the Texas Education Code. This statute was passed in 1969 and amended in 1987 by the Texas Legislature. Officers commissioned under this act by the University of Texas Board of Regents have full law enforcement authority and their jurisdiction includes the entire county where property owned, leased, rented, or otherwise controlled by the university is located. The university police officers are licensed, as are all other police officers of this state, by the Texas Commission on Law Enforcement Officers Standards and Education upon meeting the required minimum standards and completing the basic police officers training course consisting of at least 820 hours of required basic training. Additional proficiency training is provided each officer annually. Officers patrol the campuses on foot, on bicycle, and by vehicle 24 hours a day, seven days a week, enforcing university rules and regulations and State laws.

The University Police Department maintains a close working relationship with the San Antonio Police Department, state and federal law enforcement agencies, and all appropriate elements of the criminal justice system. Regular meetings are held both on a formal and an informal basis. Crime-related reports and statistics are routinely exchanged.

Security Awareness and Crime Prevention/Community Policing Programs

Preventing crimes from occurring, rather than reacting after the fact, are the philosophy of The UT Health Science Center San Antonio. A primary vehicle for accomplishing this goal is the University Police Department’s comprehensive crime prevention program. It is based upon the dual concepts of eliminating or minimizing criminal opportunities, whenever possible, and encouraging students and employees to share the responsibility for their own security and that of others around them. Below is a listing of crime prevention programs and projects supported and employed by the Health Science Center.

1. New Student Orientation: A crime prevention presentation accompanied by brochures and other printed material is made available to all new students throughout the year.
2. **New Employee Orientation:** A crime prevention presentation accompanied by brochures and other printed material is made available to all new employees throughout the year as requested by the Department of Human Resources.

3. **Emergency Intercom System:** All emergency telephones and intercoms (interior, exterior, late-entry doors, and elevators) throughout the campuses are directly linked to the University Police Department Communications Center. Once activated they must be deactivated by a University Police officer, Public Safety Officers, or communications officer.

4. **Closed-Circuit Television, Surveillance:** Numerous closed-circuit television cameras are employed throughout the campuses, including parking lots and public areas, and are monitored by the University Police Department.

5. **Electronic Security Alarm Systems:** A sophisticated computer-based electronic monitoring system located at the University Police Department Communications Center monitors a comprehensive network of intrusion detection and duress alarm systems.

6. **Crime Prevention Presentations:** Numerous crime prevention presentations are made annually to campus faculty, staff, and students.

7. **Printed Crime Prevention Materials:** Printed crime prevention brochures, posters, and newsletters related to theft prevention, motor vehicle security, bicycle security, personal security, and escort security are widely distributed at crime prevention presentations and made available at the University Police Building.

8. **Crime Prevention Publicity:** Crime prevention articles and crime statistics are distributed monthly to the campus community through the University Police Newsletter.

9. **Operation Identification:** The engraving of driver’s license numbers or other owner-recognized numbers on items of value and the cataloging of these items is an ongoing program.

10. **Sexual Assault Awareness, Education, and Prevention:** Programs are presented throughout the year to the campus community. This includes RAD (Rape Aggression Defense) courses.

11. **Security Surveys:** Comprehensive security surveys or audits are made for a number of campus departments and facilities each year.

12. **Facilities Surveys:** Comprehensive annual surveys of exterior lighting, doors, and grounds are conducted by the University Police Department’s crime prevention specialists.

13. **Architectural Design:** Crime prevention specialists of the University Police Department make significant input into the design of all new and renovated campus facilities as it relates to physical and electronic security systems.

14. **Key Control:** The University Police Department is the custodian of all campus building interior and exterior door keys/cardkeys. Cores are not changed and keys are not issued except in those instances that conform to established university policy.

15. **Area Crime Analysis:** On a quarterly basis, a report is compiled using the information furnished by the San Antonio Police Department and Bexar County Sheriff’s Department, which reflect all Part I Crime occurring within a one-mile radius of the main campus as well as satellite locations. This information is available to campus community members upon request.

16. **Shuttle Service:** The Shuttle Bus Service operates an inbound and outbound route between 7703 and 8403 Floyd Curl Drive campuses. The shuttles are traveling in opposite directions to allow passengers a shorter travel time depending on their location and destination. The shuttle operates Monday through Friday, except holidays, on the published schedule. In addition to all campus locations the shuttles also make stops at University Plaza (7526 Louise Pasteur) and UT Medicine Building (4647 Medical Drive). The shuttle buses can seat 32 passengers and are compliant with the Americans with Disabilities Act. No off-route or non-scheduled stops will be made. Riders should have their student or employee identification card available to be shown, upon request, to the officer driving the bus.

### Crime Reporting

Numerous efforts are made to advise members of the campus community about campus crime and crime-related problems.

1. **Annual Report:** A comprehensive annual report of crime-related information is compiled, published, and made available for distribution. This report is available to the media and any member of the campus community or members of their immediate family.

2. **University Police Newsletter:** A monthly newsletter is published containing crime prevention information and a synopsis of crimes occurring on campus the previous month. It can be expanded as needed.

3. **Special Crime Alerts:** If circumstances warrant, special crime bulletins can be printed and distributed throughout the campus.

4. **Electronic Mail:** In extreme situations, crime bulletins can be prepared and disseminated, utilizing the campus electronic mail system.

### Crime Statistics

The University Police Department compiles statistics of crimes occurring on the campus. Reports of these statistics are forwarded to the Office of the Director of Police of The University of Texas System, to the Texas Department of Public Safety, and to the Federal Bureau of Investigation. Statistics are provided to meet compliance requirements established in the Clery Act. Persons with questions about the information may contact the Chief of Police at (210) 567-2790. Information is available upon request.
Definitions

Campus: “(i) any building or property owned or controlled by the institution of higher education within the same reasonable contiguous geographic area and used by the institution in direct support of, or related to its educational purposes; or (ii) any building or property owned or controlled by student organizations recognized by the institution.”

Contained herein, “campus” and/or “The University of Texas Health Science Center at San Antonio” refers to The UT Health Science Center San Antonio and the 8403 Floyd Curl Campus, inclusive.

Branch campuses, schools, or divisions that are not within a reasonable contiguous geographic area are considered separate campuses for the reporting requirements.

In most cases, fraternity, sorority, and other organizational housing units will be considered part of the campus regardless of location and ownership. Other areas that may be included are recreation/camp sites, research facilities, teaching hospitals, and foreign campuses.

Crimes: While not defined in the law, the National Association of Student Personnel Administrators, Inc. (NASPA) suggests that a crime is “reported” when a campus police officer investigating an incident determines that a crime has occurred or a local police agency notifies a component that it has documented a report of a criminal offense that has occurred “on campus” as defined by this Act.

For the purposes of the Act, the offenses for which statistics must be reported are to be defined in accordance with the FBI's Uniform Crime Report (UCR) system, as modified by the Hate Crimes Statistics Act.

Arrest: “A person is arrested when he/she has actually been placed under restraint or taken into custody by an officer or person executing a warrant of arrest, or by an officer or person arresting without a warrant.” Article 15.22, Texas Code of Criminal Procedure (located under “Texas Statutes”).

Student: While not defined in the law, all persons who are registered during the current semester or take at least one course for credit may be considered “students.”

Employees: Full-time and part-time employees of the component with regularly scheduled hours of employment should be considered “employees.”

Law Enforcement and Security Information — IBT

The University of Texas Institute of Biotechnology (UTIBT) is part of the Health Science Center. Located within the Texas Research Park, the facility is 19 miles from the main campus in Medina and Bexar Counties.

Access to IBT Facilities

The UTIBT facilities are accessible to members of the campus community and their guests, patients, and visitors during normal business hours, 8 a.m.–5 p.m., Monday–Friday (excluding most holidays).

After normal business hours, weekends and holidays, the UTIBT buildings are locked. Persons needing entry must possess a card/key to enter. The electronic access control system can deny or allow access through a building’s exterior doors and maintains a central record of which card/keys have been used (and when) to gain access.

All exterior building doors on the campus are equipped with electronic alarms that annunciate at the University Police Department when opened during prohibited hours. A police officer, Public Safety Officer, or both respond to each alarm.

Reporting of Criminal Actions, Suspicious Activities, or Emergencies

The University Police Department is the agency responsible for law enforcement, security, and emergency response at Texas Research Park.

To report a crime or emergency, members of the UTIBT campus community can easily contact the University Police Department by dialing ext. 7-2800. This number is answered by a trained police communications operator.

Law Enforcement and Security Information—RAHC

The Harlingen Regional Academic Health Center (RAHC) is an extension campus of the Health Science Center, a state-supported member institution of The University of Texas System, which is located within the City of Harlingen, Cameron County, Texas. The 22-acre campus is located in the heart of the Valley Baptist Medical Center at 2102 Treasure Hills Blvd.

Access to RAHC Campus Facilities

The University Police Department operates 24 hours a day, seven days a week.

The Medical Education Division Building is accessible to members of the campus community and their guests and visitors during normal business hours (8 a.m.–5 p.m., Monday through Friday). Visitors and guests must register at the Security Desk if they are not accompanied by a university official.

The 1st Floor of the Medical Education Division Building is open to the general public during the Medical Library hours as follows:

- 7:30 a.m.–11 p.m. Monday through Thursday,
- 7:30 a.m.–5 p.m. Friday,
- 10 a.m.–6 p.m. Saturday, and
- 1–6 p.m. Sunday.

Library guests are not required to register at the Security Desk; however, they are limited to access the 1st floor only.
Students have access to classrooms in accordance with the class times and room scheduling. Students have access to the 1st Floor Student Lounge and Refreshment Center during Library hours. Students have access to the Library from 6:00 a.m.–Midnight Monday through Saturday and 11:00 a.m.–Midnight on Sunday. Students are encouraged to utilize the Medical Library for studying.

The campus building is locked after Medical Library hours and holidays. Persons needing to enter the building must possess a card/key for entry at designated late-entry doors. Late-entry doors are equipped with a card reader and have an intercom and closed-circuit television camera. The electronic access control system can both deny or allow access through a building’s exterior door and maintains a central record of which access cards have been used (and when) to gain access. All exterior building doors on the campus are equipped with electronic alarms that annunciate at the University Police Department when opened during prohibited hours. A police officer, Public Safety Officer, or both respond to each alarm. In case of emergency, call 956-365-8900.

**Law Enforcement and Security Information—Laredo**

The Regional Campus is an extension campus of the Health Science Center, a state-supported member institution of The University of Texas System, which is located within the City of Laredo, Webb County, Texas. The Laredo campus is located at 1937 Bustamante St., Laredo, Texas 78401.

**Access to the Laredo Campus Extension Facilities**

The University Police Department operates 7 a.m.–11 p.m., seven days a week.

The Regional Campus is accessible to members of the campus community and their guests and visitors during normal business hours (8 a.m.–5 p.m., Monday through Friday). Visitors and guests must register at the Security Desk if they are not accompanied by a university official.

The D. D. Hachar Building Library is open to Health Science Center faculty, staff, students, and Mercy Hospital employees. Library hours are 7:00 a.m.–10 p.m., seven days a week.

Library guests are not required to register at the Security Desk; however, they are limited to access the 1st floor only as per Visitor Log Procedures.

Select faculty, staff, students, and residents have access to the building 7 a.m.–10 p.m., seven days a week. Students have free access to the 1st Floor Student Lounge and Refreshment Center at all times. Students are encouraged to utilize the Library for studying.

- **2nd Floor:**
  - Room 2.400 Auditorium
  - Room 2.200 Classroom/lab
  - Room 2.700 Classroom

The campus building is locked after Medical Library hours and on holidays. Persons needing to enter the building must possess a card/key for entry at designated late-entry doors. Late-entry doors are equipped with a card reader. The electronic access control system can both deny or allow access through a building’s exterior door and maintains a central record of which access cards have been used (and when) to gain access. In case of emergency, call 956-237-5070.

**Law Enforcement and Security Information—Edinburg**

The Edinburg facility is an extension campus of the Health Science Center, a state-supported member institution of The University of Texas System that is located adjacent to The University of Texas-Pan American at 1214 W. Schunior Road, Edinburg, Texas 78539. All security and law enforcement services are provided via contract with the UT Pan American Police Department. All parking permits, keys, and IDs are issued through the Harlingen (RAHC) campus.

The Edinburg building is accessible to members of the campus community and their guests and visitors during normal business hours (8 a.m.–5 p.m., Monday through Friday). If they are not accompanied by a university official visitors and guests must register at the Security Desk. During non-duty hours, persons needing to enter the building must possess a card/key for entry at designated entry doors that are equipped with a card reader. The electronic access control system can both deny or allow access through a building’s exterior door and maintains a central record of which access cards have been used (and when) to gain access. In case of emergency, call (956) 316-7151.

**Places where weapons are prohibited**

A person commits an offense of the Texas Penal Code (located under “Texas Statutes”), 46.03, if, with a firearm, illegal knife, club, or prohibited weapon listed in Section 46.05(a), excluding small dispensers of mace or pepper spray, he/she intentionally, knowingly, or recklessly goes on the premises of a school or an educational institution, whether public or private, unless pursuant to written regulations or written authorization of the institution. “Premises” means a building or a portion of a building and also includes any vehicles used as transportation by the educational institution. The term does not include any public or private driveway, street, sidewalk or walkway, parking lot, parking garage, or other parking area. An offense under this section is a third-degree felony.

**Things to do if you are a crime victim**

- Contact the University Police as soon as possible.
- Inform the University Police communications operator of the description and direction of travel taken by the criminal. In the description of the criminal for the communications operator, include race, sex, clothing description, height/weight, color of hair/eyes, any unusual features or jewelry, and a description of the vehicle.
• Remember as much as possible about the criminal and relay that information to the communications operator.
• Remain on the telephone with the communications operator until he/she tells you to hang up.
• Do not confer with other individuals who may have been involved in the incident.
• Do not allow any person in or near the area where the incident took place.

Personal Safety and Crime Prevention
• Don’t dismiss suspicious people or situations.
• If a person is acting suspiciously in the area, call the University Police.
• Don’t be in harm’s way; avoid dangerous situations.
• Be aware of your surroundings.
• Jogging or bicycling should be done during daylight hours, if at all possible.
• Do not wear headsets when walking or bicycling as they prevent the wearers from hearing their surroundings.
• Always jog facing traffic to allow easy viewing of persons or vehicles as they approach.
• Avoid out-of-the-way places.
• Check the interior of a vehicle before entering.
• Lock all doors (office, lab, and car).
• Keep valuables out of sight (in the office, lab, and car).
• Report all crimes and suspicious acts to the police.
• Use common sense—don’t become a victim. Be a good witness.
• Prevention is the best protection against crime!

Procedures to follow if sexual offense occurs
Immediately call the University Police if a sexual offense occurs on campus. If the offense occurs off campus, contact the local law enforcement agency.

Practice being observant — if assaulted or attacked, try to remember details about the assailant so that the assailant may be identified.

Don’t change clothes or take a bath or shower. All physical evidence, including seminal fluids, hair, blood types, and scrapings of flesh from the victim’s nails are used in court.

Be aware of the option to notify proper law enforcement authorities, including on-campus and local police and/or contact counselors, who will assist victims in notifying these authorities, if their assistance is requested. Individuals can avail themselves of the various professional referral programs located on campus. Other private organizations can be identified upon request.

The university will, if reasonably available, change the academic situation of a victim after an alleged sexual offense.

Procedures for campus disciplinary action in cases of an alleged sex offense
The procedures can be found for students in the section entitled Sexual Harassment and Sexual Misconduct in this Catalog. They include but are not limited to:
• The accuser and the accused are entitled to the same opportunities to have others present during a disciplinary proceeding; and,
• Both the accuser and the accused shall be informed of the outcome of any disciplinary proceeding.

Smoking Policy
One mission of the Health Science Center is to promote public health. For this reason, the entire campus is smoke free.

Student Consumer Information
In addition to the information in “Student Safety on Campus," campus security and crime statistics information as outlined in the Student Right to Know and Campus Security Act is contained in this Catalog and is available from the Office of Student Services.

Information on the graduation rate is available from the Registrar.

As provided for in the Americans with Disabilities Act (ADA), The UT Health Science Center San Antonio will assist students with disabilities. (See Office of Student Life.) or visit http://studentservices.uthscsa.edu/CS_disabilities.aspx

Student Debts, E-mail Accounts, Papers

Student Debts
The university is not responsible for debts contracted by individual students or by student organizations and will not assume the role of a collection agency or arbitrate disputes between students and creditors. It does, however, expect students and organizations to discharge contractual obligations.

Student E-mail Accounts
Every student is issued a university e-mail address and account at the time when the student first enrolls. As a standing university policy, only the students’ university e-mail address shall be used for any electronic institutional communications of an official nature.

For help with your Health Science Center e-mail account, contact the IMS Service Desk at IMS-ServiceDesk@uthscsa.edu or call 210-567-7777.
Student Papers

Research papers and theses authored by students will be made available to interested members of the public.

Student Travel Policy

*Texas Education Code* Section 51.950 requires all state institutions adopt rules and regulations governing student travel as defined below by the *U.T. Board of Regents*:

The trip is undertaken by one or more currently enrolled students to reach an activity or event that meets all of the following criteria:

1. An activity or event organized, sponsored, planned, and funded by the institution and approved by a designated administrator.
2. The activity or event is located more than 25 miles from Health Science Center campuses.
3. Travel to the activity or event is funded and undertaken using a vehicle owned or leased by Health Science Center; or attendance at the activity or event is required by a registered student organization and has prior written approval by the appropriate institutional officer.

The Health Science Center does not plan, fund, or sponsor any school-related activity for students, using university-owned or leased vehicles, on sites more than 25 miles from its campuses. The university, however, encourages all students to observe the following guidelines when traveling away from campuses:

4. All occupants of motor vehicles shall use seat belts or other approved safety restraint devices required by law or regulation at all times when the vehicle is in operation.
5. All occupants of motor vehicles shall not consume, possess, or transport any alcoholic beverages or illegal substances.
6. The total number of passengers in any vehicle at any time it is in operation shall not exceed the manufacturer’s recommended capacity or the number specified in applicable federal or state law or regulations, whichever is lower. In addition, when the luggage load is excessive, it is highly recommended the passenger load be reduced accordingly.
7. All operators of motor vehicles shall have valid operators’ licenses and be trained as required by law to drive the vehicles.
8. All motor vehicles must have current proofs of liability insurance coverage and state inspection certification, be equipped with all safety devices or equipment required by federal or state law or regulation, and complies with all other applicable requirements of federal or state law or regulations.
9. Operators of motor vehicles shall comply with all laws, regulations, and posted signs regarding speed and traffic control and shall not operate the vehicle for a continuous period that is longer than the maximum provided by federal or state law or regulations or guidelines promulgated by the Health Science Center, whichever is lower, without scheduled rest stops or overnight stops.
10. When and if the Health Science Center rents cars for students to travel, all applicable requirements of the state contracts for rental cars and the Texas System Business Procedure Memoranda apply.
11. When traveling by common carriers, observe the carrier’s safety guidelines.
12. Each vehicle leased or owned by the institution must be subjected to scheduled periodic service and maintenance by qualified persons and comply with all applicable requirements of any UT System policy.

**Handbook of Operating Procedures Policies**

Information on the following topics may be found in the university’s *Handbook of Operating Procedures*(HOP). Students must also abide by the policies in the HOP.

- Americans with Disabilities - request for accommodations
- Bookstore - Responsibility
- Cash Receipts/Deposits
- Chemical & Biological Safety
- Code of Ethics and Standards of Conduct
- Communication with Outside Sources (media, officials, etc.)
- Computer Virus Protection Policy
- Confidentiality of Patient Health Information
- Copyrighted Materials, use of
- Data Classification
- Defensive Driving
- Definitions
- Disaster Communication Plan
- Electronic Mail Use and Retention
- E-mail policy
- E-Mailing Protected Health Information
- Employment of Non-citizens
- Endowed Appointments
- Endowments—Fiscal Policies and Procedures
- Environmental Policy—Health and Safety
- Environmental protection
- Establishment and Management of Endowments
- Family Educational Rights and Privacy
- Foreign Travel
- Found Property (“Lost and Found”)
- Health & Safety Policy—University Vehicles
- Health Information for Fundraising—Uses and Disclosures of Protected Health Information for Fundraising
• Information Security
  • Information Security Definitions
  • Information Security Incident Reporting
  • Intellectual Property Policy
  • International Services, Office of
  • International Students
  • Institutional Compliance Program
  • Library
  • Management of Research Participant Payments
  • Mobile Telephone Usage Policies, University-Owned
  • No Smoking policy on Campus
  • Nondiscrimination Policy and Complaint Procedure
  • Official External Communications
  • Patient Photography, Videotaping, and Other Imaging
  • Patient Privacy Policies—Limited Data Sets
  • Patient Privacy Policies—Use and Disclosure of Psychotherapy Notes
  • Physical Safety
  • Political Activities
  • Portable Computing Policy
  • Procedures for Handling Allegations of Retaliation
  • Property Removal Permit
  • Protection from Retaliation for Suspected Wrongdoing
  • Research Fraud/Misconduct
  • Responsibility for Bookstore
  • Securing Protected Health Information and Mobile Devices
  • Security Monitoring
  • Select Biological Agents Policy
  • Sexual Harassment and Sexual Misconduct
  • Student Employees
  • Student Information Protection by Code of Ethics and Standards of Conduct
  • Telephone Number for Bad Weather Information:
    (210) 567-SNOW
  • Travel for Employees, Students and Residents, Authorization to
  • Travel Policies and Procedures—Foreign Travel
  • Travel Policy Sources
  • Travel Voucher General Instructions
  • Types of Services for State and Local Purchases
  • University Vehicles—Health & Safety Policy
  • University Vending Services
  • Using Electronic Communications for Broadcast E-Mail Notifications and Distribution of Information
  • Violence in the Workplace
  • Web Application Security
General Academic Policies

Click on an item in the list below to be taken to the location of its content.

- Admission Requirements & Application Procedures
- Common Application Form
- Guidelines for Student Admission Selection
- Texas Core Curriculum Requirements
- “Fresh Start” Admission
- Texas Success Initiative (TSI)
- Student Enrollment Policy
- Course Numbering
- Registration
- Classification of Students
- In Absentia
- Non-degree Student Status
- Residence Determination
- Concurrent Enrollment
- Transfer of Credit
- Adding/Dropping Courses
- Attendance
- Clearance to Withdraw; Dismissal, Leave of Absence, Withdrawal; Military Service information
- Excessive Credit Hours
- Grades, Promotion, and Advancement

Admission Requirements & Application Procedures

Detailed information about admission requirements and application procedures is provided in the Applicant Viewbooks and Viewbook Inserts for each school. These documents are official publications of the Health Science Center and are supplements to this Catalog. Viewbooks and Viewbook Inserts are accessible on-line.

Common Application Form

A common application form for undergraduate applicants is available electronically on the Student Services Web site: http://studentservices.uthscsa.edu/prospects_apply.aspx

An undergraduate applicant may file, and each institution of higher education shall accept, an application for admission as an entering freshman or undergraduate transfer student that uses the appropriate form adopted under the Texas Education Code. The form used to apply to a general academic teaching institution may be filed in either electronic or printed format. An institution of higher education is not prohibited from requiring an applicant to submit additional information within a reasonable time after the institution has received an application using a form adopted under this section.

In addition to other information considered appropriate by the board, the board by rule shall require each institution to collect information regarding gender, ethnicity, and date of birth as part of the application process and report this information to the board.

Guidelines for Student Admission Selection

Student admissions committees throughout the university may consider several elements or personal characteristics in the selection of students. The specific elements to be used and the weight applied to each element in the selection of an applicant are the prerogative of the admissions committee of each school or program. It has been clearly documented and widely understood that admissions processes emphasizing performance of applicants on standardized test scores and grade point averages alone do not necessarily result in the admission of a diverse student body. Whenever possible, candidates will be interviewed prior to making admissions decisions. Elements that may be included in consideration of applicants are:

- applicant’s goals for future (written personal statement or at interview);
- awards and honors for academic achievement;
- awards and honors of distinction for humanitarian service;
- awards and honors for public speaking and communication skills;
- race and ethnicity;
- bilingual language ability;
- commitment/desire to serve in a medically underserved region of the state following graduation (written personal statement or at interview);
- educational attainment of the applicant’s family;
- employment history, especially as it occurred simultaneously with undergraduate academic preparation;
- extracurricular activities;
- GPA and standard test scores;
- hometown or county of residence is from medically underserved and/or health professional shortage areas, with particular emphasis on South Texas;
- leadership potential;
- personal interview;
- prior experience in providing health care related services;
• prior military service with training and experience in health- care-related area;
• public/community service volunteer activities;
• reference letters or recommendations;
• research accomplishments;
• socioeconomic history (educationally and/or economically disadvantaged);
• successful experience in overcoming adverse personal, family, or life conditions/experiences;
• Successful graduation from another nationally accredited health- care-related curriculum. (For example, a respiratory therapist might apply for admission to medical school; or a dental hygienist for admission to dental school, or a surgical technician might apply for admission to nursing school; an Emergency Medical Technician may potentially apply to Physician’s Assistant program, medical school, nursing school, etc.)
• Texas resident, or permanent Texas resident alien;
• Volunteer activities in health- care-related areas.

An applicant’s performance on a standardized test may not be used in the admissions or competitive scholarship process for a graduate or professional program as the sole criterion for consideration of the applicant or as the primary criterion to end consideration of the applicant. If an applicant’s performance on a standardized test is used in the admissions or competitive scholarship process, the applicant’s performance must also be used to compare the applicant’s test score with those of other applicants from similar socioeconomic backgrounds to the extent that those backgrounds can be properly determined and identified based on information provided in the institution’s admissions or competitive scholarship process. This does not apply to a standardized test used to measure the English language proficiency of a student who is a graduate of a foreign institution of higher education.

The university may not assign a specific weight to any one factor being considered in the admissions or competitive scholarship process for a graduate or professional program.

The State of Texas provides financial support to residents of Texas for educational opportunities; therefore admission of applicants to schools/programs within the university should encourage admission of Texas residents and permanent Texas resident aliens.

Admissions–Recommended High School Program, Standardized Test Scores

In addition to current university requirements for admission, applicants must also have either:

1. successfully completed the curriculum requirements for the recommended or advanced high school program or its equivalent; or
2. Satisfied ACT’s College Readiness Benchmarks on the ACT assessment applicable to the applicant or earned on the SAT assessment a score of at least 1,500 out of 2,400 or the equivalent.

The above requirement may be satisfied if the applicant’s official high school transcript or diploma states that the applicant completed the portion of the recommended or advanced curriculum or its equivalent that was available to the applicant, but was unable to complete the remainder of the curriculum solely because courses necessary to complete the remainder were unavailable to the applicant at the appropriate times in the applicant’s high school career as a result of course scheduling, lack of enrollment capacity, or another cause not within the applicant’s control.

Admissions–Children of Public Servants

Beginning with the 2008–2009 academic year, an applicant for admission as an undergraduate student is entitled to automatic admission if the applicant meets any minimum requirements established by this institution and is a child of certain public servants who were killed or sustained a fatal injury in the line of duty.

Texas Core Curriculum Requirements

Every public institution in Texas has a Core Curriculum, which is designed to provide a solid foundation for a college education and to make transfers between and among Texas institutions of higher education as smooth and seamless as possible. Each undergraduate institution’s Core Curriculum applies to all academic undergraduate degrees. Students who will be receiving their first baccalaureate degrees from The UT Health Science Center San Antonio must successfully complete the Texas Core Curriculum requirements prior to admission. The core curriculum consists of 42 semester credit hours in specified component areas. Table 1 lists core curriculum requirements and courses that may be used to satisfy them.1

Students may choose a major which has some more rigorous or more specific requirements than the Core. Most science majors have more intensive math and science requirements. In these cases, the major requirements have priority. For those and other reasons, no one should register in courses, Core Curriculum or otherwise, without consulting with a trained academic advisor at the appropriate program.

Texas Common Course numbers are provided for guidance. Information is available online at http://www.tccns.org, click on ACGM (The Lower-Division Academic Course Guide Manual of Texas Higher Education Coordinating Board Community and Technical Colleges Division). Applicants are encouraged to contact the Office of the Registrar or the respective school/program office to inquire about other courses that may satisfy Core Curriculum requirements.

If a student’s transcript from another Texas public college or university indicates that the student has completed that institution’s core curriculum, no additional core curriculum requirements will be imposed. If a student has not completed
the core requirement at another Texas institution prior to entering the Health Science Center, the university will accept academic credits from another Texas public college or university core curriculum courses successfully completed, with grades of C or better only. The same requirements also apply to out-of-state students.

College Level Examination Program (CLEP) credit may be accepted for core curriculum requirements. The maximum number of hours accepted for CLEP shall be established by the respective school/program.

**TABLE 1**
Texas Core Curriculum
Component Areas and Requirements

<table>
<thead>
<tr>
<th>Component Areas and Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>6</td>
</tr>
<tr>
<td>(English rhetoric/composition)</td>
<td></td>
</tr>
<tr>
<td>ENGL 1301, ENGL 1302, ENGL 1311, ENGL 1312, ENGL 2311, ENGL 2314, ENGL 2315, or equivalent*</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>• 3 hours in Algebra - MATH 1314 or higher</td>
<td></td>
</tr>
<tr>
<td>• 3 hours in Statistics – MATH 1342, MATH 442, MATH 2342, MATH 2442, or PSYC 2317, or equivalent</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>9</td>
</tr>
<tr>
<td>Courses with prefixes BIOL, CHEM, GEOL, PHYS, HORT, or other natural sciences</td>
<td></td>
</tr>
<tr>
<td>Humanities and Visual and Performing Arts</td>
<td>6</td>
</tr>
<tr>
<td>Must include:</td>
<td></td>
</tr>
<tr>
<td>• 3 hours in visual/performing arts – Courses with prefixes ARTS, DANC, MUAP, MUEN, MUSI, DRAM, or equivalent</td>
<td></td>
</tr>
<tr>
<td>• 3 hours in “other,” including literature, philosophy, modern or classical language/literature, and cultural studies**</td>
<td></td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>15</td>
</tr>
<tr>
<td>Must include:</td>
<td></td>
</tr>
<tr>
<td>• 6 hours in U.S. history – either HIST 1301 &amp; HIST 1302, or HIST 1301 &amp; HIST 2301</td>
<td></td>
</tr>
<tr>
<td>• 6 hours in political science – GOVT 2301 &amp; GOVT 2302, or GOVT 2301 &amp; GOVT 2305, or GOVT 2306</td>
<td></td>
</tr>
<tr>
<td>• 3 hours in social/behavioral science – Courses with prefixes ANTH, ECON, CRIJ, GEOG, PSYC, SOCI, SOCW</td>
<td></td>
</tr>
<tr>
<td>Total Semester Credit Hours</td>
<td>42</td>
</tr>
</tbody>
</table>

*Communication application of English means the basic proficiency skills acquired during introductory courses and including a working competency in grammar, writing, speaking and listening/comprehension in English.

**Humanities application of language skills includes a study of literature in the original language, and/or the cultural studies related to a modern or classical language.

**“Fresh Start” Admission**

**Undergraduate Programs**

An applicant for undergraduate admission who is a Texas resident may seek to enter this institution pursuant to the state’s “academic fresh start” statute, Texas Education Code 51.931. When the applicant informs the Registrar in writing of her or his election under the statute, the institution will not consider in the admissions decision any academic course credits or grades earned by the applicant 10 or more years prior to the starting date of the semester in which the applicant seeks to enroll. An applicant who makes the election to apply under this statute and is admitted as a student may not receive any course credit for courses taken 10 or more years prior to enrollment under academic fresh start.

**Post-Graduate, Professional Programs**

An applicant who has earned a baccalaureate degree under the “academic fresh start” statute, Section 51.931, and applies for admission to a post-graduate or professional program, will be evaluated only on the grade point average of the course of work completed for that baccalaureate degree and the other criteria stated herein for admission to the post-graduate or professional program.

**Texas Success Initiative (TSI)**

The UT Health Science Center San Antonio must assess the academic skills of each entering undergraduate student prior to enrollment (51.3062—Texas Success Initiative).

The following assessment instruments will be used to assess academic skills: ASSET and COMPASS (offered by THEA (formerly TASP test) offered by National Evaluation Systems, Inc.

Students admitted to undergraduate programs at the Health Science Center will be required to submit, prior to the end of their first semester, official documents verifying the student has met the minimum TSI standards. Official documents must be sent directly to the university Registrar from a previous college or university or from the testing agency (i.e., ACT, The College Board, or National Evaluation Systems).

The school or department in which a student is enrolled will advise students who have not met the minimum standards as outlined in the law. Working with the student, the school or department representative will determine a plan for academic success for the student.

Students enrolled in certificate programs of one year or less are exempt from this requirement. The Emergency Medical Technology Basic and Paramedic certificate programs at the Health Science Center qualify for this exemption.

Individual students in other Health Science Center undergraduate programs may qualify for other exemptions. Exemptions for these students will be assessed on an individual basis.
State Approved Minimum Passing Standards for TSI Assessment Instruments

ASSET: Reading Skills – 41; Elementary Algebra – 38; Writing Skills (objective) – 40; and Written Essay – 6*

COMPASS: Reading Skills – 81; Algebra – 39; Writing Skills (objective) – 59; and Written Essay – 6*

ACCUPLACER: Reading Comprehension – 78; Elementary Algebra – 63; Sentence Skills – 80; and Written Essay – 6*

THEA: Reading – 230; Mathematics – 230; Writing – 220

*The minimum passing standard for the written essay portion of all tests is a score of 6. However, an essay with a score of 5 will meet this standard if the student meets the objective writing test standard.

Individual undergraduate programs at the Health Science Center may require higher passing standards. Students should consult with the appropriate program section of this Catalog for additional details about TSI passing standards specific to a program.

Student Enrollment Policy

No student may attend class, laboratory, or clinic until he or she is officially registered with tuition and fees (or an installment payment) paid. Registration is not complete until tuition and fees are paid.

When and if a student misses the official publicized tuition and fees payment deadline (known as Census day as defined by the Texas Education Code), the student shall be removed from enrollment by the Registrar’s Office.

As proposed to amend by the Deans’ Council 10-20-09

Course Numbering

Each course consists of a prefix that represents the discipline (e.g., PHYL for Physiology, NURS for Nursing, and SURG for Surgery) and a 4-digit number.

The Dental School uses the following numbering system: First Digit is the level of course: 5=Freshman, 6=Sophomore, 7=Junior, 8=Senior. The Second, Third, and Fourth Digits distinguish one course from another within the discipline.

The Graduate School of Biomedical Sciences, the School of Health Professions, and Advanced Dental Education use the following numbering system:

The First Digit is the Level of course: 1=Freshman, 2=Sophomore, 3=Junior, 4=Senior, 5=Introductory Graduate, 6=Advanced Graduate, 7=Doctoral. The Second, Third, and Fourth Digits distinguish one course from another within the discipline.

The School of Medicine uses the following numbering system:

The First Digit is the Level of course: 1=Freshman, 2=Sophomore, 3=Junior, 4=Senior, 5=Enrichment Elective, 6=Advanced Graduate, 7=Doctoral. The Second, Third, and Fourth Digits distinguish one course from another within the discipline.

The School of Nursing uses the following numbering system:

The First Digit is the Level of course: 1=Freshman, 2=Sophomore, 3=Junior, 4=Senior, 5=Introductory Graduate, 6=Advanced Graduate, 7=Doctoral. The Second Digit is credit for course in semester credit hours (0=variable semester credit hours). The Third and Fourth Digits distinguish one course from another within the discipline.

Registration

Official registration is conducted on dates specified in the academic calendar of each school.

No student may attend class, laboratory, or clinic until he or she is officially registered with tuition and fees (or an installment payment) paid.

If the curriculum of a program requires that a student take courses at both the Health Science Center and another institution concurrently, the student must register and pay tuition and fees at both institutions to be considered an enrolled student.

The Health Science Center requires that a student be registered for the semester or summer session in which he or she graduates.

Classification of Students

Undergraduate Students

Undergraduate students are classified according to the number of completed credit hours. The required number of hours of each classification is as follows:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Semester Credit Hours Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Fewer than 30</td>
</tr>
<tr>
<td>Sophomore</td>
<td>30 or more, but less than 60</td>
</tr>
<tr>
<td>Junior</td>
<td>60 or more, but less than 90</td>
</tr>
<tr>
<td>Senior</td>
<td>90 or more</td>
</tr>
</tbody>
</table>

Full-Time/Part-Time

Undergraduate students officially enrolled at the Health Science Center for a minimum of 12 semester credit hours in the fall and spring semester, or in 6 semester credit hours in the summer semester, are considered full-time students. An undergraduate student enrolled in less than 12 semester hours in fall and spring, or less than 6 semester hours in the summer, will be classified as part-time.

Graduate Students

Students admitted to the Graduate School of Biomedical Sciences, and students admitted to a graduate program in the
School of Nursing or School of Health Professions, are classified as graduate students.

Full-Time/Part-Time

Graduate students officially enrolled at the Health Science Center for a minimum of 9 semester credit hours in the fall and spring semester, or in 6 semester credit hours in the summer semester, are considered full-time students. A graduate student enrolled in less than 9 semester hours in fall and spring, or less than 6 semester hours in the summer, will be classified as part-time.

Final Credit Hours

A student in her/his final semester or summer session registering only for thesis or dissertation may register for “final hours.” A Ph.D. student must register for a minimum of 3 semester credit hours; a M.S. student must register for a minimum of 1 semester credit hour. When a student declares “final hours” for a semester, the student shall be considered enrolled in a full-time course load for that semester. The student pays tuition based upon the number of credit hours for which he/she registers.

A student may register for final credit hours only once during her/his degree program. Forms are available in the Registrar’s Office or on the Internet.

Professional Students

Students admitted to the Dental School or the School of Medicine is classified as professional students. Students are identified by “curriculum year” within each school. A student completing the first-year curriculum is referred to as a “freshman” (DS1=dental student 1); a student completing the second-year curriculum is referred to as a “sophomore” (MS2=medical student 2); etc.

Students officially enrolled in professional school courses are considered full-time.

Post-Professional Students

Students admitted to the Advanced Dental Education certificate programs are classified as post-professional students.

Full-Time/Part-Time

Post-professional students officially enrolled at the Health Science Center for a minimum of 9 semester credit hours in the fall and spring semester or in 6 semester credit hours in the summer semester are considered full-time students. A post-professional student enrolled in less than 9 semester hours in fall and spring or less than 6 semester hours in the summer will be classified as part-time.

In Absentia

A student who expects to graduate in a semester when he or she will not be enrolled in courses at the Health Science Center must register in absentia for the purpose of having the degree conferred. A fee of $25.00 will be assessed.

Non-degree Student Status

Individuals who wish to enroll in courses presented in programs of the Graduate School of Biomedical Sciences, School of Nursing, or the School of Health Professions without entering a degree program may apply as a non-degree student under circumstances prescribed by those schools.

Residence Determination

The Registrar’s Office is responsible for determining residence status of students for purposes of tuition. The office is guided by the Texas Education Code (Section 54.052, et seq.) and the Texas Education Code (Sections 54.052, et seq.) and the Rules and Regulations of the Texas Higher Education Coordinating Board (Chapter 21, Subchapter X), and university regulations. Under the state statutes and regulations a student or prospective student is classified as a resident of Texas, nonresident, or a foreign student.

A resident is an individual who is either a citizen, national or legal permanent resident of the U.S. or an alien who has been permitted by Congress to adopt the U.S. as her or his domicile while in this country and who has met the State’s requirement for establishing residency for tuition purposes; or an individual who has lived in the state for a specified period of time; resided with a parent or guardian while attending high school in this state; graduated from a high school in this state, resided in this state for at least 3 years as of that graduation; and provided an affidavit regarding establishment of permanent residency. A nonresident is a citizen, national or legal permanent resident of the U.S. or an alien who has been permitted by Congress to adopt the U.S. as her or his domicile while in this country and who has not met the State’s requirement for establishing residency for tuition purposes. A foreign student is an alien who is not a legal permanent resident of the U.S. or has not been permitted by Congress to adopt the U.S. as his/her domicile. An individual classified as a nonresident or foreign student may qualify, under certain exceptions specified in these rules, for resident tuition rates and other charges while continuing to be classified as a nonresident or a foreign student.

If residence status is not clearly established, students should seek information available in the Registrar’s Office before enrollment.

All students are required to complete a Core Residency Questionnaire (Texas Administrative Code 21.21) and be required to provide documentation to affirm Texas residency. It is the student’s responsibility to register under the proper residency classification—resident or nonresident—and to notify the Registrar’s Office if the classification changes during enrollment. A Residency Questionnaire must be completed and turned in to the Registrar’s Office prior to the census date of the term in order for a reclassification to be effective for that term.
Residence Classification

Residence status is determined by statutory provisions of the *Texas Education Code* (Section 54.052, et seq.) and the *Rules and Regulations of the Texas Higher Education Coordinating Board*. Chapter 21, Subchapter P (THECB Rules). Generally, students who have resided in Texas for 12 months immediately preceding the time of enrollment and have established domicile in the State are classified as residents.

TEC SECTION 54.052 DETERMINATION OF RESIDENT STATUS

I. Subject to the other applicable provisions of this subchapter governing the determination of resident status, the following persons are considered residents of this state for purposes of this title:

A. A person who:
   1. established a domicile in this state not later than one year before the census date of the academic term in which the person is enrolled in an institution of higher education; and
   2. maintained that domicile continuously for the year preceding that census date;

B. A dependent whose parent:
   1. established a domicile in this state not later than one year before the census date of the academic term in which the dependent is enrolled in an institution of higher education; and
   2. maintained that domicile continuously for the year preceding that census date; and

C. A person who:
   1. graduated from a public or private high school in this state or received the equivalent of a high school diploma in this state; and
   2. maintained a residence continuously in this state for:
      a) the three years preceding the date of graduation or receipt of the diploma equivalent, as applicable; and
      b) the year preceding the census date of the academic term in which the person is enrolled in an institution of higher education.

For purposes of this section, the domicile of a dependent’s parent is presumed to be the domicile of the dependent unless the person establishes eligibility for resident status under Subsection (a)(3).

A person is required to complete and submit core residency questions and statements to establish residency. A person who applies for residency under Section 54.052 (a)(3) who is not a Permanent Resident or U. S. Citizen must complete an affidavit stating that he/she will file an application to become a permanent resident at the earliest opportunity he/she is eligible to do so.

Waiver Programs for Certain Non-Resident Persons

Some nonresidents may qualify to pay tuition at the resident rate, regardless of how long they have lived in Texas (See Financial Information).

Oath of Residency

Applicants sign an oath on the Application for Admission that attests to the truth and accuracy of information provided in that application which is used to determine residency. The submission of false information is grounds for rejection of the application, withdrawal of any offer of acceptance, cancellation of enrollment, or appropriate disciplinary action.

The student is responsible for registering under the proper residence classification and for providing documentation as required by the public institution of higher education. If there is any question as to right to classification as a resident of Texas it is the student’s obligation, prior to or at the time of enrollment, to raise the question with the administrative officials of the institution in which he or she is enrolling for official determination. Students classified as Texas residents must affirm the correctness of that classification as a part of the admission procedure. If the student’s classification as a resident becomes inappropriate for any reason, it is the responsibility of the student to notify the proper administrative officials at the institution. Failure to notify the institution constitutes a violation of the oath of residency and may result in disciplinary action and/or other penalties.

For additional information on these and other authorized non-resident tuition waivers, see THECB Rules, Chapter 21, Subchapter X, §21.735, [http://www.thecb.state.tx.us/Rules](http://www.thecb.state.tx.us/Rules).

Concurrent Enrollment

A student who is considered a Texas resident and is qualified to pay Texas resident tuition by one public institution, in which he is registered, will be considered a Texas resident for tuition purposes at each public institution at which he/she is simultaneously enrolled.

A student, whose residency status is in question and is concurrently enrolled at more than one public institution of higher education, must provide documentation of resident status from the originating institution to the Registrar’s Office prior to the census day of the term.

Transfer of Credit

Credit for semester hours of work completed at another institution toward prerequisites for admission or in lieu of the Health Science Center requirements must be approved by the faculty of the specific program to which the individual is
Applying. Official transcripts must accompany any request for transfer of credit.

The following procedures shall be followed by The UT Health Science Center San Antonio, in accordance with the policies of the Texas Higher Education Coordinating Board, in the resolution of credit transfer disputes involving lower-division courses:

- If an institution of higher education does not accept course credit earned by a student at another institution of higher education, the receiving institution shall give written notice to the student and to the sending institution that transfer of the course credit is denied;
- The two institutions and the student shall attempt to resolve the transfer of the course credit in accordance with Board rules and/or guidelines;
- If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days after the date the student received written notice of denial, the institution whose credit is denied for transfer shall notify the Commissioner of the denial.

Students receiving VA educational benefits must submit transcripts from all previously attended post-secondary education institutions, and a copy of their DD 214 for evaluation of prior credit that might be applicable to their course of study.

The Commissioner of Higher Education or the commissioner’s designee shall make the final determination about the dispute concerning the transfer of course credit and give written notice of the determination to the involved student and institutions.

Adding/Dropping Courses

Six-Course Drop Limit: Legislation, applicable to all Texas public colleges and universities, passed by the Texas Senate (SB 1231) could seriously impact your college career. The following legislation applies to all students entering into any Texas public institution of higher education as a first-time freshman and thereafter.

A first-time enrolled student with undergraduate status in a Health Science Center undergraduate program is precluded from dropping any course if, at the time of enrollment, such undergraduate student has an official transcript(s) indicating that such student has accumulated six (6) documented drops. A documented drop occurs when a) the student was enrolled in a course, b) the student dropped the course without receiving a grade or penalty, and c) the student was not withdrawing completely from the institution.

Notwithstanding the above, Health Science Center may permit drop(s) in excess of the six (6) drops for the following reasons:

1. a severe illness or other debilitating condition that affects the student’s ability to satisfactorily complete a course;
2. the student’s responsibility for the care of a sick, injured, or needy person if the provision of care affects the student’s ability to satisfactorily complete a course;
3. the death of a person who:
   - is considered to be a member of the student’s family;
   - or
   - is otherwise considered to have a sufficiently close relationship that demonstrates good cause;
4. the active duty service of the student or person considered to be a member of the student’s family and considered a sufficiently close relationship that demonstrates good cause;
   - the change of a student’s work schedule or financial support situation that seriously affects the student’s ability to satisfactorily complete the course; or
5. other good cause as determined by the Health Science Center.

A refund or adjustment of tuition and mandatory fees for dropped courses and student withdrawals shall be governed by Section 54.006 of the Texas Education Code as they relate to Section 51.907 of the Texas Education Code. The change in law made by Section 54.006, as it applies to Section 51.907, applies to tuition and mandatory fees charged with the beginning of Fall 2007.

Attendance

Attendance policies are the prerogative of the faculty of each school.

Clearance to Withdraw—Dismissal, Leave of Absence, Withdrawal

If a student leaves the Health Science Center through (1) withdrawal, (2) dismissal, or (3) leave of absence, the following procedure should be followed:

- The student must go to the Dean's Office of her/his respective school to begin the process. If approved, the student will be directed to go to the Registrar’s Office in Student Services (319L MED) and request a Student Clearance Form.
- You MUST take the form to your associate dean and/or department chair (if applicable) to get approval (Section B) BEFORE getting the additional signatures in the “Holds” section (Section C).
- It is the student’s responsibility to obtain clearance in appropriate areas listed on the form such as the Library, laboratories, University Police, Student Financial Aid, Bursar's Office, etc.
- If a student is receiving financial aid or has student financial aid debt, she/he must schedule an Exit Interview through the Student Financial Aid Office.
• See Financial Aid for specific information concerning effects of withdrawal on financial aid received.

It is not always possible to complete the clearance process in one day. Until a student is cleared in all areas, a “Hold” will be in force on her/his official transcript.

Leave of Absence
Generally, a leave of absence for a maximum of one year may be granted to a student in good standing by the school in which he or she is enrolled. In some cases, the school may extend the leave, depending upon extenuating circumstances. It is the responsibility of the student to initiate a request for a leave of absence, following the procedure established by the school. Policies for each school are contained in this Catalog.

Withdrawal
Withdrawal refers to the process whereby students remove themselves from all classes in which they are enrolled. To officially withdraw from the Health Science Center, a student follows procedures established by the school in which he or she is enrolled. Completion of a “Student Clearance Form,” available from the Registrar’s Office, and an Exit Interview for students who are receiving financial aid are part of this process.

Administration-Initiated Student Leave Policy
At the UT Health Science Center San Antonio, students may request a temporary leave for cause. The extent and conditions for a leave are determined by an Assistant or Associate Dean of Student Affairs or other authorized reporting official of the respective school who completes Section B of the “Student Clearance Form.” However, on occasion, students do not officially request a leave. They simply “stop showing up” or “do not return after some program break.” These unexcused absent students risk program suspension or dismissal, or failing grades, which can result in program suspension or dismissal, if such students cannot be timely located or fail to timely contact the appropriate school official. Concurrent with these outcomes and dependent upon the date of the reported absence or known last class attendance date, such students also risk owing money to the federal government if they were recipients of federal financial aid.

Policy Initiation: An “Administration-Initiated Student Leave Policy” shall be defined as an official leave initiated by an Assistant or Associate Dean of Student Affairs or other authorized reporting official in each school for student “no shows.”

Commencement of an Administration-Initiated Student Leave: The “official date” for such unexcused absences, shall be either 1) the actual known date that the student was last seen in class; or 2) the date that the unexcused absent student was reported to the respective reporting official. In either case, the reporting official has no more than 14 calendar days from the date of first personal knowledge to investigate, attempt contact, and to remedy the “no-show” status. Attempt to contact the student shall be accomplished via a means that can be documented such as e-mail notification with “read receipt” requested, U.S. Mail delivery to the last known address via certified mail, or via delivery service with a signed delivery acknowledgment. A notification method may be used in any order or frequency at the discretion of the reporting official. Failure to remedy the status, as provided above, mandates that the reporting official initiate and complete the “Student Clearance Form” indicating an Administration Initiated Student Leave.

Notification to Others: Upon determination of the “official date” for the student unexcused absence, the authorized reporting official of the affected school will immediately contact the Associate Director or the Director of the Office of Veteran Affairs and Financial Aid to inform her/him of the unexcused absent student and the student’s official date of unexcused absence. Failure to provide this notification to the Office of Veteran Affairs and Financial Aid may result in the unexcused absent student owing substantial federal aid money to the Department of Education and/or to the university.

Grading Process: The grades entered for a student, on an Administration Initiated Student Leave, will be determined by the individual schools due to differences in program requirements. However, the following process is recommended to provide consistency in grading applications regardless of the affected school or program.

1. If the investigation indicates leniency and no grading has been determined by the initiation date of the Administration Initiated Student Leave, such students may receive a grade of W.
2. If the student was performing passing work at the time of placement on an Administration Initiated Student Leave and investigation supports leniency, such students may receive a grade of W or WP.
3. If the student was not performing passing work at the time of placement on an Administration Initiated Student Leave and investigation shows no mitigation, such students may receive a grade of W or WF.

Returning Student: An Administration-Initiated Student Leave is viewed as a “forced leave of absence” when initiated by a school for a student’s failure to provide notice to that school of her/his unexcused absence. Accordingly, upon the return or proposed return of the student, each school will follow its own established written policy for re-admission eligibility.

However, in the event that a student does not actually return until one year has elapsed, he or she will have to re-apply for admission with the burden of proof for eligibility resting on the student. He or she will be competing for admission against 1) students who have formally applied and been granted a bona fide leave of absence by the respective school prior to their absence; and/or 2) all new applicants for admission.

Re-Admission Appeal: Should a student be denied re-admission under this policy, the student may appeal her/his
Military Service: Absence, Withdrawal, Readmission

Texas Education Code 54.006 (f)

Withdrawal: A student who withdraws as a result of being called to active military service may choose: (1) to receive a refund of tuition and fees for the semester; (2) if eligible, to be assigned an incomplete (I) in each course; or (3) at the instructor’s discretion, to receive a final grade in courses where he or she has completed a substantial amount of coursework and has demonstrated sufficient mastery of the course material. Policies affecting students who are absent for military service but do not withdraw are given below.

Absence: In accordance with Section 51.9111 of the Texas Education Code, a student is excused from attending classes or engaging in other required activities, including exams, if he or she is called to active military service of a reasonably brief duration.

The maximum time for which the student may be excused has been defined by the Texas Higher Education Coordinating Board as, “no more than 25 percent of the total number of class meetings or the contact hour equivalent (not including the final examination period) for the specific course or courses in which the student is currently enrolled at the beginning of the period of active military service.”

The student will be allowed a reasonable time after the absence to complete assignments and take exams. Policies affecting students who withdraw from the University for Military Service are given above.

Readmission: In accordance with Section 51.9242 of the Texas Education Code, a student who withdraws from the university in order to perform active military service will be readmitted for any semester or summer session that begins within a year after the student’s release from active service. The student is not required to apply for readmission or pay an application fee, but he or she must be eligible to register for classes the semester or summer session for which readmission is requested. This policy applies to students who withdraw for service with the United States armed forces or a Texas national guard; however, it does not apply to students who withdraw solely to perform one or more training exercises as members of a Texas national guard.

Satellite Campuses Procedures for Completing and Submitting Student Clearance Form

An administrator for the Health Science Center’s satellite locations will act as the Registrar designee. Students must contact this administrator to begin the procedure for withdrawal. The administrator will provide the student with a triplicate Student Clearance Form. The student must obtain all the signatures in Section C. If there is no comparable office at the satellite site for a signature, the student will contact the administrator for further instructions. After all sections are complete, the student must sign the form in the appropriate location (middle of form) and return to the administrator within 48 hours. The administrator will contact the appropriate offices (Registrar, Financial Aid, etc.) at the Health Science Center in San Antonio, give the student the yellow copy of the form, and mail the original white and pink copies, along with the short, original Financial Aid Copy form (from Step 2), to:

Registrar
UT Health Science Center San Antonio
Registrar’s Office-MSC 7702
7703 Floyd Curl Drive
San Antonio, TX 78229-3900

Upon receipt of the above mailed forms, the Registrar’s Office will provide the appropriate San Antonio-based assistant/associate dean with the pink copy. The Dean’s Office in San Antonio will notify affected course directors. The Registrar’s Office will provide official notice by email to the appropriate university offices.

NOTE: If approved to leave, the student should make sure to clear any holds he/she may have (e.g., police, library, health center, registrar, etc.).

Grades, Promotion, and Advancement

Grading standards, symbols, grade point scales, GPA determinations, and other considerations regarding the quality of work of students are the prerogative of the faculty of the programs, as are issues of promotion and advancement.

Probation

Students are subject to being placed on either academic or administrative probation according to the policies of the school in which they are enrolled and/or the procedures and regulations governing Student Conduct and Discipline of the Health Science Center.

Dismissal

Students may be dismissed, suspended, dropped from the rolls, and refused readmission at any time if circumstances of a legal, moral, health, social, or academic nature are considered to justify such action.

In addition to dismissal due to academic deficiencies, questions of scholastic dishonesty and other infractions of the Rules and Regulations of the Board of Regents of The University of Texas System or the procedures and regulations governing Student Conduct and Discipline of the Health Science Center may be grounds for dismissal. Taking a leave of absence without permission, failing to return at the appointed time from a leave of absence, and failure to pay tuition and fees may lead to a student’s termination. (See General Regulations and Requirements).
Readmission

In general, an application for readmission by a student who has previously withdrawn is subject to the same requirements, procedures, and acceptance considerations that apply to first-time applicants. Individuals who have completed the first year of a program may be readmitted, at the discretion of the faculty, on a space-available basis.

Graduation

The certificate or degree is awarded by the Board of Regents following the student’s completion of a prescribed course of study, the recommendation of the faculty, and the certification by the dean of the school and the president of the Health Science Center that the candidate has fulfilled all requirements for the certificate or degree.

Degrees are conferred and certificates awarded only on official dates publicly announced.

It is the responsibility of the candidate to apply for graduation the semester prior to the anticipated graduation, and to file an Application for Degree/Certificate form (available in the Registrar’s Office). Apply by Dec. 1 for spring, March 1 for summer, and July 1 for fall.

As in any educational setting, the student has the primary responsibility for acquiring knowledge. In offering courses of study, the Health Science Center in no way guarantees that any student accepted for enrollment will achieve any given level of academic or professional accomplishment.

General and specific requirements for degrees may be altered in successive Catalogs. A student is bound by the requirements of the Catalog in force at the time of her/his admission; however, a student must complete all requirements within six years or be subject to degree requirements of subsequent Catalogs. The student who is required to or chooses to fulfill the requirements of a subsequent Catalog must have her/his amended degree plan approved by the appropriate dean.
Financial Information

Click on an item in the list below to be taken to the location of its content.

Tuition and Fees
- Tuition 2011–2012
- Installment Payments
- Tuition for Repeated or Excess Credit Hours
- Waiver of Nonresident Tuition
- Tuition and Fee Exemptions
- Title IV Refund
- Federal Financial Assistance
- Scholarship Awards Policy

Tuition and Fees*

Tuition and fees are due and payable prior to the published first class day for the term. Registration is not complete until tuition and fees are paid. Students should be prepared to make these payments or arrange for installments prior to the first class day of the enrollment period. Both tuition and fees are subject to change by legislative or regental action and become effective when enacted. Arrangements can be made to pay tuition and REQUIRED fees in as many as four installments, with the first installment due at Registration. **

*Tuition and Fees are subject to change by legislative or regental action and become effective on the date enacted. The Texas Legislature does not set the specific amount for any particular fee. The student fees assessed below are authorized by state statute; however, the specific fee amounts and the determination to increase fees are made by the university administration and The University of Texas System Board of Regents.

**HELP Loan recipients must use their disbursement check to pay the balance owed on total tuition, fees, or any other university debt.

Penalties for failing to make installments on time include:
(a) being barred from class until payment is made;
(b) withholding of credit if payment is not made by the end of the semester, with the university adjusting its records to reflect the student's failure to have properly enrolled;
(c) bar against readmission and withholding of grades, degree, and official transcript, and/or
(d) other remedies authorized by law.

A fee of $15 is assessed for handling installment payments of tuition and fees, and a $10 late fee is assessed for each late payment.

Veterans and Service Members

Resident tuition and fee rates are available to certain veterans and service members, their spouses and children, if the veteran or service member is eligible for benefits under the federal Post-9/11 Veterans Educational Assistance Act of 2008 or any other federal law authorizing educational benefits for veterans. See Texas Education Code, Section 54.058.

Disbursements

Financial Aid disbursements will be posted to a student's tuition/fee account on or about 10 days prior to the first class day. Please contact the Bursar’s Office at (210) 567-2556 for information concerning residual balances.

Application Fee

Dental School
- DDS Application Fee $45
- Advanced Dental Education Application Fee $60.00
- Testing Fee $250 (non-refundable) - all Dental students
- Pre-matriculation Training Fee $5,000 - International Dentist Education Program; $60 pre-doctoral

School of Health Professions
- Application Fee $45;

Graduate School of Biomedical Sciences
- Application Fee $10

School of Medicine
- Visiting Medicine students Application Fee $25

School of Nursing
- Application Fee $45
Tuition & Fee 2011-2012

Tuition & Fee established by the institution can be found online arranged by school and program.

Tuition for Joint Programs

Students in Clinical Laboratory Sciences or Biomedical Engineering joint program with The University of Texas at San Antonio may pay tuition and fees at both the Health Science Center and UTSA during some portions of the program.

Installment Payments

1 Other rules may apply — see 54.007.

Payment of tuition and fees in installments may be an option for students. A fee of $15 is assessed to cover the costs related to providing installment payments. The following alternatives are available:

<table>
<thead>
<tr>
<th>Medical and Dental Students2</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Option I</td>
<td></td>
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<tr>
<td>50% at Registration</td>
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<tr>
<td>50% at the end of winter break</td>
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<tr>
<td>Option 2</td>
<td></td>
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<tr>
<td>25% at Registration</td>
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<tr>
<td>25% 1 month later</td>
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<tr>
<td>25% 1 week after the midpoint of the academic year</td>
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<tr>
<td>25% 30 days after the 3rd installment</td>
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</tbody>
</table>

2 Recipients of HEAL loans may not be able to use this option.

Graduate and Undergraduate Students

- one-third payment of tuition and fees in advance of the beginning of the semester (registration) and
- one-third payment 30 days after first payment and
- one-third payment 30 days after second payment.

A 60-day tuition loan is available for the full amount. An origination fee of 1.25% of the amount of the loan is assessed to cover the cost related to providing the loan.

Tuition for Repeated or Excess Credit Hours

Undergraduate Students: An undergraduate student who pays resident tuition rates shall be charged nonresident tuition rates if the student has accumulated the greater of either (1) 170 or more semester credit hours without earning a baccalaureate degree, or (2) more than 30 semester credit hours than is required for completion of the baccalaureate degree. In addition, a higher tuition rate may be charged if a student enrolls again in a course that is the same or substantively identical to a course that the student previously completed. This policy is authorized by Section 54.014 of the Texas Education Code.

Graduate Students: A student who has earned 100 or more semester hours of credit at the doctoral level (130 semester credit hours for biomedical sciences) is subject to the nonresident tuition rate, even if the student is a Texas resident or holds an appointment that would normally entitle the holder to pay resident tuition. In addition, a higher tuition rate may be charged if a student enrolls again in a course that is the same or substantively identical to a course that the student previously completed. This policy is authorized by Section 54.012 of the Texas Education Code.

Waiver of Non-Resident Tuition

Nonresidents who may qualify to pay tuition at the resident rate without regard to the length of residence in Texas include:

1. Military personnel assigned to duty in Texas and their spouse and children;
2. Faculty employed at least one-half time on a regular monthly basis at a state institution of higher learning and their spouse and children;
3. Teaching or research assistants employed at least one-half time in a position which is related to the assistant's degree program under academic regulations and their spouse and children;
4. A student who holds a competitive academic scholarship for at least $1,000, which was awarded in competition with Texas students by a scholarship committee, recognized by the university and the Texas Higher Education Coordinating Board. The total number of students at an institution paying resident tuition under this provision for a particular semester may not exceed five percent (5%) of the total number of students registered at the institution for the same semester of the preceding year.
5. Veterans eligible for benefits under the Post-9/11 Veterans Educational Assistance Act of 2008 (38 U.S.C. Section 3301 et seq.) or any other federal law authorizing educational benefits for veterans.
6. Resident students entering a baccalaureate degree program on or after September 1, 1997 may be eligible for a tuition rebate of up to $1,000 if the student: is awarded a baccalaureate degree; and has attempted no more than three hours in excess of the minimum number of semester credit hours required to complete the degree, including transfer credits and course credit earned exclusively by examination. For more information contact the Financial Aid office at 210-567-2635.

A non-resident student who believes he/she is qualified for one of the tuition waivers must provide documentation to the Registrar no later than the census date for the term in order for the application of the waiver to be considered for that term.
**Tuition and Fees Exemptions**

**Academic Common Market**

A. The Texas Higher Education Coordinating Board is hereby authorized to participate on behalf of the State of Texas in the interstate agreement known as the "Academic Common Market," which provides reciprocal higher educational opportunities to the citizens of states declared as parties to the Southern Regional Education Compact.

B. The governing board of any public institution of higher education may propose programs and curricula for approval by the Texas Higher Education Coordinating Board that are to be offered to citizens of participating states on a resident tuition or registration fee basis.

C. Notwithstanding any other provisions of this code, the governing board of any public institution of higher education shall charge nonresident students from participating states enrolled in programs designated pursuant to this section the same amount charged resident students in such programs.

**Accredited School Scholarship**

(Texas Education Code, Section 54.301)

The governing board of each institution of higher education may issue scholarships each year to the highest ranking graduate of each accredited Texas high school, exempting the graduates from the payment of tuition during first two semesters (long session) immediately following their graduation.

*Must have Regental and Texas Higher Education Coordinating Board approval*

**Adopted Children formerly in foster or other residential care**

(Texas Education Code, Section 54.367)

Tuition and required fees may be exempted for foster children who were in foster care or other residential care under the conservatorship of the Department of Family and Protective Services on or after the day preceding the individual’s 1h birthday, the day of the student’s 14th birthday if the student was eligible for adoption on or after that day, or the day the student received a high school diploma or equivalent; if the student enrolls not later than the third anniversary of the date of discharge from that care or the 21st birthday.

**Blind and Deaf Students**

The Texas Education Code, Section 54.364, provides that a blind disabled person or a person whose sense of hearing is nonfunctional shall be exempt from the payment of tuition, general property deposit, and required fees at public institutions of higher education in Texas. Such persons are not exempt from charges for books or supplies for which other students normally pay. Eligible students must:

1. be a resident of Texas as defined by Coordinating Board rules;
2. be a high school graduate or its equivalent (GED);
3. present a certificate, indicating that he/she is blind or a deaf person, issued by the Texas Rehabilitation Commission, the DARS Division for Blind Services (DBS), or the DARS, Division for Rehabilitative Services, Office for Deaf and Hard of Hearing Services (DHHS), as appropriate. The certificate is required for initial enrollment only and remains valid for subsequent enrollments at the institution in the student’s designated course of study;
4. present a letter of recommendation from the principal of the high school attended or from a public official or some other responsible person who knows the blind or deaf person;
5. present a statement written by the blind or deaf person which sets out that person’s purpose in pursuing higher education and which indicates the certificate or degree program to be pursued or the professional enhancement anticipated from the course of study for that certificate or degree program;
6. provide proof that he/she meets the institution’s entrance requirements. An institution may establish special entrance requirements to fit the circumstances of deaf and/or blind persons.

**Children of disabled/deceased Texas firefighters and law enforcement officers**

(Texas Education Code, Section 54.351204)

For children under 21 years of age (or 22 if the student was eligible to participate in a special education under 29.003) of disabled full-paid or volunteer firefighters; full-paid municipal, county, or state peace officer; custodians of the Department of Criminal Justice; or game wardens whose disability or death occurred in the line of duty, are exempt from payment of tuition and required fees not to exceed 120 undergraduate credit hours or any semester begun after age 26.

**Children of prisoners of war or persons missing in action**

(Texas Education Code, Section 54.343)

Tuition and required fees may be exempted for a student who is a dependent person, under 25 years of age who receives a majority of support from a parent, and whose parent is a resident of Texas on active duty military and classified by the Department of Defense as a Prisoner of War or Missing in Action at the time of the student’s registration. Application packets for the Hazlewood Act exemption may be obtained from http://www.collegefortexans.com/.

**Children of Professional Nursing Program faculty**

(Texas Education Code, Section 54.355)
The purpose of this program is to provide exemptions from the payment of tuition to eligible students to encourage their parents to continue employment as professional nurse faculty or teaching assistant in the State of Texas.

**Eligible Students:** To receive an award through the Exemption Program for Children of Professional Nursing Faculty, a student shall:

- be a resident of Texas age 25 or younger
- not have been granted a baccalaureate degree
- be enrolled at an institution that offers an undergraduate or graduate program of professional nursing
- be the child of a faculty member or teaching assistant in a nursing program in Texas
- be enrolled at the same institution that employs the parent/faculty member
- has not previously received an exemption under this section for 10 semesters or summer sessions

**Proration of Exemption:** If the parent is employed on less than a full-time basis, the value of the exemption is to be prorated in accordance with the parent’s employment load. Under no circumstances, however, is the exemption to be for an amount less than 25 percent of the student’s tuition.

**Application Process:** To apply for an exemption through this subchapter, a student shall submit to the institution a completed Professional Nursing Faculty and Staff Exemption Application.

### Children and Spouse of Texas veterans

**Texas Education Code, Section 54.341**

Exemptions for tuition, laboratory fees, and the general fee, not to exceed 150 credit hours, apply to a Texas resident who resided in the state at least 12 months immediately preceding the date of registration, is 25 or younger on the first day of the semester in which the exemption is claimed, and meet the following eligibility requirements.

1. Children of members of the U.S. Armed Forces who were killed in action, die or died while in service, are missing in action, whose death is documented to be directly caused by illness or injury related to service in the U.S. Armed Forces, or who become totally disabled for purpose of employability according to the Dept. of Veterans Affairs disability rating as a result of a service-related injury.

2. Orphans or children of members of the Texas National Guard who, after January 1, 1946, were killed while on active duty or became totally disabled for purpose of employability according to the Dept. of Veterans Affairs disability rating as a result of a service-related injury.

### Disabled Peace Officers

The governing board of an institution of higher education may exempt a student from the payment of tuition and required fees authorized by this chapter for a course for which space is available if the student:

1. is a resident of this state and has resided in this state for the 12 months immediately preceding the beginning of the semester or session for which an exemption is sought;
2. is permanently disabled as a result of an injury suffered during the performance of a duty as a peace officer of this state or a political subdivision of this state; and
3. is unable to continue employment as a peace officer because of the disability.

Fees exclude class and laboratory fees. Exemption is not to exceed 12 semesters in the undergraduate program.

### Distance/Off-Campus Learning

**Texas Education Code, Section 54.218**

This applies to students who are enrolled only in distance learning courses or other off-campus courses. Fees exempted are for activities, services, or facilities that the student cannot reasonably be expected to use.

**Economic Hardship**

**Texas Education Code, Section 54.262**

This exemption applies when the payment of the general fees causes undue economic hardship. The number of exemptions is limited to five percent of total enrollment.

*Must have Regental and Texas Higher Education Coordinating Board approval*

### Firefighters enrolled in fire science courses

**Texas Education Code, Section 54.3631**

Firefighters who are employed by a political subdivision of Texas as a firefighter; or are currently and have been for at least one year, an active member of an organized volunteer fire department in Texas, as defined by the fire fighters' pension commissioner, who holds appropriate levels of certification as specified in the statute; and are enrolled in a course offered as part of a fire science curriculum may receive exemptions from tuition and laboratory fees.

### Good Neighbor Scholarship

A limited number (as described by the Coordinating Board) of native-born citizens and residents from nations of the Western Hemisphere other than the United States, as authorized in the Texas Education Code, Section 54.331, shall be exempt from tuition as provided in this section.

Every applicant shall furnish satisfactory evidence, certified by the proper authority of her/his native country, that he/she is a bona fide native-born citizen and resident of the country which certifies her/his application and that he/she is scholastically qualified for admission.

*Must have Regental and Texas Higher Education Coordinating Board approval*

### Hazlewood Act

**Texas Education Code, Section 54.341**
Interinstitutional Academic Programs (Permissive)

(Texas Education Code, Section 54.368)

Individuals taking a course at an institution under an interinstitutional academic program agreement, but who is enrolled primarily at another institution are exempt from tuition and required fees.

Nursing preceptors and their children

(Texas Education Code, Section 54.356)

The purpose of this program is to provide partial exemptions from the payment of tuition to eligible persons employed as clinical preceptors and to their children in order to encourage the preceptors to continue their employment and induce others to seek such employment in the State of Texas.

To receive an exemption ($500 off tuition per semester) under this program, a preceptor must be:

1. a Texas resident
2. a registered nurse
3. serving under legal contract as a clinical preceptor, or
4. a child 25 years or younger whose parent meets the criteria above, has not previously received a baccalaureate degree, and has not previously received an exemption under this section for 10 semesters or summer sessions.

Prisoners of war

Section 54.342 of the Texas Education Code provides exemption from tuition and required fees, student housing and food, contract cost, and textbook costs, not to exceed 120 hours, for former prisoners of war. To qualify for the exemptions, the following requirements must be met:

1. Is a resident of Texas and was a resident of Texas at the time of original entry into the armed forces,
2. Was first classified as a POW on or after January 1, 1999,
3. Is enrolled for at least 12 semester credit hours.

Students under Conservatorship of Department of Family and Protective Services

(Texas Education Code, Section 54.366)

Exemption from tuition and required fees is provided for individuals who were in foster care or other residential care under the conservatorship of the Department of Protective and Regulatory Services on or after the day preceding the individual's 18th birthday, on or after the day of the student's 14th birthday if the student was eligible for adoption on or after that day, or on the day the student received a high school diploma or equivalent, or during an academic term in which the student was enrolled in a dual credit course; and enrolls not later than the 3rd anniversary of date of discharge from that care or the 21st birthday in an institution of higher education (including a dual credit course) no later than his or her 25th birthday.

Surviving spouse and minor children of certain police, security, or emergency personnel killed in the line of public duty

(Texas Education Code 54.354)

Exemption from payment of tuition and fees, student housing and food contract costs, and textbook costs extends to the surviving spouse or children of certain public peace officers, probation officers, parole officers, jailers, police reservists, firefighters, and emergency medical personnel whose death occurred in the line of duty as a result of risk inherent in the duty (not to exceed bachelor’s degree or 200 hours maximum and enrolled full time).

Texas ex-servicemen

(Texas Education Code, Section 54.341)

To qualify for exemptions, not to exceed 150 hours, Texas ex-servicemen, at the time of entry into the U.S. Armed Forces, must have been:

1. A resident of Texas for 12 months prior to registration
2. A current resident of Texas
3. A bona fide legal resident of Texas at the time entered service
4. Served in U.S. Armed Forces in World War II, Korean Conflict, the Cold War, Vietnam, Grenada era, Lebanon, Panama, Persian Gulf, and/or the national emergency related to 9-11-01
5. Received an honorable discharge
6. Not eligible for federal education benefits

The Coordinating Board must certify a person's eligibility to receive an exemption under this section. As soon as practicable after receiving an application for certification, the Coordinating Board shall make the determination of eligibility and give notice of its determination to the applicant, the institution of higher education at which the applicant is enrolled, and the school district employing the person as an educational aide.

The Coordinating Board shall adopt rules consistent with this section as necessary to implement this section. The Coordinating Board shall distribute a copy of the rules adopted under this section to each school district and institution of higher education in this state.
Title IV Refund

This refund policy will apply to any financial aid recipient who withdraws from school.

As an institution participating in programs under Title IV of the Higher Education Act, the Health Science Center is required to return a portion of the Title IV refunds a student received, back to the Title IV program from where the funds were originally dispersed, as a result of the student’s withdrawal from school. The portion returned is referred to as the Title IV Refund and is calculated by determining the portion of unearned aid a student has received. The types of Title IV funds included in this calculation are student or parent loans from the Federal Family Education Loan program, Perkins loans, Pell grants, or Supplemental Educational Opportunity Grants (SEOG).

The refund is required if the student does not register for, withdraws from, or otherwise fails to complete the period of enrollment for which the financial assistance was intended. No refund is required if the student withdraws after a point in time that is sixty percent of the period of enrollment for which the charges were assessed. A student who withdraws prior to that time is entitled to a refund of tuition, fees, room and board, and other charges that is the larger of the amount provided in Section 54.006, or a pro rata refund calculated pursuant to Section 48 of the Act, reduced by the amount of any unpaid charges and a reasonable administrative fee not to exceed the lesser of five percent of the tuition, fees, room and board, and other charges that were assessed for the enrollment period, or one hundred dollars.

Return of Federal Funds Due to Withdrawal or Leave of Absence

Students withdrawing from the Health Science Center prior to completing 60% of the semester, and who have received Federal Title IV are required to return the unearned portion of funds received. Funds used to pay tuition and fees are returned by the Health Science Center to the appropriate federal fund on a pro rata basis. Thus a student on financial aid who withdraws after completing only 30% of the semester will have 70% returned to federal programs. This is NOT a refund of tuition and fees. State law describes the amount of tuition and fees that is sixty percent of the period of enrollment for which the charges were assessed. A student who withdraws prior to that time is entitled to a refund of tuition, fees, room and board, and other charges that is the larger of the amount provided in Section 54.006, or a pro rata refund calculated pursuant to Section 48 of the Act, reduced by the amount of any unpaid charges and a reasonable administrative fee not to exceed the lesser of five percent of the tuition, fees, room and board, and other charges that were assessed for the enrollment period, or one hundred dollars.

Refunds are distributed in the following order:

1. Unsubsidized Federal Stafford Loan
2. Subsidized Federal Stafford Loan
3. Federal PLUS Loan
4. Federal Perkins Loan
5. Federal Pell
6. Federal SEOG

Any questions regarding the return of Title IV programs should be directed to the Associate Director of Student Financial Aid or e-mail Nystrom@uthscsa.edu. Examples are available on request at http://studentservices.uthscsa.edu/FA_FAQ.aspx#withdraw.

Fee Refund Schedule (Complete Withdrawal)

Both graduate and undergraduate students who withdraw from this institution during a fall or spring semester will receive a refund of a percentage of tuition and refundable fees based on the schedule below.

Medical and dental students who withdraw in the fall of the academic year will receive a 100% refund of tuition and fees for the second half of the year (spring) and a refund for the first half of the year (fall) based upon the schedule below.

100 percent prior to the first day of classes
80 percent during the first five class days
70 percent during the second five class days
50 percent during the third five class days
25 percent during the fourth five class days
No refunds will be made in the case of withdrawal after the four five-day period.

Students who withdraw during a summer term may receive a refund of tuition and applicable fees based on the following schedule:

100 percent prior to the first class day
80 percent during the first, second, or third class day
50 percent during the fourth, fifth, or sixth class day
No refunds will be made on the seventh class day or thereafter, or if still enrolled.

Notice of intention to withdraw must be made in writing to the Registrar. The institution terminates student services and privileges at the time of the student's withdrawal.

Refund for Courses Dropped

100% of tuition and fees will be refunded for courses dropped prior to the census day of the term provided the student remains enrolled in the institution for that term. No refunds will be made for courses dropped following the census day of the term unless the student withdraws from the university. If the student withdraws from the university, the Fee Refund Schedule will be used to determine refund eligibility.

Federal Financial Assistance

All students applying for admission to the Health Science Center are eligible to apply for federal financial assistance. Students in joint programs become eligible once they enter the professional phase of the program. To apply for all forms of federal or state financial aid a student must complete the Free Application for Federal Student Aid (FAFSA) on an annual basis. The FAFSA can be obtained from any college or university in the United States, most high schools and libraries, and on the Web at http://www.fafsa.ed.gov.
Tuition assistance for vocational nursing students agreeing to practice in long-term care facilities

(Texas Education Code, Section 61.660)

In addition to any other financial aid program established under this subchapter, the board shall establish and administer a tuition assistance program for vocational nursing students attending any school or program in this state who agree, following licensure as a licensed vocational nurse, to practice in a long-term care facility in this state.

High School Graduates in Top 10% of Graduating Class

Students who graduate in the top 10% of their high school graduating class are eligible for a scholarship at public institutions of higher education in Texas.

Health Science Center Competitive Scholarships

The UT Health Science Center San Antonio offers Competitive Scholarships on a school-by-school basis as funds allow. All matriculating students are eligible to apply for competitive scholarships. Each school will develop specific guidelines and information for applying for and criteria for awarding the scholarships. The Competitive Scholarship must be recommended by the Scholarship Committee of each school, with final approval from the Health Science Center Scholarship and Loan Committee. Applicants should contact the appropriate school within the Health Science Center for information about the availability of scholarship funds and application information.

Non-resident students who are awarded a Competitive Scholarship of at least $1000 for the academic year are entitled to pay the tuition and fees required of Texas residents for the duration of the scholarship. The total number of students at the Health Science Center paying resident tuition under the Competitive Scholarship criteria must not exceed five percent of the total number of students at the Health Science Center. Competitive scholarships may be renewed for subsequent years based on satisfactory performance (as defined by the school) in the educational program and other factors at the discretion of the school.

Air Force Reserve Officers Training Corps Program

By agreement with The University of Texas Health Science Center at San Antonio, a student may obtain a commission as an officer in the U.S. Air Force upon completion of a baccalaureate or master’s degree at the Health Science Center and completion of the Air Force Reserve Officers Training Corps (ROTC) program at The University of Texas at San Antonio (UTSA). Scholarships are available on a competitive
basis. Scholarships provide tuition and fee assistance, a book allotment, and monthly subsistence allowance.

In addition to courses, students are required to attend a weekly leadership laboratory and physical training. For more information contact Air Force ROTC at UTSA at 456-4624.

**Tuition Set Aside for Financial Assistance**

*(Texas Education Code, Section 56.014)*

The university will inform students of the amount of their tuition set aside for financial assistance for students. The information will be included on their tuition bill or billing statement, printed receipt, or in an e-mail statement prominently displaying the notice regarding the specific amount that is required to be set aside by the institution.

The Texas Higher Education Coordinating Board by rule shall prescribe minimum standards for the manner, form, and content of the notice required by this section.

**Federal College Work-Study Employment**

The University of Texas Health Science Center at San Antonio has very limited amounts of Federal Work-Study funds. Students seeking employment should start with the Associate Dean of Student Affairs in the School of Medicine, School of Nursing, or School of Health Professions to check on availability. Jobs in funded by this program are limited to tutoring, and research as defined by the needs of the schools listed above.
Policies and Procedures

Click on an item in the list below to be taken to the location of its content.

- Nondiscrimination Policy and Complaint Procedure
- Absences on Religious Holy Days
- Alcohol Policy for Student Organizations
- Animal Use Policy
- Change of Address
- Graduation Procedures
- Inclement Weather Policy
- Invitations to Elected or Appointed Officials
- Official Notification Procedure
- Personal Emergency Notification
- Health Science Center Fraud Policy
- Copyrights
- Student Publications
- Student Role in University Decision Making

Some of the following policies and procedures may be referenced in the various schools' sections in this Catalog.

Nondiscrimination Policy and Complaint Procedure

STATEMENT OF POLICY

It is the policy of The UT Health Science Center San Antonio to provide an educational and working environment that provides equal opportunity to all members of the university community. In accordance with federal and state law, the university prohibits unlawful discrimination on the basis of race, color, religion, sex, national origin, age, disability, citizenship, and veteran status. Discrimination on the basis of sexual orientation is also prohibited pursuant to university policy.

SCOPE OF POLICY: Student Policy in Student Publications

This policy applies to all university administrators, faculty, staff, students/residents, fellows, visitors, and applicants for employment or admission. This policy is the principal prohibition of all forms of discrimination on campus, except as follows:

- The university’s controlling policy and procedures relating to sexual harassment and sexual misconduct can be found in the Health Science Center Handbook of Operating Procedures, Chapter 4, Section 4.2, Policy 4.2.2., “Sexual Harassment and Sexual Misconduct.”
- Complaints concerning wages, hours of work, working conditions, performance evaluations, merit raises, job assignments, reprimands, and the interpretation or application of a rule, regulation or policy are governed by Handbook of Operating Procedures, Chapter 4, Section 4.9, Policy 4.9.5, “Grievance Policy and Procedures.”

DEFINITIONS

Discrimination, including harassment, is defined as conduct directed at a specific individual or a group of identifiable individuals that subjects the individual or group to treatment that adversely affects their employment or education on account of race, color, religion, national origin, age, disability, citizenship, veteran status or sexual orientation.

Harassment, as a form of discrimination, is defined as verbal or physical conduct that is directed at an individual or group because of race, color, religion, sex, national origin, age, disability, citizenship, veteran status, or sexual orientation when such conduct is sufficiently severe, pervasive, or persistent so as to have the purpose or effect of interfering with an individual’s or group’s academic or work performance; or of creating a hostile academic or work environment. Constitutionally protected expression cannot be considered harassment under the policy.

RESOLUTION OPTIONS: A person who believes that he or she has been subjected to discrimination or harassment in violation of this policy and seeks to take action may use either the informal resolution process or the formal complaint process, or both. The informal resolution and formal complaint resolution process described in this policy are not mutually exclusive and neither is required as a pre-condition for choosing the other; however, they cannot both be used at the same time.

INFORMAL RESOLUTION PROCESS: This process may be used as a prelude to filing a formal complaint or as an alternative. It is not necessary that this option be used. Anyone who believes that he or she has been subject to discrimination may immediately file a formal complaint as described below under “Complaint Procedures” below. Informal resolution may be an appropriate choice when the conduct involved is not of a serious or repetitive nature and disciplinary action is not required to remedy the situation. No formal investigation is involved in the informal resolution process.

1. Reporting: Students, residents or fellows wishing to use the informal resolution process should contact the appropriate Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education. All other individuals wishing to utilize the informal resolution process should contact the Equal Employment Opportunity/Affirmative Action (EEO/AA) Office.

2. Informal Assistance: The individual is provided assistance in attempting to resolve possible discrimination if the individual does not wish to file a formal complaint. Such assistance includes strategies for the individual to
effectively inform the offending party that his or her behavior is offensive and should cease. Action should be taken by an appropriate university official to stop the offensive conduct, modify the situation in which the offensive conduct occurred, or begin mediation between the parties. However, the university may take more formal action to ensure an environment free of discrimination.

3. **Timeframe:** Informal resolutions will be completed within a reasonable amount of time from receipt of a request for informal resolution.

4. **Confidentiality and Documentation:** The university will document informal resolutions. The EEO/AA office will retain the official documentation. The Associate Deans will forward documentation of informal resolutions to the EEO/AA office at the conclusion of the process for which they are responsible to conduct. The university will endeavor to maintain confidentiality to the extent permitted by law. The university will attempt to find the right balance between the individual’s desire for privacy and confidentiality with the responsibility of the University to provide an environment free of discrimination prohibited by law.

**COMPLAINT PROCEDURES:** This complaint procedure also constitutes the grievance procedures for complaints alleging unlawful sex discrimination required under Title IX of the Education Amendments of 1972. As used herein, “complaint” is synonymous with “grievance.”

**Reporting**

- The Health Science Center encourages any person who believes that he or she has been subjected to discrimination to immediately report the incident to his or her appropriate supervisor, to the appropriate supervisor of the of the accused faculty member or employee, to the EEO/AA Office or when a student, resident or fellow is the accused individual, to the appropriate Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education of the School of Medicine. The complainant will be advised of the procedures for filing a formal complaint of discrimination. When a supervisor or Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education of the School of Medicine receives a complaint, he or she will immediately notify the EEO/AA Office.

- Complaints should be filed as soon as possible after the conduct giving rise to the complaint, but no later than thirty (30) working days after the event occurred. In the case of a currently enrolled student, if the last day for filing a complaint falls prior to the end of the academic semester in which the alleged violation occurred, then the complaint may be filed within thirty (30) calendar days after the end of that semester.

- In order to initiate the investigation process, the complainant should submit a signed, written statement setting out the details of the conduct that is the subject of the complaint, including the complainant’s name, signature, and contact information; the name of the person directly responsible for the alleged violation; a detailed description of the conduct or event that is the basis of the alleged violation; the date(s) and location(s) of the occurrence(s); the names of any witnesses to the occurrence(s); the resolution sought; and any documents or information that is relevant to the complaint. While an investigation may begin on the basis of an oral complaint, the complainant is strongly encouraged to file a written complaint. When a supervisor or the Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education of the School of Medicine receives a complaint with a written statement he/she shall immediately notify the EEO/AA Office.

**Complaint Investigation**

1. The Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education of the School of Medicine and/or the Executive Director of the EEO/AA Office, as appropriate, is responsible for investigating formal complaints. If the complaint is not in writing, the investigator should prepare a statement of what he or she understands the complaint to be and seek to obtain verification of the complaint from the complainant.

2. Within ten (10) working days of receipt of a complaint the Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education of the School of Medicine and/or the Executive Director of the EEO/AA Office as appropriate will authorize an investigation of the complaint.

3. As part of the investigation process, the accused individual shall be provided with a copy of the allegations and be given the opportunity to respond verbally and/or in writing within a reasonable time frame.

4. The complainant and the accused individual may present any document or information that is believed to be relevant to the complaint.

5. Any persons thought to have information relevant to the complaint shall be interviewed and such interviews shall be appropriately documented.

6. The investigation of a complaint will be concluded as soon as possible after receipt of the written complaint. In investigations exceeding sixty (60) days, a justification for the delay shall be presented to and reviewed by the Executive Director of the EEO/AA Office. The complainant, accused individual and supervisor will be provided an update on the progress of the investigation after the review.

7. Upon completion of the investigation, a written report will be issued. The report shall include: a recommendation of whether a violation of the policy occurred, an analysis of the facts discovered during the investigation, any relevant evidence and recommended disciplinary action if a violation of the policy occurred.

8. A copy of the report will be sent to the appropriate administrative official. Written notification of the findings of the investigation and outcome will be sent to the complainant and the respondent by the appropriate administrative official. The complainant and the
respondent have seven (7) working days from the date of the notification letter to submit comments regarding the investigation to the administrative official. However, if a complaint is filed against a student then the complainant and respondent may not receive or comment on the notification letter in accordance with the Family Education Rights and Privacy Act’s restrictions on disclosure of educational records.

9. Within thirty (30) working days of receiving any comments submitted by the complainant or respondent, the appropriate administrative official will take one of the following actions:
   a) request further investigation into the complaint;
   b) dismiss the complaint if the results of the completed investigation are inconclusive or there is insufficient reasonable, credible evidence to support the allegation(s); or
   c) find that this policy was violated. A decision that this policy was violated shall be made upon the record provided by the investigator and any comments submitted by the complainant or respondent; and shall be based on the totality of circumstances surrounding the conduct of complained of, including but not limited to; the context of that conduct, its severity, frequency, whether it was physically threatening, humiliating, or was simply offensive in nature. Facts will be considered on the basis of what is reasonable to persons of ordinary sensitivity and not on the particular sensitivity or reaction of an individual.

10. If the appropriate administrative official determines that this policy was violated, he or she, will take disciplinary action that is appropriate for the severity of the conduct. Disciplinary actions can include, but are not limited to: verbal reprimands, written reprimands, the imposition of conditions, reassignment, suspension, and dismissal.

11. The complainant and the respondent shall be informed in writing of the administrative official’s decision. However, if a complaint is filed against a student, then the determination letter sent to the complainant will be written in compliance with the Family Education Rights and Privacy Act.

Implementation of disciplinary action against faculty and employees will be handled in accordance with the university’s policy and procedures for discipline and dismissal of faculty and employees. The Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education of the School of Medicine will impose disciplinary action, if any, against a student, resident, or fellow in accordance with the university’s appropriate disciplinary procedures.

PROVISIONS APPLICABLE TO ALL COMPLAINTS

Assistance: During the complaint process, a complainant or respondent may be assisted by a person of her or his choice; however, the assistant may not examine witnesses or otherwise actively participate in a meeting or interview.

Retaliation: An administrator, faculty member, student, resident, fellow or employee who retaliates in any way against an individual who has brought a complaint pursuant to this policy or an individual who has participated in an investigation of such a complaint is subject to disciplinary action, including dismissal.

False Complaints: Any person who knowingly and intentionally files a false complaint under this policy or any person who knowingly and intentionally makes false statements within the course of the investigation is subject to disciplinary action up to and including dismissal from the University.

Confidentiality and Documentation: The University shall document complaints and their resolution. The EEO/AA Office shall retain the official documentation. The Associate Deans will forward documentation of resolutions to the EEO/AA Office at the conclusion of the process for which they are responsible to conduct. To the extent permitted by law, complaints and information received during the investigation will remain confidential. Relevant information will be provided only to those persons who need to know in order to achieve a timely resolution of the complaint.

DISSEMINATION OF POLICY

The policy will be made available to all faculty, employees, students, residents, and fellows. Periodic notices sent to students, residents, fellows, employees, and faculty about the university’s Nondiscrimination Policy will include information about the complaint procedure and will refer individuals to designated offices for additional information.

The university periodically will educate and train employees and supervisors regarding the policy and conduct that could constitute a violation of the policy.

Absences on Religious Holy Days

Students may take an examination or complete an assignment missed during the observance of a religious holy day(s) if they give notification of the planned absence to the instructor(s) no later than the fifteenth day after the first day of the semester.

A “religious holy day” is a day observed by a religion whose place of worship is exempt from property taxation.

Notification to instructors must be accomplished by the use of a standard form (Notification of Planned Absence To Observe a Religious Holy Day) available from the Registrar’s Office that, upon completion, will meet the policy requirements of the university regarding absences for observance of a religious holy day. The Notification of Planned Absence To Observe a Religious Holy Day form is initiated by the student and signed and dated by the instructor.

Instructors, upon notification, will stipulate a “reasonable time” in which the student may complete an assignment or take an examination scheduled on the day(s) the student is absent for the purpose of observing a religious holy day. If the student fails to satisfactorily complete assignments or examinations within the stipulated “reasonable time,” loss of credit for work or a failing grade for an examination will result.

This policy will be followed unless it interferes with patient care.
Alcohol Policy for Student Organizations

Approval to serve alcoholic beverages will only be given to official student functions sponsored by the Office of Student Services. The chief student affairs officer shall petition the president’s office for the official designation of selected events.

In implementing a university policy on the service of alcohol, all Health Science Center student events approved for alcohol must complete the Request for Alcoholic Beverages on Campus for Student Organizations from the Office of Student Services and comply with the following requirements:

1. Provide designated drivers.
2. Utilize designated servers who have been certified by the Texas Alcoholic Beverage Commission.
3. Provide nonalcoholic beverages.
4. Provide food.
5. Check current, valid picture driver’s licenses — must have birth date.
6. Have a University faculty advisor or her/his designee present at this event.
7. Have sufficient University Police officers based on number of attendees and type of event.

Failure to comply with these requirements will result in a loss of privileges regarding use of alcohol on campus.

See the Health Science Center Policy on Alcohol, Drug, and Chemical Abuse in this Catalog.

Animal-Use Policy

All animals used for teaching, training, and research, or any other activities by faculty, staff, and students on this campus or elsewhere, shall be used and cared for in accordance with all applicable provisions of the Animal Welfare Act and other federal statutes and regulations relating to the humane care and use of laboratory animals. Misuse or abuse of laboratory animals will not be tolerated and should be reported to the Institutional Animal Care and Use Committee.

The Health Science Center offers courses in which laboratory animals are an integral part of the curriculum. Although students are encouraged to take advantage of every educational opportunity offered, they are not required to participate in manipulations involving laboratory animals. In some cases, alternative exercises may be substituted at the discretion of and in consultation with the course director.

Change of Address

A student’s current address, e-mail address, and telephone number should be on file with the Registrar at all times. If a student moves, even temporarily, he/she must inform the Registrar. Often, persons must contact students to relay emergency messages from relatives, the Student Financial Aid Office, Deans’ offices, etc. Students may change their address, etc. on the Web at http://inside.uthscsa.edu.

Students will be held responsible for official notices from the university e-mailed to her/his campus e-mail address of record or mailed to her/his local address the student has given the school. Students are reminded to check email and mailboxes regularly. (See Official Notification Procedure in this section.)

International Students Change of Address

According to the U.S. Immigration and Nationality Act, almost all non-U.S. citizens are required to report the change of their addresses within TEN (10) days of moving to a new address. All aliens who are Permanent Residents (Green Card holders) must also comply with this Law. The aliens exempt from this requirement are listed below:

1. Persons who hold U.S. visas A or G at the present time
2. Persons who do not possess a U.S. visa (for example, WB, WT, and some TN status holders)
3. Persons in the U.S. for less than 30 days with a U.S. visa

The penalties for failure to obey this U.S. law are as follows:

1. Fined up to $200;
2. Imprisoned up to 30 days; or
3. Both fine and imprisonment;
4. Being subject to deportation from the U.S.;
5. Jeopardizing the alien’s abilities to obtain a future U.S. visa and other immigration benefits.

If a U.S. Citizen has financially sponsored an alien for immigration, the Citizen is required by law to notify U.S. CIS of any change of address within 30 days of move by completing form I-865 (http://www.uscis.gov/files/form/i-865.pdf).

If a Permanent Resident (Green Card holder) has financially sponsored an Alien who has immigrated to the U.S., the Permanent Resident is required by law to notify U.S. CIS of any change of address within 30 days of move by completing the form I-865 in addition to the Form AR-11 (http://www.uscis.gov/files/form/ar-11.pdf) within 10 days.

If you have any questions regarding this matter, please consult the Office of International Services at 567-6241.

Graduation Procedures

Candidates for certificates/degrees are required to complete the following procedures:

- Apply for graduation by July 1 for fall; November 1 for spring; and March 1 for summer.
- Complete and return to the Registrar’s Office the university’s Application for Degree and Diploma Name Request Form in the semester before anticipated graduation.
- Register in the semester the certificate or degree is to be conferred.
• Attend an Exit Interview session scheduled by The Office of Financial Aid and Veterans’ Services for students who have received financial assistance that must be repaid after graduation.

Invitations to commencement ceremonies can be ordered through the Bookstore that also makes arrangements for academic regalia for students and faculty.

The student’s “diploma name” as requested in the Application for Degree and Diploma Name form is printed on her/his diploma, and information provided by the student is used in commencement programs.

Class pictures (a composite of individual photos) of graduating classes in the School of Nursing may be ordered by degree candidates. Individual photographs are taken and order blanks supplied prior to commencement ceremonies. Pictures must be paid for at the Bursar’s Office. The finished product is mailed by the photographer to students who have ordered and paid for class pictures.

Group pictures are taken at commencement rehearsals for students in Health Professions, Nursing, Medicine, and Dental schools. Individual photos of each graduate receiving her/his diploma or certificate may also be made at the ceremonies. Students may order copies and pay the photographer, who will mail prints to students when they are ready.

Inclement Weather Policy
During severe weather, students, faculty, and staff are expected to meet their responsibilities if they can safely travel. Those who are unable to do so are expected to notify (in the case of students) their faculty or program office and any clinical agency if they are involved in rotation or clinical off campus and cannot travel safely.

The President may declare an “extreme weather closure” if conditions are such that the university will remain closed. The university’s Web site will announce any emergency preparedness/campus status information at http://www.uthscsa.edu/status.asp. The local news media usually announces the closure no earlier than 7 p.m. on the evening preceding the closure or no later than 7 a.m. on the day of closure. Local radio and television stations usually carry messages from the university regarding closures.

Invitations to Elected or Appointed Officials
So that appropriate protocol may be followed all invitations to elected or appointed officials (city, county, state, or national) to visit the Health Science Center campus shall be coordinated through the President’s Office prior to the invitation being extended.

The Health Science Center always welcomes elected or appointed officials to the campus and any such visit always receives a high priority. Officials in the President’s Office will be able to assist other offices in matters pertaining to protocol, publicity guidelines (if applicable), and other details that will help ensure that the visit meets all expectations.

It is not the intention to restrict any such invitation from being extended; rather, it is to facilitate the details that often surround such an occasion and to insure that important protocol and procedural matters are considered.

Official Notification Procedure
Official notifications from faculty and administration are sent to the student’s campus e-mail address in most instances. Exceptions are official communications involving issues of promotion status, dismissals, proceedings, or disciplinary matters. Such correspondence is sent to the local address the student has given the school and is mailed with a “Return Receipt Requested” notice to the U.S. Postal Service. (A copy also is sent to the student’s campus mailbox.)

Personal Emergency Notification
During business hours, persons wishing to contact students because of an emergency are directed to call the appropriate office of the Associate Dean for Students. Nursing students may be reached for emergency messages by calling Nursing’s student services office at 567-5807; graduate students by calling the student’s department office; and health professions students by calling the office of the program in which the student is enrolled. Office numbers can be found in the Faculty and Staff Directory.

After-hours calls should be made to University Police, at 210-567-2800, who will contact the appropriate administrator.

Health Science Center Fraud Policy
Management is responsible for establishing internal controls and other systems to prevent or detect fraud. Each manager should be familiar with the types of fraud that might occur within her/his area of responsibility and be alert for any indication of fraud.

Detected or suspected fraud must be reported immediately to the Assistant Vice President for Internal Audit & Consulting Services who is responsible for coordinating all investigations (both internal and external) and for the administration, interpretation, and application of this policy.

Scope
The conditions of this policy apply to any fraud, or suspected fraud, involving faculty, staff, students, vendors, or outside agencies doing business with the Health Science Center.

Actions Constituting Fraud
As used in this policy, the term “fraud” shall mean any defalcation, misappropriation, and/or other fiscal irregularities that would include but are not limited to:
• any dishonest or fraudulent act;
• forgery or alteration of any document or account belonging to the Health Science Center;
• forgery or alteration of any check, bank draft, or any other financial document;
• misappropriation of funds, supplies, or other assets;
• impropriety in the handling or reporting of money or financial transactions;
• accepting or seeking anything of material value from vendors or persons providing services/material to the Health Science Center;
• destruction or disappearance of records; AND/OR
• any similar or related irregularity.

Non-Fraud Irregularities
It is possible that certain allegations involving fraudulent activities covered by this policy may also involve violations of other university policies, criminal law, or the regulations of various state and federal agencies. When the Assistant Vice President for Internal Audit & Consulting Services determines that the allegations relate solely to the violation of other policies, the Assistant Vice President for Internal Audit & Consulting will refer the matter to the appropriate official with responsibility for other such policies. In cases where the allegations appear to constitute fraud as defined in this policy and violate other regulations, the Assistant Vice President for Internal Audit & Consulting shall meet with the officials responsible for the other policies and together with management develop a plan for conducting the investigation.

Investigation Responsibilities
The Assistant Vice President for Internal Audit & Consulting Services has the primary responsibility for coordinating and performing specific financial and administrative investigations and will issue reports to the appropriate senior management personnel as deemed appropriate.

Decisions to prosecute or turn matters over to appropriate law enforcement and/or regulatory agencies for independent investigation will be made in conjunction with University Police and senior management.

Confidentiality
The Assistant Vice President for Internal Audit & Consulting Services is receptive to receiving relevant information on a confidential basis from a Health Science Center faculty member, staff, or student who suspects dishonest or fraudulent activity. That individual should contact the Assistant Vice President for Internal Audit & Consulting Services immediately, and should not attempt to personally conduct investigations or interviews/interrogations related to suspected fraud.

Authorization for Investigating Suspected Fraud
In those instances in which the Assistant Vice President for Internal Audit & Consulting Services believes it to be in the best interests, members of the Office of Internal Audit & Consulting Services have the authority and duty, after consulting with appropriate management, to:
• take control of, and/or gain full access to, all Health Science Center premises, whether owned or rented; and
• examine, copy, and/or remove all or any portion of the contents of files, records, desks, cabinets, and other storage facilities on the premises without prior knowledge or consent of any individual who may use or have custody of any such items or facilities.

Reporting Procedure
Care must be taken in the investigation of suspected fraud so as to avoid mistaken accusations or alerting suspected individuals that an investigation is under way. An employee who discovers or suspects fraudulent activity should contact the Assistant Vice President for Internal Audit & Consulting Services immediately.

The reporting employee must adhere to the following restrictions:
• Do not contact the suspected individual in an effort to determine facts or demand restitution.
• Do not perform any investigative procedures.
• Do not discuss the case, facts, suspicions, or allegations with anyone outside the Health Science Center.
• Do not discuss the case with anyone inside other than the Office of Internal Audit & Consulting Services or other authorized university officials who have a legitimate need to know.

Administration
The Assistant Vice President for Internal Audit & Consulting Services is responsible for the administration, interpretation, and application of this policy.

Copyrights

Details of the UT System and university policies regarding use of copyrighted materials may be found in the Handbook of Operating Procedures. For additional information, check the UT System’s Office of General Counsel home page at http://www.utsystem.edu/OGC/.
Software Copyrights

Software piracy is a very serious issue. The following standards apply at the Health Science Center:

1. All software should be used only in accordance with the applicable software license agreements.
2. No faculty, staff, or student should make any unauthorized copies of any software under any circumstances.
3. The use of unauthorized copies of software on any university-owned equipment will not be tolerated.

It is not right to illegally copy software or to use illegal software. In addition to possible legal action by the holder of software copyrights, any faculty, staff, and/or student engaging in software piracy will be subject to university discipline up to and including termination.

If you are aware of any software misuse or infringement of copyright laws, notify the head of your department or the Office of Internal Audit and Consulting Services immediately.

Student Publications

A student government association (including representatives from each school) has the right to prepare and distribute newsletters, bulletins, and other forms of publications provided that when taking a position on an issue, the publication shall make clear that it does not speak for the institution.

Anonymous publications are prohibited by the Rules and Regulations of the Board of Regents.

Student Role in University Decision Making

University decision making is accomplished through the work and recommendations of Health Science Center committees made up of faculty, staff, and students.
Students are responsible for knowing and observing these university’s procedures and regulations governing Student Conduct and Discipline.

In summary, the procedures and regulations provide that the person acting as Associate Dean for Students of each school shall have direct responsibility for the administration of the disciplinary process in cases concerning scholastic dishonesty and professional misconduct.

The chief student affairs officer has direct responsibility for the administration of the disciplinary process in areas not directly related to the academic or professional training of the student.

If after investigation of an alleged violation of the procedures and regulations governing Student Conduct and Discipline, the Associate Dean for Students or the chief student affairs officer determines the allegations are not unfounded, he/she will prepare a written statement of charges and a summary statement of the evidence and present the statements to the accused student.

If the accused does not dispute the facts and waives a hearing, the chief student affairs officer or the person acting as Associate Dean for Students assesses a penalty consistent with those outlined in the regulations. If the student disputes the facts, a hearing officer will be selected to hear evidence, to adjudicate guilt or innocence, to render a written decision, and to impose a penalty if one is due. The decision may be appealed to the Health Science Center President.

Penalties which may be imposed include the following: a warning; probation; a financial penalty when property damage is involved; suspension of rights and privileges deriving in whole or part from the university; suspension of eligibility for office or honor; loss of credit for scholastic work; reduction of the grade in an assigned course; a failing examination grade; a failing grade in the course; suspension from the university; expulsion; withholding of grades, official transcripts, or degrees; or other penalty imposed by the hearing officer/committee, the chief student affairs officer, or the Associate Dean for Students.

The Rules and Regulations of the Board of Regents of the UT System below should be consulted in reference to questions concerning conduct and discipline.

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**Student Conduct and Discipline**

1. **Title**

Student Conduct and Discipline

2. **Rules and Regulations**

Sec. 1 Institutional Rules: The institutions shall adopt rules and regulations concerning student conduct and discipline. Such rules shall be in compliance with the Regents’ Rules and Regulations and shall become effective upon review and approval by the Executive Vice Chancellor for Health Affairs or the Executive Vice Chancellor for Academic Affairs. Each student is responsible for notice of and compliance with the provisions of the Regents’ Rules and Regulations and the rules of the institution.

Sec. 2 Standards of Conduct: All students are expected and required to obey federal, state, and local laws, to comply with the Regents’ Rules and Regulations, with the University of Texas System and institutional rules and regulations, with directives issued by an administrative official of the UT System or institution in the course of his or her authorized duties, and to observe standards of conduct appropriate for an academic institution.

2.1 Who is Subject to Discipline: Any student who engages in conduct that violates the Regents’ Rules and Regulations, the UT System or institutional rules and regulations, specific instructions issued by an administrative official of the institution or the UT System acting in the course of his or her authorized duties, or federal, state, or local laws is subject to discipline whether such conduct takes place on or off campus or whether civil or criminal penalties are also imposed for such conduct.

2.2 Scholastic Dishonesty: Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, and submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair
advantage to a student or the attempt to commit such acts.

2.3 Drugs: Any student who is found responsible for the illegal use, possession and/or sale of a drug or narcotic on the campus of an institution is subject to discipline. If a student is found responsible for the illegal use, possession, and/or sale of a drug or narcotic on campus, the sanction assessed shall be suspension from the institution for a specified period of time and/or suspension of rights and privileges.

2.4 Health or Safety: Any student who engages in conduct that endangers the health or safety of any person on the campus of an institution or on any property, or in any building or facility owned or controlled by the UT System or institution is subject to discipline.

2.5 Disruptions: Any student who, acting singly or in concert with others, obstructs, disrupts, or interferes with any teaching, educational, research, administrative, disciplinary, public service, or other activity or public performance authorized to be held or conducted on campus or on property or in a building or facility owned or controlled by the UT System or institution is subject to discipline. Obstruction or disruption includes but is not limited to any act that interrupts, modifies, or damages utility service or equipment, communication service or equipment, university computers, computer programs, computer records or computer networks accessible through the university’s computer resources.

2.6 Inciting Lawless Action: Any student who engages in speech, either orally or in writing, which is directed to inciting or producing imminent lawless action and is likely to incite or produce such action, is subject to discipline.

2.7 Unauthorized Use of Property: Any student who engages in the unauthorized use of property, equipment, supplies, buildings, or facilities owned or controlled by the UT System or institution is subject to discipline.

2.8 Hazing: Any student who, acting singly or in concert with others, engages in hazing is subject to discipline. Hazing in state educational institutions is prohibited by state law (Texas Education Code, Section 51.936). Hazing with or without the consent of a student whether on or off campus is prohibited, and a violation of that prohibition renders both the person inflicting the hazing and the person submitting to the hazing subject to discipline. Initiations or activities of organizations may include no feature that is dangerous, harmful, or degrading to the student and a violation of this prohibition renders both the organization and participating individuals subject to discipline.

2.9 Altering of Official Documents: A student who alters or assists in the altering of any official record of the UT System or institution or who submits false information or omits requested information that is required for or related to an application for admission, the award of a degree, or any official record of the UT System or institution is subject to discipline. A former student who engages in such conduct is subject to bar against readmission, revocation of degree, and withdrawal of diploma.

2.10 Vandalism: Any student, who defaces, mutilates, destroys, or takes unauthorized possession of any property, equipment, supplies, buildings, or facilities owned or controlled by an institution or the UT System is subject to discipline.

2.11 Prohibited Conduct: A student is subject to discipline for prohibited conduct that occurs while participating in off-campus activities sponsored by an institution or the UT System including field trips, internships, rotations, or clinical assignments.

2.12 Use of Explosives, Weapons or Hazardous Chemicals: Unless authorized by federal, state, or local laws, a student who possesses or uses any type of explosive, firearm, imitation firearm, ammunition, hazardous chemical, or weapon as defined by state or federal law, while on campus or on any property or in any building or facility owned or controlled by the UT System or institution, is subject to discipline.

2.13 Prohibited Conduct During Suspension: A student who receives a period of suspension as a disciplinary penalty is subject to further disciplinary action for prohibited conduct that takes place on campus during the period of suspension.

Sec. 3 Bar from Campus: A former student who has been suspended or expelled for disciplinary reasons is prohibited from being on the campus of any institution during the period of such suspension or expulsion without prior written approval of the chief student affairs officer of the institution at which the suspended or expelled student wishes to be present.
Sec. 4 Disciplinary Process: Disciplinary charges will be investigated by the Dean or the Dean’s designee. Any student may be summoned by written request of the Dean for a meeting for purposes of the investigation and/or to discuss the allegations. The written request shall specify a place for the meeting and a time at least three weekdays after the date of the written request if the request is sent regular mail, or at least two weekdays after the date of the request if the request is sent by e-mail or hand delivered. The written request may be mailed to the address appearing in the records of the registrar, e-mailed to the student at the e-mail address on record with the U.T. institution, or may be hand delivered to the student. If a student fails to appear without good cause, as determined by the Dean, the Dean may bar or cancel the student’s enrollment or otherwise alter the status of the student until the student complies with the summons, or the Dean may proceed to implement the disciplinary procedures provided for in Section 5 of this Rule. The refusal of a student to accept delivery of the notice, the failure to maintain a current address with the registrar, or failure to read mail or e-mail shall not be good cause for the failure to respond to a summons.

4.1 Interim Disciplinary Action: Pending a hearing or other disposition of the allegations against a student, the Dean may take such immediate interim disciplinary action as is appropriate to the circumstances when such action is in the best interest of the institution. This includes but is not limited to a suspension and bar from the campus when it reasonably appears to the Dean from the circumstances that the continuing presence of the student poses a potential danger to persons or property or a potential threat for disrupting any activity authorized by the institution.

4.2 Timeliness of Hearing: When interim disciplinary action has been taken by the Dean under Section 4.1 immediately above, a hearing of the charges against the student will be held under the procedures specified in Section 5 immediately below. A hearing following interim disciplinary action will generally be held within 10 days after the interim disciplinary action was taken; however, at the discretion of the Dean of Students the 10 day period may be extended for a period not to exceed an additional 10 days.

4.3 Withholding Transcripts, Grades, and Degrees: Notwithstanding the above, the Dean may withhold the issuance of an official transcript, grade, diploma, certificate, or degree to a student alleged to have violated a rule or regulation of the UT System or its institutions which would reasonably allow the imposition of such penalty. The Dean may take such action pending a hearing, resolution by administrative disposition, and/or exhaustion of appellate rights if the Dean has provided the student an opportunity to provide a preliminary response to the allegations and in the opinion of the Dean, the best interests of UT System or the institution would be served by this action.

4.4 Administrative Disposition.

(a) In any case where the accused student elects not to dispute the facts upon which the charges are based and agrees to the sanctions the Dean assesses, the student may execute a written waiver of the hearing procedures specified in Section 5 immediately below. This administrative disposition shall be final and there shall be no subsequent proceedings regarding the charges.

(b) In any case where the accused student elects not to dispute the facts upon which the charges are based, but does not agree with the sanctions assessed by the Dean, the student may execute a written waiver of the hearing procedures specified in Section 5 immediately below yet retain the right to appeal the decision of the Dean only on the issue of penalty. The appeal regarding the penalty will be to the president of an institution.

Sec. 5 Hearing Process: In those cases in which the accused student disputes the facts upon which the charges are based, such charges shall be heard and determined by a fair and impartial Hearing Officer.

5.1 Notice of Hearing: Except in those cases where immediate interim disciplinary action has been taken, the accused student shall be given at least 10 days written notice of the date, time, and place for such hearing and the name of the Hearing Officer. The notice shall include a statement of the charge(s) and a summary statement of the evidence supporting such charge(s). The notice shall be delivered in person to the student or mailed to the student at the address appearing in the registrar’s records. A notice sent by mail will be considered to have been received on the third day after the date of mailing,
excluding any intervening Sunday. The date for a hearing may be postponed by the Hearing Officer for good cause or by agreement of the student and Dean.

5.2 Impartiality of the Hearing Officer: The accused student may challenge the impartiality of the Hearing Officer. The challenge must be in writing, state the reasons for the challenge, and be submitted to the Hearing Officer through the Office of the Dean at least three days prior to the hearing. The Hearing Officer shall be the sole judge of whether he or she can serve with fairness and objectivity. In the event the Hearing Officer disqualifies himself or herself, a substitute will be chosen in accordance with procedures of the institution.

5.3 Burden of Proof: Upon a hearing of the charges, the Dean or other institutional representative has the burden of going forward with the evidence and has the burden of proving the charges by the greater weight of the credible evidence.

5.4 Duties of Hearing Officer: The Hearing Officer is responsible for conducting the hearing in an orderly manner and controlling the conduct of the witnesses and participants in the hearing. The Hearing Officer shall rule on all procedural matters and on objections regarding exhibits and testimony of witnesses, may question witnesses, and is entitled to have the advice and assistance of legal counsel from the Office of General Counsel of the System. The Hearing Officer shall render and send to the Dean and the accused student a written decision that contains findings of fact and a conclusion as to whether the accused student is responsible for the violations as charged. Upon a finding of responsibility the Hearing Officer shall assess a penalty or penalties specified in Section 6 immediately below. When an accused student is found responsible for the illegal use, possession, or sale of a drug or narcotic on campus, the assessment of a minimum penalty provided in Section 2.3 immediately above is required.

5.5 Minimal Rights: The hearing shall be conducted in accordance with procedures adopted by the institution that assure the institutional representative and the accused student the following minimal rights:

Each party shall provide the other party a list of witnesses, a brief summary of the testimony to be given by each, and a copy of documents to be introduced at the hearing at least five days prior to the hearing.

Each party shall have the right to appear, present testimony of witnesses and documentary evidence, cross-examine witnesses, and be assisted by an advisor of choice. The advisor may be an attorney. If the accused student’s advisor is an attorney, the Dean’s advisor may be an attorney from the Office of General Counsel of the System. An advisor may confer with and advise the Dean or accused student, but shall not be permitted to question witnesses, introduce evidence, and make objections or present argument to the Hearing Officer.

The Dean may recommend a penalty to be assessed by the Hearing Officer. The recommendation may be based upon past practice of the institution for violations of a similar nature, the past disciplinary record of the student, or other factors deemed relevant by the Dean. The accused student shall be entitled to respond to the recommendation of the Dean.

The hearing will be recorded. If either party desires to appeal the decision of the Hearing Officer, the official record will consist of the recording of the hearing, the documents received in evidence, and the decision of the Hearing Officer. At the request of the president of an institution the recording of the hearing will be transcribed and both parties will be furnished a copy of the transcript.

Sec. 6 Penalties: The following penalties may be assessed by the Dean pursuant to Section 4.3 immediately above or by the Hearing Officer after a hearing in accordance with the procedures specified in Section 5.5 immediately above:

6.1 Disciplinary probation.
6.2 Withholding of grades, official transcript, and/or degree.
6.3 Bar against readmission.
6.4 Restitution or reimbursement for damage to or misappropriation of institutional or UT System property.
6.5 Suspension of rights and privileges, including participation in athletic or extracurricular activities.
6.6 Failing grade for an examination or assignment or for a course and/or
cancellation of all or any portion of prior course credit.

6.7 Denial of degree.

6.8 Suspension from the institution for a specified period of time.

6.9 Expulsion (permanent separation from the institution).

6.10 Revocation of degree and withdrawal of diploma.

6.11 Other penalty as deemed appropriate under the circumstances.

Sec. 7 Appeal: A student may appeal a disciplinary penalty assessed by the Dean in accordance with Section 4.3 immediately above. Either the Dean or the student may appeal the decision of the Hearing Officer. An appeal shall be in accordance with the following procedures:

7.1 Appeal Procedures: The appealing party must submit a written appeal stating the specific reasons for the appeal and any argument, to the president of the institution, with a copy to the other party. The appeal must be stamped as received by the President’s Office no later than 14 days after the appealing party has been notified of the sanction assessed by the Dean or the decision of the Hearing Officer. If the notice of sanction assessed by the Dean or the decision of the Hearing Officer is sent by mail, the date the notice or decision is mailed initiates the 14-day period for the appeal. The non-appealing party may submit a response to the appeal which must be received by the President’s Office no later than 5 days after receipt of the appeal with a copy to the other party. An appeal of the sanction assessed by the Dean in accordance with Section 4.4(b) immediately above will be reviewed solely on the basis of the written argument of the student and the Dean. The appeal of the decision of the Hearing Officer will be reviewed solely on the basis of the record from the hearing. The Dean will submit the record from the hearing to the president as soon as it is available to the Dean. At the discretion of the president, both parties may present oral argument in an appeal from the decision of the Hearing Officer.

7.2 President’s Authority: The president may approve, reject, or modify the decision in question or may require that the original hearing be reopened for the presentation of additional evidence and reconsideration of the decision. It is provided, however, that upon a finding of responsibility in a case involving the illegal use, possession, and/or sale of a drug or narcotic on campus, the sanction may not be reduced below the sanction as prescribed by Section 2.3 immediately above.

7.3 Communication of Decision: The action of the president shall be communicated in writing to the student and the Dean within 30 days after the appeal and related documents have been received. The decision of the president is the final appellate review.

Sec. 8 Disciplinary Record: Each institution shall maintain a permanent written disciplinary record for every student assessed a sanction of suspension, expulsion, denial or revocation of degree, and/or withdrawal of diploma. A record of scholastic dishonesty shall be maintained for at least five years unless the record is permanent in conjunction with the above stated penalties. A disciplinary record shall reflect the nature of the charge, the disposition of the charge, the penalty assessed, and any other pertinent information. This disciplinary record shall be maintained by the Office of the Dean of Students. It shall be treated as confidential, and shall not be accessible to or used by anyone other than the Dean or university officials with legitimate educational interests, except upon written authorization of the student or in accordance with applicable state or federal laws or court order or subpoena.

4. Definition

Chief Student Affairs Officer – The Assistant Vice President for Student Services is the administrative officer primarily responsible for the development and administration of policies relating to students, for the development and implementation of services to students, and for the initial preparation of institutional regulations that will implement the policies and regulations set forth in this rule. Associate/Assistant Dean of Student Affairs – Refers to the administrative officer or officers responsible for the administration of the disciplinary process at each institution. Hearing Officer – An individual or individuals selected in accordance with procedures adopted by the institution pursuant to the recommendation of the Chief Student Affairs Officer to hear disciplinary charges, make findings of fact, and, upon a finding of guilt, impose an appropriate sanction(s).

Student – The following persons shall be considered students for purposes of these policies and regulations:

- A person currently enrolled at an institution of the UT System.
A person accepted for admission or readmission to an institution of the UT System.

A person who has been enrolled at an institution of the UT System in a prior semester or summer session and is eligible to continue enrollment in the semester or summer session that immediately follows.

A person who engaged in prohibited conduct at a time when he or she met the criteria of 1, 2, or 3 immediately above.

Campus – consists of all real property, buildings, or facilities owned or controlled by the institution.

Weekday – Monday through Friday, excluding any day that is an official holiday of the institution or when regularly scheduled classes are suspended due to emergent situations.

Day – A calendar day; except for days on which the university is officially closed or when regularly scheduled classes are suspended due to emergency situations.

5. Relevant Federal and State Statutes

Texas Education Code Section 51.936 – Hazing

6. Relevant System Policies, Procedures, and Forms

None

6. Who Should Know

Administrators
Dean of Students
Hearing Officers
Students
Office of General Counsel

7. System Administration Office(s) Responsible for Rule

Office of Academic Affairs
Office of Health Affairs

8. Dates Approved or Amended

December 10, 2004
August 20, 2008

9. Contact Information

Questions or comments regarding this rule should be directed to bor@utsystem.edu.

Due Process

Students accused of violations of the procedures and regulations governing Student Conduct and Discipline shall have the rights of due process:

- The right to know the charges and the evidence;
- The right to confront and examine witnesses;
- The right to be represented by a person of her/his choice;
- The right to be heard by an impartial body or officer; and
- The right to an appeal process.
Privacy Rights

Click on an item in the list below to be taken to the location of its content.

- Family Educational Rights and Privacy Act (FERPA)
- Directory of Records
- Posting of Grades

Under federal law, students’ academic records and personal information must be kept confidential by the university. (See Family Educational Rights and Privacy Act below.)

Only certain university personnel, officials of other institutions to which a student may be seeking admission, persons or organizations providing financial aid, accrediting agencies, persons with a judicial order, individuals attempting to protect the health or safety of others, or organizations conducting studies for specified educational purposes are permitted access to a student’s records without her/his consent.

Students at the UT Health Science Center San Antonio have the right of confidentiality under the federal Family Educational Rights and Privacy Act (FERPA) of 1974. Generally, no one outside the institution shall have access to, nor will the institution disclose any information from students' educational records, without the student's consent.

Educational records may not be shared within the university except to members of departments acting in the student's educational interest and within the limitation of their need to know.

Individuals with access to student information may release “directory information.” Directory information is limited to the following:

- Name
- Address
- Telephone number
- E-mail address
- Photograph
- Date of birth
- Place of birth
- Class level
- Enrollment status (part-time/full-time or undergraduate, graduate, or professional)
- Degrees
- Most recent previous educational institution attended
- Honors and awards received.

A student may withhold all or part of the directory information by making changes on the Student Portal (inside.uthscsa.edu) or by notifying the Registrar in writing with a signed and dated request (Registrars@uthscsa.edu or call 567-2620 for information).

If you have questions regarding the release of student information, contact the Registrar at registrars@uthscsa.edu or call 567-2621.

A student has the right to inspect her/his educational records and to challenge the contents. To review records, a student must make a request in writing to the Registrar. Some documents in a student’s file such as (1) confidential letters/recommendations, (2) parents’ financial records, and (3) documents pertaining to more than one student will not be made available to the requestor. If a student wishes to challenge or amend information in her/his files, the student may appeal in writing to the chief student affairs officer. For full procedures, see the "Family Educational Rights and Privacy Act" below.

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act is a federal law that provides that the institution will maintain the confidentiality of student education records.

FERPA-related links:

- The Health Science Center’s Handbook of Operating Procedures (HOP) at: http://www.uthscsa.edu/hop2000/

The Health Science Center accords all the rights under the law to students who are declared independent. No one outside the institution shall have access to nor will the institution disclose any information from students’ education records without the written consent of students except to appropriate personnel within the institution; to officials of other institutions in which students seek to enroll; to persons or organizations providing students financial aid; to accrediting agencies carrying out their accreditation function; to persons in compliance with judicial order; to persons in an emergency in order to protect the health or safety of students or other persons; to federal, state, or local officials or agencies authorized by law; to the parents of a dependent student, as defined in Section 152 of Internal Revenue Code of 1954, provided a reasonable effort is made to notify the student in advance; and to an alleged victim of any crime of violence, the results of the alleged perpetrator’s disciplinary proceeding may be released. All these exceptions are permitted under the Act.

A record of requests for disclosure and such disclosure of personally identifiable information from student education...
records shall be maintained by the chief student affairs officer for each student and will also be made available for inspection pursuant to this policy. If the institution discovers that a third party has received student records from the institution has released or failed to destroy such records in violation of this policy, it will prohibit access to educational records for five (5) years. Respective records are no longer subject to audit nor presently under request for access may be purged according to regular schedules.

Within the Health Science Center community, only those members, individually or collectively, acting in the students' educational interests is allowed access to student education records. These include personnel in the offices of the Registrar, Student Financial Aid, Deans and President, the student's faculty advisor, and academic personnel within the limitations of their need.

At its discretion, the institution may provide Directory Information in accordance with the provisions of the Act to include: student name, school and class, address, e-mail address, telephone number, date and place of birth, dates of attendance, photograph, degrees and awards received, major field of study, classification, date of graduation, class schedules, and the most recent previous educational agency or institution attended by the student. Students may withhold Directory Information by notifying the Registrar in writing within 12 days after the first day of class for the fall semester. Students requesting that all Directory Information be withheld will have only their first and last name, middle initial, school, photograph, and class listed in the Directory.

The law provides students with their right to inspect and review information contained in their education records, to challenge the contents of their education records, to have a hearing if the outcome of the challenge is unsatisfactory, and to submit explanatory statements for inclusion in their files if they feel the decisions of the hearing panels to be unacceptable. The chief student affairs officer has been designated by the institution to coordinate the inspection and review procedures for student education records, which include admissions, personal, academic, financial, and disciplinary records.

Students wishing to review their education records must make written requests to the custodian of records (see “Directory of Records” below) listing item or items of interest. Only records covered by the act will be made available within 45 days of the request. Students may have copies made of their records with certain exceptions (e.g., an official copy of the academic record for which a financial “hold” exists, or a transcript of an original or source document that exists elsewhere). These copies would be made at the students’ expense at prevailing rates that are listed with the Directory of Records.

Education records do not include: records of instructional, administrative, and educational personnel that are the sole possession of the maker and are not accessible or revealed to any individual except a temporary substitute; records of the law enforcement unit; student thesis or research papers; student health records; student counseling records; employment records; or alumni records. Health records, however, may be reviewed by physicians of a student’s choosing.

Students may not inspect and review the following as outlined by the Act: financial information submitted by their parents; confidential letters and recommendations associated with admissions, employment, or job placement; honors to which they have waived their rights of inspection and review; or education records containing information about more than one student, in which case the institution will permit access only to that part of the record which pertains to the inquiring student.

The institution is not required to permit students to inspect and review confidential letters and recommendations placed in their files prior to January 1, 1975, provided those letters were collected under established policies of confidentiality and were used only for the purposes for which they were collected.

Students who believe that their education records contain information that is inaccurate or misleading, or is otherwise in violation of their privacy or other rights, may discuss their problems informally with the chief student affairs officer. If the decisions are in agreement with the student’s requests, the appropriate records will be amended. If not, the student will be notified within a reasonable period of time that the records will not be amended; and they will be informed by the chief student affairs officer of their right to a formal hearing. Student requests for a formal hearing must be made in writing to the Vice President for Business Affairs who, within a reasonable period of time after receiving such requests, will inform students of the date, place, and the time of the hearing.

Students may present evidence relevant to the issues raised and may be assisted or represented at the hearings by one or more persons of their choice, including attorneys, at the student’s expense. The hearing panel that will adjudicate such challenges will be the Vice President for Business Affairs and two faculty members appointed by the President.

Decisions of the hearing panels will be final, will be based solely on the evidence presented at the hearing, and will consist of written statements summarizing the evidence and stating the reasons for the decisions, and will be delivered to all parties concerned. The education records will be corrected or amended in accordance with the decisions of the hearing panels, if the decisions are in favor of the students. If the decisions are unsatisfactory to the students, the students may place with the education records statements commenting on the information in the records, or statements setting forth any reasons for disagreeing with the decisions of the hearing panels. The statements will be placed in the education records, maintained as part of the students’ records, and released whenever the records in question are disclosed.

Students who believe that the adjudications of their challenges were unfair, or not in keeping with the provisions of the Act, may request in writing assistance from the President of the institution. Further, students who believe that their rights have been abridged, may file complaints with The Family Educational Rights and Privacy Act Office (FERPA), Department of Education, Washington, D.C. 20201, concerning the alleged failures of The UT Health Science Center San Antonio to comply with the Act.

Students may have copies of their education records and this policy. These copies will be made at the student’s expense at
rates authorized in the Texas Public Information Act except that official transcripts will be $10.00. Official copies of academic records or transcripts will not be released for students who have a delinquent financial obligation or financial “hold” at the university.

Revisions and clarifications will be published as experience with the law and institution’s policy warrants.

Deceased Students: Records of deceased students, current or former, will be reviewed within 90 days after death and purged of all documents except the barest essentials such as transcript.

Directory of Records

Academic Records
Office of the Registrar, Room 319L MED
Blanca Guerra, registrar

Financial Aid Records
Office of Student Financial Aid, Room 318.L MED
Bob Lawson, director of Student Financial Aid & Veteran Services

Counseling Records
Student Counseling Services, Room 101F MED
Dr. Kozue Shibazaki, Director
(Institutional policy prohibits academic and administrative personnel from inspecting individual records.)

Student Health Records
Student Health Center, 1st floor, School of Nursing
Julie Novak, director

Disciplinary Records
Associate Dean for Student Affairs in each school

Additional Records
Associate Dean for Student Affairs in each school

Posting of Grades
Course grades of individual students may not be posted or made available in any public manner by name, initials, social security number, unique assigned student identification number, or other personal identifier except when the student has signed an authorization.

Before a student’s grade can be posted, he/she will be asked to sign a consent form and be assigned a random number as a personal identifier. Generally, each individual faculty member who posts grades will go through the procedure to obtain consent and assign a number. (Some course instructors do not post grades.) In some schools, consent forms are processed by the Dean’s Office.

It is a student’s right to decline to sign a consent form, in which case the student’s grades will not be posted.
AIDS/HIV/HBV/HCV Infection Policies

Click on an item in the list below to be taken to the location of its content.

- Policy on the Acquired Immune Deficiency Syndrome
- The University of Texas System Policy and Guidelines on Acquired Immune Deficiency Syndrome, Human Immunodeficiency Virus Infection, and Hepatitis B Virus
- Needlestick Policy

The UT Health Science Center San Antonio recognizes its responsibility to protect the rights and privileges of students, employees, patients, and the general public against contact with the spread of infectious diseases. In recognition of human immunodeficiency virus (HIV) as a serious public health threat, the Health Science Center has adopted a policy and procedural steps to protect both the rights and well-being of those students who may be infected with HIV as well as to prevent the spread of HIV infection.

No individual with HIV infection will be discriminated against in employment, admission to academic programs, health benefits, or access to facilities. Students with HIV infection may attend all classes without restriction as long as they are physically and mentally able to participate and perform assigned work and pose no health risks to others. Any modification of the clinical training, working conditions, or privileges of HIV-infected students, faculty, staff, or employees will be determined on a case-by-case basis, taking into account the nature of the clinical activity, the technical expertise of the infected person and the risks posed by HIV-infection, attendant functional disabilities, and the transmissibility of simultaneously carried infectious agents. The confidentiality of all information regarding the medical status of Health Science Center faculty, staff, and students will be maintained in accordance with applicable statutes. A complete copy of the Health Science Center Policy and Guidelines on AIDS, HIV Infection, and Hepatitis B Virus follows. This policy is applicable to all students of the Health Science Center as they pursue their academic (and clinical) endeavors. Several informational brochures on AIDS are available in Student Services.

The following faculty are available to officially interact with students identified as HIV positive:

- Dental School: Dr. Adriana Segura
- Graduate School: Dr. Larry Barnes
- Health Professions: Dr. Juanita Wallace
- School of Medicine: Dr. Florence Eddins-Folensbee
- School of Nursing: Hilda Mejia Abreu

Policy on the Acquired Immune Deficiency Syndrome

Statement of Purpose

The acquired immune deficiency syndrome (AIDS) has reached epidemic proportions since the first reported cases in 1981. AIDS and human immunodeficiency virus (HIV)-related disorders have presented the health care professions with numerous issues of an ethical and moral nature related to the care and treatment of patients infected with HIV.

No cure for AIDS exists, nor has a vaccine been developed to prevent HIV infection. Because of these circumstances, fear, prejudice, and misinformation about the disease have not only developed among the population at large, but also within the health professions. It is well recognized that AIDS patients and HIV-infected individuals are entitled to competent medical care that reflects compassion and respect for human dignity as well as concern for safeguarding individual confidences within the constraints of the law.

One of the objectives of this Health Science Center is to prepare men and women for a career in the practice of a health profession. These future health care providers should be prepared for a lifetime of service to the ill which demands adherence to the highest standards of professional conduct and behavior. Furthermore, no person shall be excluded from participation in, denied the benefits of, or be subject to discrimination under any program or activity sponsored or conducted by the UT Health Science Center at San Antonio on any basis prohibited by applicable law, including, but not limited to, race, color, national origin, religion, handicap, or sex. It is within this frame of reference that the following Health Science Center policies on AIDS were developed.

Admission of Health Professions Students with AIDS or HIV Infection; Hiring Employees with AIDS or HIV Infection (HOP 8.1.2)

The Health Science Center shall not inquire about the HIV status of any applicant for admission to or employment at the Health Science Center unless it has been determined that the condition of being infected is grounds for denial of admission. Admission or hiring of an asymptomatic HIV-infected applicant can only be denied on the basis of such infection if the institution concluded, on the basis of sound medical and scientific evidence, that the applicant’s infected status would prevent her or him from completing essential degree requirements or essential duties of employment and that no reasonable accommodation could be made that would enable the applicant to do so.

Screening for HIV-1 Infection (HOP 8.1.3)

The Health Science Center will not initiate mandatory HIV screening of students, faculty, staff, or employees unless justified by evidence of significant risk to patients.
The Health Science Center encourages students, faculty, staff, and employees who believe they are at risk of HIV infection to seek testing and counseling. The Health Science Center shall provide information about the availability of confidential and anonymous testing programs. In addition, the Health Science Center shall provide information and access to counseling for students, faculty, staff, employees, and others about the implications of positive or negative testing for career and future health.

Students, Faculty, Staff, and Employees of the Health Science Center with Positive Antibody to HIV-1 or Clinically Manifest AIDS or AIDS-related complex (HOP 8.1.4)

The Health Science Center encourages HIV-infected students, faculty, staff, and employees to discuss their situation with a designated official. The designated official for each administrative component of the Health Science Center shall be named by the Executive Committee of the Health Science Center in consultation with the dean of each school.

Any modification of the clinical training, working conditions, or privileges of HIV-infected students, faculty, staff, or employees will be determined on a case-by-case basis, taking into account the nature of the clinical activity, the technical expertise of the infected person, and the risks posed by HIV infection, attendant functional disabilities, and the transmissibility of simultaneously carried infectious agents. The Health Science Center may legitimately monitor the clinical activities of students, faculty, staff, or employees who are believed to pose an unwarranted risk to patients. The Health Science Center shall cooperate with the HIV-infected person, her or his personal physician, and other medical experts as appropriate in identifying and implementing special precautions and program modifications to safeguard the personal health and safety of such persons.

The Health Science Center adheres to the Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and Other Bloodborne Pathogens in Health Care Settings (MMWR 38:377-388, 1988) established by the Centers for Disease Control. HIV-infected students, faculty, staff, and employees shall be provided counseling about access to expert medical care and about prevention of further spread of infection. The Health Science Center does not pay for the provision of health care to HIV-infected individuals. Students, faculty, staff, and employees are strongly encouraged to obtain adequate hospital and outpatient insurance coverage during their entire association with the Health Science Center.

Confidentiality: It is expected that all students, faculty, staff, and employees will be bound to the principle of strict confidentiality in all patient and health care related activities.

As stated in Sections 8.1.3 and 8.1.4, the Health Science Center encourages students, faculty, staff, and employees who believe they are at risk of HIV infection to seek testing and counseling. The Health Science Center shall provide counseling about access to confidential and anonymous HIV-antibody testing, about the implications of positive or negative results for career and personal health, about the availability of expert medical care, and about the prevention of further spread of infection. Individuals seeking care within the health care facilities of the Health Science Center (i.e., the School of Medicine and Dental School, and not including its affiliated health care institutions University Hospital, the Audie L. Murphy Memorial Veterans Hospital (“V.A.”), and University Health Center-Downtown) shall be made aware that all HIV-related data become part of the individual’s medical record.

Interactions with Patients with Bloodborne Pathogens

Responsibilities: Entry into the health care professions is a privilege offered to those who are prepared for a lifetime of service to the ill. Students, faculty, and health care staff have a fundamental responsibility to provide care to all patients assigned to them, regardless of diagnosis. A failure to accept this responsibility violates a basic tenet of the medical profession—to place the patient’s interests and welfare first.

Individuals who feel that their activities within the Health Science Center pose a special risk to their health because of exposure to HIV-infected patients, working conditions presenting a risk of exposure to HIV organisms, or the presence of HIV infection in the individual herself or himself, should seek the assistance of their immediate supervisor.

Infection Policy and Education Committee: The Health Science Center has established a committee that exists as a resource to address issues related to bloodborne pathogen infection on a case-by-case basis in the Health Science Center. The Committee serves as an advisory body to the Executive Committee of the Health Science Center and may arbitrate concerns or provide recommendations for the resolution of these infection-related issues.

Education of Students, Faculty, and Employees of the Health Science Center about AIDS and its Prevention (HOP 8.1.6)

As stated in the Health Science Center’s Exposure Control Plan, the Health Science Center adheres to the Universal or Standard Precautions for the Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and Other Bloodborne Pathogens in Health Care Settings published by the Centers for Disease Control. Consistent with the early education of students, staff, and employees in these and other pertinent data relevant to potential infection, the following approach will be taken:

Each school will provide a program on prevention of exposure to infectious organisms in professional and personal situations early in the student’s educational experience and at the beginning of clinical rotations.

Each administrative division of the Health Science Center will provide an educational program for staff and employees to take place early in the employment and to focus upon prevention of exposure to infectious organisms in the workplace as warranted by the risk presented by the occupational risk.
The Infection Policy and Education Committee shall advise and review the development of appropriate educational programs. At the conclusion of any university educational programs/curriculum on AIDS, the participant should be able to:

a. Have a basic understanding of HIV, HBV, HCV as a viral disease and its natural history.
b. Recognize how the virus is transmitted and contacts that do not transmit the virus.
c. Recognize the symptoms of bloodborne pathogens and the degrees/stages of these illnesses.
d. Identify precautions one must take in one’s own area of practice or work regarding the bloodborne pathogens.
e. Familiarize oneself with institutional policies about bloodborne pathogens as described in the Health Science Center’s Exposure Control Plan.
f. Recognize one’s own role in alleviation of anxiety and misinformation.
g. Be aware of local policies regarding testing and referral information as described in Policy 8.1.1.
h. Identify legal and ethical issues that may potentially impact patient care.

The University of Texas System Policy and Guidelines on Bloodborne Pathogens Including Human Immunodeficiency Virus (HIV) Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV)

Overview

The purpose of this policy is to provide guidance in complying with statutes concerning bloodborne pathogens including human immunodeficiency virus (HIV), Hepatitis B virus (HBV), and Hepatitis C virus (HCV). In addition, the medical, educational, legal, administrative, and ethical issues related to specific situations involving persons with HIV or HBV infections in the following areas are addressed:

- Administrative policies;
- Residence life;
- Health education;
- Testing for HIV, HBV, HCV infection;
- Confidentiality of information related to persons with AIDS, HIV, HBV, or HCV infection; and
- Patient care.

This policy is applicable to students, faculty, and employees of the Health Science Center and shall be made available to students, faculty, and staff members of the university by its inclusion in the student, faculty, and personnel guides if practicable, or by any other method.

Definitions

Bloodborne Pathogen: Pathogenic microorganisms that are present in human blood, and can cause disease in humans. These pathogens include, but are not limited to agents such as, human immunodeficiency virus (HIV), Hepatitis B virus (HBV), Hepatitis C virus (HCV), syphilis, and Plasmodium malariae.

Expert Review Panel: A panel appointed by the Chief Administrative Officer of the Health Science Center to review instances of HIV or HBV infection, under which a Health Care Worker who is infected with a bloodborne pathogen and might include:

- Health Care Worker’s personal physician(s);
- An infectious disease specialist with expertise in the epidemiology of HIV and HBV transmission;
- A health professional with expertise in the procedures performed by the affected Health Care Worker;
- A member of the institution’s Infection Policy and Education Committee, preferably a hospital epidemiologist; and
- An occupational health specialist.

Exposure-Prone Procedure: A procedure involving the contact of a Health Care Worker’s finger with a needle tip in a body cavity or the simultaneous presence of the Health Care Worker’s fingers and a needle or other sharp instrument or object in a poorly visualized or highly confined area of the body. Such procedures pose a recognized risk of injury to the Health Care Worker that is likely to result in the Health Care Worker’s blood contacting the patient’s body cavity, subcutaneous tissues, or mucous membranes.

HBeAg: That portion of the Hepatitis B virus, whose presence in the blood of a person correlates with higher levels of circulating virus and therefore with greater infectivity of that person’s blood; the presence of HBeAg in blood can be detected by appropriate testing.

Health Care Worker: A person who provides direct patient health care services pursuant to authorization of a license, certificate, or registration, or in the course of a training or education program.

Infection Policy and Education Committee: A committee appointed to oversee the development and implementation of educational programs related to bloodborne pathogens, and to advise the administration on policies related to bloodborne pathogens. The Committee will include, as a minimum, representation from the faculty, the student body, and administrative areas such as, housing services, health services, counseling services, and food services.

Invasive Procedure: Surgical entry into tissues, cavities, or organs; repair of major traumatic injuries; cardiac
catheterization and angiographic procedures; a vaginal or cesarean delivery or other invasive obstetric procedure during which bleeding may occur; or the manipulation, cutting, or removal of any oral or perioral tissues, including tooth structure, during which bleeding occurs or the potential for bleeding exists.

**System Review Panel:** A panel responsible for reviewing the actions of the Expert Review Panel to assure uniform and consistent compliance with these guidelines and applicable statutes and regulations. The panel shall be composed of an expert in bloodborne infections (including HIV and HBV) from each health component institution appointed by the Chief Administrative Officer and representatives from the UT System Office of Health Affairs, and Office of General Counsel.

**Policies**

**Admissions to Schools:** The existence of a bloodborne pathogen infection should not be considered in admissions decisions unless current scientific information indicates required academic activities will likely expose others to risk of transmission.

**Residential Housing:** Residential housing staff will not exclude bloodborne pathogen-infected students from university housing and will not inform other students that a person with HIV or bloodborne viral Hepatitis infection lives in university housing.

**Employment:** The existence of bloodborne pathogen infection will not be used to determine suitability for employment by the Health Science Center or UT System Administration unless the position requires performance of exposure-prone procedures as identified by the Expert Review Panel.

**Class Attendance:** A student with a bloodborne pathogen infection should be allowed to attend all classes without restrictions, as long as the student is physically and mentally able to participate, perform assigned work, and poses no health risk to others.

**Health Care Workers and Students Assigned to Work Within Clinical Settings (Health Care Workers):** Current information from investigations of bloodborne pathogen transmission from Health Care Workers to patients indicates that when Health Care Workers adhere to recommended infection-control procedures the risk of transmitting HBV from an infected Health Care Worker to a patient is small, and the risk of transmitting HIV is likely to be even smaller; however, the likelihood of exposure of the patient to a Health Care Worker’s blood is greater for certain invasive procedures designated as exposure-prone.

Performance of exposure-prone procedures presents a recognized risk of percutaneous injury to the Health Care Worker, and—if such an injury occurs—the Health Care Worker’s blood is likely to contact the patient’s body cavity, subcutaneous tissues, and/or mucous membranes. To minimize the risk of HIV or HBV transmission from an infected Health Care Worker to a patient, the following measures will be followed:

- All Health Care Workers must adhere to universal infection control (standard blood and body fluid) precautions, including the appropriate use of hand washing, protective barriers, and care in the use and disposal of needles and other sharp instruments. Health Care Workers who have exudative (oozing) lesions or weeping dermatitis (oozing inflammation of the skin) must refrain from all direct patient care and from handling patient-care equipment and devices used in performing invasive procedures until the condition resolves. Health Care Workers will also comply with current guidelines for disinfection and sterilization of reusable devices used in the invasive procedures. The Health Science Center shall establish procedures for monitoring compliance with universal precautions.

- Currently available data provide no basis for recommendations to restrict the practice of Health Care Workers infected with HIV or HBV who perform invasive procedures not identified as exposure-prone, provided the infected Health Care Workers practice recommended surgical or dental techniques, and comply with universal infection control precautions and current recommendations for sterilization/disinfection.

- Exposure-prone procedures will be identified at the Health Science Center by the Expert Review Panel.

- Health Care Workers who perform exposure-prone procedures should know their bloodborne pathogen status. Those infected with HBV also should know their HBeAg status.

- All Health Care Workers providing direct patient care should have a complete series of Hepatitis B vaccine prior to the start of direct patient care or complete the series as rapidly as is medically feasible, or should be able to show serologic confirmation of immunity to Hepatitis B virus. The Hepatitis B vaccination is only contraindicated for a small population of Health Care Workers.

- A Health Care Worker who is infected with a bloodborne pathogen may not perform, or engage in activities that might require him or her to perform exposure-prone procedures unless the Expert Review Panel has counseled the Health Care Worker and has prescribed the circumstances under which such procedures may be performed. Continued performance of such procedures must include notifying a prospective patient or person legally authorized to consent for an incompetent patient that the Health Care Worker is infected with a bloodborne pathogen and obtaining consent to perform a procedure before the patient undergoes an exposure-prone procedure. Such notification is not required in a medical emergency when there is insufficient time to locate another Health Care Worker to perform the exposure-prone procedure and to obtain consent without endangering the patient’s health.

- A Health Care Worker infected with a bloodborne pathogen who performs invasive, but not exposure-prone procedures as identified by the Expert Review Panel, shall not have his or her practice restricted solely on the basis
of bloodborne pathogen infection provided he or she adheres to the universal precautions for infection control.

- The actions and recommendations of the Expert Review Panel shall be reported to the Chief Administrative Officer and to the appropriate Executive Vice Chancellor and shall be presented to the System Review Panel. Panels may seek assistance from UT System Administration or a UT health component.

- To permit the continued use of the talents, knowledge, and skills of a Health Care Worker whose practice is modified due to infection with a bloodborne pathogen, the worker should: 1) be offered opportunities to continue appropriate patient care activities, if practicable, 2) receive career counseling and job retraining; or 3) to the extent reasonable and practicable, be counseled to enter an alternative curriculum, if the Health Care Worker is a student.

- A Health Care Worker whose practice is modified because of HBV infection may request periodic redeterminations by the Expert Review Panel based upon change in the worker’s HBeAg status due to resolution of infection or as a result of treatment.

- All Health Care Workers should be advised that failure to comply with the above will subject them to disciplinary procedures by their licensing entities, as well as by the Health Science Center.

Access to Facilities: A person with HIV or HBV infection should not be denied access to any UT facility because of HIV or HBV infection.

Testing for HIV and HBV Infection

Mandatory Testing: No programs for mandatory HIV or HBV testing of employees, students, or patients will be undertaken without their consent unless authorized or required by law, court order, or as specified below.

- A patient may be required to undergo HIV testing if the patient is scheduled for a medical procedure that the Texas Board of Health has determined may expose health care personnel to AIDS or HIV infection if there is sufficient time to receive the test results before the procedure is conducted.

- A person may be required to undergo HIV, HBV, and HCV testing to screen blood, blood products, body fluids, organs, or tissues to determine suitability for donation.

Voluntary Testing for HIV and Counseling: The Health Science Center and student health centers should offer or refer students, faculty, and staff members for confidential or anonymous HIV counseling and testing services. All testing conducted by the Health Science Center will include counseling before and after the test. Unless required by law, test results should be revealed to the person tested only when the opportunity is provided for immediate, individual, face-to-face counseling about:

- the possible need for additional testing;
- measures to prevent the transmission of HIV;
- the availability of appropriate health care services, including mental health care, and appropriate social and support services in the geographic area of the person’s residence;
- the benefits of partner notification; and
- the availability of partner notification programs. If a person with a positive HIV test result requests that his/her partner(s) be made aware of the possibility of exposure through a partner notification program, the post-test counselor will have the HIV-infected person sign a statement requesting assistance of a partner notification program. This statement will be made a permanent part of the person’s medical record. A representative of the Health Science Center or student health center will then request the local health department to contact the partner(s) identified by the HIV-infected person.

Partner Notification: A health care professional who knows a patient is HIV positive and who has actual knowledge of possible transmission of the virus to a third party will notify a partner notification program established by the Texas Department of State Health Services.

Informed Consent for HIV Testing: Unless otherwise authorized or required by law, no HIV test should be performed without informed consent of the person to be tested.

- Consent will be written on a separate form, or the medical record will document that the test has been explained and consent has been obtained. The consent form will state that post-test counseling will be offered or the medical record will note that the patient has been informed that post-test counseling will be offered.

Reporting of Test Results: Bloodborne pathogen test results will be reported in compliance with all applicable statutory requirements, including the Communicable Disease Prevention and Control Act, Texas Health and Safety Code §81.001, and Texas Department of State Health Services, Bloodborne Pathogen Control, Exposure Control Plan, 25 TAC §96.202.

Conditions of HIV Testing of Employees at Institution’s Expense: Employees will be informed that they may request HIV testing and counseling at the institution’s expense, if: 1) the employee documents possible exposure to HIV while performing duties of employment; and 2) the employee was exposed to HIV in a manner that is capable of transmitting the infection as determined by guidelines developed in accordance with statements of the Services and Centers for Disease Control (CDC).

Qualifying for Workers’ Compensation Benefits: State law requires that an employee who bases a workers’ compensation claim on a work-related exposure to HIV must provide a written statement of the date and circumstances of the exposure and document that within ten (10) days after the exposure, the employee had a test result that indicated absence of HIV infection. An employee who may have been exposed to HIV
while performing duties of employment may not be required to
be tested, but refusal to be tested may jeopardize Workers’
Compensation benefits.

Testing Following Potential Exposure to HIV or HBV: The
Health Science Center has developed guidelines and
protocols for employees and students who have been
exposed to material that has a potential for transmitting a
bloodborne pathogen as a result of employment or
educational assignments. Testing of employees or students
exposed to such material should be done within ten (10) days
after exposure and should be repeated after one (1) month.
Testing for HIV also should be done after three (3) and six (6)
months. These guidelines should follow TDH, U.S. Public
Health Service, and CDC guidelines.

• In cases of exposure of an employee or student to another
individual’s (“individual” in this paragraph) blood or body
fluid, the Health Science Center, at the institution’s
expense, may test that individual for a bloodborne
pathogen infection with or without the individual’s consent,
provided that the test is performed under approved
institutional guidelines and procedures in the institutional
Handbook of Operating Procedures that provide criteria for
testing and that respect the rights of the person being
tested. This includes post-test counseling as specified
above. If an HIV test is done without the individual’s
consent, the guidelines must ensure that any identifying
information concerning the individual’s test will be
destroyed as soon as the testing is complete and the
person who may have been exposed is notified of the
result. Test results will be reported in compliance with all
applicable statutory requirements, as specified above.

• A UT System law enforcement officer may request TDH or
a health authority duly authorized pursuant to the Local
Public Health Reorganization Act, Texas Health and
Safety Code Ann., Chapter 121 (Vernon 1992), to order
testing of another person who may have exposed the law
enforcement officer to a reportable disease, including HIV
infection. The request for such testing may be made only if
the law enforcement officer experienced the exposure in
the course of employment, if the law enforcement officer
believes the exposure places the law enforcement officer
at risk of the reportable disease, and the law enforcement
officer presents to TDH or the health authority a sworn
affidavit that delineates the reasons for the request.

Confidentiality of Records: Except where release is required
or authorized by law, information concerning the HIV status of
students, employees, or patients and any portion of a medical
record will be kept confidential and will not be released without
written consent. HIV status in personnel files and Workers’
Compensation files is to remain confidential and have the
confidentiality status of medical records.

Education and Safety Precautions for Health Care
Workers: The Health Science Center has developed
guidelines for Health Care Workers and students in the health
professions concerning prevention of transmission of HIV and
HBV and concerning Health Care Workers who have HIV and
HBV infection. All Health Care Workers shall be provided
instruction on universal infection control (standard blood and
body fluid) precautions. Each Health Care Worker who is
involved in direct patient care should complete an educational
course about HIV and HBV infection based on the model
education program and workplace guidelines developed by the
TDH and the guidelines of this policy.

Education

• New Employee and New Faculty Orientation: The
Health Science Center should provide each employee with
information about methods of transmission and prevention
of bloodborne pathogen infection in the occupational
environment. The information should be provided to new
employees during orientation

• Information on Prevention Provided to Students: 1) The
Health Science Center should routinely offer students
programs based on the model HIV education and
prevention program developed by the TDH and tailored to
the students’ cultural, educational, language, and
developmental needs; 2) The student health center should
provide information on prevention of HIV infection
including: a) the value of abstinence and long-term mutual
monogamy, b) information on the efficacy and use of
condoms, and c) state laws relating to the transmission of
HIV and to conduct that may result in such transmission;
and 3) The employee educational pamphlet will be
available to students on request.

• Exposure Control Plan: The Health Science Center has
adopted policies for the safe receipt, use, storage, and
disposal of potentially infectious materials. The Health
Science Center Exposure Control Plan contains detailed
safety information related to bloodborne pathogens,
including educational programs.

• Education of Students Entering Health Professions:
Those areas offering medical, dental, nursing, health
professions, counseling, and social work degree programs
should include within the program curricula information
about: 1) methods of transmission and methods of
prevention of HIV and HBV infection, including universal
infection control precautions; 2) federal and state laws,
rules, and regulations concerning HIV infection and AIDS;
and 3) the physical, emotional, and psychological stress
associated with the care of patients with terminal illnesses.

○ Unemployment Compensation Benefits: The
Health Science Center will inform employees via
employee and faculty guides or other appropriate
methods that state law provides that an individual will
be disqualified for unemployment compensation
benefits:

○ if the Texas Workforce Commission (TWC) finds that
the employee left work voluntarily rather than provide
services included within the course and scope of
employment to an individual infected with a
communicable disease, including HIV. This
disqualification applies if the employer provided
facilities, equipment, training, and supplies necessary to take reasonable precautions against infection; or
  o if the TWC finds that the employee has been discharged from employment based on a refusal to provide services included within the course and scope of employment to an individual infected with a communicable disease, including HIV. This disqualification applies if the employer provided facilities, equipment, training, and supplies necessary to take reasonable precautions against infection.

Health Benefits: No student or employee will be denied benefits or provided reduced benefits under a health plan offered through the UT System on the basis of a positive HIV test result.

Needlestick Policy

The following procedures apply to students who have had significant contact from a contaminated needle or who have had contamination to an open wound or mucous membrane. These procedures apply whether or not the contamination was received on-site or off-site.

1. Significant Contact from:
   a. contaminated needle with puncture of skin surface
   b. any wound secondary to a contaminated object
   c. contamination of any open wound or mucous membrane by saliva, blood or any body fluid.

2. Insignificant Contact: exposure of unbroken skin by blood or saliva or other body fluids.

3. Procedure:
   a. Cleanse wound thoroughly with soap and water, or appropriate substance for tissue cleaning.
   b. Report incident to appropriate person for documentation. Complete the appropriate institutional incident report available online or at the Student Health Center. Send a copy of the incident report to the Student Health Center.
   c. Obtain patient’s (source of exposure) permission for blood sample to be drawn for Hepatitis B Surface Antigen (HBsAg), Hepatitis C Antibody (Anti-HCV), and Antibody to Human Immunodeficiency virus (Anti-HIV). Sample should be submitted to lab using appropriate paperwork and usual process for the facility (e.g., at University Hospital, Anti-HIV lab slip will need to be signed by a physician and the patient). Be certain you understand how this information can be retrieved.
   d. The student should have her/his blood drawn as soon as possible for HBsAg, Antibody to Hepatitis B Surface Antigen (Anti-HBs), Hepatitis C Antibody, and Anti-HIV. This order form can be obtained at the Student Health Center. If the student has had a documented seroconversion following a Hepatitis B vaccination series, the HBsAg and Anti-HBs are not needed. The student should immediately report to either the Student Health Center or the University Hospital Emergency Room (depending on the time/day). If the student is more than 30-45 minutes from the Student Health Center or University Hospital Emergency Room, we recommend that the student seeks care from the nearest emergency room or health care facility. Report to the Student Health Center on the next (non-holiday) weekday.
   
   e. The primary purpose of the initial visit is to document the incident, obtain lab order form, and offer prophylactic therapy for HIV exposure
   f. If the exposure occurs outside the San Antonio area, it is recommended that the student seek medical care from the nearest emergency room or health care facility.
   g. If the source is Anti-HIV negative, further follow up is at the discretion of the student and the student’s physician. If the patient to whom the student was exposed is shown to be Anti-HIV positive, repeat student testing at 6 weeks, 3, 6, and 12 months from initial exposure is recommended. Any charges will be the responsibility of the student.
   h. Any student who seroconverts her/his Anti-HIV or HBsAg will be referred by the Director of the Student Health Service for appropriate follow-up care. Texas law mandates that results of the Anti-HIV test remain confidential; only the student, her/his physician and the Director of the Student Health Service will know the test results. The student’s physician or the Student Health Service Director may inform others of the student’s Anti-HIV test result only after counseling and obtaining written permission from the student.
   i. If the patient to whom the student was exposed is shown to be HBsAg negative, no further Hepatitis B testing or therapy is needed. If the patient to whom the student was exposed is shown to be HBsAg positive, but the student is also HBsAg positive, or the student is Anti-HBs positive (either from prior disease or as a result of a Hepatitis B vaccination series), no further Hepatitis B testing or therapy is needed. If the patient to whom the student was exposed is shown to be HBsAg positive and Anti-HBs negative, the student should receive one dose of Hepatitis B Immune Globulin (.06 ml/kg intramuscularly) as soon as possible within 72 hours after exposure, and begin a Hepatitis B vaccination series within seven days. If the student has already received Hepatitis B vaccination but has a negative Anti-HBs test result, the student should receive HBIG and one dose of Hepatitis B vaccine.
   j. In accidental exposure to blood from a patient with Hepatitis C, the student should have a HCV-PCR in 2-3 weeks post-exposure. The student should also follow-up for Hepatitis C serology at 6 weeks, 3 months, 6 months, and 1 year.
k. Prophylaxis has been utilized by needlestick recipients in an attempt to decrease their risk of development of HIV infection. Before the student utilizes this form of therapy, several points should be considered:

1. This risk of transmission of HIV per episode of percutaneous exposure to HIV-infected blood is, on the average, approximately 0.4%.

2. Anti-HIV seroconversion in a needlestick recipient has been documented despite use of prophylaxis.

3. Drugs used for HIV prophylaxis have multiple possible side effects. Please contact the Student Health Center prior to discontinuing any prophylaxis medications to ensure it is indeed the medication responsible for the symptoms.

l. A student can voluntarily elect to seek independent evaluation for any incidence related to a needlestick outside the confines of the Student Health Center. These costs will be the responsibility of the student.

Guidelines for Needlestick and Body-Fluid Exposures for Health Science Center Students*

It is recommended that you receive treatment within two hours of a needlestick or body-fluid exposure. You are encouraged to seek counseling at the Student Health Center so that your degree of exposure can be assessed and to assure appropriate data is collected on the source patient. With this necessary counseling, you will be in a better position to manage both your exposure and the related costs.

*Students must be registered in courses taken for credit in order for this policy to apply.

1. If you sustain an injury with a needle or other sharp object that has been exposed to a patient’s body fluids, or if you splash a patient’s body fluid onto broken skin or mucous membranes, you may be at risk to contract infection with human immunodeficiency virus (HIV), the causative agent of AIDS.

2. If this occurs, treatment is available that can substantially reduce the risk of acquiring HIV infection. The U.S. Centers for Disease Control and Prevention (CDC) recommends that for maximum protection, you should receive treatment within two hours of exposure.

3. The following are guidelines for what to do if you sustain a needlestick injury or body-fluid exposure.

For Exposures During Normal Weekday Daytime Working Hours in the San Antonio Area

If the exposure occurs during working hours (8:30 a.m.–4:30 p.m.), care may be obtained from the Student Health Center. However:

- To avoid delays in treatment, CALL before going to the Student Health Center to be sure it is open and that staff is present. Phone number is (210) 567-WELL (9355).

- If you are more than 30–45 minutes away from the Student Health Center, we recommend that you seek care from the nearest emergency room or health care facility.

- If the Student Health Center is closed, go to the University Hospital Emergency Room. Contact the ER triage nurse at 358-2488 to expedite your care. Report to the Student Health Center on the next (non-holiday) weekday.

- If you are more than 30–45 minutes from the University Hospital Emergency Room, we recommend that you seek care from the nearest emergency room or health care facility. Report to the Student Health Center on the next (non-holiday) weekday.

For Exposures After Normal Working Hours in the San Antonio Area

If the exposure occurs after working hours, care may be obtained from the University Hospital Emergency Room. Contact the ER triage nurse at 358-2488 to expedite your care. However:

- If you are more than 30–45 minutes away from the University Hospital Emergency Room, we recommend that you seek care from the nearest emergency room or health care facility. Report to the Student Health Center on the next (non-holiday) weekday following the exposure.

- If health care providers at another facility have questions about appropriate care, they can call the national HIV Post-Exposure Prophylaxis Hot-Line for Clinicians at 1-888-HIV-4911, which is open 24 hours per day.

For Exposures Outside the San Antonio Area

If the exposure occurs outside the San Antonio area, it is recommended that the student seek medical care from the nearest emergency room or health care facility. In Harlingen, during business hours, call 365-8752 for instructions. After hours, call 389-5004, VBMC Emergency Triage. For a medical emergency call 911.

- If health care providers at the facility have questions about appropriate care, they can call the national HIV Post-Exposure Prophylaxis Hotline for Clinicians at 1-888-HIV-4911, which is open 24 hours per day.

- Contact the Student Health Center by phone at (210) 567-WELL (9355) on the next (nonholiday)
4. Incident Reports: Regardless of location, complete an incident report in the facility in which the incident occurred. The report should include information identifying the person whose body fluid was the source of exposure and a contact person at the institution for follow-up. Bring a copy of the incident report to the Student Health Center.

5. Cost: If the above protocol is followed, cost of medical services received for needlestick or body-fluid exposure will be reimbursed by Health Science Center, up to $500 per case. The reimbursement shall be processed by the Student Health Center after the student submits a medical insurance claim receipt for the same case with a completed incident report.

6. In order to be eligible to receive the Needlestick Policy benefit, each Health Science Center student must comply with the following requirements:
   a. Each student must consult the Student Health Center at (210) 567-WELL (9355) immediately.
   b. Each student must seek reimbursement from the student's private insurance company first. The student must initiate the request for reimbursement from Health Science Center within 30 days from the date the student’s insurance claim is approved/denied.
   c. Each student must provide the Student Health Center with a written report of the incident prior to making any request for reimbursement which would include time, date, and location of incident. The incident must relate to your clinical duties as a registered student at the Health Science Center.

7. These guidelines are subject to revision and modification by the Student Health Advisory Committee and the chief student affairs officer of the Health Science Center and supersede previous needlestick policies.

Recommendations of Student Health Advisory Committee Regarding Post Exposure Prophylaxis for Needlestick or Percutaneous Fluid Exposure

1. For required courses, students should be sent only to locations where the individual schools (medicine, dental, nursing, health professions, and graduate school) have confirmed that resources are available to provide care in the event a student sustains an infectious exposure. Post-exposure prophylaxis (PEP) for HIV, as recommended by the current CDC guidelines, should consist of medical counseling, lab work, and antiviral medications within the recommended time frame. These sites would need to be periodically reviewed to confirm that the appropriate policies and procedures are in effect, possibly as part of the annual affiliation agreements. Departments will confirm that appropriate policies and procedures are in effect before students are sent to remote locations. This information will also be included in affiliation agreements.

For elective rotations in underserved areas, students will be notified that PEP may not be available as recommended by CDC guidelines. When possible, students will be given information as to the nearest facility where this level of care can be obtained. Administration may consider asking legal counsel to develop an informed consent/ release form to be signed by students acknowledging their understanding that PEP may not be immediately available to them on a chosen elective.

2. All Health Science Center students will be provided adequate education regarding universal precautions for infectious exposure and PEP procedures prior to any clinical rotations. Course directors/faculty must demonstrate that teaching and clinical application of the correct use of universal precautions occurs on clinical rotations.

3. Provide educational support to remote clinical sites, primarily in South Texas, to help bring their policies and procedures up to date regarding treatment of infectious exposures. The Health Science Center will cooperate in providing information to assist in making the needed drug therapy available at these remote sites.

Prior to the placement of a student in a preceptorship, the School of enrollment will by letter of agreement with the preceptor develop information regarding post-exposure prophylaxis, including the nearest facility where this level of care can be obtained. Students will be informed by letter of this same information. The School will inform the administrators of the preceptorship programs of the need for this information prior to student placement with a preceptor and will work with the administrators of the preceptorship program to identify the location of the nearest facility to each matched preceptor where the PEP can be obtained.

4. Continuation of current financial compensation for our students who follow our needlestick protocol and are treated after an injury in a remote location.

Students will follow procedures as outlined in the “Needlestick Policy,” which is given to each student at registration and available on the Web. Reimbursement will be for covered expenses.
Alcohol, Drug, and Chemical Abuse

Click on an item in the list below to be taken to the location of its content.

- Health Science Center Policy on Alcohol, Drug, and Chemical Abuse
- Alcohol on Campus
- Controlled Substances on Campus

In compliance with the federal Safe and Drug-Free Schools and Communities Act Amendment of 1989 and the Drug-Free Workplace Act of 1988, the Health Science Center’s policies with regard to the abuse and/or distribution of alcohol, drugs, and chemicals by faculty, staff, and students are published in the Handbook of Operating Procedures (HOP) and in this Catalog.

Health Science Center Policy on Alcohol, Drug, and Chemical Abuse

Policy

1. The unlawful manufacture, sale, distribution, dispensing, possession, or use of a controlled substance (alcoholic beverages, drugs, or chemicals) is prohibited on any property under the control of the Health Science Center.

2. Alcoholic beverages on Health Science Center property are permissible only by prior written Presidential approval for specific events.

3. These standards of conduct apply to all persons connected with the institution either as employees or students.

   a. Employees: The unauthorized purchase, manufacture, distribution, possession, sale, storage or use of alcohol, illegal drugs or controlled substances while on duty, while in or on premises or property owned or controlled by the Health Science Center premises is prohibited by University policy and will result in a penalty of disciplinary probation, demotion, suspension without pay, or termination depending upon the circumstances. Any employee who is found guilty (including a plea of no contest) or has a sentence, fine, or other penalty imposed by a court of competent jurisdiction under a criminal statute for an offense involving a controlled substance that occurred in or on premises controlled by the University shall report such action to the Vice President of Human Resources within five (5) days.

   b. Students: The Rules and Regulations of the Board of Regents of The University of Texas System provides for disciplinary action against any student who engages in conduct that is prohibited by state, federal, or local law. This includes those laws prohibiting the use, possession, or distribution of drugs and alcohol. A student who is accused of such prohibited conduct is subject to the procedures and regulations governing Student Conduct and Discipline in this Catalog.

4. Violations of this Policy.
   a. Employees: An employee who unlawfully manufactures, sells, distributes, possesses or uses a controlled substance in or on premises or property owned or controlled by the University, regardless of whether such activity results in the imposition of a penalty under a criminal statute, will be subject to appropriate disciplinary action, including termination, or will be required to participate satisfactorily in an approved drug assistance or rehabilitation program or both.

   b. Students: The procedures and regulations governing Student Conduct and Discipline section in this Catalog define penalties that may be assessed to a student when an individual has violated the Standards of Conduct.

Chemicals

Alcohol: Health hazards associated with the excessive use of alcohol or with alcohol dependency include dramatic behavioral changes, retardation of motor skills, and impairment of reasoning and rational thinking. These factors result in a higher incidence of injury and accidental death for such persons than for nonusers of alcohol. Nutrition also suffers and vitamin and mineral deficiencies are frequent. Prolonged alcohol abuse causes bleeding from the intestinal tract, damage to nerves and the brain, psychotic behavior, loss of memory and coordination, damage to the liver often resulting in cirrhosis, impotence, severe inflammation of the pancreas, and damage to the bone marrow, heart, testes, ovaries, and muscles. Cancer is the second leading cause of death in alcoholics and is ten (10) times more frequent than in non-alcoholics. Sudden withdrawal of alcohol from persons dependent on it may cause serious physical withdrawal symptoms.

Drugs and Chemicals: The use of illicit drugs and chemicals may cause the same general type of physiological and mental changes seen with alcohol, though frequently those changes are more severe and more sudden. Death or coma resulting from overdose of drugs and chemicals is more frequent than from alcohol, but unlike alcohol, abstinence can lead to reversal of most physical problems associated with drug use. There are also health risks resulting from intravenous drug use. In addition to the adverse effects associated with the use of a specific drug, intravenous drug
users who use unsterilized needles or who share needles with other drug users can develop AIDS, hepatitis, tetanus (lock jaw), and infections in the heart. Permanent brain damage may also result. Chemicals, which include solvent inhalants and aromatic hydrocarbons, such as glue, lacquers, and plastic cement, also present health risks. Fumes from these substances cause symptoms similar to alcohol. Hallucinations and permanent brain damage may occur.

**Assistance for Students and Employees**

**Students:** The Counseling Service in the Office of Student Services provides evaluation, referral, consultation, and education. All service and records are confidential. Counseling Service records are professional health records that are confidential. Counseling Service records are not a part of the student’s university record. Students may request to review the record. Counseling Service records or summaries of service are provided only with the written authorization of the student. Seeking consultation or receiving treatment for alcohol or drug abuse is not an impediment to making progress in a student’s academic program.

**Employees:** Employees and students of the Health Science Center in need of assistance with an alcohol or drug abuse problem may take advantage of professional referral programs. The Family Service Association of America (Association) provides information on private community organizations involved in rehabilitation programs for alcohol and drug impairment. The number of the Association is 210-226-3391.

**Alcohol on Campus**

The use of intoxicating beverages is prohibited on property and in buildings and facilities owned or controlled by the Health Science Center.

With the prior consent of the President, the foregoing provisions may be waived with respect to a specific affair that is sponsored by the university. However, with respect to the possession and consumption of alcoholic beverages, state law will be strictly enforced at all times on property controlled by The University of Texas System and its institutions. (See Alcohol Policy for Student Organizations.)

**Controlled Substances on Campus**

The Health Science Center will impose at least a minimum disciplinary penalty of suspension for a specified period of time or suspension of rights and privileges, or both, for conduct related to the use, possession, or distribution of drugs that are prohibited by state federal, or local law. Other penalties that may be imposed for conduct related to the unlawful use, possession, or distribution of drugs or alcohol include disciplinary probation, payment for damages to or misappropriation of property, suspension of rights and privileges, suspension for a specified period of time, expulsion, or such other penalty as may be deemed appropriate under the circumstances.

Students can avail themselves of professional referral programs. The Counseling Service in the Office of Student Services, along with the various deans’ offices, provides support measures for impaired health professions students. Other private organizations involved in rehabilitation programs for impaired health professional students can be identified upon request.

The Student Government Association (SGA) supports the university policy on alcohol, drug, and chemical abuse, as outlined in this Catalog, through the use of the following procedures at SGA functions: (1) providing designated drivers, (2) utilizing designated servers, (3) providing nonalcoholic beverages, (4) providing food, and (5) requiring picture identification to insure compliance with the Texas Alcoholic Beverage Commission policies. (See the Student Conduct and Discipline section of this Catalog.)
Immunization Requirements

Prior to Registration, all students are required to have completed the immunizations outlined below. Each student must submit written and signed documentation by a licensed healthcare provider (RN, NP, PA, or MD) verifying their vaccination status.

Accordingly, a student’s written acceptance (Letter of Intent) of an offer of admissions from specific school is insufficient and incomplete unless the student also attaches his/her healthcare signed documentation of immunization compliance.

**Hepatitis B Alone or Hepatitis A&B Combo Vaccine**

All students at the Health Science Center must be immunized against Hepatitis B before contact with patients or any and all other potentially contaminated materials, products, or sources. The Health Science Center will accept either the standard Hepatitis B (3 injections) or the expedited Hepatitis A&B combo vaccine series (3 injections). The Hepatitis B series can take between 4 to 6 months to complete.

Laboratory report of post-vaccine positive immune serum antibody titer for Hepatitis B will also be accepted.

**Bacterial Meningitis**

Pursuant to SB 1107 recently enacted by the State of Texas, all new students enrolling in the UT Health Science Center must provide proof that the meningitis vaccination was administered at least 10 days prior to the first day of the term. Vaccinations must have been received or renewed within the last 5 years. The legislation provides two exceptions: a) students who are over 30 years of age and b) students taking 100% of classes online.

Students who qualify for the above legislative exceptions and wish to exercise same must complete a Meningitis Exemption Form. Failure to do so consistent with the noted timeframe will preclude registration.

**Tuberculosis**

All students must submit one of the following. PLEASE NOTE: For International students, such healthcare services must be performed and documented by a healthcare professional licensed and practicing in the United States.

1. Proof of a TB skin test (PPD) completed within one year of enrollment, or

2. For those persons with a history of a positive skin test:
   A. Proof of a TB evaluation conducted by a licensed healthcare provider within one year prior to enrollment is required AND
   B. Proof of a negative chest x-ray result dated after the initial positive PPD

**Tetanus-Diphtheria (Td) or Diphtheria-Tetanus-Acellular Pertussis (TdaP)**

Proof of booster shot with either the Td or TdaP within the past 10 years is required. Health care workers who have direct patient contact should get one dose of TdaP. A 2-year interval since the last Td is suggested but not required.

**Polio**

All students under the age of 18 are required to show proof of polio vaccination.

**Measles-Mumps-Rubella**

All students must submit one of the following:

1. Proof of vaccination with:
   A. Measles - 2 vaccines required AND
   B. Mumps & Rubella - 1 vaccine each, OR

2. MMR combo vaccine – 2 doses

3. Laboratory report of positive immune serum antibody titer for Measles, Mumps, and Rubella.

**Varicella (Chicken Pox)**

All students must submit one of the following:

1. Documentation of two immunizations administered on or after the first birthday and at least 30 days apart, or

2. Documentation from a health care provider on the date of the previous disease (chicken pox or zoster), or

3. Laboratory report of positive immune serum antibody titer (IgG).

**Meningococcal conjugate vaccine quadrivalent**

All students must provide proof of vaccination against meningitis. Students must have received the vaccine within five years prior to enrollment. Certain exceptions may apply. Please see:

The Board of Regents may require immunizations against additional diseases for some students. Further immunizations may be required by the Board of Regents in times of emergency or epidemic. The cost of all immunizations will be the responsibility of the student and/or dependent.
**TB Screening, Prevention, and Management**

**The Health Science Center’s Role**

There has been an increase in the number of tuberculosis (TB) cases in Texas and the United States since 1989. Although the increase in Texas appears to be more in the areas of The Valley and Houston, the Bexar County area is taking a proactive role in the screening and prevention of tuberculosis. The UT Health Science Center San Antonio has initiated mandatory yearly tuberculosis screening for all students involved in any form of patient care. This screening is in compliance with the recommendations by the Centers for Disease Control and Prevention (CDC) and for the screening and prevention of tuberculosis infection in high-risk populations.

**Screening for Tuberculosis Infection**

Tuberculosis transmission is a recognized risk in health care settings. The greatest risk for health care workers is exposure to patients with unsuspected tuberculosis. Screening is by Mantoux technique (intradermal injection of purified protein derivative [PPD]). This test is offered on a yearly basis by the Student Health Center and on an as-needed basis for any student who might be exposed to an infectious case of tuberculosis, at the student’s expense. All students are required on admission to the university to have a TB skin test completed within one year prior to admission. If the student has a history of previous positive PPD, proof of a medical evaluation for TB completed within one year prior to admission is required.

**Policy on Management of Students with Positive TB Skin Tests**

Students may have their skin tests evaluated in the Student Health Center at 48 and/or 72 hours after injection of the PPD, and they can receive documentation of their test results. Documentation of a negative result can be obtained only by having the skin test result evaluated in the Student Health Center within 72 hours after the test. All students with a positive skin test will be evaluated and treated in accordance with the Centers for Disease control and prevention guidelines.

**Health Science Center Tuberculosis Screening Program for Students**

The Texas Department of State Health Services recommends yearly tuberculosis screening for all health care personnel. Some of the students at the Health Science Center are at high risk for tuberculosis exposure. With the increasing rate in the country of TB cases, the Student Health Center in conjunction with the Student Health Advisory Committee and the Executive Board of the university, has decided to take an active role in protecting our students. The policy is as follows:

1. All students, including those with a history of Bacillus of Calmette and Guerin (BCG) vaccination, will have a PPD [purified protein derivative] test done within one year prior to matriculation as a student at The UT Health Science Center San Antonio unless a previously positive reaction is known.

2. All students will be screened on a yearly basis.

3. The Student Health Center can provide TB screening during regular clinic hours Monday through Friday, except Thursdays. Appointments are recommended.

4. Students who have a PPD test done at another institution within the prior 12 months will need to show proof of test results to the Student Health Center.

5. A student with a previous positive skin test will not be retested. This student will be examined yearly for a TB evaluation.

6. The cost of TB screening, as with immunization, is at the student’s expense.

7. If students have not been TB tested within the last year, they WILL NOT be allowed to register. The Student Health Center places the student's registration on “hold” until he/she is in compliance with the policy.

8. Documentation of a negative or positive test is available to the student who returns to the Student Health Center within 72 hours of the test to have the results read by the clinic nurses. This documentation can be used as evidence of testing for clinical rotations.

**Compliance and Academic Enrollment**

Students who fail to comply with the Tuberculosis and Immunization Policies will not be permitted to register for the upcoming year until they are in compliance.

**Management of Students with Active Tuberculosis**

Students with current pulmonary or laryngeal tuberculosis pose a risk to patients and other personnel while they are infectious. They will be excluded from school until they have been treated and cleared by the City Chest Clinic or personal physician. Students with current tuberculosis at sites other than the lung or larynx usually do not need to be excluded from school, if concurrent pulmonary tuberculosis has been ruled out.
Confidentiality and TB Screening Results

The Health Science Center requires every TB-infected student and every student with a recent skin-test conversion to report her/his situation to the associate dean for students of the student’s school within one week of diagnosis.

Tuberculosis infection will be reported in compliance with all applicable statutory requirements, including the Communicable Disease Prevention and Control Act of the Texas Health and Safety Code, Chapter 38.

Data on the occurrence of tuberculosis among students and skin-test conversions among students will be collected and analyzed by the Student Health Center to determine the risk of tuberculosis transmission in the facility and to evaluate the effectiveness of infection-control and screening practices. The incidence of conversion of skin testing of students is important in determining the risk of acquiring new infection to all health care personnel. When it is in the interest of prevention of exposure of other health care providers (and/or patients), the Student Health Center director may discuss the recent skin test conversion or TB infection of any student with the associate dean for students of that student’s school.

Students who fail to comply with either treatment of active disease or preventive treatment will be reported by the Student Health Center director to the associate dean for students of the student’s school.
Post-Secondary Distant Learning Education
Student Complaint Process

The University of Texas Health Science Center at San Antonio (UTHSCSA), desires to resolve student grievances, complaints and concerns in an expeditious, fair and amicable manner. Students enrolled in UTHSCSA who desire to resolve a grievance should follow UTHSCSA’s Student Grievance Procedure as stated in our catalogue. However, if an issue cannot be resolved internally, a complaint may be filed with the appropriate state regulatory agency where the instruction is provided and/or the accrediting agency for UTHSCSA. Students attending UTHSCSA in face-to-face classes should file complaints with the appropriate state of Texas agency and not with the regulatory agency of their state of residency.

The University of Texas System provides to its students and prospective students contact information for filing complaints with the Southern Association of Colleges and Schools, its accrediting agency, and with the appropriate state agency for handling complaints in the student's instruction and/or residence state. The following Student Grievance Contact Information for individual States provides phone numbers, emails and/or links to state regulatory agencies.
Schools

- Dental School
- Advanced Dental Education
- Graduate School of Biomedical Sciences
- School of Health Professions
- School of Medicine
- School of Nursing
Dental School

Students are responsible for all information contained in this Catalog up to and including their school’s section.

Click on an item in the list below to be taken to the location of its content. Remember this page number to return to this list.

- Mission
- Accreditation
- Educational Program
- Application and Admission
- Standards for Promotion and Graduation
- Recommendation for Specific Academic Situations
- General Policies and Regulations
- Policy on Examination
- Advanced Dental Education Programs
- Academic Recognition Program
- Departments
  - Doctor of Dental Surgery (DDS)
  - Advanced Dental Education

Mission

The Dental School mission is the acquisition, dissemination, and use of knowledge toward the enhancement of oral health. This mission is addressed through six interrelated action components: education, research, patient care, community, faculty and staff, and infrastructure.

As a component school of The UT Health Science Center San Antonio, the Dental School serves the citizens of the State of Texas, with particular emphasis on the South Texas community, and the nation by: educating oral health care providers and scientists, engaging in biomedical and clinical research to improve the oral health of the public, providing state-of-the-art patient care, enhancing community awareness of oral health issues and practices, and addressing health disparities among the population.

Accreditation

All educational programs in the Dental School are accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting agency recognized by the U.S. Department of Education. The Commission’s last site visit occurred in February 2005, resulting in “approval” status for a period of seven years. The Commission on Dental Accreditation may be contacted by phone at 1-800-621-8098. The Commission is located at 211 East Chicago Avenue, Chicago, Illinois 60611.

Educational Programs

Dual Degree Programs

Dual degree programs of study at the UT Health Science Center provide a mechanism for medical or dental students to obtain an M.S. or Ph.D. degree in addition to an M.D. or D.D.S. The purpose of these programs is to develop clinical scientists who have depth of knowledge in clinical medicine or dentistry and basic sciences, and also experience in research planning and execution. Such scientists are therefore exceptionally qualified to apply specialized research competence to the resolution of clinical problems.

A student who wishes to obtain both a D.D.S. and a Ph.D. must obtain the entrance prerequisites of both the Dental School and the Graduate School of Biomedical Sciences. Students submit applications for admission to the Dual Degree Program through the Texas Medical and Dental Schools Application Service and to the Health Science Center Graduate School of Biomedical Sciences during the fall prior to attendance. Approval for admission is made by the DDS/PhD Admissions Review Panel (through the Dental School Dean and Associate Dean for Student Affairs) and by the Graduate School of Biomedical Sciences.

Accepted applicants must meet the full requirements defined for both the professional and the graduate degree. The total time for the dual degree program curriculum is designed to be at least six years. However, utilization of summer sessions and elective periods is mandatory for this total time span. Students accepted into the DDS/PhD program will be required to reapply to Dental School for admission as a traditional DDS candidate if they choose not to complete the DDS/PhD training program.

The detailed logistics of pursuing a dual degree program will depend on the specific graduate program undertaken and, in every instance, should be worked out among the student, the appropriate Committee on Graduate Studies, the faculty mentor, the Associate Dean of the Graduate School of Biomedical Sciences, and the Associate Deans for Academic Affairs and Research of the Dental School.

International Dentist Education Program (IDEP)

The Dental School offers qualified graduates of foreign dental programs the opportunity to earn a Doctor of Dental Surgery
Application and Admission

Information about admission and application requirements is detailed on the Dental School Web site: http://www.dental.uthscsa.edu/admissions.idep.html.

Additional information about the IDEP can be obtained by contacting the IDEP office through e-mail at: IDEP@uthscsa.edu.

*National Board Exams taken after January 1, 2012, will have scores reported as pass/fail. A passing score will be required for those applicants whose scores are reported as pass/fail.

Applicant or Student Criminal Background Check Policy

Criminal Background Checks for Applicants and Students of the Dental School of The University of Texas Health Science Center at San Antonio.

I. Applicability

This policy applies to applicants or students enrolled in an educational program that includes, or may include at a future date, assignment to a clinical health care facility. Visiting students who enroll in courses with such an assignment are also subject to the policy. Presently, programs that require a background check include:

A. Doctor of Dental Surgery Students
B. Advanced Dental Education Students

II. Policy

Effective immediately, applicants must submit to and satisfactorily complete a criminal background check review as a condition to admission into all programs designated as requiring a criminal background check. An offer of admission will not be final until the completion of the criminal background check(s) with results is deemed favorable. Admission may be denied or rescinded based on a review of the criminal background check.

Additionally, students who are currently enrolled and who do not have a valid criminal background check must submit to and satisfactorily complete a criminal background check review as a condition to enrolling or participating in education experiences at affiliated sites that require a criminal background check.

Students who refuse to submit to a criminal background check or do not pass the criminal background check review may be dismissed from the program.

Applicants or students who are denied admission to or are denied or rescinded based on a review of the criminal background check(s) with results is deemed favorable. Admission may be rescinded from the program.

III. Rationale

A. Health care providers are entrusted with the health, safety and welfare of patients, has access to controlled substances and confidential information, and operates in settings that require the exercise of good judgment and ethical behavior. Thus, an assessment of a student or applicant’s suitability to function in such a setting is imperative to promote the highest level of integrity in health care services.

B. Clinical facilities are increasingly required by accreditation agencies, such as Joint Commission on Accreditation of Healthcare Organization (JCAHO), to conduct criminal background checks for security purposes on individuals who provide services within the facility and especially those who supervise care and render treatment. To facilitate this requirement, educational institutions have agreed to conduct these criminal background checks for students and faculty.

C. Clinical rotations are an essential element in certain curriculum programs. Students who cannot participate in clinical rotations due to criminal or other adverse activities that are revealed in a criminal background check are unable to fulfill the requirements of the program. Additionally, many healthcare licensing agencies require individuals to pass a criminal background check as a condition of licensure or employment. Therefore, it is in everyone’s interest to resolve these issues prior to a commitment of...
resources by the Dental School, the student or applicant.

D. The Dental School is obligated to meet the contractual requirements contained in affiliation agreements between the university and the various healthcare facilities.

IV. Criminal Background Check Report

A. Obtaining a Criminal Background Check Report. The Dental School will designate approved company(ies) to conduct the criminal background checks and issue reports directly to the Dental School. Results from a company other than those designated will not be accepted. Students and applicants must contact a designated company and comply with its instructions in authorizing and obtaining a background check. Students and applicants are responsible for payment of any fees charged by a designated company to provide the background check service.

B. Scope. Criminal background checks include the following and cover the past seven years:

- Criminal history search, including convictions, deferred adjudications or judgments, expunged criminal records, and pending criminal charges involving felonies, Class A, Class B, and Class C violations
- Social Security Number verification
- Violent Sexual Offender and Predator Registry search
- Office of the Inspector General (OIG) List of Excluded Individuals/Entities
- General Services Administration (GSA) List of Parties Excluded from Federal Programs
- U.S. Treasury, Office of Foreign Assets Control (OFAC), List of Specially Designated Nationals (SDN)
- Applicable State Exclusion List (Texas)
- Office of Homeland Security information/report

C. Rights. Students and applicants have the right to review the information reported by the designated company for accuracy and completeness and to request that the designated company verify that the background information provided is correct. Prior to making a final determination that will adversely affect the applicant or student, the Dental School will provide applicants or students a copy of or access to the criminal background check report issued by the designated company, and inform them of their rights, how to contact the designated company to challenge the accuracy of the report and that the designated company was not involved in any decisions made by the Dental School.

V. Procedure

A. Applicants

1. The criminal background check report will be submitted to the Associate Dean for Student Affairs for its review. If the report contains negative findings, the Associate Dean for Student Affairs may request that the applicant submit additional information relating to the negative finding, such as a written explanation, court documents and police reports. The Associate Dean for Student Affairs, in consultation with the Dental School administrative leadership team, will review all information available to it and determine whether the offer of admission should be withdrawn. For Advanced Education trainees, the background check report will be submitted to the Associate Dean for Student Affairs and Advanced Education Program director in the relevant Department. Advanced Education Programs will review the information and, with consultation of the Advanced Education Committee, will make determinations about amending admissions decisions.

2. Admissions decisions are final and may not be appealed.

B. Current Students

1. For students who did not have a background check review at the time of their admission into the educational program, students must complete the background check review prior to commencement of an assignment at a health care facility.

2. If the Associate Dean for Student Affairs (or Advanced Ed Program Director) determines that dismissal from the program is warranted, a student may appeal that decision in accordance with the university’s grievance procedure for academic matters.

C. Committee Review Standards. In reviewing the background check reports and any information submitted, a committee may consider the following factors in making its determinations: the nature and seriousness of the offense or event, the circumstances surrounding the offense or event, the relationship between the duties to be performed as part of the educational program and the offense committed, the age of the person when the offense or event occurred, whether the offense or event was an isolated or repeated incident, the length of time that has passed since the offense or event, past employment and history of academic or disciplinary misconduct, evidence of successful rehabilitation, and the accuracy of the information provided by the applicant or student in the application materials, disclosure forms or other materials. The committee should bear in mind both the safety interests of the patient and the workplace, as well as the educational interest of the student. In reviewing background checks and supplementary information, advice may be obtained from university counsel, university police, or other appropriate advisors, including state regulating bodies such as licensing boards.

D. Deferment. A reviewing committee may extend an offer of admission for up to one year while the matter is resolved. However, the student may be granted...
VI. Confidentiality and Record Keeping

A. Background check reports and other submitted information are confidential and may only be reviewed by university officials and affiliated clinical facilities in accordance with the Family Educational Records and Privacy Act (FERPA).

B. Students. Criminal background check reports and other submitted information of students will be maintained in the Dental School in accordance with the university’s record retention policy for student records.

C. Applicants Denied Admission. Criminal background check reports and other submitted information of applicants denied admission into the program will be maintained in accordance with the university’s record retention policy.

VII. Other Provisions

A. The Dental School shall inform students who have negative findings in their background check report and are nonetheless permitted to enroll that the Dental School’s decision is not a guarantee that every clinical facility will permit the student to participate in the educational program at its facility, or that any state will accept the individual as a candidate for registration, permit or licensure.

B. A criminal background check will be honored for the duration of enrollment if the student is continuously enrolled. A student who has a break in enrollment is required to complete a new criminal background check. A break in enrollment is defined as non-enrollment of at least one semester in the approved curriculum of the certificate or degree program. However, a student whose attendance has been suspended due to a licensing agency’s eligibility certification process will not be considered as having a break in enrollment. An officially approved leave of absence is not considered a break in enrollment.

C. Falsification of information, including omission of relevant information, may result in denial of admission or dismissal from the educational program.

D. Criminal activity, which occurs while a student is in attendance at the university, must be reported immediately by the student to the Dental School administration. Criminal activity committed while in attendance and failure to report criminal activity that has occurred may result in disciplinary action, including dismissal, and will be addressed through the university’s academic or disciplinary policies.

A. The degree of Doctor of Dental Surgery is awarded by the Board of Regents upon recommendation of the faculty to the Dean, and certification by the Dean to the President. Candidates must have satisfactorily fulfilled the academic requirements of the dental curriculum, have a cumulative GPA of 2.0 or above, have passed Part II of the National Board Dental Examinations, be in good professional standing, and comply with all necessary legal and financial requirements.

B. Candidates for the degree must have fulfilled all requirements within six years of registering in the freshman class. Approved leaves of absence will not be included in this time period.

Promotion

A. Recommendation for promotion to the next year of the curriculum is made by the Academic Performance Committee. A student will be recommended for promotion to the next year of the curriculum if a grade-point average of 2.0 or above is achieved in both the Group A* and Group B** courses of the year’s curriculum and a passing grade has been achieved in all courses in the year’s curriculum. Promotion to the senior year also requires having passed the National Board Dental Examination, Part I.

*Group A - all basic science and dental didactic courses

**Group B - all pre-clinical laboratory and clinic courses

Academic Standards

A. The academic standards for successful completion and grade assignment shall be established by the department or task force under which the course is administered. In arriving at a final grade, consideration will be given to written, oral, and practical examinations as well as clinical performance when applicable. Non-cognitive factors such as performance under stress, integrity, initiative, interpersonal relations, and personal and professional characteristics will also be considered. A passing grade will not be awarded to a student whose performance in non-cognitive areas is unacceptable.

B. The academic standards can be accessed on the Dental School intranet; an academic year, all students will be reminded of their existence and location.

Grading

Final Grades

A final grade will be reported after completion of a course as:

A = Excellent
B = Good
C = Satisfactory
D = Poor
F = Failure in a graded course or failure to successfully complete an ungraded course.
CR= Satisfactory completion of a required course for which no letter grade is given.

Standards for Promotion and Graduation
Other symbols may appear on transcripts as appropriate. These include:

- **EX** = Exemption
- **I** = Incomplete. Not a final grade*
- **Q** = Course dropped with no penalty
- **WP** = Withdrew passing
- **WF** = Withdrew failing

*Grades are assigned by the course director if he/she considers acceptable the reason for a student’s failure to satisfactorily complete all required work. A grade of I must be corrected in a prescribed time period that is given to the student in writing.

**Credit Hours and Grade Point Average**

One semester hour credit is given for each:

- 15–18 clock hours of lecture or conference
- 30–36 clock hours of clinic or technique laboratory
- 45–60 clock hours of non-technique laboratory

Grade point average is calculated by assigning the following numerical weight to each letter grade:

- **A** = 4
- **B** = 3
- **C** = 2
- **D** = 1

**Mid-Year Progress Report**

Final grades awarded at midyear will be submitted to the Registrar and the Associate Dean for Academic Affairs for each student enrolled in a course when that course has been completed.

**Academic Warning**

An academic warning is an official communication between the Associate Dean for Academic Affairs and the “at risk” student. Academic warning is a courtesy to the student, allowing for supportive dialog between the student and the Dental School’s administration.

Academic warning is offered only at mid-year. A student will receive an academic warning from the Associate Dean for Academic Affairs for achieving a grade point average less than 2.0 for either Group A or Group B courses completed during the fall semester.

An academic warning, unto itself, does not require prescribed action on the part of the student. It is desired that the student who has received an academic warning will correct mid-year academic deficiencies by the end of the academic year.

**Academic Probation**

In addition to other reasons, a student receiving a final grade of “F” in a course at any time during the academic year will be placed on academic probation.

1. A student who is on academic probation is prohibited from graduation or promotion to the next academic year. Academic probation must be corrected, therefore, before the student may advance or graduate.

2. Unless the student is dismissed, a student will remain on academic probation until all academic deficiencies are corrected.

3. Once on academic probation, the student has a required timeline to improve his/her academic deficiencies. If not corrected in the prescribed amount of time, the student will be considered for dismissal.

4. Except for senior students, the Academic Performance Committee does not recommend actions for correction of academic deficiencies until the end of the academic year when the student's entire academic record can be considered.

5. For senior students, the Academic Performance Committee will recommend actions for correction of academic deficiencies as soon as it is notified that a senior has failed a course or has received an “I” grade.

**Criteria**

1. A student will be placed on academic probation if s/he meets one or more of the following conditions:

2. Receipt of a final "F" grade in any course at any time during the academic year.

3. Receipt of a GPA less than 2.0 in either Group A or Group B courses of a year's curriculum, unless the student is dismissed.

4. Failure to pass National Board Dental Examinations, Part I by the end of the DSIII year.

5. Failure to pass National Board Dental Examinations, Part II by the end of the DSIV year.

**Removal from Academic Probation Status**

A student is recommended for removal from academic probation once all academic deficiencies have been corrected. The Academic Performance Committee recommends specific methods for students to improve their academic records:

1. The remediation of specific courses.

2. The repetition of the academic year in its entirety.

3. The establishment of an altered curriculum, to include correction of National Board deficiencies.

A student no longer on academic probation is eligible for promotion to the next academic year or for graduation.

If the student does not improve his/her academic record in the prescribed time period to allow removal from academic probation status, the student will be considered for dismissal.

**Recommendations for Specific Academic Situations**

Correction of an "F" Grade Deficiency: In an effort to help a student correct an "F" Grade Deficiency in one or more courses, the Academic Performance Committee may recommend one of the following courses of action:

1. Remediation of the course or courses for which an "F" grade has been assigned. Since failure to successfully remediate places the student in a category for academic dismissal, a student may elect to repeat the academic
year in its entirety even though remediation has been recommended.

a. A course director will not initiate a remediation program for a student unless remediation has been recommended by the Academic Performance Committee.
b. The remediation program will be designed by the course director.
c. Remediation for senior students may be scheduled during the academic year, but all other remediation will be scheduled during a specified period in the summer.

2. Repetition of the academic year in its entirety. If remediation is not recommended by the Academic Performance Committee, the student must repeat the academic year in its entirety.

**Correction of a Grade Point Deficiency**

A student receiving a GPA below 2.0 in Group A and/or Group B courses of a year’s curriculum will be considered for dismissal. However, after reviewing the student’s academic record and considering any extenuating circumstances, the Academic Performance Committee may recommend one of the following actions in lieu of dismissal:

1. Remediation of one or more courses [F and/or D grades] designated by the Committee which will help raise the deficient GPA to 2.0 or above.
   a. Since failure to successfully remediate a deficient GPA places a student in a category for academic dismissal, a student may elect to repeat the academic year in its entirety even though remediation has been recommended.
   b. The remediation program will be designed by the course director.
   c. Remediation for senior students may be scheduled during the academic year, but all other remediation will be scheduled during a four-week period in the summer.

2. Repetition of the academic year in its entirety. If remediation is not recommended by the Academic Performance Committee, the student must repeat the academic year in its entirety.

**Correction of National Board Dental Examination Deficiency**

In an effort to help a student correct a National Board Dental Examination deficiency, the Academic Performance Committee may recommend completion of an altered curriculum which includes requirements for skills maintenance, preparation for retesting, and achievement of a passing grade in the National Board examinations.

1. The altered curriculum will be developed by the Associate Dean for Academic Affairs in conjunction with an Ad Hoc Committee.
2. Eligibility for promotion or graduation will be restored upon satisfactory completion of all requirements of the altered curriculum.
3. Failure to successfully complete all requirements of the altered curriculum by the end of the academic year will place the student in a category for academic dismissal.

4. Junior students who retake the National Board Dental Examinations, Part I, or any subset of the examination in the summer preceding their senior year, will register as juniors for the fall semester if the results of the examination are not known at the time of registration.
5. Although they register as juniors, they will participate in senior didactic and clinical activities in the 1-3 week interval between registration and the time when the results of the examination are known.
6. Senior students enrolled in an altered curriculum who unsuccessfully retake the National Board Dental Examinations, Part 2, will be considered for dismissal.

**Failure to Successfully Remediate or Repeat Year**

The Academic Performance Committee will review the student’s academic record and consider any extenuating circumstances before making a recommendation for dismissal. Only in exceptional circumstances will the Academic Performance Committee recommend another correction program in lieu of dismissal. No student is allowed to repeat an academic year more than once.

**Final Grade for Course Remediation/Repetition**

A grade of "C" is the highest grade that can be achieved in the remediation of a course. Following remediation of a course, the grade assigned will be the grade ("C", "D" or "F") achieved by the student as set forth in the academic standards of the remediation course.

Following repetition of a course during repetition of an academic year in its entirety, the grade assigned will be the grade achieved by the student as set forth in the academic standards of the course.

All grades achieved by a student in a course (i.e. original, remediation, repetition) will appear on the official transcript but only the most recent grade achieved will be used in calculating the grade point averages.

**Calculation of GPA Following Course Remediation or Repetition of the Year:**

1. "F" Grade Deficiency [REMEDICATION]: The grade achieved by the student in remediation of an "F" grade in a course is the grade that will be used in calculating the Group A or Group B GPA for the academic year and the overall GPA; however, both grades for the course will appear on the final transcript.

2. "F" Grade Deficiency [REPETITION OF YEAR]: The grades achieved by the student in all courses in the repetition of the year in its entirety will be the grades used in calculating the Group A and Group B GPAs for the academic year and the overall GPA; however, the previous grade or grades achieved in each course will also appear on the final transcript.

3. Grade Point Deficiency [REMEDICATION]: The grade achieved by the student in remediation of a
course in an attempt to correct a deficient Group A or Group B GPA (less than 2.0) is the grade that will be used in calculating the Group A or Group B GPA for the academic year and the overall GPA; however, both grades for the course will appear on the final transcript.

4. Grade Point Deficiency [REPETITION OF YEAR]: The grades achieved by the student in all courses in the repetition of the year in its entirety will be the grades used in calculating the Group A and Group B GPAs for the academic year and the overall GPA; however, the previous grade or grades achieved in each course will also appear on the final transcript.

Dismissal
Student can be considered for dismissal from the School for academic deficiencies or violation of University regulations. The Academic Performance Committee is responsible for considering students for academic dismissal.

Academic Dismissal
An option to appear before the Academic Performance Committee will be extended to the student before a vote is taken to recommend academic dismissal. The purpose of the appearance is to inform the Committee of extenuating circumstances which may have contributed to the student's performance. The student may request that other appropriate verbal and/or written testimony regarding these circumstances be presented at this meeting. Only members of the Committee will be present when the vote for dismissal is taken.

1. A student will be considered for academic dismissal if s/he meets any of the following conditions:
   a. Receipt of a GPA less than 2.0 in either Group A or Group B courses of the year's curriculum.
   b. Receipt of a GPA less than 2.0 in either Group A or Group B courses of the year's curriculum after completing summer remediation or repetition of the academic year in its entirety.
   c. Unsuccessful attempt to remediate a course or courses for which an "F" grade has been given.
   d. Receipt of an "F" grade for a course or courses during the repeat of an academic year.

National Board Deficiency
Failure to successfully complete all the requirements of an altered curriculum designed to correct a National Board deficiency, which includes skills maintenance, preparation for retesting, and achievement of a passing grade in the National Board Dental Examination, Part I or Part II.

Disciplinary Dismissal and Probation
Violation of University regulations concerning standards of conduct which compromise professional integrity and/or competence will make a student eligible for dismissal. Procedures for dismissal will be governed by the guidelines contained in the Procedures and Regulations Governing Student Conduct and Discipline of the Health Science Center.

If not dismissed, a student may be placed on disciplinary probation. While on probation, any academic failure or professionalism relapse will be grounds for dismissal.

Appeal Process
A student may appeal an Academic Performance Committee decision that recommends a) remediation, b) repetition of the year or c) academic dismissal. The student submits written notification of his/her desire to appeal to the Dean's office. This written request must be received by the Dean's office within 5 days following the student's receipt of the written notification of the Academic Performance Committee's recommendation.

The Dean will consult with appropriate individuals and render a decision to uphold or overturn the Academic Performance Committee decision. The student will receive written notification of the Dean's decision.

Procedural appeal may be made to the President in accordance with Health Science Center Policy.

General Policies and Regulations

Student Concerns
Various mechanisms are available at all levels for student input regarding their concerns. Individuals and groups who respond to these concerns include course directors, advisors, associate dean for academic affairs, and the associate dean for student affairs. Procedures for grievances can be found in this Catalog.

The president of the Student Body Organization meets bimonthly with presidents of other Health Science Center student groups to discuss problems or concerns affecting students in all schools with the university President. In addition, once a month, the Dean of the Dental School meets with the presidents of all classes. Student liaisons for each course will meet with the respective course director as needed.

Faculty Advisors
The Dental School's Faculty Advisor Program is designed to enhance the relationship between faculty and students and provide the opportunity for faculty to give leadership and guidance to students. A faculty advisor is assigned to one to three students from each entering class and remains as the advisor throughout the freshman and sophomore years. Clinical advisors are assigned for the junior and senior years.

In addition to serving as a role model, the faculty advisor provides for development of appropriate ideals and goals to be incorporated into the student's professional personality. Faculty advisors meet with advisees as needed.

Faculty advisors can be helpful to students who are having difficulties with course material or interpersonal problems. Advisors also serve as advocates for students, interpreting for the administration and faculty the impact of rules and procedures on students. They monitor academic progress and provide support and give guidance to students.

It is the student's responsibility to attend meetings and seek out the faculty advisor when he/she encounters difficulties. A student may be reassigned to a different advisor if, by mutual agreement, the change is required.
Clinical Attire and Grooming

An excellent dental education is dependent on the number of patients and the diverse patient needs that allow students to provide a broad scope of oral health care to a large number of patients. As this is a totally voluntary system on the patient side, it is incumbent upon the dental school to provide an environment that gives patients the confidence to come to this institution knowing they will be treated in a professional manner, by professionals, and in a safe environment. To achieve this goal, first impressions are important; therefore, all students in the dental school need to look professional in dress and grooming since patient contact can occur in many areas of the building. When students have direct patient contact in the clinics, additional issues require students to pay particular attention to clinic attire and grooming because they affect patient safety as well as their own. The clinic manual is published on the Dental School Intranet site, http://dserver.uthscsa.edu/. The manual includes general guidelines for attire and grooming, as well as specific requirements that relate to patient and personal safety.

Class Attendance

Students are expected to attend and actively participate in all regularly scheduled classes, laboratories, and clinical periods. The policy regarding attendance and the consequences for failure to comply is the prerogative of the course director and the department responsible for that portion of the curriculum, and will be provided in the course syllabus at the beginning of each course. It is the responsibility of the student to arrange with the faculty for making up any work that is missed.

Absences may be considered sufficient cause for issuing failing grades in courses requiring attendance.

Reporting Absenteeism

When a student must be absent from the Dental School, he/she must report their absence online (https://fmcgi.uthscsa.edu/absence/). The office will maintain a roster of absentees and the reported reasons for absence.

In cases of absence during an assigned rotation, all students (including freshmen and sophomores) are responsible for contacting appropriate Rotation Directors immediately.

Students who will be absent from any examination must notify their Course Directors directly as well as the Office of Student Affairs.

In cases of absence from clinic sessions, junior students must notify the Office of Clinical Affairs (567-3265). Senior students must notify the Office of Clinical Affairs and the Department of General Practice (567-3450).

Students are responsible for contacting Course Directors upon their return to school to schedule required makeup work.

National Board Dental Examination Challenges

Part 1 – Students are eligible to challenge Part 1 of the boards at the completion of the spring semester of the sophomore year provided they successfully completed the fall General Pathology course. Students are expected to take the exam between the end of the spring semester and beginning of the fall semester of the junior year. The Dental School policy requires students to pass Part 1 to be considered for promotion to the senior year.

Part II – Students are eligible to challenge Part II of the boards in mid-November of the senior year and students are expected to take the exam in mid to late November or December of the senior year. The Dental School policy requires students to pass Part 1 to be considered for graduation.

For both Parts I and II, the National Board policies require students to wait 90 days between attempts. Additionally, candidates who have not passed Part I or Part II after three attempts are required to wait one year (12 months) after their third attempt to apply to retest.

Leave of Absence

Students in good academic standing who wish an extended leave of absence for extenuating physical or personal reasons must submit a written request to the Dean stating reasons for such a request, the period of time involved, and intentions concerning resumption of dental studies. The Dean will consider such requests on their individual merit.

Generally, a leave of absence shall not exceed one academic year. Any additional leaves of absence must be reviewed and recommended by the Academic Performance Committee and approved by the Dean. The Dean’s Office must be notified of intentions to re-enroll by the first day of April prior to the next academic year. Students who take a leave in the fall of the junior year will be required to repeat the sophomore year in order to regain the clinical skills and knowledge to provide patient care as a junior.

Upon approval, the student must request and complete a Student Clearance Form that is available from the Registrar’s Office (317L MED).

Readmission

Readmission to the freshman year requires that a student apply again according to the procedures required for first-time applicants and be accepted in competition with other applicants for that year. Readmission into the sophomore, junior, or senior years is contingent upon available space in the class.

Application for readmission after a leave of absence must be in the form of a written request to the Dean and must include satisfactory evidence that the condition or conditions necessitating the absence have been corrected and that the student is able to resume dental studies. The request must be submitted no later than April 1 of the year the student wishes to be reinstated.

The policies contained in this Catalog concerning attendance, leave of absence, and readmission is those in effect at the time of publication but is subject to change. Students are responsible for inquiring about changes each year.
Student Appeals and Grievances

Student appeals and grievances are handled through established policies and procedures for the Dental School as outlined in the General Regulations and Requirements section of this Catalog.

Policies on Examinations

Faculty Responsibilities

1. It is the responsibility of the faculty to administer examinations in such a manner that student performance accurately reflects individual levels of knowledge and ability. Methods for achieving this objective may include:
   a. New exams each year with totally new, or majority of new questions, or similar questions but in a new format or with new distractors.
   b. Randomized assigned seating of students in lecture rooms or laboratories.
   c. Multiple forms of the same examination. (Three forms of the examination are recommended.)
   d. Oral or essay examinations or components of examinations.

2. It is the responsibility of every faculty member to be aware of and comply with the rules and regulations of the Health Science Center delineated in the procedures and regulations governing Student Conduct and Discipline. In carrying out their responsibility for ensuring fair examinations and honesty on the part of all students, the faculty must comply with the following policies on examinations:
   a. Proctor all written examinations. (three or more are recommended.) Proctors shall be present and observant throughout the examination.
   b. Proctor all practical examinations. (Two or more faculty proctors are recommended for each Dental School MD multidiscipline laboratory— one for each bay.) Proctors should actively proctor throughout the examination and not engage in conversation with others, to avoid creating a distraction for students in the examination.
   c. Ensure that examinations are conducted in a quiet, comfortable atmosphere.
   d. Take immediate corrective action, as deemed necessary, to guarantee that the integrity of the examination is not compromised in case of observed violations of examination policies. Corrective action may include collecting examination papers or projects and/or relocating students.
   e. Report student misconduct or failure to follow instructions during examinations to the Course Director. If the misconduct falls under specific items in the course syllabus, the consequence as defined in the syllabus will be applied. If misconduct does not fall under specific items in the syllabus and is verified at the department level, it shall be reported to the Associate Dean for Student Affairs in compliance with procedures and regulations governing Student Conduct and Discipline of the Health Science Center.
   f. Schedule and conduct reexaminations whenever there is sufficient evidence to believe an examination has been compromised.
   g. Maintain tight security during preparation, proofing, faculty review, printing, transporting, and storing of examinations. Examination questions stored on computer also must be protected from unauthorized access.
   h. Ensure that students who ask questions during an examination are not given unfair advantage over other students if responses to questions are given. It is suggested that a policy be followed of not answering questions relative to interpretation of examination questions.
   i. Identify casts, teeth, or other items to be used in practical examinations in a manner to preclude students from substituting items prepared prior to the examination.
   j. Monitor students who need to leave the room during examination.

Student Responsibilities

1. It is the responsibility of every dental student to be aware of and comply with rules and regulations of the Health Science Center delineated in the procedures and regulations governing Student Conduct and Discipline. In carrying out their responsibilities and ensuring fair examinations and honesty on the part of all students, students must follow these policies:
   a. Except when specifically authorized to do so, students shall not use notes, books, manuals, models, audio tapes, or any other items or sources of information (cell phones, PDAs, pagers, or other electronic communication devices). During written examinations, such items must be left in a designated area of the examination room or, preferably, not brought into the room. During examinations in MD laboratories, these items shall be placed in closed cabinets.
   b. Students shall not communicate with other students in any manner, i.e., verbally, in writing, by visual signals or code, etc., during written or practical examinations.
   c. Before beginning an examination, students should be prepared to complete the examination. However, if a student must leave the room temporarily while an examination is in progress, the student’s examination materials shall be collected and held by a faculty proctor. Ordinarily, no more than one student will be permitted out of the examination at any one time. The student may not converse with another student or refer to reference material while out of the room.
   d. If a student needs to do something outside the established protocol during a practical examination,
such as unscrew or loosen a practical tooth or borrow an instrument, a proctor should be called for assistance and verification.

e. Students must refrain from all activities that detract from a quiet testing environment.

f. Students must take reasonable precautions to ensure that responses to examination questions or projects cannot be seen by other students.

g. Students must turn in their examination papers and practical examination projects promptly at the termination of an examination period, unless specifically instructed to do otherwise.

h. Students are expected to report any observed violation of these examination policies, or any other act they believe may compromise a fair examination process, to the Course Director or to the Associate Dean for Student Affairs.

i. Students are expected to maintain the highest integrity during the examination.

Requests to Change Schedule of Examinations

The official dates and times of all examinations are published in the final Class Schedules after consultation with Course Directors and representatives of all classes. Students or the Course Director may initiate requests for changes in the schedule of examinations. All requests should be submitted to the Office of the Associate Dean for Academic Affairs.

A request to move an examination to a later date must be submitted at least two weeks prior to the original date of the examination. A request to move an examination to an earlier date must be submitted at least two weeks prior to the proposed date of the examination.

All requests for changes to the examination schedule published in the final Class Schedule must be accompanied by:

1. A written reason for the move that must be compelling and academically sound.

2. A written statement from the Course Director stating he/she is in agreement with the change.

3. The results (number of yes/no votes) of a secret ballot taken from all members of the class. The Associate Dean for Academic Affairs will review the request and can approve it if the following requirements are met:

   4. The request has been submitted within the guidelines.

   5. The reason for the move is valid.

   6. The Course Director is in agreement with the move.

   7. No member of the class present and voting opposes moving the examination to an earlier date; or, 90 percent of those voting are in favor of moving it to a later date.

   8. An appropriate classroom is available at the proposed time.

Due Process Grade Assignment Disagreement

A student wishing to appeal the assignment of a grade must submit her/his grievance to the Course Director within seven (7) days of the grade assignment. The appeal mechanism for challenging a grade is limited to: (1) possible clerical errors in calculating or recording a grade, or (2) allegation of mistakes or unfairness in application of the published academic standards in the assignment of a grade. It is the responsibility of the student to substantiate her/his assertion that an incorrect grade has been assigned.

If the student’s concerns are not resolved after a meeting with the Course Director, the student may submit a written appeal to the appropriate Department Chair. The written appeal must be made within seven days of the student’s meeting with the Course Director and must contain information to substantiate the assertion that an incorrect grade has been assigned.

If the disagreement is not resolved at the departmental level, the student may submit a written appeal to the Dean of the Dental School within seven days of the departmental decision.

If the Dean agrees to review the matter, he/she will review only that the appeal process was conducted appropriately. This Dental School policy supersedes any other grievance policies, and decisions made in this process are final.

Graduation Ceremony Policy

The faculty marshals chosen by the graduating class and approved by the Dental School administration will hood the Dental School candidates at the graduation ceremony. No other individuals will be allowed to hood the candidates for graduation. However, current Health Science Center faculty members may petition the Dean of the Dental School to allow them to present the diploma to their daughter/son during the ceremony.

Academic Recognition Programs

Dean’s List

The Dean’s List was established in 1983 to recognize students who have demonstrated academic achievement by maintaining a 3.9 grade point average or above for the academic year. Each year those students in the four classes are honored.

Distinction in Dental Education

The Program in Dental Education recognizes students who, in addition to their clinical dental program, have developed teaching skills and performed academic-related research. Students in the program complete three special teaching electives: Teaching Training, Teaching Experience, and Project Summary and Evaluation. Students who successfully complete this program will graduate with the designation Distinction in Dental Education on their official transcripts.

Distinction in Research

The Distinction in Research program recognizes student investigators who, in addition to their clinical dental program, have acquired research skills and accomplished significant
research activity. Students in this program complete three Special Research Electives: Protocol Development, Completion of Individually Designed Research and Manuscript Preparation, and Presentation of Individually Designed Research. Students who successfully complete this program will graduate with the designation Distinction in Research on their official transcripts.

Advanced Education Programs

Certificate and Master of Science degree programs, residency programs in General Dentistry, Dental Public Health, Oral & Maxillofacial Surgery, and an Advanced Education in General Dentistry program are offered at the Health Science Center. The certificate programs in Dental Diagnostic Science, Endodontics, and Pediatric Dentistry require two years of study; Periodontics and Prosthodontics certificate programs require three years. Subsequent admission to the Graduate School of Biomedical Sciences (at the end of the first year of study) and successful completion of graduate study are required for the Master of Science degree offered in the Periodontics, Prosthodontics, Endodontics, or Dental Diagnostic Science programs. The General Practice residency program and Advanced Education in General Dentistry program, conducted by the Department of General Dentistry, are one year in length as is the program in Dental Public Health. The Orthodontics residency program is 35 months. A 72-month residency program in Oral & Maxillofacial Surgery is affiliated with the Dental School. A complete description of the advanced education programs appears after the predoctoral program course descriptions.
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Class Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday, June 1, 2011</td>
<td>Online Registration Begins</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, June 30, 2011</td>
<td>Online Registration Ends</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, July 05, 2011</td>
<td>Orientation</td>
<td>DDS Year 1</td>
</tr>
<tr>
<td>Tuesday, July 05, 2011</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, July 20, 2011</td>
<td>Census Date</td>
<td>All</td>
</tr>
<tr>
<td>Monday, September 05, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Thursday, November 24, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Friday, November 25, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
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<td>Friday, December 16, 2011</td>
<td>Term Ends</td>
<td>All</td>
</tr>
<tr>
<td>Saturday, December 17, 2011</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Monday, December 26, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, December 27, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, December 28, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Thursday, December 29, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Friday, December 30, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Monday, January 02, 2012</td>
<td>Classes Resume</td>
<td>All</td>
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<tr>
<td>Monday, January 16, 2012</td>
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<td>All</td>
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<tr>
<td>Wednesday, January 18, 2012</td>
<td>Census Date</td>
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<td>Monday, March 19, 2012</td>
<td>Spring Break Begins</td>
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<td>Friday, March 23, 2012</td>
<td>Spring Break Ends</td>
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<td>Thursday, April 26, 2012</td>
<td>Term Ends</td>
<td>DDS Year 4</td>
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<td>Friday, May 11, 2012</td>
<td>Term Ends</td>
<td>DDS Years 1, 2, &amp; 3</td>
</tr>
<tr>
<td>Monday, May 14, 2012</td>
<td>Classes Resume</td>
<td>DDS Years 1, 2, &amp; 3</td>
</tr>
<tr>
<td>Sunday, May 27, 2012</td>
<td>Graduation Ceremony</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Monday, May 28, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, June 29, 2012</td>
<td>Term Ends</td>
<td>DDS Years 1, 2, &amp; 3</td>
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</table>
Curriculum Goal

The Dental School curriculum is designed to graduate competent general dentists who can independently and collaboratively practice evidence-based comprehensive dentistry with support from dental specialists, allied dental professionals, and other health care providers with the ultimate goal of improving the oral health of society. General dentists are primary care health providers who have a sophisticated knowledge of the biological basis and epidemiology of oral disease, use contemporary therapeutic approaches, and demonstrate the capacity for professional and ethical behavior that meet high standards, and can utilize effective communication and interpersonal skills during patient care. The Dental School also strives to graduate general dentists who have the capacity to critically evaluate and appropriately use emerging diagnostic and treatment technologies and who are self-directed learners with the ability to continually enhance their knowledge and clinical skills throughout their career.

Curriculum Model & Philosophy

The Dental School employs a competency-based curriculum model in accordance with the educational philosophy and standards of the Commission on Dental Accreditation. In competency-based dental education, what students learn is based on clearly articulated statements of what graduates should be able to do without faculty assistance when they begin practice. These statements, which describe the outcomes of the educational process, are known as competencies. A competency is a behavior or ability that is essential for the practice of general dentistry. Competency is comprised of numerous components: knowledge, experience, critical-thinking capability, problem solving skills, ethical values, and capacity to perform procedural tasks in accordance with established criteria. The goal of the Dental School and the faculty who implement the curriculum is to help students blend all facets of competence together into an integrated and cohesive whole so that they are ready to function independently after graduation. Competency assumes that all behaviors are performed with a degree of quality consistent with patient well-being and professional standards, are performed to serve the patients’ needs and without regard for the dentist’s own self-interest, and that the general dentist can self-evaluate diagnostic accuracy and treatment effectiveness and make necessary modifications to enhance practice. The aspects of competency described in the preceding sentence are central tenets of the Dental School curriculum philosophy.

Competency Assessment

The Dental School curriculum is organized around 20 competencies that students are expected to acquire by the time of graduation. These are published on the Dental School Intranet: http://dserver.uthscsa.edu/academic_affairs. Each of these competencies is supported by 7–8 educational outcomes that specifically designate the knowledge, skills, and values that students are to master in order to demonstrate they have achieved a particular competency and can utilize that competency in patient care or other aspects of a general dentist’s professional responsibilities. Students’ progress toward competency in each of these 20 curricular components is measured by a series of assessments throughout the dental school curriculum. Specific learning experiences in each course are linked to the educational outcomes associated with various competencies. Students are required to demonstrate mastery of these educational outcomes in order to receive credit for the course and advance to subsequent levels of the curriculum. During the junior and senior years, which are primarily devoted to clinical education, the students’ ultimate ability to appropriately and effectively use all of the knowledge, skills, and values associated with each competency during patient care is evaluated by several mechanisms including formal competency examinations, faculty assessment of procedures performed as part of patient therapy, and comprehensive (global) evaluations of the students’ overall performance on a monthly basis. Criteria and guidelines for students’ academic promotion from year to year and for graduation are described in Standards for Promotion and Graduation of Dental Students that appear in a following section of the Catalog.

Curriculum Overview

The overall curriculum consists of approximately 4,500 hours of educational opportunities over a four-year program. The curriculum consists of fall and spring semesters in each of the four years and summer sessions between years 1 and 2, 2 and 3, and between years 3 and 4. The Dental School curriculum is extensively hands-on with students receiving more than 2,000 hours of patient care learning experiences including a substantial number of hours providing patient care in community-based clinics. Approximately 75% of the curriculum
is devoted to the diagnosis and treatment of oral diseases, 18% is devoted to underlying and foundational biomedical principles with emphasis on the pathophysiology of dental diseases and medical disorders that have oral manifestations, and 7% of the curriculum addresses practice management and public health. The four-year curriculum continuum is designed to provide dental students with a progressive learning experience in four phases that evolves from: (1) the biomedical foundations of normal human function, to (2) analysis of the causes and presentation of abnormalities, to (3) acquisition of skills needed for patient assessment and performance of procedural tasks, to (4) supervised provision of patient care in Dental School clinics and affiliated community sites.

The following section reviews the focus of each year in the curriculum.

**Freshman Year:** As a fundamental building block for all competencies, students are introduced to the ethical principles for all health care providers, and students learn the biomedical foundations of normal human structure and function moving from cellular, to gross tissues, to organ systems. Students also acquire the clinical foundations needed for competency in patient assessment including radiological techniques and physical examination methods. Students develop skills in oral health risk assessment and prevention and begin their study of periodontal disease and therapy that prepares them for competency in these important aspects of dental practice. An important component of the freshman year is the students’ introduction to the perceptual and fine-motor skills needed for competency in many types of dental therapy. First-year students are introduced to the clinical environment, including community-based preventive dentistry rotations, and acquire clinical support skills that allow them to serve as assistants to upper class students.

The summer between the freshman and sophomore year allows students to enrich their education with selectives and clinical rotations. A minimum of one selective course is required.

**Sophomore Year:** Second-year students analyze the causes and clinical presentations of oral abnormalities and diseases of the major organ systems that have implications for dental care that provides the groundwork for competency in patient evaluation and diagnosis. A major focus of the sophomore year is development of procedural skills in preclinical simulation laboratories. Second-year students assist upper class students in the clinic and receive additional experience in patient evaluation, activities that prepare them for the junior year clinical experience. Specific preclinical skills examinations, linked to various patient care competencies, must be successfully completed to certify that students are ready for progression to the clinical phase of the curriculum.

The summer between the sophomore and junior year allows students to enrich their education with selectives and clinical rotations. A minimum of one selective course is required.

**Junior Year:** The third year of the curriculum has a strong clinical focus as students apply the knowledge, skills, and values acquired in the freshman and sophomore years to the oral health care of patients. Junior students join one of eight General Group Practices (GPGs) and remain in a GPG during their 3rd and 4th years of dental school. A team of faculty, headed by a general dentist, guides each GPG and work closely with students in their group to provide hands-on coaching and feedback. The GPGs provide students with an environment where they have continuous contact with a small group of instructors and also provides a forum for case conferences, student reports, faculty demonstrations and case reviews, and other learning activities to enrich the students’ clinical education. Learning experiences, derived from the process of patient assessment and treatment, are orchestrated to facilitate students’ acquisition of many of the 20 curriculum competencies that are evaluated by faculty assessment of students’ daily interaction with patients and performance on formal competency examinations where students provide patient care independent of faculty assistance.

Students also receive focused instruction and patient care experiences during discipline-specific rotations in the junior year; each rotation must be passed to progress to the senior year. An important component of the GPG experience is evaluation of students’ professionalism, which occurs via the Patient Management INTD 7020 course. Students cannot progress to the senior year if they are found to be deficient in professionalism and consequently fail the Patient Management course. Additional information about this course appears in the junior year course descriptions.

**Summer Session between Years 3 and 4:** The summer between the junior and senior years allows students to enrich their education with selectives and clinical rotations. A minimum of a two-week clinical selective is required for all students except those who enroll in a full summer research selective. Students can continue selectives into the senior year.

**Senior Year:** Students continue their focus on acquisition of clinical competency through extensive patient care experiences within the GPG framework as previously described. Seniors are expected to demonstrate increasing capacity for independent functioning with less reliance on GPG faculty for guidance and assistance. Through the patient assignment function of the GPGs, seniors receive opportunities to provide care for patients with a wider variety of oral health needs and to treat dental problems that are more complex. To enrich and diversify their education, seniors participate in focused rotations in general dentistry, pediatric dentistry, and oral surgery at various community locations. Student evaluation in the senior year is based on several sources including: performance on exams that measure progress toward competency; daily assessment of patient care quality by supervising faculty; acceptable clinic utilization (time spent actually providing patient care); a summative monthly evaluation which comprehensively considers all aspects of the student’s performance; successful completion of all rotations; a passing grade on periodic student professionalism evaluations; accumulation of an acceptable number of points for patient care procedures performed throughout the year; and passing all courses in the senior year.

Senior students cannot be certified for graduation if they have an “F” or “Incomplete” in any course at the end of the senior year, or if GPG faculty does not certify that the student has adequately demonstrated readiness for graduation based on the evaluation measures previously described.
# Doctor of Dental Surgery Curricula

- The Freshman Year
- The Sophomore Year
- The Junior Year
- The Senior Year
- Dental Selectives
- Course Descriptions

*Course descriptions follow curricula.*

## The Freshman Year

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<tr>
<th>Course Description</th>
<th>Group</th>
<th>Semester I</th>
<th>Semester II</th>
<th>Credit Hours</th>
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<tbody>
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\[ x = \text{semester(s) presented}\]

A single grade at the end of the year is given for courses that extend through both semesters.

## The Sophomore Year

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**x = semester(s) presented**

### The Junior Year

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**56.5**
PATH 7023 - Oral and Maxillofacial Pathology - Clinicopathologic Conference
PEDO 7041 - Pediatric Dentistry Lecture
PEDO 7091 - Pediatric Dentistry Clinic
PERI 7059 - Implantology
PERI 7081 - Periodontics
PROS 7018 - Fixed Prosthodontics
PROS 7019 - Fixed Prosthodontics Clinic
PROS 7091 - Removable Partial Denture Prosthodontics
PROS 7092 - Removable Partial Denture Prosthodontics Clinic
PROS 7095 - Complete Denture Prosthodontics Lecture
PROS 7099 - Complete Denture Prosthodontics Clinic
RESD 7010 - Operative Dentistry
RESD 7011 - Operative Dentistry Clinic
RESD 7050 - Esthetic Dentistry

 Junior Clinic Rotations
All junior dental students enhance their clinical experiences by participating in several Dental School and off-campus required clinical rotations including the following. These are subject to change based on community availability:

- Oral Surgery
- Dental Emergency
- Geriatrics
- Pediatrics
- Frank Bryant Clinic
- Ricardo Salinas Clinic
- Periodontics
- Screening

The Senior Year

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<tr>
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x = semester(s) presented
A single grade at the end of the year is given for courses which extend through both semesters.
Senior Clinical Rotations

All senior dental students enhance their clinical experiences by participating in several Dental School and off-campus required clinical rotations including the following. These are subject to change based on community availability:

- Applied Management
- Dental Emergency
- Dental Hygiene
- SAISD Clinic
- Oral Medicine
- Oral Surgery
- Ricardo Salinas Clinic
- Frank Bryant Clinic
- Primary Dental Care - South Texas Rotation

Dental Selectives*

The Dental School has a selective program that allows students to enrich their education through courses of their choosing.

*Subject to change

Satisfactory completion of selectives will be recorded on the transcript as CR. No credit hours will accrue, and the computation of the GPA will be unaffected. When a student has been officially enrolled in a selective course, the selective becomes a mandatory part of the student’s curriculum and must be completed unless proper procedures for withdrawal are followed. Failure to withdraw properly or unsuccessful completion of the selective will be recorded on the transcript as an F grade. This will be treated by the Academic Performance Committee as any other failing grade in any required course.

Selective courses are offered primarily in the summer, but many are year-round by arrangement. Courses are offered to all level of students. Rising DS2 and DS3 students are required to complete a minimum of one selective. Rising DS4 students are required to complete a two-week continuous clinical selective, a six-week research selective, or another approved plan. The two-week selective may be one of the following:

- South Texas Rotation
- General Practice Dental Emergency Care (DECC)
- Oral and Maxillofacial Surgery
- Pediatric Dentistry Clinical Externship Program

Current selectives are listed below; however, offerings may vary each year. An updated list is sent to students twice a year to allow them to plan ahead. The list with course descriptions, teacher, location, etc. can be found online at http://dental.uthscsa.edu/educprograms/DDS_curriculum.php.

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<td>SELC 7007</td>
<td>General Practice Dental Emergency Care (DECC)</td>
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<td>SELC 7121</td>
<td>Heroes for the Homeless: Innovative Strategies for Teaching Dental Students about Cultural Competency</td>
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Distinction in Dental Education (requires the following three courses):

- a. SELC 7094 Special Teaching Elective: Teacher Training
- b. SELC 7095 Special Elective: Teaching Experience
- c. SELC 7096 Special Teaching Elective: Project Summary & Evaluation

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<td>SELC 7011</td>
<td>Community/Clinical Externship Program</td>
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<td>Mobile Van Mission Dental Care Program</td>
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<td>Senior South Texas Rotation</td>
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<td>SELC 7120</td>
<td>Preventive Dentistry Outreach</td>
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Distinction in Research (requires the following 3 courses):
a. SELC 7027 Special Research Elective: Protocol Development  
   By arrangement
b. SELC 7028 Special Research Elective: Completion of Individually Designed Research  
   By arrangement
c. SELC 7029 Special Research Elective: Manuscript Preparation and Presentation of Individually Designed Research  
   By arrangement

SELC 7113 Women’s Health Seminar (online course)

ORTH
SELC 8060 Advanced Graduate Clinic Rotation
SELC 7109 Graduate Orthodontic Clinic Rotation
SELC 8099 Orthodontic Literature Review
SELC 7009 Orthodontic Summer Clinic
SELC 7097 Preclinical Orthodontic Techniques

PEDO
SELC 7032 Pediatric Dentistry Clinical Externship Program

**Dental School Courses**

**BIOC 5013  Biochemistry**
Primarily lectures and conferences, this course is designed as a survey course for dental students. On a limited basis, a small number of graduate students may be accommodated. Content deals with the chemistry and metabolism of carbohydrates, amino acids, lipids, proteins, and nucleic acids. Special topics relating to the biochemistry of the oral cavity will be presented. The relationship between biochemistry and clinical aspects of dentistry is presented by clinical correlation speakers.

*Semester Credit Hours: 5.5*

*Prerequisites: organic chemistry, biology, and consent of instructor*

**COMD 5015  School-Based Prevention**
Students have the opportunity to participate in a public health preventive program in elementary schools, supervising a fluoride rinse program and providing small-group instruction in tooth brushing. The program aims to demonstrate to dental students' effective group prevention and to foster more widespread adoptions of such preventive programs in the community.

*Semester Credit Hours: 0.0*

**COMD 5017  Oral Health Promotion & Disease Prevention for Individuals and Populations**
Oral diseases have been reported to influence overall health and well-being of individuals and communities in the USA and across the world. This course provides the DS1 student with the basis and application of evidence-based practices to prevent oral diseases and promote oral health among individual patients and groups living in communities. The first part of the course focuses on Oral Health by concentrating on dental public health principles and epidemiology. The course stresses determinants of oral health and methods to reduce disparities. It examines contemporary oral health promotion and oral disease prevention at the community level. The second part of the course describes the Prevention of Oral Diseases for the Individual Patient, using a systematic approach of risk-based prevention. The course reviews the methodology to assess risks for dental caries, periodontal diseases, and oral cancer at the individual level. Students will have the opportunity to learn to develop and apply plans of prevention for oral diseases based upon individual risks, accounting for biological, social, and behavioral factors. The course integrates patient education and counseling practices as a component of individualized prevention practice.

*Semester Credit Hours: 1.5*

**COMD 5031  Professional Ethics**
This course will introduce students to ethics, how ethical principles apply to dentists, and the professional obligations inherent in the dentist-patient relationship. It will additionally provide insight in how the individual student views the dental profession and provide a decision-making model to help guide their actions when faced with ethical dilemmas.

*Semester Credit Hours: 0.5*

**COMD 5046  Cariology**
This course covers the scientific background of the etiology, treatment, and prevention of dental caries, as well as dental erosion. It offers an overview of the biological and mineralogical etiology of dental carries and dental erosion.

*Semester Credit Hours: 1.0*
COMD 6025 Nutrition
Elements of nutrition are presented in a lecture series. Special attention is given to those aspects of nutrition that relate to dental health and the prevention of dental diseases.
Semester Credit Hours: 0.5

COMD 6048 Patient-Centered Oral Health Care: Behavioral, Social, and Cultural Dimensions
This course discusses key dimensions of patient-centered clinical care recommended by the Institute of Medicine: a) respect for the patient’s values, preferences, and expressed needs; b) information and education; c) access to care; d) emotional support to relieve fear and anxiety; e) involvement of family and friends; f) continuity and secure transition between health care settings; g) physical comfort; and h) coordination of care. This course focuses on caring for patients and understanding the contexts of their culture, family, and community. The course examines major health belief systems embraced by people from diverse cultures and explores the characteristics of health-illness beliefs and practices. Also, the course provides an overview of anxiety and fear in dentistry. Specifically, the course reviews the typical causes of dental fear, assessment of fear, and effective strategies for reducing fear and anxiety. Psychological approaches for working with patients with needle phobias, gagging, and panic are described in the course. The course emphasizes the development of competence of oral health professionals in instituting patient-centered and culturally relevant oral health care.
Semester Credit Hours: 1.0

COMD 7031 Professional Ethics
This course provides a deeper understanding of the role that ethics plays in dental practice through a series of small-group discussions focused on the resolution of ethical dilemmas. It also provides a more thorough appreciation of the ethical principles and theory of normative ethics, as well as an understanding of the importance of dental research ethics, the role of ethics in the “business” of dentistry, and the dentist’s role in addressing social justice issues.
Semester Credit Hours: 0.5

COMD 7050 Preventive Dentistry Practice
As part of the junior clinic, this course is for the clinical application of prior study of Preventive & Community Dentistry, Preventive Methods, Nutrition, Cariology, Caries Risk Management, and Sophomore Clinic. With the emphasis on dental caries, it also includes prevention of gingivitis, oral cancer, and orofacial trauma. Student’s record preventive history, diagnosis and document caries, request appropriate lab and dietary assessments, carry out a caries activity (risk) assessment, write a preventive plan, and evaluate outcomes.
Semester Credit Hours: 1.5

COMD 8014 Oral Health Care System
A series of lectures and panel discussions introduce students to the structure as well as methods of financing dental care. Concepts of both traditional and recently evolved forms of dental practice also are discussed.
Semester Credit Hours: 1.0

COMD 8032 Jurisprudence
An in-depth review of the Texas Dental Practice Act and the Rules and Regulations of the Texas State Board of Dental Examiners will be presented as preparation for the Dental Jurisprudence examination given by the Board. General review of the interface of the law and dental practice including dental torts, malpractice, partnerships, insurance, record keeping, and other related legal issues are presented.
Semester Credit Hours: 0.5

CSBL 5016 Dental Gross Anatomy
The focus of this course is the structure of the human body, with emphasis on the functional anatomy of the trunk, neck, head, and nervous system. Regional dissection of a human cadaver, by groups of students, is supplemented by individual study of sections, models, skeletons, and other demonstration materials and is guided by lectures, conferences, and films. The first part of the course, which deals with the anatomy of the thorax and abdomen, presents a general overview of the functional architecture of most major body systems. The emphasis is on principles of structure, to allow development of a holistic understanding of human biology, both normal and pathological. The latter half of the course is devoted to study of the head and neck; greater emphasis will be placed on anatomical relationships with obvious reference to clinical dentistry. Human materials fee: $500. Laboratory fee: $30.
Semester Credit Hours: 6.0

CSBL 5020 Dental Neuroscience
This course will present the student with the basics of neuroanatomy underlying somatosensory perception, special senses, orofacial reflexes, and common neurological disorders. The emphasis will be on neuroanatomical pathways relevant to the head and neck, especially those mediated by the trigeminal system. The course also will include consideration of motor pathways and the special senses, disorders of which will necessarily influence treatment plans developed by future dental practitioners. Acquisition of a basic understanding of the neuroanatomical pathways discussed in lectures will be reinforced by laboratory sessions with representative images of brain and spinal cord sections.
Semester Credit Hours: 1.5

CSBL 5032 Dental Histology
Through lectures, demonstrations, and laboratory work, students in this course will be given the opportunity to study the microscopic structure of the basic tissues and organs of the human body, followed by details of the embryologic development and microscopic structure of the various organs of the oral cavity. Current concepts in cellular biology are presented during the portion of the course in which they are most relevant. The general purpose of this course is to give students the opportunity to become acquainted with the basic embryology, cytology, and histology of normal human tissues and organs, thereby providing a foundation of knowledge for the understanding of normal activity and disease processes.
Semester Credit Hours: 5.0

DIAG 5009 Introduction to Dental Radiology
This course provides students with an opportunity to learn the special terminology associated with dental radiography in
addition to theoretical principles of intraoral radiography. Students will have the opportunity to develop preclinical technical skills in placing, exposing, processing, and mounting dental radiographs using a technique mannequin (DXTTR), and as technology permits, preliminary experiences using digital imaging technology and the photostimulable phosphor system (PSP). Students will also have the opportunity to gain preliminary experience in the assessment of radiographs for normal anatomic structures, radiographic technique errors, caries, periodontal disease, and other common dental anomalies.

Semester Credit Hours: 1.0

DIG 5014 Physical Evaluation I
This course is intended to afford students maximal opportunity to recognize the relevance of basic biomedical sciences to the study of the patient and to provide the fabric for the accumulation of knowledge, skills, and values essential to initiate the clinical process. It includes didactic and clinical experience in obtaining and interpreting a patient history; extraoral and intraoral physical examination procedures; and interpretation of the findings of the examination.

Semester Credit Hours: 1.5

DIG 5049 Practical Infection Control in Dentistry
This course provides students with an opportunity to learn the special terminology associated with dental radiography in addition to theoretical principles of intraoral radiography. Students will have the opportunity to develop preclinical technical skills in placing, exposing, processing, and mounting dental radiographs using a technique mannequin (DXTTR), and as technology permits, preliminary experiences using digital imaging technology and the photostimulable phosphor system (PSP). Students will also have the opportunity to gain preliminary experience in the assessment of radiographs for normal anatomic structures, radiographic technique errors, caries, periodontal disease, and other common dental anomalies.

Semester Credit Hours: 1.0

DIG 5011 Clinical Medicine
Today’s clinician must treat more medically and pharmacologically compromised patients than ever before. It is axiomatic that they must have a basic understanding of diseases throughout the body. Such an obligation is tempered by the extent to which a disease or illness affects the physical and emotional ability of the patient to undergo and respond to dental care. Finally, such an obligation is further influenced by the extent to which a condition (infectious disease) may impact on the well-being of the oral health care provider. The course is based on the prevalent medical diagnoses suggested by the top 200 drugs dispensed by U.S. community pharmacies. It is designed to present the pathophysiology of disease states of special interest, the principles of current and accepted medical and/or pharmacological management of these conditions, and the clinical consequences of disease and illness in the oral health-care setting.

Semester Credit Hours: 2.0

DIG 6035 Physical Evaluation II
The importance of an accurate diagnosis and patient evaluation upon which to base a rational treatment plan is the emphasis of this course. Lectures on types of clinical exams, chief complaint, and clinical and medical history are presented. Study of the normal appearance and presentation of abnormalities and disease as they relate to various areas of the oral cavity is also included, with special emphasis on the soft tissues. Methodology in diagnosis includes case history, general and oral clinical laboratory, and other supplementary examinations. The rationale of when to prescribe dental radiographs is presented. Factors affecting treatment plans, with emphasis on medical compromises, are also presented.

Semester Credit Hours: 1.5

ENDO 6041 Endodontics Lecture
This is a lecture course designed to introduce the student to the fundamentals of clinical endodontics.

Semester Credit Hours: 1.0

ENDO 6060 Pulp Biology and Pain Pharmacology
This purpose of this course is to provide the solid foundation knowledge in the biology of dental pulp and periradicular tissues necessary for appropriate clinical decision making in endodontic and restorative diagnosis and treatment, and to ensure that residents are prepared for future change in therapy or understanding new risk factors in disease.

Semester Credit Hours: 1.5

ENDO 6142 Preclinical Endodontics
A preclinical endodontics course in which the student is introduced, under simulated clinical conditions, to clinical skills necessary to perform root canal therapy on single and multi-rooted teeth. Lab fee included in general laboratory fee.

Semester Credit Hours: 1.5

ENDO 7041 Junior Endodontics Lecture
This course will build on the cognitive skills attained by the dental student who has successfully completed ENDO 6041 and ENDO 6142 in the sophomore year. Topics covered include: endodontic case selection, diagnosis and treatment planning, vital pulp therapy, pain control, management of endodontic emergencies, and the evaluation of success and failure. The importance of the inner relationships with other dental disciplines such as periodontics and restorative dentistry are also emphasized.

Semester Credit Hours: 0.5

ENDO 7043 Endodontics Clinic
Students are required to perform endodontic diagnosis and treatment procedures necessary to provide comprehensive care for patients.

Semester Credit Hours: 1.0

ENDO 8043 Senior Endodontics Lecture
This course will build on the cognitive skills attained by the dental student who has successfully completed ENDO 6041 and 6142 in their sophomore year, and ENDO 7041 in their junior year. Topics covered include: endodontic radiology, management of the open apex, diagnosis and management of procedural errors that occur during routine endodontic therapy, management of post-operative complications, management of luxation injuries and root resorption, bleaching of endodontically treated teeth, endodontic pharmacology, and principles of endodontic surgery. A review of endodontic information necessary to pass licensing examinations will also be provided.

Semester Credit Hours: 1.0
GEND 5001  Foundations of Professional Development
The course consists of introductory modules of practice and patient care management aimed at building the skills needed in establishing a successful practice and in contributing to the oral health of our communities. The modules include principles of professionalism, ethics, and behavior expected from health care providers. Students are evaluated on how they apply to their coursework the principles learned throughout the year. Specific modules provide a better understanding of the whole field of dentistry, career choices, and opportunities available in the dental school to assist students in making informed career decisions. Other modules are dedicated to personal finances, the economics of health care, and the foundations of strategic planning. Finally, modules on dental informatics introduce the students to the utilization of computers and to the basic software needed throughout the curriculum and for a successful practice.
Semester Credit Hours: 2.0

GEND 6001  Professional Development II
This is a continuation of the first-year course in which the students explored personal and professional goals, basic financial statements and the elements of strategic planning through an interactive web site. The students will continue to use the web site as (1) their main source of educational material, (2) the place where they perform interactive assignments and workshop exercises, (3) a mechanism for taking and organizing class notes, and (4) a place for consulting class reference manuals and linking to outside educational resources. Class time will be used to familiarize the students with the web-based course, facilitate the use of the web site, and answer student questions on its content. During the sophomore year, students will apply financial statement analysis and strategic planning to the internal environment of the practice, will assess strengths and weaknesses in the operation of a dental office, and establish a practice policy.
Semester Credit Hours: 2.0

GEND 7001  General Dentistry Clinic
The Junior General Dentistry Clinic course oversees student progress towards competency in: patient assessment and diagnosis, comprehensive treatment planning and assessment of outcomes, management of periodontal and pre-implant tissues, and management of malocclusion and occlusal disorders as described in Statements 01, 02, 07, and 13 of the HSC Dental School Competencies for Graduating Dentists. Junior students will be evaluated by GPG faculty on their independent efforts in satisfying the educational outcomes described for each of the four component competencies included in the course. Results of the evaluation will be kept in the student portfolio by the group leader. Unsuccessful attempts will be repeated until the student demonstrates adequate progress towards competency. Each component of the course must be passed to receive a passing grade.
Semester Credit Hours: 4.0

GEND 7026  Practice Administration
This course presents the various career choices available in dentistry and presents material to aid students in the career decision-making process. The class is an introduction to the basic principles of beginning and managing a dental practice with emphasis on establishing a philosophy of practice, establishing goals, selecting practice modes, and choosing a location. The principles of office design and equipment selection also are covered.
Semester Credit Hours: 2.5

GEND 8026  Practice Administration
This course presents the various career choices available in dentistry and presents material to aid students in the career decision-making process. The class is an introduction to the basic principles of beginning and managing a dental practice with emphasis on establishing a philosophy of practice, establishing goals, selecting practice modes, and choosing a location. The principles of office design and equipment selection also are covered.
Semester Credit Hours: 2.5

GEND 8026  Practice Administration
This course presents the various career choices available in dentistry and presents material to aid students in the career decision-making process. The class is an introduction to the basic principles of beginning and managing a dental practice with emphasis on establishing a philosophy of practice, establishing goals, selecting practice modes, and choosing a location. The principles of office design and equipment selection also are covered.
Semester Credit Hours: 2.5

GEND 8075  Applied Practice Management
The course is presented as a series of eight small-group seminars and one small-group laboratory session in the fall, and three seminar presentations and one laboratory exercise in the spring semester. In the fall, students will have the opportunity to apply information from the first four seminars to develop a written business plan during the fifth seminar. In the spring, the classes are structured around the content from the Office Manual of Clinical Practice Management and the Quick Reference for the New Dentist. Role playing is utilized in some of the seminars to simulate private-practice scenarios. The seminar experiences identify management strategies necessary to establish and run a successful dental practice. The hands-on MD Laboratory session provides each student the opportunity to apply principles of clinical efficiency.
Semester Credit Hours: 1.5

GEND 8077  General Dentistry Clinic
Clinical experience for senior students under supervision of the Department of General Dentistry emphasizes comprehensive patient care in an atmosphere that closely simulates the private practice environment. Providing students an opportunity to accomplish procedures from each discipline of dentistry is the goal; therefore, students receive instruction from a faculty of general dentists. Various specialty departments provide didactic material, rotations in specialty clinics, and consultation. Senior Seminars, conducted by the Department of General Dentistry, entall lectures, problem-solving sessions, and presentations of selected cases designed to enhance the students’ knowledge of comprehensive clinical dentistry.
Semester Credit Hours: 26.5

GEND 8078  General Dentistry Seminar
This course presents the various career choices available in dentistry and presents material to aid students in the career decision-making process. The class is an introduction to the basic principles of beginning and managing a dental practice with emphasis on establishing a philosophy of practice, establishing goals, selecting practice modes, and choosing a location. The principles of office design and equipment selection also are covered.
Semester Credit Hours: 2.0

INTD 5030  Introduction to Patient Care
The first component of this course is an informatics module so that students become familiar with their new computers and are trained on specific software. In the second and overlapping component, students are assigned to a variety of small-group rotations in a clinical setting to prepare them for patient-care activities. In the first semester, the students are
required to become certified in basic life support. They also are required to rotate through a clinic orientation that is followed by a rotation as an assistant in the General Practice Groups. They are expected to follow proper infection control protocol and utilize some basic assisting skills. They also are required to rotate through a head and neck exam activity, followed with a patient activity in the second semester.

Second semester activities also include intraoral radiography technique, a clinic component of their periodontics, and school-based prevention courses, a sealant lab and clinic, and radiographic interpretation. Students are evaluated primarily on professional development expectations.

Semester Credit Hours: 5.0

INTD 6010 Evidence-Based Dentistry
Designed to help students establish an “evidence-based practice,” the course will provide students the opportunity to learn the skills necessary to evaluate and select new dental products and clinical procedures. This requires an ability to read and evaluate various sources of knowledge, including articles published in the dental and medical literature, advertisements, Internet sources, and continuing education programs. Lectures and readings are designed to provide a basic understanding of clinical research, epidemiology, and statistical procedures such that dental journal articles and other sources of knowledge can be critically evaluated. The long-range goal is to prepare the student to think critically and to make sound judgments regarding the acceptance of new knowledge, products, and procedures in private practice.

Semester Credit Hours: 1.0

INTD 6015 Case Conferences
As a series of eight conferences, this course is designed to enhance interaction between the basic and clinical sciences while providing a participative learning experience for students. The integrative, multidisciplinary academic format promotes an opportunity for students to develop the analytical, critical thinking, and problem solving skills essential for successful clinical practice. Pertinent topics not covered elsewhere in the curriculum may be included.

Semester Credit Hours: 0.5

INTD 6088 Clinic Introduction
The informatics module, one component of this course, is a continuation from the first-year module. Students continue training on a higher level of computer use. The clinical component of the course is a series of small-group rotations for distinct clinic modules including patient assessment, periodontics, caries detection, preventive methods, sealants, pulp testing, local anesthesia, oral surgery, radiographic technique recertification, radiographic interpretation, digital photography, constructing a stabilizing appliance, patient education, infant exam, and opportunities for assisting in various clinics with the Dental School at external sites. At the end of the sophomore year, students will have had the opportunity to become well acquainted with the clinic environment and techniques for initial patient visits scheduled for the summer clinic. Professional development expectations are emphasized in the overall evaluation.

Semester Credit Hours: 4.5

INTD 7020 Clinical Patient Management
This course is designed to help students develop skills in clinical behavioral dentistry through small group discussions, lectures, and routine patient treatment by application of the principles of coordinating patient care; communicating effectively with colleagues, staff, and faculty; and managing time, records, and environment. The students are required to manage their comprehensive care patients in the Junior Clinic following the principles presented in this course.

Semester Credit Hours: 5.0

MICR 5013 Microbiology
Foundation in immunology, bacteriology, virology, and mycology for all subsequent teaching of microbial pathology and oral infectious diseases is presented. Relevant aspects of preventive medicine and public health are included. Lab fee: $32.

Semester Credit Hours: 4.0

ORTH 6075 Sophomore Orthodontics Lectures
This introductory course emphasizes the etiology and diagnosis of orthodontic problems, orthodontic force systems, biomechanical principles of appliance design, and the biology of tooth movement.

Semester Credit Hours: 1.5

ORTH 6077 Growth and Development
This course is designed to present a comprehensive approach to the morphologic, biochemical, and physiologic aspects of human growth and development. A review of the control and influence of genetic, hormonal, and environmental factors on the various tissues and organ systems, from the embryonic period to maturity, with particular emphasis devoted to the functional development of the oral and perioral structures. Etiology of certain orofacial abnormalities of developmental nature is covered. This is a joint presentation by faculty of Pediatric Dentistry and Orthodontics departments.

Semester Credit Hours: 1.5

ORTH 7073 Junior Orthodontics Lectures and Case Analysis
This advanced lecture/case presentation series emphasizes the principles of orthodontic diagnosis and treatment planning for limited orthodontic procedures and the principles of comprehensive orthodontic therapy, interdisciplinary dentistry, and orthognathic surgery.

Semester Credit Hours: 1.0

OSUR 6051 Oral Surgery I
Didactic presentation of basic principles of oral & maxillofacial surgery is included in this course. Detailed instruction in biopsy technique, suturing, tooth removal, preparation of the mouth for dentures, and minor oral surgery is included. Lab fee included in general laboratory fee.

Semester Credit Hours: 1.5

OSUR 6056 Oral Surgery II
This is a didactic course dealing with aspects of local anesthesia as they relate to dental practice. Neuroanatomy, physiology, and pharmacology of local anesthesia are presented, as well as the prevention and management of complications and emergencies encountered in clinical local anesthesia.

Semester Credit Hours: 1.5
OSUR 6140  Nitrous Oxide and Conscious Sedation
This is a didactic and laboratory course presenting the fundamentals of patient anxiety control through the use of nitrous oxide conscious sedation for both the adult and child patient.  
*Semester Credit Hours: 0.5

OSUR 7051 - Oral & Maxillofacial Surgery Clinic
The junior Oral and Maxillofacial Surgery experience will be a concentrated exposure to the specialty. OSUR 7051 consists of clinical experiences and a self-study, “blackboard”-based course. Biweekly seminars will supplement the self-study course. Junior students will be assigned to the Oral and Maxillofacial Surgery service for four weeks. During this time they will treat patients in the outpatient OMS clinic, the University Hospital Clinic Downtown, and they will work in the OMS Suite. Outpatient dentoalveolar surgery will be the focus. Students will have an opportunity to administer nitrous oxide sedation and observe cases where intravenous sedation is used. Opportunities may also be available for a limited number of students to observe and participate in the OR, ER, and on rounds at the University Hospital.  
*Semester Credit Hours: 4.0

OSUR 8055  Advanced Oral and Maxillofacial Surgery
This course provides essential advanced information about Oral and Maxillofacial Surgery as it relates to the practice of General Dentistry and covered on the National Board exam. The course encompasses material on advanced dentoalveolar surgery, trauma management, reconstructive surgeries, management of sinus and salivary gland disease, cosmetic surgery and other entities managed by the Oral and Maxillofacial surgeon.  
*Semester Credit Hours: 0.5

OSUR 9000  Advanced Studies in Oral and Maxillofacial Radiology
The purpose of this course is to train and equip dentists to become more competitive in applying for Oral and Maxillofacial Radiology Resident Programs in the United States. The one-year internship program contains three sections: didactic, preclinical, and clinical. At the end of the year, the “student intern” will have had a broad exposure to all aspects of oral maxillofacial radiology. The “student intern” will be exposed to pre-clinical and clinical activities while attending didactic lectures and will be assigned pathology cases using different imaging modalities. Report writing for image interpretation will be stressed.  
*Semester Credit Hours: 1.0

PATH 6019  General Pathology
The fundamentals of human pathology, with emphasis on practical clinical applications, are presented. Lectures, independent study, and laboratory experiences are used in a review of the principal diseases of major organ systems. Lab fee included in general laboratory fee. $48 microscope fee.  
*Semester Credit Hours: 5.0

PATH 6021  Oral Pathology
This didactic course introduces the basic pathological changes that occur in oral tissue. Lectures are supplemented by Kodachrome®P illustrations with emphasis placed upon histoclinical correlation.  
*Semester Credit Hours: 4.0

PATH 7023  Oral and Maxillofacial Pathology - Clinicopathologic Conference
This course is a series of 14 clinicopathologic conferences presented in an interactive case-based/clinical problem-solving format. Students will be expected to apply their fund of basic science knowledge learned in the prerequisite didactic pathology courses to simulated clinical practice situations. Cases will be discussed systematically utilizing the S.O.A.P. format (Subjective, Objective, Assessment, Plan). Students are required to complete and turn in a worksheet and self-assessment for each case. Students are expected to read articles from current scientific literature posted on the course Blackboard Web site and take the online challenge examinations. Lectures on the critical topics of head and neck cancer and skin cancer will be given by the course director.  
*Semester Credit Hours: 1.0

PEDO 6015  Case Conferences
As a series of eight conferences, this course is designed to enhance interaction between the basic and clinical sciences while providing a participative learning experience for students. The integrative, multidisciplinary academic format promotes an opportunity for students to develop the analytical, critical thinking, and problem solving skills essential for successful clinical practice. Pertinent topics not covered elsewhere in the curriculum may be included.  
*Semester Credit Hours: 0.5

PEDO 7041  Pediatric Dentistry Lecture
This course covers development of the dentition, preventive and interceptive orthodontics, trauma and pulp therapy in primary teeth, pediatric restorative dentistry, periodontics, pediatric oral pathology and surgery, preventive dentistry, behavior management, and special problems in children.  
*Semester Credit Hours: 1.0

PEDO 7091  Pediatric Dentistry Clinic
Clinical experience with child patients gives students the opportunity to gain clinical judgment and proficiency while practicing comprehensive dentistry for children. Areas of competency include prevention, examination, diagnosis and treatment planning, local anesthesia, operative dentistry, pulpal therapy, oral injuries, oral surgery, preventive and interceptive orthodontics, behavior management, maintenance care, and periodontics.  
*Semester Credit Hours: 2.0

PERI 5081  Periodontics I
Freshman Periodontics is the first in a series of required courses designed to provide the opportunity for the student to learn the knowledge, skills, and values to manage patients with periodontal diseases. Students will have the opportunity to learn foundation information related to periodontal diseases and acquire fundamental periodontal clinical skills used in evaluating the periodontal status of patients and for performing some types of periodontal therapy. This course includes classroom discussion as well as preclinical exercises. Topics covered include features of the healthy and the diseased periodontium, the diagnosis of all periodontal diseases, the etiology of periodontal diseases, and clinical decision making.  
*Semester Credit Hours: 1.5
PERI 6082  Periodontics
Sophomore Periodontics is the second in a series of required courses designed to provide the opportunity for the student to learn the knowledge, skills, and values to manage patients with periodontal diseases. Students will have the opportunity to learn how to plan and to perform nonsurgical or initial periodontal therapy. This course includes classroom discussion as well as preclinical exercises. Topics covered include mechanical and pharmacotherapeutic therapies for patients with periodontal diseases, decision making in planning periodontal therapy, and how to manage periodontal patients in a general practice setting. Microscope fee: $48
Semester Credit Hours: 2.5

PERI 7059  Implantology
Through lecture sessions, this introductory course offers students an opportunity to obtain both background and knowledge regarding accepted dental implant systems.
Semester Credit Hours: 1.0

PERI 7081  Periodontics
This course is an expansion of the foundation presented in the sophomore year. Surgical treatment planning, rationale, techniques, and wound healing are emphasized. A three-hour surgical laboratory exercise is included. Periodontal interrelationships with prosthodontics, endodontics, and orthodontics are examined in case presentation formats with student participation.
Semester Credit Hours: 1.5

PERI 8015  Periodontics
This lecture course is a comprehensive review of current periodontal topics. Topics include those that should be employed in the diagnosis, treatment planning, and management of periodontal diseases in a general dentistry practice setting. Both non-surgical and surgical treatment approaches will be discussed.
Semester Credit Hours: 0.5

PHAR 5001  Pharmacology
This course is a study of the general principles of action of drugs used for the treatment and alleviation of symptoms of medical and dental diseases including pharmacodynamics of major drug groups, toxicology, and contemporary prescription writing.
Semester Credit Hours: 4.0

PHAR 8009  Pharmacotherapeutics
The emphasis of this course is on understanding the rationale, indications, and contraindications for prescribing pharmacologic agents in dentistry. Consideration of the pharmacologic agents that the patient may be taking at the time of the dental visit is emphasized.
Semester Credit Hours: 2.0

PHYL 5013  Dental Physiology
Lecture instruction in the basic concepts of cell and organ function and in the integrated function of mammalian organ systems is presented. The physiology of the nervous system is included. (Students may elect to substitute CSBL 5019 - Gross Human Anatomy for Graduate Students for this course.)
Semester Credit Hours: 6.5

PROS 6011  Prosthodontic Treatment for the Edentulous Patient
This is a lecture series designed to provide the basic concepts and principles of fixed prosthodontics, involving single and multiple restorations; the rationale and methodology for full and partial veneer preparations; and the fabrication of restorations and the restoration of endodontically treated teeth.
Semester Credit Hours: 2.5

PROS 6012  Preclinical Prosthodontic Treatment for the Dentate/Partially Dentate Patient
A laboratory course with exercises that include steps involved in the fabrication of crowns and short span, fixed partial dentures. Major emphasis is placed on restoration design and clinically related phases of restoration planning and construction. Projects include coverage of the metal ceramic technique, use of conventional Type III dental gold alloy, and development of natural-appearing tooth contours with restorative material systems. Principles of tooth preparation and restoration design are applied to the fabrication of single crown and multiple abutment restorations. Lab fee included in general laboratory fee.
Semester Credit Hours: 4.0

PROS 6018  Prosthodontic Treatment for the Edentulous Patient
An introduction to the diagnostic, treatment, and maintenance phases in the rehabilitation of an edentulous patient is presented. Lecture topics include biomechanics of the endentulous state, clinical examinations and diagnosis, endentulous impressions, maxillomandibular relations, denture esthetics, denture occlusion, initial placement of complete dentures, and post-placement care and maintenance of an edentulous patient.
Semester Credit Hours: 1.0

PROS 6019  Preclinical Prosthodontic Treatment for the Edentulous Patient
A preclinical laboratory course introducing, demonstrating, and exercises in the laboratory phases of the fabrication and repair of complete dentures is presented. Students will be expected to reach the proficiency level required to satisfactorily perform the laboratory and clinical tasks assigned in subsequent courses and to assess those procedures generally performed by dental laboratory technicians. Lab fee included in general laboratory fee.
Semester Credit Hours: 2.0

PROS 6058  Implant Prosthodontic Treatment for the Edentulous and Partially Edentulous Patient
This is a preclinical participation course providing instruction and exercises in many phases relating to implant dentistry. Participation in this preclinical laboratory will provide the student with experience in planning implant therapy, placing implants, making implant impressions, fabricating provisional restorations, and performing other implant-related procedures.
Implantology fee: $500.
Semester Credit Hours: 1.0
PROS 6059  Implant Prosthodontic Treatment for the Edentulous and Partially Edentulous Patient
A lecture series designed to orient sophomore dental students to the overall clinical issues inherent to implant dentistry. Lecture topics include the biology and biomaterials of dental implants, patient selection and treatment planning, restorative potential of dental implants, nomenclature and components of implant systems, prosthetic and surgical considerations for implant placement, and implant maintenance.
*Semester Credit Hours: 0.5*

PROS 6094  Removable Prosthodontics for the Partially Edentulous Patient
A preclinical lecture course stressing the association of biological and mechanical principles in planning and constructing removable partial dentures. Emphasis is placed on establishing a proper working relationship with commercial dental laboratories.
*Semester Credit Hours: 2.0*

PROS 6095  Preclinical Removable Partial Denture-Lab
Exercises associated with the lecture course including diagnosis, treatment planning, survey and design, and the construction technique of removable partial dentures are presented. Lab fee included in general laboratory fee.
*Semester Credit Hours: 0.5*

PROS 7018  Fixed Prosthodontics
This course is designed to be adjunct to and to complement the preclinical course so that the student correlates previous instruction in the clinical care of patients in need of crowns and/or fixed partial dentures.
*Semester Credit Hours: 1.0*

PROS 7019  Fixed Prosthodontics Clinic
This clinical course consists of diagnosis and treatment planning, instruction in making complete and partial veneer crown preparations and modifications, management of supportive tissues, provision of adequate pain control for restorative procedures, fabrication and insertion of provisional as well as cast restorations, and instruction to patients in the care and maintenance of restorations.
*Semester Credit Hours: 1.0*

PROS 7091  Removable Partial Denture Prosthodontics
This didactic course is designed to acquaint the student with a variety of approaches that may be used in treating the partially edentulous mouth. Lectures cover critical steps in treatment of the partially edentulous patient, stabilization of periodontally weakened teeth, intracoronal and other attachments used in partial denture construction, swinglock partial dentures, removable partial overdentures, and cancer therapy as it relates to prosthodontic treatment.
*Semester Credit Hours: 0.5*

PROS 7092  Removable Partial Denture Prosthodontics Clinic
A clinical experience designed to place continued emphasis on diagnosis, treatment planning, design principles, mouth preparation, and dental laboratory coordination. The student is given the opportunity to correlate biological and mechanical information in clinical care of patients requiring removable partial dentures. The student is required to complete treatment for one partial denture patient during the junior year.
*Semester Credit Hours: 1.5*

PROS 7095  Complete Denture Prosthodontics Lecture
This course offers a series of lectures designed to present more sophisticated concepts in the prosthodontic treatment of edentulous and partially edentulous patients not included in previous courses. Lecture topics include preparation of the tissues for dentures, complete denture esthetics, occlusal systems for complete dentures, single complete dentures, immediate dentures, overdentures, maintenance care for the complete denture patient, and relining of dentures.
*Semester Credit Hours: 1.0*

PROS 7099  Complete Denture Prosthodontics Clinic
This clinical course consists of diagnosis and treatment planning, management of supportive tissues, fabrication and placement of complete dentures, and instruction to patients in the care and maintenance of complete dentures. The clinical experiences encourage students to correlate biological and biomechanical information into the prosthodontic treatment of edentulous and partially edentulous patients.
*Semester Credit Hours: 2.5*

PROS 8001  Dental Implantology
This course is designed to be an ever-evolving lecture series designed to provide senior dental students with more information regarding advanced topics in implant dentistry. The premise of this course is to provide evidenced-based materials regarding the latest information and current topic of interest in the field of implant dentistry. Lecture topics may include but are not limited to advanced treatment planning, immediate provisionalization (Non-loaded) of dental implants, the controversy of connecting an implant to a natural tooth, implant esthetics, advanced prosthodontic techniques, and implant and the maxillofacial patient.
*Semester Credit Hours: 0.5*

RESD 5001  Biomaterials I
An introduction to fundamental physical, mechanical, and chemical properties of materials is provided. Lectures include basic introductions to the fields of metals, polymers, and ceramics.
*Semester Credit Hours: 1.0*

RESD 5004  Dental Anatomy and Occlusion
This course is designed to teach the freshman dental students the anatomical, morphological and functional aspects of the oral cavity, as well as to introduce terminology used by oral health professions. More specifically, the course aims to expand his/her knowledge of the dentition, supporting structures, and to provide students with a detailed study of normal occlusal relationships in the various jaw positions.
*Semester Credit Hours: 2.0*

RESD 5005  PCL Dental Anatomy and Occlusion
This course is designed to provide the freshman dental student practice in applying the knowledge presented in the Dental Anatomy and Occlusion didactic course. Additionally, it is
intended to develop the manual dexterity and eye-hand coordination necessary to perform laboratory and clinical tasks that will be required for clinical practice.

Semester Credit Hours: 3.0

**RESD 6001** Operative Dentistry
Lectures provide basic restorative philosophy and techniques in cavity design, instrumentation, and restorative materials manipulation used in modern dentistry. These lectures are designed to augment the preclinical projects conducted in the laboratory that provide simulation of clinical conditions.

Semester Credit Hours: 2.5

**RESD 6002** Preclinical Operative Dentistry
Preclinical projects provide students an opportunity to practice skills presented in the lecture course. Exercises include mixing and placement of interim restorative materials, glass ionomer, silver amalgam, and composite resin. Lab fee included in general laboratory fee.

Semester Credit Hours: 3.5

**RESD 6102** Biomaterials II
A didactic introduction to dental materials by classification, this course describes the manipulative and technical aspects of each existing material category and relates the basic physical, mechanical, and chemical properties to the desired end use so that intelligent choices may be made as new materials become available.

Semester Credit Hours: 1.0

**RESD 6108** Tempomandibular Disorders
This course is designed to provide students with a comprehensive approach to the diagnosis and sequential management of patients with temporomandibular disorders.

Semester Credit Hours: 1.0

**RESD 7010** Operative Dentistry
A series of lectures designed to present more sophisticated didactic material in areas not included in the first and second year preclinical courses. This course serves as a forum for discussion of individual clinical problems and their solutions that are of interest to the class as a whole.

Semester Credit Hours: 1.5

**RESD 7011** Operative Dentistry Clinic
Students are given the opportunity to commence the clinical practice of operative dentistry. Each student is expected to achieve competency in the restoration of teeth with various restorative materials. Students' application of knowledge of proper patient management is assessed.

Semester Credit Hours: 4.5

**RESD 7050** Esthetic Dentistry
The course examines the subtle and individual issues of dental esthetics and addresses facial contours, tooth arrangement, individual tooth contours, and tooth shade. The laboratory phase emphasizes the principles of dental esthetics during the fabrication of a porcelain laminate veneer restoration.

Semester Credit Hours: 1.5

**RESD 8051** Senior Esthetic Dentistry
This course is designed to present available alternatives in esthetic dentistry, indication and clinical applications for each alternative, new materials designed for the concepts of esthetic dentistry, and appropriate methods of patient communication and patient management. Emphasis will be placed on clinical applications, efficacy of materials, precise communication with the laboratory concerning veneer shade information, and methods of doing chairside color modifications.

Semester Credit Hours: 0.5

**SELC 7007** General Practice Dental Emergency Care (DECC)
The Dental Emergency Care Course (DECC) is designed to provide practical clinical experience in the diagnosis and treatment of emergency dental care problems. The course includes, on a limited basis, more comprehensive treatment of patients of record where it is determined that an acute problem might develop if comprehensive treatment or retreatment is delayed. DECC is conducted during the summer months from the end of Junior Clinic in May until the beginning of Senior Clinic in August. Two students will be required to cover emergencies during the Christmas holiday period and Spring Break. 4 students/400 hrs. clinic @ 35 hrs. wk./summer/1–5 June/8–5 May & July/Rising DS 4.

Semester Credit Hours: 0.0

**SELC 7009** Orthodontic Summer Clinic
This course gives the student an opportunity to work with orthodontic graduate students treating comprehensive cases. Students will have the opportunity to actively participate in all aspects of patient care and resident training.

Semester Credit Hours: 0.0

**SELC 7010** Commissioned Officer Student Training and Extern Program (COSTEP) Clinical Assignment
Health professional students, including dental students, are commissioned as reserve officers in the Public Health Service Commissioned Corps and called to active duty for further professional clinical training during summer months (U.S. citizenship required). Assignments of dental students are made according to the training and skills of the applicants and the needs of the PHS agencies. The agency that predominantly selects dental students for clinical assignments is the Indian Health Service. The deadline for application is December 31 each year. Application packets are available from the Public Health Service (http://www.usphs.gov) and the Dental Dean's Office. Duration of assignment is 31–120 days. Attendance is mandatory and failure to complete or withdraw from the course will result in a WF entry on the student's transcript. 160 clinic hrs/2–5 students (varies)/31–120 days/Rising DS 4.

Semester Credit Hours: 0.0

**SELC 7011** Community/Clinical Externship Program
Rising senior students are selected to provide dental care to patients enrolled in community clinics that are affiliated with the Dental School under the supervision of the community clinic dental directors. The clinics are located primarily in communities along the U.S./Mexico border of Texas. Rising sophomore and senior students will be selected to develop and implement patient education and community outreach services for the clinic. Duration of assignment will be 2–4 weeks in accordance with the schedules of the on-site dentist supervisors. Attendance is mandatory and failure to complete or withdraw from the course will result in a WF entry on the student’s transcript. Application for this externship program is made through Dr. Neenan’s office. 40 hrs clc/field work/35–45
In this elective course, the student, with guidance of the mentor, is required to review the literature and develop a research protocol. Credit for the elective course will be awarded by the mentor contingent on the approval of the protocol by the mentor and the Associate Dean for Research. To apply for this elective, the student must be in good academic standing as determined by the Associate Dean for Academic Affairs. If placed on academic probation, students may become ineligible to complete the elective course. Enrollment in this elective may be extended through the following semester, provided that the Associate Deans for Research and Academic Affairs approve the extension and the mentor reports satisfactory progress. A student may withdraw from this elective course at any time without recording of withdrawal on the transcript. By arrangement/year round.

Semester Credit Hours: 0.0

**SELC 7028** Special Research Elective: Completion of Individually Designed Research

In this elective course the student, with guidance of the mentor, will complete individually designed research following the approved protocol. The student must continue to be in good academic standing to apply for and to complete this elective course. Enrollment in this elective can be extended from semester to semester when the mentor reports satisfactory progress. Student participation in the AADR student research fellowships or NIDCR summer Research Training Programs fulfills the requirements of the elective. Withdrawal from this elective course will result in entry on the transcript as WP or WF as determined by the mentor. Credit for the course is contingent on verification by the mentor that the research has been completed satisfactorily up to abstract submission and acceptance at a national/international scientific meeting. By arrangement/year round.

Semester Credit Hours: 0.0

**SELC 7029** Special Research Elective: Manuscript Preparation and Presentation of Individually Designed Research

In this elective course, the student, with guidance of the mentor, is required to help prepare an abstract and extended abstract, not to exceed six pages, suitable for incorporation into a peer-reviewed publication. The student must also present their research at a national/international scientific meeting and the annual Dental School Science Symposium. A copy of a published abstract, the extended abstract, and paperwork showing completion of all required coursework must be submitted to the Dental School research committee by the end of March the senior year for review. A student must be in good academic standing to participate in this elective course. The mentor will award a grade for the elective course. Withdrawal from the elective course will result in entry on the manuscript as WP or WF as determined by the mentor. By arrangement/year round.

Semester Credit Hours: 1.5

**SELC 7032** Pediatric Dentistry Clinical Externship Program

Rising senior students are selected to provide comprehensive dental care to pediatric patients attending the Dental School Pediatric and Santa Rosa Dental Clinic and Salinas Clinic during the summer. This externship program is a supervised clinical experience in diagnosis, treatment planning, and active treatment of patients. Participants will be selected from the list of students who register for the program. Attendance is mandatory and failure to complete or withdrawal from the course will result in appropriate entry on the transcript. Summer/36 hours week/24 Rising DS 4.

Semester Credit Hours: 2.0

**SELC 7088** Community Service Elective

This elective offers an opportunity for students to receive up to 1.5 credit hours for 10–45 hours of documented community service. Service hours can be filled by participating in school-wide or community agency service projects or helping the Department of Community Dentistry with health fairs. Students will be able to choose the activities that they participate in from a list of approved activities. The service activities will take place during hours outside the curriculum (usually weekend; some evenings/pending availability of the student). This elective is open to all students. By arrangement/DS 1–4/Dean’s Office/10–45 hours.

Semester Credit Hours: 0.5–9.0

**SELC 7090** Air Abrasion in Dentistry

This is a course on the uses of air abrasion technology. It is designed to better prepare students to use the technology in the clinic.

Semester Credit Hours: 0.0

**SELC 7091** Selected Topics in Head & Neck Anatomy

This elective will provide students an opportunity to explore selected aspects of head and neck anatomy in greater depth than can be achieved in the first-year anatomy course. Topics for further study are to be agreed upon by the student and the course director. The principal method of achieving the objective of this course is dissection. In consultation with the course director, these dissections will be planned to produce specimens that display anatomical relationships not readily demonstrable in routine dissections. Selection of participants in this elective will be based on a written statement by the student describing the anatomical area of interest and its relationship to clinical dentistry and on the student’s previously demonstrated dissection skill. Failure to complete or withdrawal from the course will result in an appropriate entry on the transcript. Two students/June/Rising DS 2, 3, 4/30 hours week.

Semester Credit Hours: 1.0

**SELC 7094** Special Teaching Elective: Teacher Training

This course is designed to introduce students to many aspects of an academic dental career. Lectures will present teaching methods for use in clinical and didactic situations, preparation of audiovisual aids, philosophies of teaching, information technology in education, mentoring skills, and faculty issues.
such as benefits packages and promotion-and-tenure systems. The course is the first of a series of three electives that will be offered as part of an Honors Program in Teacher Training. Students will be selected from the list of students who register for the course. Withdrawal with notification is permitted at any time without recording on the transcript. 10 hours lecture week/unlimited/Rising DS 2, 3, 4.
Semester Credit Hours: 1.0

**SELC 7095  Special Elective: Teaching Experience**

This course is designed to introduce students to the teaching aspects of an academic career. Students will have the opportunity to work alone or in small groups to prepare and deliver presentations for lecture, preclinical, and small-group teaching settings for undergraduates. The course is the second of three electives that will be offered as part of an Honors Program in Teacher Training. Year round.
Semester Credit Hours: 1.0

**SELC 7096  Special Teaching Elective: Project Summary & Evaluation**

This course is designed to allow the student the opportunity to achieve two goals. First, students will be asked to prepare a manuscript-style report on the project undertaken by the student for Graduation with Honors in Teacher Training. Second, the students must complete a survey/exit interview to evaluate the experience that they had teaching, and will receive critiques of their efforts from faculty, course directors, peers, and students. The course is the third of three electives that will be offered as part of an Honors Program in Teacher Training. Year round.
Semester Credit Hours: 1.0

**SELC 7097  Preclinical Orthodontic Techniques**

DS 2 students will have the opportunity to learn the necessary skills to fabricate appliances for conducting limited treatment, orthodontic problems. This is an ungraded selective. Withdrawal is permitted before the 2nd session of the selective without transcript recording, but subsequent withdrawal or failure will be recorded on the transcript. Students must complete this course to be eligible for Invisalign certification. Spring/20 lab hrs/60 sophomore students.
Semester Credit Hours: 0.5

**SELC 7098  Personal Financial Planning for the Dental Student**

This course is designed to introduce dental students to the basic principles of personal financial planning. Through a combination of in-class presentations, group discussions, and between-class individual projects involving the financial considerations of a simulated couple, the basic aspects of financial tracking, financial goal setting, tax oversight, credit management, insurance considerations, investment decisions, and estate planning will be discussed and reinforced. At the completion of the course, each student will have had the opportunity to learn to become capable of: 1) calculating and tracking personal net worth; 2) creating and analyzing a personal budget; 3) developing and maintaining personal financial goals; 4) evaluating credit and debt decisions; 5) calculating disability and life insurance needs; 6) understanding the basic characteristics of stocks, bonds, and cash equivalent investments; 7) understanding the instruments available for retirement saving; and 8) understanding the basic aspects of wills and trusts. Withdrawal, with notice to the course director, is permitted before last session without transcript recording. 12 hours lecture/10 students/summer/June 1–5, 2009 1–3 pm each day (except for the 5th, 10–12 & 1–3)/Rising DS 2, 3, 4.
Semester Credit Hours: 0.5

**SELC 7106  Endodontics Pain Research Selective**

This selective will provide advanced training in basic or clinical research on orofacial pain mechanisms. This course is ideal for those students interested in pursuing the research honors program or a PhD program. By arrangement/juniors & seniors/24 students/Contact course juniors and seniors director for estimated time commitment.
Semester Credit Hours: 0.0

**SELC 7107  Periodontal Flap Design**

Each participant is required to attend lecture and seminar presentations, and participate in laboratory sessions devoted to learning the fundamental aspects of periodontal flap surgery. The learning activities will include (1) seminars on flap design, surgical anatomy, and avoidance of complications; (2) video presentations of periodontal surgical techniques; (3) bench-top exercises in flap design and creation; and (4) bench-top exercises in periodontal suturing. Recorded as CR (successful completion) on the transcript. Withdrawal at any time, with prior notice to the course director, is permitted without transcript recording. Spring/16 seniors/6 DS 4 students/five 2-hour presentations/Wednesdays 10–12.
Semester Credit Hours: 0.0

**SELC 7108  Basic Periodontal Surgery**

Each dental student will have the opportunity to participate in the surgical treatment planning, surgical procedure (both as an assistant and surgeon), and postoperative follow-up care of one periodontal surgical procedure (e.g., flap for access and crown lengthening). Second- and third-year periodontal postdoctoral students will mentor each case. For this selective, all surgeries and POT visits take place on Wednesday mornings only. The first meeting of the selective will be an orientation to discuss the logistical plan, time commitments, student expectations, fee structure, etc. Approximately three hours of lecture will also be included. The remaining sessions will be in the Periodontics Postgraduate Clinic. To accommodate the scheduling of the surgery and to include the postoperative operative appointments, which are performed at 1, 2, and 6 weeks after surgery, students must be available throughout the elective time period noted above (keep in mind your rotation and other selective schedules). Spring/six DS 4 students/seven ½ days/3 lecture, 10 clinics.
Semester Credit Hours: 0.0

**SELC 7109  Graduate Orthodontic Clinic Rotation**

The objective of this selective is to provide interested undergraduate students with the opportunity to assist orthodontic graduate students performing comprehensive orthodontic treatment. Students must have completed SELC 7097 Preclinical Orthodontic Techniques to participate, since they will be asked to perform clinic procedures other than assisting. Three students can participate in each of the five
graduate clinic sessions held each week, Tuesday and Thursday – all day; Wednesday – p.m. session only. The number of sessions each person can attend will depend on the number of eligible students who apply. By arrangement/fall & spring/juniors & seniors/16 clinic hours per semester. Semester Credit Hours: 0.0

SELC 7113 Women’s Health Seminar (online course)

This is a multi-professional course on some special health issues unique to women. The goal is to sensitize interested dental students to these issues and inform them of important questions and special examination techniques that they should incorporate into their patient assessment and treatment planning strategies. Five main health topics will be covered: Ethics, Bone Health, Impact of Socio-cultural Roles on Women’s Health, Cardiovascular Health, and Maternal Oral Health. Additionally, students are required to choose five topics from the remaining 25 online lectures, for a total of 10 lecture hours. Students must answer pre- and post-test questions for each lecture viewed.

*Course Format: This is an online, interactive course in two phases:
Phase I – Lecture: there are 27 virtual women’s health lectures on line. You must select a minimum of 10 to view.
Phase II – Discussion Board with the following components:
You will see a list of 25 topics with the top 2 publications for each topic.
1) You must read ONE of the publications for one topic.
2) You must enter onto the discussion board your reflection of the article and a summary.
3) There will be other entries on this discussion board—you must respond to one of these entries. You must enter any experience you had with a woman patient. There will be other entries on the discussion board; you must respond to one other entry. Your responses to other entries can take a variety of forms. If you agree, you can comment further; if you disagree, you can state why; if you want to share a similar experience, ask advice, etc. This is a new course and we will see what form these discussions take. Your evaluation is based on completing the assignment. It is a credit/no credit (F) entry. Summer/DS 1–4. Semester Credit Hours: 0.5

SELC 7120 Preventive Dentistry Outreach

Paired groups of DS I students are required to participate in a three-week Rotation during the summer session between the freshman and sophomore years. The students will be based at Mercy Ministries of Laredo. Students must participate in outreach to include dental education on dental disease prevention and oral health promotion and will work alongside clinic outreach staff (e.g., Promotoras and Social Workers) and dental care providers (dentist, dental hygienists, and dental assistants). Activities will include clinical preventive patient education, dental surveys, and dental assisting. Students are required to develop a health promotion and disease prevention project (e.g., patient handout, educational flip chart, presentation, etc.). This tool will be implemented and continue to be used in future outreach by the program. Students will also have the opportunity to rotate to the office of a private practitioner as a part of this program. This is a work-study selective; students will be employed by UTHSCSA and receive selective credit. Ability to communicate in Spanish is essential. Three-week rotation/Rising DS 2/June & July/6–8 students/9-5. Semester Credit Hours: 0.0

SELC 7121 Heroes for the Homeless: Innovative Strategies for Teaching Dental Students about Cultural Competency

Didactic, clinical, and social courses and experiences relative to providing dental care to a portion of the homeless population of San Antonio, Texas will be provided to the senior dental student. On-campus activities include clinical medicine courses relative to this patient population. In addition, students must also travel to select homeless shelters in San Antonio and provide basic dental care, and coordinate and interact with social case workers managing socioeconomic issues for this patient population. Students must document their experiences throughout this 16-week selective via photos and blogs on a course Web site. Enrolled students must present a collaborative PowerPoint presentation to freshman, sophomore, and junior dental students highlighting new-found knowledge and increased confidence acquired during this selective. Spring, fall, & spring/20 DS 4 students. Semester Credit Hours: 0.0

SELC 7130 Introduction to Graduate Prosthodontics

This course intends to familiarize students with a graduate prosthodontics residency. Participants will be introduced to complex and challenging situations in clinical prosthodontics through a series of lectures, pertinent literature reviews, patient diagnosis and treatment planning seminars, demonstrations of clinical patient treatment, and the laboratory procedures that support treatment. Withdrawal, with notice to the course director, will be permitted without recording of the withdrawal on the student’s transcript. Summer/2 weeks (July) 8–5/Rising DS 3 & 4 (1st priority to DS 3 students). Semester Credit Hours: 2.0

SELC 8023 Wonderful World of Periodontics

Periodontal therapy includes a variety of sophisticated surgical modalities with many different objectives. Having a basic understanding of these surgical procedures and their outcomes can give a general dentist a basis for improving communications with patients related to periodontal treatment needs. This course will showcase advanced periodontal surgical procedures and their outcomes through case presentations made by Periodontics postdoctoral students. The case presentations will include four one-hour brown-bag discussions each moderated by a different 2nd- or 3rd-year postdoctoral student. Spring/4 one-hour, noontime presentations (dates tba)/freshmen, sophomores, juniors, & seniors/150 students max. Semester Credit Hours: 0.0

SELC 8032 Senior South Texas Rotation

Senior dental students will be required to provide basic dental care and preventive services to patients in a community-based clinic in South Texas. The participating community clinic and time schedules will be available in the Dental Dean’s Office/Office of External Affairs. A minimum of 2 weeks will be scheduled by arrangement. Attendance is required. Withdrawal permitted with appropriate transcript entry. Seniors may
participate for a maximum of 4 weeks based on availability. Housing will be provided. Participants will be scheduled based on the list of students who register for the course. Students must complete evaluation forms at the end of the rotation. 

**Rising DS 4 by arrangement/60 students/2 week rotation/80 hours clinic.**
  
  **Semester Credit Hours: 0.0**

**SELC 8035 Mobile Van Mission Dental Care Program**

Dental students at all levels of education and experience participate in a primary care/preventive dentistry elective training program in which primary dental care is provided in a non-conventional setting, using mobile dental care facilities and/or portable dental equipment. Students participate in accordance with their level of training and ability, by providing needed dental care to patients of all ages from lower socioeconomic border areas of Texas and Mexico, as well as other dentist shortage areas in Texas, thus becoming familiar with the oral health needs of various segments of the population.

Dental care is provided under the direct supervision of Dental School faculty, including adjunct faculty from the private sector. The mission trips are coordinated and organized by the San Antonio Christian Medical-Dental Association. Medical teams are also located at each dental clinic manned by physicians, nurses, and medical students, thereby coordinating care and providing an opportunity for interdisciplinary training with medical disciplines. By arrangement/20 hours clinic.

**Semester Credit Hours: 0.0**

**SELC 8060 Advanced Graduate Clinic Rotation**

This course is designed for the student who is seriously considering specializing in orthodontics upon graduation from Dental School. The student will be trained in all facets of clinical orthodontics and will be expected to perform a variety of orthodontic procedures on patients under the supervision of clinical faculty and residents on a regular basis. Students must complete a minimum of 40 clinical hours per semester for credit. 

**Fall & spring/40 clinic hours per semester.**

**Semester Credit Hours: 1.5**

**SELC 8094 Enteral Conscious Sedation and Emergency Procedures**

This is the TSBDE approved two-day course in oral sedation. This course is necessary in order to apply for and be granted a permit in Enteral Sedation by the State Board of Dental Examiners. 

**Seniors only/14 lecture hours/spring/May.**

**Semester Credit Hours: 0.5**

**SELC 8099 Orthodontic Literature Review**

Selectees will have the opportunity to review classic articles in clinical and research areas of Orthodontics. This course is designed to provide a springboard for those students entering graduate programs. Withdrawal will be permitted at any time without recording of the withdrawal on the transcript. Two absences will be permitted. Participants will be selected from the list of students who register for the course. 

**Spring/six 2-hour evening sessions by arrangement with course director/12 students/juniors & seniors/12 seminar hours.**

**Semester Credit Hours: 0.0**

**SELC 8117 CAD-CAM (Cerec 3d) Dentistry**

The course consists of four half-day sessions and is designed for students who will intensify their clinical skills of CAD-CAM dentistry. Students will be given the information needed to keep up-to-date with the latest techniques and software. A maximum of 8 students are encouraged per course session. 

**Semester Credit Hours: 0.5**

**SELC 8160 Molar Endodontic Selective**

This course is designed to allow students to develop skills and appreciation for endodontics therapy on uncomplicated molar cases. It is a self-paced course that involves VitalBooks and Web-based (BlackBoard) reading assignments, video reviews, and hands-on pre-clinical projects on extracted molar teeth.

Students who successfully complete this course and go on to complete two molar cases to the satisfaction of the supervising endodontics faculty, will be qualified to perform endodontics therapy on selected molar cases in the General Practice Clinic. Completion of ENDO 6041 and 6142 are required, as well as successful completion of one simple (singlerooted) clinical case, demonstrating good basic understanding of principles and procedures. Withdrawal is permitted at any time without recording on the transcript. 

**Year round/by arrangement.**

**Semester Credit Hours: 1.0**

**SELC 8175 Geriatric Dentistry**

Senior dental students will have the opportunity to provide primary dental care and prevention services to a dynamic and diverse population of medically and functionally challenged older adults. In the 10 clinic sessions scheduled by arrangement at the Extended Care Therapy Center at South Texas Veterans Health Care System, senior dental students will review a patient’s medical history, medical problems, medications, physical disabilities, sensory deficits, psychosocial status, and environmental factors, as well as review previous dental treatment. These variables will be assessed and used to determine the impact these factors may have on the dental management of the patient. Students, with their faculty supervisor, must develop dental treatment plans and will have the opportunity to provide dental treatment to these patients. Withdrawal from the selective, with notice to the course director, will be permitted at any time without recording of the withdrawal on the transcript. 

**Summer/40 hrs/Wed. 1–5/10 Rising DS 4.**

**Semester Credit Hours: 1.0**

**SELC 8176 Advanced Oral & Maxillofacial Radiology Selective**

Students will have the opportunity to work with oral and maxillofacial radiology residents under the supervision of the program director. Students will have the opportunity to learn about Cone Beam CT technology and the different machines the program operates, as well as learn about the selection criteria. He/she will have the opportunity to observe and participate in the report writing service that the Oral and Maxillofacial Radiology (OMFR) program provides on a national level.

**Semester Credit Hours: 0.0**

**SELC 8180 Senior Selective in Oral Medicine**

This is a seminar-based course designed to expose the student to a series of clinically relevant and challenging oral medicine cases. The goal is to expand on Competency 01
(Graduates must be competent in patient assessment and diagnosis) as it pertains to the management of the medically complex patient. This course is open to all, but is specifically targeted for students who are contemplating or planning to apply to a General Practice Residency, an Advanced Education General Dentistry program, an oral and maxillofacial surgery residency, or residency in periodontics. Attendance is mandatory and failure to complete or withdraw will result in appropriate entry on the transcript. Summer/Mondays 1–5/10 Rising DS4. Semester Credit Hours: 0.0

SELC 8181 General Dentistry Implant Selective

This course provides a select group of DS-IV students who are planning to become general dentists the opportunity to place and restore implants. The course will consist of a pre-clinic rotation during the summer break, followed by didactic and clinical sections during the course of the academic year. Patients will present with uncomplicated implant placement. Semester Credit Hours: 0.0

SELC 8185 FAST CATS: Academic Detailing

Participants will attend a two-day “Evidence-Based Practice: Academic Detailing” workshop, prepare two Critically Appraised Topics with a faculty member, receive training in academic detailing skills, and visit five private-practice dental offices during the summer break. The office visits may be made in the student’s hometown or anywhere in the U.S. The purpose of the visits is to present and receive feedback on new concepts. Semester Credit Hours: 1.0

SELC 8528 Oral and Maxillofacial Surgery Senior Selective

This course is designed to provide additional clinical experiences in support of the competency statements for the school specifically as they relate to the management of more difficult Oral Surgery patients. During the rotation, students will be encouraged to attend hospital rounds and scheduled resident and student seminars. The majority of clinic time will be treating more difficult clinic cases. Management of patients with multiple system disease and more difficult surgeries will be emphasized. Every attempt will be made to assign students cases where the high-speed surgical drill is required. The rotation is a minimum of 2 weeks in length. The time scheduled in the OMS clinic will be determined by departmental needs and availability of space. Any students interested in observing in the Emergency Clinic in the hospital please contact Dr. Spackman. Students are required to attend all clinic sessions for which they have signed up. Summer/18 Rising DS 4. Semester Credit Hours: 0.0
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<tr>
<td>Thursday, April 26, 2012</td>
<td>Term Ends</td>
<td>DDS Year 4</td>
</tr>
<tr>
<td>Friday, May 11, 2012</td>
<td>Term Ends</td>
<td>DDS Years 1, 2, &amp; 3</td>
</tr>
<tr>
<td>Monday, May 14, 2012</td>
<td>Classes Resume</td>
<td>DDS Years 1, 2, &amp; 3</td>
</tr>
<tr>
<td>Sunday, May 27, 2012</td>
<td>Graduation Ceremony</td>
<td>Graduating</td>
</tr>
<tr>
<td>Monday, May 28, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, June 29, 2012</td>
<td>Term Ends</td>
<td>DDS Years 1, 2, &amp; 3</td>
</tr>
</tbody>
</table>
Advanced Dental Education

Students are responsible for all information contained in this Catalog up to and including their school’s section.

Click on an item in the list below to be taken to the location of its content. Remember this page number to return to this list.

- Certificate and Degree Programs
- Application and Admission
- General Policies
- Advanced Dental Education Program Curricula
- Advanced Dental Education Academic Calendar

Postdoctoral dental education programs at the UT Health Science Center at San Antonio consist of specialty certificate programs, graduate degree programs, and residencies. The combined resources of the Dental School, the School of Medicine, the Graduate School of Biomedical Sciences, and affiliated patient care institutions in the community provide opportunities for flexibility in offerings in order to meet the demands of today’s dental practitioners.

Certificate and Degree Programs

The certificate and master’s degree programs provide opportunities for the development of well-trained clinicians, competent in providing broad-spectrum care, and teachers with a comprehensive background of clinical experience, current basic science knowledge relevant to dentistry, and an understanding of research methodology. Certificate programs are administered by the Dental School; Master of Science and Ph.D. degrees are granted by the Graduate School of Biomedical Sciences.

Master's degree and certificate programs are offered in Dental Diagnostic Science, Dental Public Health, Endodontics, Prosthodontics, and Periodontics. A certificate program is available only in Pediatric Dentistry and Orthodontics; however, a master’s degree option for Pediatric Dentistry students is available in basic sciences and public health.

<table>
<thead>
<tr>
<th>Program</th>
<th>Certificate</th>
<th>Master’s</th>
<th>Length</th>
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</thead>
<tbody>
<tr>
<td>Dental Diagnostic Science</td>
<td>X</td>
<td>X</td>
<td>30 mos. 36 mos.</td>
</tr>
<tr>
<td>Dental Public Health</td>
<td>X</td>
<td></td>
<td>12 mos.</td>
</tr>
<tr>
<td>Endodontics</td>
<td>X</td>
<td>X</td>
<td>26 mos. 30 mos.</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>X</td>
<td></td>
<td>35 mos.</td>
</tr>
<tr>
<td>Pediatric Dentistry</td>
<td>X</td>
<td></td>
<td>24 mos.</td>
</tr>
<tr>
<td>Periodontics</td>
<td>X</td>
<td>X</td>
<td>36 mos.</td>
</tr>
<tr>
<td>Prosthodontics</td>
<td>X</td>
<td>X</td>
<td>36 mos.</td>
</tr>
</tbody>
</table>

Program lengths vary: Prosthodontics and Periodontics programs (Periodontics requires a master’s degree) require three years; Dental Diagnostic Science certificate program requires 30 months, plus an additional six months for the master’s degree in Oral & Maxillofacial Radiology; Pediatric Dentistry and Endodontics certificate programs are two years, with an additional six months required for the master’s degree in Endodontics.

Residency Training

The Health Science Center and associated hospitals offer residency training programs which include an Advanced Education in General Dentistry Program, a General Practice Residency, an Oral & Maxillofacial Surgery Residency, and a Dental Public Health Residency. These programs focus on providing educational opportunities by maximizing patient care activities.

Advanced Education in General Dentistry (AEGD)

The AEGD certificate program presents advanced clinical techniques, and experiences, and expands clinical training with significant didactic contributions. Diagnosis and treatment planning of complex and comprehensive cases and the promotion of clinical skills and techniques are emphasized. The program is from one to two years in length with two sites, San Antonio and Laredo.

Dental Public Health

The program in Dental Public Health offers a one-year, full-time or a two-year, part-time Residency. The program is designed to allow dentists with the Master of Public Health degree or its equivalent to complete the educational requirements for Board Certification as a recognized specialist in Dental Public Health.

Oral and Maxillofacial Surgery Residency

A program of study for dentists in Oral and Maxillofacial Surgery is offered at the Health Science Center. The Medical Program combines formal medical education leading to an M.D. degree with clinical training. This is a six-year course of study with openings for two positions per year. Individuals accepted into the residency program are automatically accepted into the second-year class of the School of Medicine. (The MCAT is not required.)

General Practice Residency

The General Practice Residency Program is designed to prepare graduate dentists to become competent general
practitioners, capable of providing comprehensive, state-of-the-art dental care. Dental care for medically compromised patients serves as the framework for clinical training. The program is from one to two years in length. Research opportunities are available.

**Orthodontics**
The Department of Orthodontics offers a 35-month residency for advanced training in orthodontics and dentofacial orthopedics. This program is designed to offer a broad spectrum of clinical and didactic experience in the field. Certificate only programs are available in both Pediatric Dentistry and Orthodontics; however, a master’s degree option for students is available in basic sciences and public health. The training program will meet the formal requirements for eligibility to take the phase II and phase III portion of the [American Board of Orthodontics](http://www.aao.org). For more information call 210-567-3500 or -3510.

**Application and Admission**

**Certificate Programs**
Students are admitted to certificate programs through registration as postdoctoral certificate students in the [Dental School](http://dental.uthscsa.edu). To be eligible for admission, individuals must have earned a D.D.S. or D.M.D. degree prior to matriculation and must present acceptable academic records and references. A personal interview is recommended.

Graduates of dental schools which have not been accredited by the [Commission on Dental Accreditation](http://www.cda.ac�.org) must take the Graduate Record Examination Aptitude Test prior to application.

Applicants who are not the native language are required to submit scores from the Test of English as a Foreign Language (TOEFL). A minimum score of 560 is recommended on the paper-based test or 68 on the Internet-based test.

At the conclusion of the first year in a certificate program, students have the option of applying to enter the degree program or of continuing in the certificate program.

**Master’s Degree Programs**
Admission to the degree programs in Periodontics, Prosthodontics, Endodontics, or Dental Diagnostic Science from the certificate program in the same specialty is dependent upon satisfactory scholastic performance during the first year of the certificate program, a minimum grade average of 3.0 in postdoctoral courses, and faculty recommendations.

*Scores on GRE tests taken more than five years prior to the date of application are not acceptable.*

**Application Procedures**
Application forms for postdoctoral certificate programs and appropriate dates for the return of completed forms and required supplementary information may be obtained from the Dental School Web site at [http://dental.uthscsa.edu](http://dental.uthscsa.edu), or by writing to the specific program directors.

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**General Policies**

**Degree Programs**
Postdoctoral dental students who enter the [Graduate School of Biomedical Sciences](http://medicine.uthscsa.edu)’s degree programs after the first year of study in one of the certificate programs are subject to policies and procedures of the Graduate School of Biomedical Sciences as well as general regulations and requirements of the [UT Health Science Center at San Antonio](http://www.uthscsa.edu). Information regarding admission, registration, grading, continuation, etc., is presented in the Graduate School of Biomedical Sciences section of this [Catalog](http://www.uthscsa.edu).  

**Certificate Programs**
Postdoctoral dental students in certificate programs are subject to general policies of the [Dental School](http://dental.uthscsa.edu) and the [Health Science Center](http://www.uthscsa.edu) as well as those explained below.

**Registration**
Students must register and pay tuition and fees on the date of official registration shown in the [General Academic Policies](http://www.uthscsa.edu) and [Financial Information](http://www.uthscsa.edu) sections of this [Catalog](http://www.uthscsa.edu). A late registration fee of $100 will be assessed students who register after the official registration period closes.

**Grading**
A letter grading system is used in the certificate programs. To calculate a grade point average, grade points are assigned to letter grades.

- **A** = 4 points (above average postgraduate work)
- **B** = 3 points (average postgraduate work)
- **C** = 2 points (below average postgraduate work)
- **D** = 1 point (failing postgraduate work)
- **F** = 0 points (failing postgraduate work)

Grades of D and F are not acceptable for postgraduate credit and must be upgraded to an acceptable level. Course directors may require the student to repeat a failed course during the next period that the course is offered. Grades for repeated courses will be assigned using the grading system outlined previously. Course directors may also permit abbreviated, remedial instruction aimed at raising student competence in specific areas for a failed course. A grade of C will be given for successful remediation. Grades earned in repeated or remediated courses will be substituted for the original grade in the computation of the grade point average.

The grades S (satisfactory), U (unsatisfactory), or H^1 (Honors) are given for the following courses:

- Seminar
- Literature Searching
- Supervised Teaching
- Research

S, U, and H grades are not included in the computation of the grade point average; however, a grade of U must be upgraded to an S either through remediation or repetition of the course.
Other symbols used in reporting the standing of students in their classes are: WP (withdraw passing) and WF (withdraw failing); Q (course dropped while receiving a passing grade—no penalty); and I (incomplete). An I is used only to report cases in which the student has not completed all of the assignments and/or examinations before the conclusion of the course. Unless the student has been granted a leave of absence, all work must be completed within one year in order for the symbol I to be converted into a letter grade by the instructor. If the work is not completed within one year, the letter grade F will be assigned.

Waiver of Courses and Advanced Standing

Postgraduate students may apply for waiver of a course requirement or for advanced standing in a course.

Permission may be granted on an individual basis with a recommendation from the program director and the course director, subject to the approval of the departmental Committee on Postdoctoral Studies and the Associate Dean for Student Affairs.

Continuation

Continuation in the postgraduate certificate program is dependent upon the following:

- Postgraduate students are required to satisfactorily demonstrate clinical competence as determined by the program director Residency Oversight Committee. Clinical competence will include, but not be limited to: (a) professional demeanor, including patient, student, and faculty relationships; (b) professional appearance; and (c) application and demonstration of clinical operating skills.

- Postgraduate students will be monitored on a regular basis by the department. Residency Oversight Committee. Students will be apprised in writing of any deficiency and, when indicated, placed on probation by the Advanced Education Committee Graduate Programs Directors Subcommittee. In such cases that the Residency Oversight Committee determines that improvement has not been achieved in a particular area cited, dismissal will be recommended.

Probation and Dismissal

An advanced education student may be placed on academic probation for reasons of substandard performance in didactic, clinical, behavioral or professional/ethical areas. A student whose overall grade point average falls below B (3.0) or who receives a final grade of D, F or U for any course during any one grading period will be considered for a recommendation for academic probation by the departmental Residency Oversight Committee of the appropriate program. A recommendation for probation will be made to the Advanced Education Committee’s (AEC) Graduate Program Directors Subcommittee, which is comprised of the Program Directors of all the Advanced Education Programs in the Dental School and the Associate Dean for Student Affairs. Only the Program Directors will be voting members of this Subcommittee; the Associate Dean for Student Affairs will serve in an ex officio capacity as a non-voting member. In addition, the departmental Residency Oversight Committee may recommend to the AEC’s Graduate Program Directors Subcommittee that a student be placed on academic probation for clinical, behavioral or professional/ethical performance that does not meet the standards of the program. The AEC’s Graduate Program Directors Subcommittee will formally place the student on academic probation upon majority vote of the members.

A student placed on academic probation will be given written notification by the Chair of the Advanced Education Committee of such status. This notification will serve as an official warning to the student that her or his didactic, clinical, behavioral and/or professional/ethical performance is below standard and continuation in the postgraduate program is in jeopardy. The student will be allowed an opportunity to correct the substandard performance that led to academic probation status over a probationary time period determined by the departmental Residency Oversight Committee. At subsequent monthly AEC meetings, the Program Director of the affected residency will report to the AEC on the status of the probationed student’s progress. Upon the student’s successful correction of performance deficiencies, he or she will be removed from academic probation. A student will remain on probation for as long as her or his cumulative GPA is below 3.0. While on probation, a student must maintain a B average in those courses for which he or she is registered or be considered for dismissal recommendation by the departmental Residency Oversight Committee. A recommendation to remove the student from academic probation will be made by the departmental Residency Oversight Committee to the AEC’s Graduate Program Directors Subcommittee, which will remove academic probation status upon majority vote on the members.

If the substandard performance that led to academic probation is not corrected, the student will be subject to dismissal from the program. A recommendation for dismissal will be made by the departmental Residency Oversight Committee to the AEC’s Graduate Program Directors Subcommittee. The AEC’s Graduate Program Directors Subcommittee will consider the recommendation for dismissal and will formally dismiss the student from the program upon majority vote of the members. A student will be subject to dismissal actions without a probationary period if he or she receives a final grade of D or F for 4 (four) or more credit hours of required course work during a single grading period.

During academic probation and dismissal actions, the student may address the AEC Graduate Program Directors Subcommittee in writing or may request permission to appear before the Subcommittee to present her or his views. The Advanced Education Committee will transmit recommendations for dismissal through the Associate Dean for Student Affairs to the Dean. Students may appeal academic dismissal to the Dental Dean. Procedural appeal may be made to the President in accordance with Health Science Center policy.
Leave of Absence

Permission for a leave of absence from a postgraduate program for a maximum period of one year may be granted by the Dean upon the recommendation of the Advanced Education Committee. Such permission will be granted only for extenuating circumstances and indicates the student will be allowed to return to the program within the one-year limit.

The student must submit a written request for leave to the Chairman of the departmental Committee on Postdoctoral Studies. The request is then forwarded with appropriate endorsements to the Advanced Education Committee, the Associate Dean for Student Affairs, and the Dean for approval. The grading symbol I (incomplete) will be recorded for each course not completed, and the student will be required to complete these courses as soon as they are offered after the student’s return.

Withdrawal

Permission to withdraw from a postgraduate program may be granted by the Associate Dean for Student Affairs upon written request by the student and upon recommendation of the departmental Committee on Postdoctoral Studies of the student’s program. In the case of withdrawal before the end of the term (and thus the dropping of all courses), the grading symbol WP or WF will be recorded for each course not completed, depending upon the student’s standing on the last day of enrollment. In the case of a student’s withdrawal at the end of the term, the appropriate grading symbol will be recorded for each course completed.

An application for readmission by a student who has withdrawn is subject to the same requirements, procedures, and acceptance considerations that apply to first-time applicants.

Graduation

Certificates will be awarded upon the student’s successful completion of the prescribed curriculum with a 3.0 minimum grade point average, recommendation of the program director to the Associate Dean for Student Affairs and certification by the Dean to the President.

M.D. degrees are awarded through the School of Medicine at the end of the third year of the Oral & Maxillofacial Surgery(OMS) program.

Financial Information

Tuition information for resident and nonresident students enrolled in postdoctoral certificate and degree programs, fee information, and information about other expenses are outlined in the general information (“Health Science Center”) section of this Catalog.

Compensation

Postdoctoral students may receive stipends on a year-to-year basis, depending upon funds available. Program directors will provide current information.

Curriculum

The curriculum for the certificate programs is designed to give students the opportunity to develop clinical judgment and skills necessary to provide comprehensive patient care, broader in scope and greater in depth than that offered by undergraduate programs. Biomedical sciences relevant to each specialty are integrated to facilitate correlation of biological, pathological, behavioral, and clinical disciplines.

The offerings of each program are designed to meet the formal education requirements for eligibility to take the certifying examinations of the American Board of Periodontology, American Board of Endodontics, American Board of Pediatric Dentistry, American Board of Prosthodontics, American Board of Oral Medicine, and American Board of Oral and Maxillofacial Radiology. The faculty is composed of members of the Dental School clinical and basic science teaching staff.

The curriculum for the master’s programs is also provided in this section. For the degree programs in Dental Diagnostic Science, Periodontics, Endodontics, and Prosthodontics the curriculum for the first two years is identical to that of the certificate program with, in some cases, additional teaching and research. An additional six months or longer are required for graduate degree students who must also complete a thesis.

Multidisciplinary Courses

The five certificate programs have in common many basic science courses as well as some dental courses. Descriptions of multidisciplinary courses follow the outlines of the programs.
## Advanced Dental Education Programs

- **Dental Diagnostic Science - Certificate Program**
- **Dental Diagnostic Science - Master of Science**
- **Endodontics – Certificate**
- **Endodontics - Master of Science**
- **Pediatric Dentistry**
- **Periodontics – Certificate**
- **Periodontics - Master of Science**
- **Prosthodontics – Certificate**
- **Prosthodontics - Master of Science**
- **Multidisciplinary Courses**
- **Associated Programs**

### Dental Diagnostic Science - Certificate Program

#### Courses Descriptions

#### FIRST YEAR

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<thead>
<tr>
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<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>SUMMER (minimum semester hours: 6.0)</td>
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<td></td>
</tr>
<tr>
<td>DIAG 5012</td>
<td>Introduction to Graduate Clinic</td>
<td>1.0</td>
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<tr>
<td>DIAG 5024</td>
<td>Plain Film Radiography and Anatomy</td>
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<td>DIAG 5044</td>
<td>Radiation Physics Lab</td>
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<td>DIAG 5045</td>
<td>Radiation Physics</td>
<td>1.0</td>
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<tr>
<td>INTD 5090</td>
<td>Graduate Research Methodology</td>
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<tr>
<td>PEDO 5026</td>
<td>Orthodontics I</td>
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<td>DIAG 5015</td>
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<td>DIAG 5070</td>
<td>Supervised Teaching</td>
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<tr>
<td>INTD 5121</td>
<td>Biostatistics</td>
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<td>PATH 5035</td>
<td>Oral Pathology</td>
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<td>INTD 5020</td>
<td>Dental Biomedical Core Course I</td>
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<td>Radiation Physics</td>
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<td>DIAG 5044</td>
<td>Radiation Physics Lab</td>
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<tr>
<td>DIAG 5091</td>
<td>Case Conference</td>
<td>1.0</td>
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<tr>
<td>DIAG 5017</td>
<td>Literature Review</td>
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<tr>
<td>DIAG 5012</td>
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<td>DIAG 5026</td>
<td>Diagnostic Imaging of the Jaws Part I</td>
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<tr>
<td>DIAG 5019</td>
<td>Digital Imaging</td>
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<tr>
<td>DIAG 5007</td>
<td>Graduate Oral and Maxillofacial Radiology Clinic</td>
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<td>DIAG 5016</td>
<td>Head and Neck Anatomy</td>
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<tr>
<td>DIAG 5181</td>
<td>Principles of Forensic Odontology</td>
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<tr>
<td>DIAG 5012</td>
<td>Introduction to Graduate Clinic</td>
<td>1.0–4.0</td>
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### SECOND YEAR

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<tr>
<td>DIAG 6007</td>
<td>Graduate Oral and Maxillofacial Radiology Clinic</td>
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<td>*DIAG 6097</td>
<td>Research</td>
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<tr>
<td>DIAG 6075</td>
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<td><strong>6.5</strong></td>
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<th>Course Title</th>
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<tbody>
<tr>
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<tr>
<td>DIAG 6075</td>
<td>Practicum in Clinical Radiology</td>
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<thead>
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<tr>
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<td>DIAG 6007</td>
<td>Graduate Oral and Maxillofacial Radiology Clinic</td>
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<td>*DIAG 6097</td>
<td>Research</td>
<td>1.5</td>
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<td>Practicum in Clinical Radiology</td>
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<tr>
<td>DIAG 6075</td>
<td>Practicum in Clinical Radiology</td>
<td>1.0–4.0</td>
</tr>
</tbody>
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### Special Electives

**Special Electives Course Descriptions**

The following special electives are available on an individual basis:

- `DIAG 5014` Physical Evaluation I
- `DIAG 5018` Practicum in Oral Medicine
- `DIAG 6005` Clinical Pathology Conference
- `DIAG 6008` Orofacial Pain
- `DIAG 6009` Noninfectious Diseases of the Oral Mucosa
- `DIAG 6016` Pharmacotherapeutics
- `DIAG 6019` Chemosensory Disorders and Salivary Gland Dysfunction
- `DIAG 6022` Practicum in Oral Medicine
- `DIAG 6072` Supervised Teaching
- `DIAG 6135` Clinical Case Conference I and II
- `DIAG 6060` Physical Anthropology
- `DIAG 6061` Forensic Anthropology
- `DIAG 6062` Advanced Forensic Anthropology Lab
- `DIAG 6084` Advanced Forensic Odontology Lab
- `DIAG 6085` Forensic Pathology
- `DIAG 6086` Forensic Dental Photography Lab
Courses: Dental Diagnostic Science - Certificate Program

Courses Descriptions
Courses unique to the program in Dental Diagnostic Science are listed below. Offerings common to one or more programs are described under Multidisciplinary Courses. Special Elective courses are described in the next section.

- DIAG 5007 Graduate Oral and Maxillofacial Radiology Clinic
- DIAG 6007 Graduate Oral and Maxillofacial Radiology Clinic
- DIAG 5014 Physical Evaluation I
- DIAG 5015 Panoramic Radiology
- DIAG 5016 Head and Neck Anatomy
- DIAG 5018 Practicum in Oral Medicine
- DIAG 5019 Digital Imaging
- DIAG 5026 Diagnostic Imaging of the Jaws Part I
- DIAG 5092 Diagnostic Science Seminar
- DIAG 5093 Diagnostic Science Seminar
- DIAG 6090 Diagnostic Science Seminar
- DIAG 6091 Diagnostic Science Seminar
- DIAG 6093 Diagnostic Science Seminar
- DIAG 6094 Diagnostic Science Seminar
- DIAG 6095 Diagnostic Science Seminar
- DIAG 5017 Literature Review
- DIAG 6017 Literature Review
- DIAG 5045 Radiation Physics
- DIAG 5044 Radiation Physics Lab
- DIAG 5070 Supervised Teaching
- DIAG 6071 Supervised Teaching
- DIAG 6135 Clinical Case Conference I and II
- DIAG 5091 Case Conference
- DIAG 5181 Principles in Forensic Odontology
- DIAG 6008 Orofacial Pain
- DIAG 6009 Noninfectious Diseases of the Oral Mucosa
- DIAG 6018 OMR Case Conference
- DIAG 6022 Practicum in Oral Medicine
- DIAG 6023 Radiology for Graduate Orthodontics
- DIAG 6025 Diagnostic Imaging of the Head and Neck Part I
- DIAG 6027 Advanced Imaging Technology
- DIAG 6040 Advanced Oral and Maxillofacial Radiology Interpretation
- DIAG 6041 Basic Radiation Biology
- DIAG 6043 Advanced Radiation Biology
- DIAG 6016 Pharmacotherapeutics
- PATH 5121 Biostatistics
- PEDO 5026 Orthodontics I

Dental Diagnostic Science - Master of Science

Courses Descriptions
The curriculum for the first two and one-half years of the master's degree program is identical to that of the certificate program.

First 2½ Years of Program are as listed for the Dental Diagnostic Science - Certificate Program 82.5

THIRD YEAR continued

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**Semester Total:** 9.5

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<td>DIAG 6020 - Tumor Board 1.0</td>
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**Total Credits for Master of Science Degree Program 92.5**

*including 7.5 credit hours of hospital rotations & 2 credit hours of Tumor Board

*Multidisciplinary course

Special Electives
The following special electives are available on an individual basis:

- DIAG 5014 Physical Evaluation I
- DIAG 5018 Practicum in Oral Medicine
- DIAG 6005 Clinical Pathology Conference
- DIAG 6008 Orofacial Pain
- DIAG 6009 Noninfectious Diseases of the Oral Mucosa
- DIAG 6016 Pharmacotherapeutics
- DIAG 6019 Chemosensory Disorders and Salivary Gland Dysfunction
- DIAG 6022 Practicum in Oral Medicine
- DIAG 6072 Supervised Teaching
- DIAG 6135 Clinical Case Conference I and II
- DIAG 6060 Physical Anthropology
- DIAG 6061 Forensic Anthropology
- DIAG 6062 Advanced Forensic Anthropology Lab
- DIAG 6084 Advanced Forensic Odontology Lab
- DIAG 6085 Forensic Pathology
- DIAG 6086 Forensic Dental Photography Lab
Course Descriptions

Courses unique to the program in Dental Diagnostic Science are listed below. Offerings common to one or more programs are described under Multidisciplinary Courses. Special Elective courses are described in the next section.

DIAG 5007  Graduate Oral and Maxillofacial Radiology Clinic
The Graduate Radiology Clinic is in operation five full days per week. Services include intra- and extra-oral radiography, panoramic, cephalometric, linear, and multi-directional tomography; sialography; arthrography; CT image processing; and planned CT image acquisition.
*Semester Credit Hours: 3.0*

DIAG 6007  Graduate Oral and Maxillofacial Radiology Clinic
The Graduate Radiology Clinic is in operation five full days per week. Services include intra- and extra-oral radiography, panoramic, cephalometric, linear, and multi-directional tomography; sialography; arthrography; CT image processing; and planned CT image acquisition.
*Semester Credit Hours: 3.0*

DIAG 5014  Physical Evaluation I
This course is intended to afford students maximal opportunity to recognize the relevance of basic biomedical sciences to the study of the patient and to provide the fabric for the accumulation of knowledge, skills, and values essential to initiate the clinical process. It includes didactic and clinical experience in obtaining and interpreting a patient history; extraoral and intraoral physical examination procedures; and interpretation of the findings of the examination.
*Semester Credit Hours: 1.5*

DIAG 5015  Panoramic Radiology
This lecture course includes topics such as the principles of panoramic radiology, concepts of panoramic image formation, review of anatomic structures, clinical techniques, and recognition and correction of panoramic errors. Also, the uses and limitations of panoramic radiology as well as digital panoramic radiology will be discussed. The goal is to achieve competency in this subject matter. Proficiency will be achieved during clinical rotations in panoramic radiology as part of the graduate OMR clinic experience.
*Semester Credit Hours: 0.5*

DIAG 5016  Head and Neck Anatomy
This review course is designed to provide the resident with the opportunity to acquire an anatomical foundation for oral and maxillofacial radiology. The course uses interactive computer-based head and neck clinical anatomy software as well as digital libraries of radiographic and cross-sectional anatomical specimens. Numerous Internet-based references are also used to provide the student with the most up-to-date and graphic information. Clinical anatomic information is correlated with plain film, CT, and MRI images to provide a contextual reference between clinical and radiographic anatomy. Written and oral examinations are given to assess competency in this area.
*Semester Credit Hours: 1.0*

DIAG 5018  Practicum in Oral Medicine
Practice in clinical skills required for diagnosis, management, and treatment of oral and perioral diseases, including such special procedures as sialography, cytological smearing, biopsy, and culture taking is offered. A comprehensive review of the conditions that the dentist may be called upon to diagnose and treat as the result of the physical examination of the patient is the focus of this course. Topics include extroral findings such as general appearance of the hands, eyes, ears, nose, and neck; intraoral findings such as lesions as in lip swelling or palatal swelling; and color changes, surface changes, and other problems such as pain and functional disorders.
*Semester Credit Hours: 4.0*

DIAG 5019  Digital Imaging
This survey course is designed to give the maxillofacial radiology resident the opportunity to gain a basic understanding of digital imaging. The course utilizes classroom lectures as well as computer laboratory exercises to demonstrate the application of digital imaging in a clinical setting. The course covers all aspects of digital imaging including fundamental basis for digital imaging, image enhancement and restoration, image analysis, image compression, image synthesis, and image display. The course also covers specific information related to digital imaging modalities such as computed tomography, magnetic resonance imaging, ultrasound, and dental digital radiography.
*Semester Credit Hours: 1.0*

DIAG 5026  Diagnostic Imaging of the Jaws Part I
This lecture course is presented over several semesters. The goal is to achieve competency regarding the interpretation of plain and advanced images of hard and soft tissue conditions affecting the teeth, jaws, and surrounding structures of the maxillofacial complex including, but not limited to, the paranasal sinuses, salivary glands, and trauma. The material is presented and repeated through three basic formats: by pattern recognition, by disease process, and as further analyzed using contrast studies, CT, MR, nuclear scans, and ultrasound images where applicable. This course forms the basis for more advanced seminar and clinical courses through which proficiency is required to be achieved.
*Semester Credit Hours: 2.0*

DIAG 5092  Diagnostic Science Seminar
The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.
*Semester Credit Hours: 1.0*

DIAG 6090  Diagnostic Science Seminar
The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.
*Semester Credit Hours: 1.0*
DIAG 6091  Diagnostic Science Seminar
The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.
*Semester Credit Hours: 1.0*

DIAG 6093  Diagnostic Science Seminar
The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.
*Semester Credit Hours: 1.0*

DIAG 6094  Diagnostic Science Seminar
The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.
*Semester Credit Hours: 1.0*

DIAG 6095  Diagnostic Science Seminar
The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.
*Semester Credit Hours: 1.0*

DIAG 5017  Literature Review
Each week a topic in Oral and Maxillofacial radiology is discussed. In addition, students receive a block of instruction in evidence-based literature evaluation. At each session a student leader presents from 2–4 papers that meet the current topic. Articles are approved by the course director beforehand for scientific accuracy, validity, and relevance. Students are expected to read the articles before the session and participate in the group discussion. Discussion is facilitated by a question and response format led by the course director. Literature from past reviews is filed for student reference.
*Semester Credit Hours: 1.0*

DIAG 6017  Literature Review
Each week a topic in Oral and Maxillofacial Radiology is discussed. In addition, students receive a block of instruction in evidence-based literature evaluation. At each session, a student leader presents from 2–4 papers that meet the current topic. Articles are approved beforehand by the course director, for scientific accuracy, validity, and relevance. Students are expected to read the articles before the session and participate in the group discussion. Discussion is facilitated by a question and response format led by the course director. Literature from past reviews is filed for student reference.
*Semester Credit Hours: 1.0*

DIAG 5045  Radiation Physics
This course presents the fundamental principles of radiation physics as they apply to medical and dental diagnostic radiology. Topics include the nature and production of X-rays, interactions of X-rays with matter, the physics of films and intensifying screens, the nature of the radiographic image, fundamentals of radiation protection, principles of tomography, and panoramic radiography.
*Semester Credit Hours: 1.0*

DIAG 5044  Radiation Physics Lab
This laboratory is given in conjunction with DIAG 5045 Radiation Physics. Students will be given the opportunity to perform laboratory assignments designed to further their understanding of the practical applications of the principles of radiation physics.
*Semester Credit Hours: 0.5*

DIAG 5070  Supervised Teaching
Graduate students are assigned to the various clinics, laboratories, and classes for the opportunity to acquire experience in teaching undergraduate students in a variety of situations. Supervision and evaluation of teaching performance are provided by the graduate faculty.
*Semester Credit Hours: 1.0*

DIAG 6071  Supervised Teaching
Graduate students are assigned to the various clinics, laboratories, and classes for the opportunity to acquire experience in teaching undergraduate students in a variety of situations. Supervision and evaluation of teaching performance are provided by the graduate faculty.
*Semester Credit Hours: 1.0*

DIAG 6135  Clinical Case Conference I and II
Each student will be assigned one or more cases to cover in a written report and to present in conference. Over two semesters, weekly conferences will allow for a large variety of representative pathoses to be reviewed and discussed. Students will have the opportunity to correlate the historical, clinical, and radiographic findings in the formation of a differential diagnosis or a diagnostic impression.
*Semester Credit Hours: 1.0*

DIAG 5091  Case Conference
This course meets weekly and serves as a venue for students to plan and present their cases to other students and faculty, and supply follow-up information where feasible.
*Semester Credit Hours: 1.0*

DIAG 5181  Principles in Forensic Odontology
A didactic course covering such topics as forensic photography, forensic radiology, dental identification, mass disaster techniques, bite mark analysis, child abuse, and courtroom protocol. Students will be encouraged to investigate specific areas in more detail. (This course is required for the MS degree.)
*Semester Credit Hours: 1.0*

DIAG 6008  Orofacial Pain
This course is designed to introduce the student to the field of orofacial pain. The course objectives include introduction to orofacial pain, assessment of orofacial pain disorders, diagnostic classification of orofacial pain disorders, differential diagnosis and management of vascular intracranial disorders, differential diagnosis and management of neuralgias, nerve trunk pain and deafferentation pain, differential diagnosis and management of intraoral pain, differential diagnosis and management of temporomandibular disorders, and differential diagnosis and management of mental disorders.
*Semester Credit Hours: 2.0*

DIAG 6009  Noninfectious Diseases of the Oral Mucosa
This course is designed to discuss a selected group of diseases of the oral mucosa with the primary purpose of presenting diagnostic and therapeutic guidelines. The role of oral medicine specialists in the care of noninfectious oral mucosal diseases, appropriate (e.g.: timely and accurate) consultations/referral, definitive therapy, clinical review (e.g.,
the disease and/or side-effects of theory), disease prevention, and counseling of patients and relatives will be discussed.

**Semester Credit Hours: 2.0**

**DIAG 6018  OMR Case Conference**
This course meets weekly and serves as a venue for students to plan and present their cases to other students and faculty, and supply follow-up information where feasible.

**Semester Credit Hours: 1.0**

**DIAG 6022  Practicum in Oral Medicine**
Practice in clinical skills required for diagnosis, management, and treatment of oral and perioral diseases, including such special procedures as sialography, cytological smearing, biopsy, and culture taking is offered. The focus of this course is a comprehensive review of the conditions that the dentist may be called upon to diagnose and treat as the result of the physical examination of the patient. Topics include extraoral findings such as general appearance of the hands, eyes, ears, nose and neck; intraoral findings such as lesions in lip swelling or palatal swelling; and color changes, surface changes, and other problems such as pain and functional disorders.

**Semester Credit Hours: 6.0**

**DIAG 6023  Radiology for Graduate Orthodontics**
The goal of this course is to prepare the Orthodontic graduate student for contemporary practice in the area of radiology.

**Semester Credit Hours: 1.5**

**DIAG 6025  Diagnostic Imaging of the Head and Neck Part I**
This lecture course is presented over several semesters. The goal is to achieve competency regarding the interpretation of plain and advanced images of hard- and soft-tissue conditions affecting the teeth, jaws, and surrounding structures of the maxillofacial complex including, but not limited to, the paranasal sinuses, salivary glands, and trauma. The material is presented and repeated through three basic formats: by pattern recognition, by disease process, and as further analyzed using contrast studies, CT, MR, nuclear scans, and ultrasound images where applicable. This course forms the basis for more advanced seminar and clinical courses through which proficiency is required to be achieved.

**Semester Credit Hours: 2.0**

**DIAG 6027  Advanced Imaging Technology**
This course is a continuation of the basic Radiation Physics course that was given during the first year of graduate studies. This course will provide the student with the opportunity to achieve a proficiency level understanding of the physical principles of all the advanced imaging methods and techniques (i.e.: computed tomography), magnetic resonance imaging, ultrasound and radionuclide imaging commonly used in medical care, and understanding of the clinical applications of these advanced imaging modalities.

**Semester Credit Hours: 1.0**

**DIAG 6040  Advanced Oral and Maxillofacial Radiology Interpretation**
The overall purpose of this course is to provide students with learning experiences that will give them the opportunity to develop proficiency in OMR image analysis and interpretation. This course is conducted over multiple semesters and meets in two-hour sessions with a seminar or grand rounds format.

Each week, students receive cases and are requested to generate a written report and present the case to other students and faculty. Cases include a variety of diagnoses that comprise the field of oral and maxillofacial radiology including both typical and unusual examples. Additionally, high-quality, properly exposed images are supplied. Many examples include plain film, CT, and MR for the same case. Additional cases include other imaging modalities such as tomograms, contrast studies, and nuclear scans. In some instances, glass slides and a microscope are used to correlate histological features with MR images, an activity much requested by students. Imaging particular to salivary gland disease and TMJ disorders will also be emphasized. Students will record these cases in a special section of their logbook and may, circumstances permitting, copy the cases for future reference or teaching. The course director’s collection of cases is one of the most extensive and is broadly representative and thus guarantees the student exposure to a variety of clinical cases which cannot be assured through the various clinical experiences during the time frame of the program.

**Semester Credit Hours: 2.0**

**DIAG 6041  Basic Radiation Biology**
An introductory course in the basic concepts of radiation biology, this course is appropriate for dentists desiring an opportunity to gain additional knowledge of the biological effects of diagnostic and therapeutic levels of x-radiation. Concepts of designing an office for optimum radiation protection also are presented.

**Semester Credit Hours: 1.0**

**DIAG 6043  Advanced Radiation Biology**
An in-depth study of radiation biology is presented, emphasizing such topics as radiation risk, dosimetry, theories of radiation damage, radiation hygiene and protection, and the effects of therapeutic levels of radiation on the oral tissues.

**Semester Credit Hours: 1.0**

**DIAG 6046  Pharmacotherapeutics**
This course is designed to review general principles of pharmacology; current and accepted pharmacotherapy for the medical management of pain, infection, and selected systemic diseases; and associated adverse drug events. It is based on the top 200 drugs dispensed by U.S. community pharmacies for the prevention, diagnosis, and/or treatment of disease with special reference to dentistry.

**Semester Credit Hours: 1.0**

**PATH 5121  Biostatistics**
This course is designed to prepare the advanced education dentist with the knowledge of common statistical methods in order to critically evaluate the literature and to perform necessary analyses in support of their own research projects, particularly those directed at the completion of the Certificate from the Dental School and/or the Master of Science degree from the Graduate School of Biomedical Sciences.

**Semester Credit Hours: 1.0**

**PEDO 5026  Orthodontics I**
This course comprises two seminar series in which orthodontic diagnosis and treatment principles for the primary and mixed dentitions are presented. Included also are laboratory technique exercises in which commonly used orthodontic
appliances are constructed.

Semester Credit Hours: 2.0

**Special Elective Course Descriptions**

Electives are offered on a regular and/or variable basis pending availability of faculty.

**DIAG 5181  Principles in Forensic Odontology**

A didactic course covering such topics as forensic photography, forensic radiology, dental identification, mass disaster techniques, bite mark analysis, child abuse, and courtroom protocol. Students will be encouraged to investigate specific areas in more detail. (This course is required for the MS degree.)

Semester Credit Hours: 1.0

**DIAG 6005  Clinical Pathology Conference**

Formal review of clinical, radiographic, and histopathologic presentations of various conditions affecting the head and neck area and the oral cavity, in particular, is presented. A variety of cases are presented for group discussion with a view toward obtaining a differential diagnosis.

Semester Credit Hours: 1.0

**DIAG 6020  Tumor Board**

The class meets for one hour once a week in the School of Medicine or Wilford Hall Medical Center and is sponsored by the Department of Otolaryngology and Head and Neck Surgery. Students will have the opportunity to learn case management and prognosis of patients with oral and maxillofacial and head and neck tumors, exposure to the diagnostic imaging work-up of the patients presented, interact with attending medical and dental specialists, attend special seminars related to tumor board, and have an opportunity to interact with various medical residents for further learning opportunities. Students are expected to share some of their learning experiences and present cases during case conferences to other OMR program venues such as graduate clinic.

Semester Credit Hours: 1.0

**DIAG 6021  Medical Radiology Rotation**

Medical radiology training occurs within the dental school using image-acquired data from a medical clinic. It also occurs in the University Hospital, the VA hospital on campus, at Wilford Hall Medical Center at nearby Lackland Air Force Base, and in a private radiology clinic. Rotations to other clinics and institutions are being planned at remote sites within the USA and abroad such as in Europe, Asia and/or Africa. Cases using advanced imaging are available in the program director’s extensive collection to further enhance medical radiology training.

Semester Credit Hours: 2.5 (A minimum of 7.5 semester credit hours are required. Each student must enroll in a minimum of three one-month rotations.)

**DIAG 6062  Advanced Forensic Anthropology Lab**

The course consists of practice in the application of laboratory skills in anthropology through the facilities of the Center for Archeological Research at The University of Texas at San Antonio, the U.S. Army Central Identification Laboratory in Hawaii, the Oklahoma State Medical Examiner’s Office, the Texas Biomedical Research Institute, and other locations.

Students are expected to develop selective skills related to their areas of interest within the field.

Semester Credit Hours: 0.5

**DIAG 6084  Advanced Forensic Odontology Lab**

The course consists of advanced practice in the laboratory and field skills in forensic odontology in the areas of routine identifications, mass disaster preparedness and management, bite mark evidence and analysis, child abuse detection, and jurisprudence. Students are "on call" to do cases as needed and introduced to new and innovative teachings in the field. Students are allowed to develop selective skills related to their areas of interest.

Semester Credit Hours: 0.0

**DIAG 6060  Physical Anthropology**

This lecture and laboratory course examines the morphology of the human cranial and postcranial skeleton, skeletal biology, osteogenesis, and skeletal variation. The student will have the opportunity to become proficient in distinguishing human from nonhuman bones and in identifying bone fragments relevant to forensic investigation. The human skeleton will be examined in evolutionary perspective with emphasis on comparisons with nonhuman primates and earlier human forms.

Semester Credit Hours: 1.0

**DIAG 6061  Forensic Anthropology**

A study of the application of basic anthropology to forensic situations is the focus of this course. Specific emphasis is placed on osteobiography, scene investigation, determination of the time of death, basic anthropologic variables of identification, individualization, and cause and manner of death.

Semester Credit Hours: 1.0

**DIAG 6086  Forensic Dental Photography Lab**

This lecture and laboratory course is designed to acquaint the student with dental photography in the morgue setting, studio and darkroom procedures necessary for special photographic techniques, and the preparation of appropriate case exhibits for the courtroom.

Semester Credit Hours: 0.5

**DIAG 6083  Forensic Odontology Lab**

Demonstration and application of information and principles are presented in this introductory course in laboratories of the Health Science Center and the Bexar County Medical Examiner’s Office. Successful completion of **DIAG 50181 Principles in Forensic Odontology** and this course will fulfill requirements for membership in the American Academy of Forensic Sciences.

Semester Credit Hours: 1.0

**DIAG 6085  Forensic Pathology**

In this practical lecture and laboratory course, students are concerned with the medicolegal investigation of injury and death. Special emphasis is placed on the medical examiner/coroner system, criteria for death, the medicolegal autopsy, forensic toxicology, and the medicolegal autopsy report.

Semester Credit Hours: 0.0
DIAG 6019  
**Chemosensory Disorders and Salivary Gland Dysfunction**

Chemosensory disorders affect in particular disproportionately a large segment of the elderly population, the fastest growing segment of the western industrialized nation. Also saliva plays a major role in the preservation and protection of the oral and pharyngeal tissues. When salivary gland function is altered, multiple stomatologic and systemic disorders can develop. This graduate level elective course is designed to make the graduate student (oral medicine) aware of the etiology, prevalence and mechanisms of normal and diseased chemosensation and salivary gland functions of the oral cavity. Its focus will be on the diagnosis and management of patients with taste, smell and salivary gland dysfunctions.

Semester Credit Hours: 2.0

**DIAG 6097  
Research**  
Semester Credit Hours: 1.5

**DIAG 6098  
Thesis**  
Semester Credit Hours: 2.0
### Endodontics – Certificate

**Course descriptions**

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### Endodontics - Master of Science

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### Endodontics - Course Descriptions

Courses unique to the program in Endodontics are listed below. Offerings common to one or more programs are described under [Multidisciplinary Courses](#).

**ENDO 5010  Clinical Endodontics I**

An extensive clinical experience in the broad spectrum of endodontic practice is offered on the graduate level. Each student has the opportunity to maintain a comprehensive endodontic practice under the supervision of the director and staff of the postdoctoral program in endodontics.

*Semester Credit Hours: 2.5*

**ENDO 5011  Clinical Endodontics I**

An extensive clinical experience in the broad spectrum of endodontic practice is offered on the graduate level. Each student has the opportunity to maintain a comprehensive endodontic practice under the supervision of the director and staff of the postdoctoral program in Endodontics.

*Semester Credit Hours: 3.0*

**ENDO 5015  Dental Photography**

This course is designed to expose the student to the principles of effective dental photography. Students are given the opportunity to make clinical photographs that are critiqued in class.

*Semester Credit Hours: 0.5*

**ENDO 5017  Clinical Seminar I**

These seminars provide the opportunity to discuss matters pertaining to clinical endodontics by exposing the student to a wide variety of clinical cases. The seminars provide information to give students the opportunity to become sophisticated diagnosticians and skillful clinicians. Students are provided the opportunity to achieve these goals through student case presentations, faculty case presentations, topical lectures by faculty, and consultant visits.

*Semester Credit Hours: 2.0*

*Cross-listed/Concurrent: ENDO 5018*

**ENDO 5018  Clinical Seminar I**

These seminars provide the opportunity to discuss matters pertaining to clinical endodontics by exposing the student to a wide variety of clinical cases. The seminars provide information to give students the opportunity to become sophisticated diagnosticians and skillful clinicians. Students are provided the opportunity to achieve these goals through student case presentations, faculty case presentations, topical lectures by faculty, and consultant visits.

*Semester Credit Hours: 2.0*

*Cross-listed/Concurrent: ENDO 5017*

**ENDO 5020  Introduction to Advanced Endodontics**

This course is a laboratory and lecture review of endodontic concepts and techniques starting at the basic level and progressing to the advanced. Various techniques of access preparation, chemomechanical canal preparation, and obturation will be taught. Students will have an opportunity to prepare and obturate the root canal system using a variety of techniques and materials. Procedures are performed under simulated clinical conditions in a mannequin. Following completion of obturation, students dissect and photograph tooth roots under a dissecting microscope to evaluate the effectiveness of the various canal preparation and obturation techniques.

*Semester Credit Hours: 2.5*

**ENDO 5052  Endodontic Surgical Anatomy**

This course consists of a series of four four-hour seminar sessions devoted to an in-depth discussion of endodontic surgical anatomy, surgical indications and techniques, and wound healing. This is followed by twenty hours of laboratory during which human head and neck prosected specimens are covered to demonstrate pertinent anatomic structures and the students practice actual surgical procedures on anterior, premolar, and molar teeth in cadaver specimens.

*Semester Credit Hours: 1.5*

**ENDO 5071  Supervised Teaching I**

The goal of this course is to teach the student how to be an effective teacher. This course involves the student in teaching a sophomore lecture and laboratory course where dental students receive their initial exposure to endodontics. The student is given the opportunity to be actively involved in
laboratory supervision of a small group of sophomore students as they perform specific endodontic procedures on extracted teeth. The student functions as an instructor side by side with endodontic faculty members who observe and critique the student’s performance.

**ENDO 5073 Literature Review I**
This course is designed to familiarize the student with pertinent articles, both topical and current, related to endodontics. The articles, selected from the dental, medical, and basic science literature, are assigned to the student to critically abstract and evaluate for research design, findings, and conclusions.  
*Semester Credit Hours: 1.0*

**ENDO 5074 Literature Review I**
This course is designed to familiarize the student with pertinent articles, both topical and current, related to endodontics. The articles, selected from the dental, medical, and basic science literature, are assigned to the student to critically abstract and evaluate for research design, findings, and conclusions.  
*Semester Credit Hours: 1.0*

**ENDO 5075 Literature Review I**
This course is designed to familiarize the student with pertinent articles, both topical and current, related to endodontics. The articles, selected from the dental, medical, and basic science literature, are assigned to the student to critically abstract and evaluate for research design, findings, and conclusions.  
*Semester Credit Hours: 4.0*

**ENDO 5080 Case Presentations I**
This course is designed to provide faculty evaluation of endodontic cases treated by students. Critical evaluation will be made of the diagnosis, treatment plan, and treatment methodology. Differential diagnosis will be considered along with alternate treatment plans, and treatment methods. Reasons for any complications will be determined, and methods for preventing them will be discussed. The need for post-treatment follow-up examinations will be determined. The positive feedback provided by these courses is intended to increase student confidence and competence.  
*Semester Credit Hours: 0.5*

**ENDO 5081 Case Presentations I**
This course is designed to provide faculty evaluation of endodontic cases treated by students. Critical evaluation will be made of the diagnosis, treatment plan, and treatment methodology. Differential diagnosis will be considered along with alternate treatment plans, and treatment methods. Reasons for any complications will be determined, and methods for preventing them will be discussed. The need for post-treatment follow-up examinations will be determined. The positive feedback provided by these courses is intended to increase student confidence and competence.  
*Semester Credit Hours: 4.0*

**ENDO 5082 Case Presentations I**
This course is designed to provide faculty evaluation of endodontic cases treated by students. Critical evaluation will be made of the diagnosis, treatment plan, and treatment methodology. Differential diagnosis will be considered along with alternate treatment plans, and treatment methods. Reasons for any complications will be determined, and methods for preventing them will be discussed. The need for post-treatment follow-up examinations will be determined. The positive feedback provided by these courses is intended to increase student confidence and competence.  
*Semester Credit Hours: 4.0*

**ENDO 5099 Research**
The course requires the student to formulate a protocol for the purpose of conducting an original investigation. Following a critical evaluation and acceptance of the protocol, the student conducts a research project, suitable for publication, under the guidance of a mentor. The completed research paper is presented to the Endodontics Department research Committee, staff, and guests for evaluation and critique.  
*Semester Credit Hours: 2.0*

**ENDO 5098 Research**
The course requires the student to formulate a protocol for the purpose of conducting an original investigation. Following a critical evaluation and acceptance of the protocol, the student conducts a research project, suitable for publication, under the guidance of a mentor. The completed research paper is presented to the Endodontics Department research Committee, staff, and guests for evaluation and critique.  
*Semester Credit Hours: 2.0*

**ENDO 6010 Clinical Endodontics II**
An extensive clinical experience in the broad spectrum of endodontic practice is offered on the graduate level. Each student has the opportunity to maintain a comprehensive endodontic practice under the supervision of the director and staff of the postdoctoral program in endodontics.  
*Semester Credit Hour: 3.0*

**ENDO 6011 Clinical Endodontics II**
An extensive clinical experience in the broad spectrum of endodontic practice is offered on the graduate level. Each student has the opportunity to maintain a comprehensive endodontic practice under the supervision of the director and staff of the postdoctoral program in endodontics.  
*Semester Credit Hours: 3.0*

**ENDO 6012 Clinical Endodontics II**
An extensive clinical experience in the broad spectrum of endodontic practice is offered on the graduate level. Each student has the opportunity to maintain a comprehensive endodontic practice under the supervision of the director and staff of the postdoctoral program in endodontics.  
*Semester Credit Hours: 5.0*

**ENDO 6013 Clinical Endodontics III**
An extensive clinical experience in the broad spectrum of endodontic practice is offered on the graduate level. Each student has the opportunity to maintain a comprehensive endodontic practice under the supervision of the director and staff of the postdoctoral program in endodontics.  
*Semester Credit Hours: 2.5*

**ENDO 6014 Clinical Endodontics III**
An extensive clinical experience in the broad spectrum of endodontic practice is offered on the graduate level. Each student has the opportunity to maintain a comprehensive endodontic practice under the supervision of the director and...
staff of the postdoctoral program in endodontics.

Semester Credit Hours: 2.0

ENDO 6031 Hospital Endodontics Rotation
Conducted at the Audie L. Murphy Memorial Veterans Affairs Hospital (“VA”), this rotation consists of the diagnosis, treatment planning, and clinical treatment of endodontically involved teeth and supporting structures. This rotation provides the second-year postdoctoral endodontics student the opportunity to diagnose and treat endodontic problems on all types of inpatients and outpatients in the hospital setting.

Semester Credit Hours: 1.0
Cross-listed/Concurrent ENDO 6032

ENDO 6032 Hospital Endodontics Rotation
Conducted at the Audie L. Murphy Memorial Veterans Affairs Hospital (“VA”), this rotation consists of the diagnosis, treatment planning, and clinical treatment of endodontically involved teeth and supporting structures. This rotation provides the second-year postdoctoral endodontics student the opportunity to diagnose and treat endodontic problems on all types of inpatients and outpatients in the hospital setting.

Semester Credit Hours: 1.0
Cross-listed/Concurrent ENDO 6031

ENDO 6083 Case Presentations II
This course is designed to provide faculty evaluation of endodontic cases treated by students. Critical evaluation will be made of the diagnosis, treatment plan, and treatment methodology. Differential diagnosis will be considered along with alternate treatment plans, and treatment methods. Reasons for any complications will be determined, and methods for preventing them will be discussed. The need for post-treatment follow-up examinations will be determined. The positive feedback provided by these courses is intended to increase student confidence and competence.

Semester Credit Hours: 1.0

ENDO 6060 Pulp Biology and Pain Pharmacology
This purpose of this course is to provide the solid foundation knowledge in the biology of dental pulp and periapical tissues necessary for appropriate clinical decision making in endodontic and restorative diagnosis and treatment, and to ensure that residents are prepared for future change in therapy or understanding new risk factors in disease.

Semester Credit Hours: 1.5

ENDO 6071 Supervised Teaching
The goal of this course is to teach the student how to be an effective teacher. This course involves the student in teaching a sophomore lecture and laboratory course where dental students receive their initial exposure to endodontics. The student is given the opportunity to be actively involved in laboratory supervision of a small group of sophomore students as they perform specific endodontic procedures on extracted teeth. The student functions as an instructor side-by-side with endodontic faculty members who observe and critique the student’s performance.

Semester Credit Hours: 1.0

ENDO 6073 Literature Review II
This course is designed to familiarize the student with pertinent articles, both topical and current, related to endodontics. The articles, selected from the dental, medical, and basic science literature, are assigned to the student to critically abstract and evaluate for research design, findings, and conclusions.

Semester Credit Hours: 1.0

ENDO 6074 Literature Review II
The goal of this course is for the student to develop a biological understanding and scientific basis for the diagnosis and treatment of a diverse group of topics and treatment modalities that are specifically listed as content in this course. Each topic and session will have goals and objectives specific to that area so that the student will have the opportunity to be able to assimilate information. Each resident will be assigned specific articles for review. Residents will be required to prepare written abstracts of these articles and orally present them to the class.

Semester Credit Hours: 4.0

ENDO 6075 Current Literature Review
These courses are designed to familiarize the student with pertinent endodontic literature published during the academic year. Students will be assigned specific articles for review and literature will be critically evaluated in a seminar format.

Semester Credit Hours: 0.5
Cross-listed/Concurrent ENDO 6076

ENDO 6076 Current Literature Review
These courses are designed to familiarize the student with pertinent endodontic literature published during the academic year. Students will be assigned specific articles for review and literature will be critically evaluated in a seminar format.

Semester Credit Hours: 1.0
Cross-listed/Concurrent ENDO 6075

ENDO 6077 Current Literature Review
The goal of this course is for the student to develop a biological understanding and scientific basis for the diagnosis and treatment of various endodontic subjects by a review of current literature articles. Each resident will be assigned specific articles for review. Residents will be required to prepare written abstracts of these articles and orally present them to the class.

Semester Credit Hours: 1.0

ENDO 6084 Case Presentations II
This course is designed to provide faculty evaluation of endodontic cases treated by students. Critical evaluation will be made of the diagnosis, treatment plan, and treatment methodology. Differential diagnosis will be considered along with alternate treatment plans, and treatment methods. Reasons for any complications will be determined, and methods for preventing them will be discussed. The need for post-treatment follow-up examinations will be determined. The positive feedback provided by these courses is intended to increase student confidence and competence.

Semester Credit Hours: 4.0

ENDO 6085 Case Presentations II
This course is designed to provide faculty evaluation of endodontic cases treated by students. Critical evaluation will be made of the diagnosis, treatment plan, and treatment methodology. Differential diagnosis will be considered along with alternate treatment plans, and treatment methods. Reasons for any complications will be determined, and methods for preventing them will be discussed. The need for post-treatment follow-up examinations will be determined. The positive feedback provided by these courses is intended to
increase student confidence and competence.

*Semester Credit Hours: 4.0*

**ENDO 6086  Case Presentations III**  
This course is designed to provide faculty evaluation of endodontic cases treated by students. Critical evaluation will be made of the diagnosis, treatment plan, and treatment methodology. Differential diagnosis will be considered along with alternate treatment plans, and treatment methods. Reasons for any complications will be determined, and methods for preventing them will be discussed. The need for post-treatment follow-up examinations will be determined. The positive feedback provided by these courses is intended to increase student confidence and competence.

*Semester Credit Hours: 2.0*

**ENDO 6087  Case Presentations III**  
This course is designed to provide faculty evaluation of endodontic cases treated by students. Critical evaluation will be made of the diagnosis, treatment plan, and treatment methodology. Differential diagnosis will be considered along with alternate treatment plans, and treatment methods. Reasons for any complications will be determined, and methods for preventing them will be discussed. The need for post-treatment follow-up examinations will be determined. The positive feedback provided by these courses is intended to increase student confidence and competence.

*Semester Credit Hours: 4.0*

**ENDO 6091  Research**  
The course requires the student to formulate a protocol for the purpose of conducting an original investigation. Following a critical evaluation and acceptance of the protocol, the student conducts a research project, suitable for publication, under the guidance of a mentor. The completed research paper is presented to the Endodontics Department Research Committee, staff, and guests for evaluation and critique.

*Semester Credit Hours: 1.0*

**ENDO 6092  Research**  
This course is designed to familiarize the student with pertinent articles, both topical and current, related to endodontics. The articles, selected from the dental, medical, and basic science literature, are assigned to the student to critically abstract and evaluate for research design, findings, and conclusions.

*Semester Credit Hours: 2.0*

**ENDO 6093  Research**  
This course is designed to familiarize the student with pertinent articles, both topical and current, related to endodontics. The articles, selected from the dental, medical, and basic science literature, are assigned to the student to critically abstract and evaluate for research design, findings, and conclusions.

*Semester Credit Hours: 2.0*

**ENDO 6094  Research**  
The course requires the student to formulate a protocol for the purpose of conducting an original investigation. Following a critical evaluation and acceptance of the protocol, the student conducts a research project, suitable for publication, under the guidance of a mentor. The completed research paper is presented to the Endodontics Department Research Committee, staff, and guests for evaluation and critique.

*Cross-listed/Concurrent ENDO 6095*

**Pediatric Dentistry**

*Course descriptions*

**FIRST YEAR**

**Summer**
- PEDO 5026 - Orthodontics I 2.0
- PEDO 5020 - Pediatric and Orthodontic Clinic I 2.0
- PEDO 5042 - Pediatric Dentistry I 2.0
- PEDO 5091 - Special Topics 5.0
  **Total: 11.0**

**Fall**
- PEDO 5027 - Orthodontics Seminar II 2.0
- PEDO 5021 - Pediatric and Orthodontic Clinic II 5.0
- PEDO 5043 - Pediatric Dentistry II 6.0
- PEDO 5095 - Independent Study 4.0
  **Total: 17.0**

**Spring**
- PEDO 5028 - Orthodontics Seminar III 1.5
- PEDO 5022 - Pediatric and Orthodontic Clinic III 6.0
- PEDO 5044 - Pediatric Dentistry III 6.0
- PEDO 5051 - Pediatric Physical Diagnosis 1.5
  **Total: 15.0**

**Second Year**

**Summer**
- PEDO 6023 - Pediatric and Orthodontic Clinic IV 7.0
  **Total: 7.0**

**Fall**
- PEDO 6083 - Investigative Project 1.0
- PEDO 6029 - Orthodontics Seminar IV 2.0
- PEDO 6024 - Pediatric and Orthodontic Clinic V 4.5
PEDO 6045 - Pediatric Dentistry IV 6.0
13.5

**Spring**

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**Pediatric Dentistry Course Descriptions**

Courses unique to the program in Pediatric Dentistry are listed below. Offerings common to one or more programs are described under Multidisciplinary Courses.

**PEDO 5042  Pediatric Dentistry I**

This course comprises several seminar series and lectures on a variety of subjects pertinent to advanced pediatric dentistry. Included are conscious sedation, pulp therapy, traumatic dental injuries, cariology and prevention, periodontal problems, special patient care, infection control, restorative materials and techniques, radiographic principles and practice, and pediatric grand rounds.

*Semester Credit Hours: 2.0*

**PEDO 5043  Pediatric Dentistry II**

This course is largely a continuation of lectures and seminars on the subject matter introduced in PEDO 5042 Pediatric Dentistry I, but also adds case conferences and current literature seminars.

*Semester Credit Hours: 6.0*

**PEDO 5044  Pediatric Dentistry III**

In part, this is a continuation of some lecture and seminar topics from PEDO 5043 Pediatric Dentistry II. In addition, the following subject matter will be presented: behavior management, psychosocial growth and development, pediatric oral pathology, advanced nutrition, craniofacial growth and development, antibiotics, and analgesics and sedatives.

*Semester Credit Hours: 6.0*

**PEDO 5091  Special Topics**

This special topics course will include advanced didactic education in pharmacology and conscious sedation accompanied with a strong clinical component. Additional clinical technique procedures, predominantly practiced for children, will be included with specific clinical cases for appropriate practice applications.

*Semester Credit Hours: 5.0*

**PEDO 5095  Independent Study**

This course involves the selection of a topic of current interest to the practice of pediatric dentistry. Students will be required to conduct thorough exhaustive literature reviews on the topics, develop lecture and/or seminar proposals, and present an overview of the topic and teaching program to the faculty and fellow students.

*Semester Credit Hours: 4.0*

**PEDO 6045  Pediatric Dentistry IV**

A continuation of the case conferences, current literature seminars, and pediatric grand rounds, this course also introduces practice management and topics in clinical genetics.

*Semester Credit Hours: 6.0*

**PEDO 6146  Pediatric Dentistry V**

This course continues the case conferences, current literature seminars, and pediatric grand rounds of PEDO 6045 Pediatric Dentistry IV, adding craniofacial anomalies seminars.

*Semester Credit Hours: 5.0*

**PEDO 5026  Orthodontics I**

This course comprises two seminar series in which orthodontic diagnosis and treatment principles for the primary and mixed dentitions are presented. Included also are laboratory technique exercises in which commonly used orthodontic appliances are constructed.

*Semester Credit Hours: 2.0*

**PEDO 5027  Orthodontics Seminar II**

These seminars consist of a series of selected orthodontic topics that will be assigned to individual residents for presentation to their classmates and faculty. The course director will provide a seminal article on the assigned topic from which the resident will research additional references and present a seminar session based on the material.

*Semester Credit Hours: 1.5*

**PEDO 5028  Orthodontics Seminar III**

These seminars consist of a series of selected orthodontic topics that will be assigned to individual residents for presentation to their classmates and faculty. The course director will provide a seminal article on the assigned topic from which the resident will research additional references and present a seminar session based on the material.

*Semester Credit Hours: 1.5*

**PEDO 6029  Orthodontics Seminar IV**

These seminars consist of a series of selected orthodontic topics that will be assigned to individual residents for presentation to their classmates and faculty. The course director will provide a seminal article on the assigned topic from which the resident will research additional references and present a seminar session based on the material.

*Semester Credit Hours: 2.0*

**PEDO 6030  Orthodontics Seminar V**

These seminars consist of a series of selected orthodontic topics that will be assigned to individual residents for presentation to their classmates and faculty. The course director will provide a seminal article on the assigned topic from which the resident will research additional references and present a seminar session based on the material.

*Semester Credit Hours: 2.0*

**PEDO 5020  Pediatric and Orthodontic Clinic I**

The postdoctoral program in pediatric dentistry is designed to provide each resident with clinical experience that will enable her or him to function as a proficient and competent provider of comprehensive dental services for children. Throughout the two-year program, residents will be expected to apply the information gained in the didactic part of the program to the delivery of dental care in the various clinical settings encompassed by the program. Although supervision by faculty...
is always provided, residents are expected to demonstrate increasing independence and initiative as they progress in clinical experience.

**Semester Credit Hours: 2.0**

**PEDO 5021  Pediatric and Orthodontic Clinic II**

The postdoctoral program in pediatric dentistry is designed to provide each resident with clinical experience that will enable her or him to function as a proficient and competent provider of comprehensive dental services for children. Throughout the two-year program, residents will be expected to apply the information gained in the didactic part of the program to the delivery of dental care in the various clinical settings encompassed by the program. Although supervision by faculty is always provided, residents are expected to demonstrate increasing independence and initiative as they progress in clinical experience.

**Semester Credit Hours: 5.0**

**PEDO 5022  Pediatric and Orthodontic Clinic III**

The postdoctoral program in pediatric dentistry is designed to provide each resident with clinical experience that will enable her or him to function as a proficient and competent provider of comprehensive dental services for children. Throughout the two-year program, residents will be expected to apply the information gained in the didactic part of the program to the delivery of dental care in the various clinical settings encompassed by the program. Although supervision by faculty is always provided, residents are expected to demonstrate increasing independence and initiative as they progress in clinical experience.

**Semester Credit Hours: 6.0**

**PEDO 6023  Pediatric and Orthodontic Clinic IV**

The postdoctoral program in pediatric dentistry is designed to provide each resident with clinical experience which will enable him or her to function as a proficient and competent provider of comprehensive dental services for children. Throughout the two-year program, residents will be expected to apply the information gained in the didactic part of the program to the delivery of dental care in the various clinical settings encompassed by the program. Although supervision by faculty is always provided, residents are expected to demonstrate increasing independence and initiative as they progress in clinical experience.

**Semester Credit Hours: 7.0**

**PEDO 6024  Pediatric and Orthodontic Clinic V**

The postdoctoral program in pediatric dentistry is designed to provide each resident with clinical experience which will enable him or her to function as a proficient and competent provider of comprehensive dental services for children. Throughout the two-year program, residents will be expected to apply the information gained in the didactic part of the program to the delivery of dental care in the various clinical settings encompassed by the program. Although supervision by faculty is always provided, residents are expected to demonstrate increasing independence and initiative as they progress in clinical experience.

**Semester Credit Hours: 4.5**

**Pediatric and Orthodontic Clinic V**

The postdoctoral program in pediatric dentistry is designed to provide each resident with clinical experience which will enable him or her to function as a proficient and competent provider of comprehensive dental services for children. Throughout the two-year program, residents will be expected to apply the information gained in the didactic part of the program to the delivery of dental care in the various clinical settings encompassed by the program. Although supervision by faculty is always provided, residents are expected to demonstrate increasing independence and initiative as they progress in clinical experience.

**Semester Credit Hours: 7.0**

**PEDO 5051  Pediatric Physical Diagnosis**

The pediatric dental resident will be given the opportunity to learn physical evaluation of a child’s various systems to determine the patient’s status prior to administration of general anesthesia.

**Semester Credit Hours: 1.5**

**PEDO 6083  Investigative Project**

Each resident is required to carry out an investigative project that may be laboratory-, clinic-, or library-based—depending on the interests of the student. Projects must be submitted in the form of a manuscript or publishable quality.

**Semester Credit Hours: 1.0**

**PEDO 6084  Investigative Project**

Each resident is required to carry out an investigative project that may be laboratory-, clinic-, or library-based—depending on the interests of the student. Projects must be submitted in the form of a manuscript or publishable quality.

**Semester Credit Hours: 1.0**

**Periodontics – Certificate & Master’s**

*Course descriptions*

*Master’s is the same as Certificate plus PERI 6098 Thesis (4.0 hours).*

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<td>*PERI 5052 - Surgical Anatomy</td>
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### Spring

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<td>PERI 5073 - Literature Seminars</td>
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<td>RESD 5044 - Occlusion &amp; TMD</td>
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<td>*PATH 5030 - Oral Histopathology</td>
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<tr>
<td>PERI 5031 - Periodontics Lecture Series</td>
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<tr>
<td>*PERI 5097 - Periodontics Research</td>
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<td>PERI 6001 - Periodontic Practice Management</td>
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### Summer

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<td>*ANES 6081 - Anesthesia Rotation</td>
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<tr>
<td>PERI 6011 - Clinical Periodontics II</td>
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<tr>
<td>PERI 6073 - Literature Seminars</td>
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<td>PERI 6030 - Periodontics Lecture Series</td>
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<td>*PERI 6097 - Research</td>
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### Fall

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<tr>
<td>PERI 6025 - Case Presentation Seminar</td>
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<tr>
<td>PERI 6011 - Clinical Periodontics II</td>
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<td>PERI 6074 - Current Literature Seminar</td>
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<td>PERI 6030 - Periodontics Lecture Series</td>
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<td>*PERI 6097 – Research</td>
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<tr>
<td>*PERI 6071 - Supervised Teaching (Audit)</td>
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<tr>
<td>*DIAG 6016 – Pharmacotherapeutics</td>
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<td>*INTD 6014 - Interdisciplinary Course II - Peri/Pros/Endo/Orth</td>
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<tr>
<td>*PATH 6026 - Surgical Oral Pathology I</td>
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<tr>
<td>PERI 6050 - Periodontal Medicine</td>
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### Third Year

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<td>PERI 6074 - Current Literature Seminar</td>
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<td>PERI 6020 - Emergency Care Seminar</td>
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<td>PERI 6073 - Literature Seminars</td>
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<td>PERI 6001 - Periodontic Practice Management</td>
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<td>*PERI 6097 - Research</td>
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<td>*INTD 6014 - Interdisciplinary Course II - Peri/Pros/Endo/Orth</td>
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<td>PERI 6050 - Supervised Teaching (Audit)</td>
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<tr>
<td>PERI 6072 - Supervised Teaching (Audit)</td>
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<tr>
<td>PERI 6050 - Periodontal Medicine</td>
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<tr>
<td>PERI 6098 – Thesis (master’s only)</td>
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*Multidisciplinary course
Periodontics Course Descriptions

Courses unique to the program in Periodontics are listed below. Offerings common to more than one program are described under Multidisciplinary Courses.

ANES 6081  Anesthesia Rotation

Students rotate through the operating room and peri-operative patient areas of the hospital to evaluate patients undergoing general anesthesia and deep conscious sedation. Primary purposes of this clinical rotation are to allow the student to become comfortable with airway management and patient monitoring.

Semester Credit Hours: 1.5

DIAG 6016  Pharmacotherapeutics

This course is designed to review general principles of pharmacology; current and accepted pharmacotherapy for the medical management of pain, infection, and selected systemic diseases; and associated adverse drug events. It is based on the top 200 drugs dispensed by U.S. community pharmacies for the prevention, diagnosis, and/or treatment of disease with special reference to dentistry.

Semester Credit Hours: 1.0

GEND 5027  Pain Control and Sedation

The course is an in-depth, comprehensive assessment of pain control in dentistry. Beginning with neuroanatomy and pain, the course builds a valid foundation in basic science before advancing to a panoramic discussion of techniques in anxiety management and pain control. Behavioral management and conscious sedation techniques review are the major emphasis and are accompanied by demonstrations.

Semester Credit Hours: 3.5

INTD 5013  Interdisciplinary Course I - Peri/Pros/Endo/Orth

This seminar brings together the residents and graduate staff from the periodontic, prosthodontic, and endodontic postdoctoral programs to share clinically relevant multidisciplinary information. Patient diagnostic evaluations and treatment plans are evaluated in an interactive environment. Selected topics involving new advancements are presented and discussed.

Semester Credit Hours: 1.0

INTD 5020  Dental Biomedical Core Course I

Semester Credit Hours: 4.0

INTD 5021  Dental Biomedical Core Course II

Semester Credit Hours: 1.0

INTD 6014  Interdisciplinary Course II - Peri/Pros/Endo/Orth

This seminar brings together the residents and graduate staff from the periodontic, prosthodontic, and endodontic postdoctoral programs to share clinically relevant multidisciplinary information. Patient diagnostic evaluations and treatment plans are evaluated in an interactive environment. Selected topics involving new advancements are presented and discussed.

Semester Credit Hours: 1.0

INTD 5090  Graduate Research Methodology

This course is an introduction to methods and techniques used in dental research. Topics will include basic assumptions and concepts of scientific research, selecting research topics, specifying objectives and hypotheses, literature reviews, and experimental design.

Semester Credit Hours: 1.5

PATH 5030  Oral Histopathology

The course will review the histopathologic features of oral diseases. Cases signed-out on the Oral & Maxillofacial Pathology Biopsy Service will be discussed in a conference format utilizing a multiheaded microscope. Correlation of the histologic findings with the clinical and radiographic presentation of oral disease processes will be emphasized. Students will have the opportunity to learn the basis of surgical pathologic diagnosis and related ancillary special studies.

Semester Credit Hours: 1.0

PATH 5035  Oral Pathology

Clinicopathologic correlations, differential diagnosis, and therapeutic rationale are emphasized. The integration of history, physical findings, and clinical laboratory data with pertinent radiographic findings, clinical presentations, and anatomic pathology will be emphasized.

Semester Credit Hours: 2.0

PATH 5121  Biostatistics

This course is designed to prepare the advanced education dentist with the knowledge of common statistical methods in order to critically evaluate the literature and to perform necessary analyses in support of their own research projects, particularly those directed at the completion of the Certificate from the Dental School and/or the Master of Science degree from the Graduate School of Biomedical Sciences.

Semester Credit Hours: 1.0

PATH 6026  Surgical Oral Pathology I

This course is presented in the first semester and consists of 16 one-hour sessions of instruction conducted as case conferences utilizing radiographic, histopathologic, and clinical projected glass slides and Kodachromes. Students present assigned literature reviews and cases emphasizing radiographic and histopathologic changes; discussions follow. Students include those from Oral and Maxillofacial Surgery, Periodontics, Endodontics, and Dental Diagnostic Sciences.

Semester Credit Hours: 1.0

PATH 6027  Surgical Oral Pathology II

This course is a continuation of PATH 6026 Surgical Oral Pathology I. It is presented in the second semester and consists of 17 one-hour sessions of instruction conducted as case conferences utilizing radiographic, histopathologic, and clinical projected glass slides and Kodachromes. Students present assigned literature reviews and cases emphasizing radiographic and histopathologic changes; discussions follow. Students include those from Oral and Maxillofacial Surgery, Periodontics, Endodontics, and Dental Diagnostic Sciences.

Semester Credit Hours: 1.0
PERI 5010  Clinical Periodontics I
Students have the opportunity to gain clinical experience as they treat patients in the postdoctoral clinic. Cases gradually increase in complexity and severity and include treatment of the medically compromised patient, implant cases, and interdisciplinary cases.
Semester Credit Hours: 1.0
Cross-listed/Concurrent: PERI 5011/5012

PERI 5011  Clinical Periodontics I
Students have the opportunity to gain clinical experience as they treat patients in the postdoctoral clinic. Cases gradually increase in complexity and severity and include treatment of the medically compromised patient, implant cases, and interdisciplinary cases.
Semester Credit Hours: 1.0
Cross-listed/Concurrent: PERI 5010/5012

PERI 5012  Clinical Periodontics I
Students have the opportunity to gain clinical experience as they treat patients in the postdoctoral clinic. Cases gradually increase in complexity and severity and include treatment of the medically compromised patient, implant cases, and interdisciplinary cases.
Semester Credit Hours: 1.0
Cross-listed/Concurrent: PERI 5010/5011

PERI 5025  Case Presentation Seminar
The course consists of presentation of clinical cases. Students have the opportunity to prepare to defend their approaches to therapy and gain experience in oral presentation of cases.
Semester Credit Hours: 0.5
Cross-listed/Concurrent: PERI 6025

PERI 5031  Periodontics Lecture Series
This course is designed to instruct the student in all aspects of periodontology. It is meant to be an adjunct to the PERI 6073 Literature Seminar. Topics dealing with basic science, pathobiology, and clinical and surgical aspects of periodontal disease will be discussed.
Semester Credit Hours: 1.0–5.0
Cross-listed/Concurrent: PERI 6030/6031

PERI 5037  Bone & Connective Tissue Biology
This course seeks to apply current principles of bone and periodontal ligament cell biology to our understanding of the development, maintenance, and repair of periodontal tissues and to the clinical management of pathology at the tooth supporting structures. Emphasis is placed on the basic cell and structural biology which provides the underlying rationale for current and experimental approaches to periodontal disease and therapies.
Semester Credit Hours: 0.5

PERI 5052  Surgical Anatomy
This course emphasizes the learning of the head and neck anatomy that is related directly to surgical procedures performed by periodontists and endodontists and the practice of prosthodontic dentistry. Anatomic structures related to implant placement receive special emphasis. Surgical complications related to anatomy are described. A prosection on human cadavers is presented with a strong emphasis on surgical anatomy.
Semester Credit Hours: 1.0

PERI 5073  Literature Seminars
This course is designed to familiarize the student with the historical and contemporary literature related to periodontics. The first-year course is concerned mainly with basic science literature while second- and third-year courses concentrate on the clinical literature. Students have the opportunity to evaluate the data in the literature, critique experimental design, abstract articles, critically evaluate research findings, and learn to use library resources.
Semester Credit Hours: 1.0–5.0
Cross-listed/Concurrent: PERI 6073

PERI 5074  Current Literature Seminar
Current periodontal literature published during the academic year is discussed in a seminar format.
Semester Credit Hours: 1.0–5.0
Cross-listed/Concurrent: PERI 6074

PERI 5075  Mock Board Exams
This course is a simulation of the exams given by the American Board of Periodontology. Students present their cases orally, with slides, to faculty examiners and take an oral examination.
Semester Credit Hours: 0.5
Cross-listed/Concurrent PERI 6075

PERI 5097  Periodontics Research
Semester Credit Hours: 1.0–9.0

PERI 6001  Periodontic Practice Management
The objective of this course is to prepare the student for the business aspects of clinical practice. The student will be exposed to the banking finances, practical aspects of office management, matters relating to dental insurance, and the different types of practice.
Semester Credit Hours: 0.5

PERI 6011  Clinical Periodontics II
Students have the opportunity to gain clinical experience as they treat patients in the postdoctoral clinic. Cases gradually increase in complexity and severity and include treatment of the medically compromised patient, implant cases, and interdisciplinary cases.
Semester Credit Hours: 1.0–10.0

PERI 6020  Emergency Care Seminar
This is a pragmatic course to familiarize the student with the medical emergencies that the clinician may incur while practicing dentistry. Major texts on the medically compromised patient are used as a guideline. The course is given in seminar format.
Semester Credit Hours: 0.5

PERI 6025  Case Presentation Seminar
The course consists of presentation of clinical cases. Students have the opportunity to prepare to defend their approaches to therapy and gain experience in oral presentation of cases.
Semester Credit Hours: 0.5
Cross-listed/Concurrent: PERI 5025

PERI 6030  Periodontics Lecture Series
This course is designed to instruct the student in all aspects of periodontology. It is meant to be an adjunct to the PERI 6073 Literature Seminar. Topics dealing with basic science,
pathobiology, and clinical and surgical aspects of periodontal disease will be discussed.
Semester Credit Hours: 1.0–5.0
Cross-listed/Concurrent: PERI 5031/6031

**PERI 6050**  Periodontal Medicine
This course is designed to establish the principles essential for problem-oriented evaluation of the dental patient. The intent is to discuss the diagnosis of selected common orally related primary and secondary mucocutaneous conditions and oral cancer and their management. Oral lesions with other causes such as nutritional disorders and odontogenic pathologic processes are reviewed. Semester Credit Hours: 0.5

**PERI 6071**  Supervised Teaching
Semester Credit Hours: 2.0

**PERI 6073**  Literature Seminars
This course is designed to familiarize the student with the historical and contemporary literature related to periodontics. The first-year course is concerned mainly with basic science literature while second- and third-year courses concentrate on the clinical literature. Students have the opportunity to evaluate the data in the literature, critique experimental design, abstract articles, critically evaluate research findings, and learn to use library resources.
Semester Credit Hours: 0.5–5.0
Cross-listed/Concurrent: PERI 5073

**PERI 6074**  Current Literature Seminar
Current periodontal literature published during the academic year is discussed in a seminar format.
Semester Credit Hours: 1.0–5.0
Cross-listed/Concurrent: PERI 5074

**PERI 6075**  Mock Board Exams
This course is a simulation of the exams given by the American Board of Periodontology. Students present their cases orally, with slides, to faculty examiners and take an oral examination.
Semester Credit Hours: 0.5
Cross-listed/Concurrent: PERI 5075

**RESD 5044**  Occlusion & TMD
Residents will receive instruction for providing a limited occlusal equilibrium due to disorders such as local traumatic occlusion. The course will also cover recommended techniques for full-mouth occlusal equilibrium. A series of patients presenting with TMD-like symptoms will be presented, and diagnoses, perpetuating factors, and potential treatments will be discussed. The clinical portion of the course will involve residents taking impressions and bite registrations on their partners, sending these to a laboratory for splint fabrication, and inserting these appliances on their partners. Residents will have the opportunity to learn to palpate the masticatory and cervical musculature, in addition to the TMJs of their partners.
Semester Credit Hours: 0.5

### Third-Year Course Descriptions

Courses unique to the program in Periodontics are listed below. Offerings common to more than one program are described under **Multidisciplinary Courses**. The Master’s degree includes all courses for the Certificate program (first and second years) and the courses in the following list (third year).

**INTD 6115**  Interdisciplinary Course III - Peri/Pros/Endo/Orth
This is a seminar that brings together the residents and graduate staff from the periodontic, prosthodontic, and endodontic postdoctoral programs to share clinically relevant multidisciplinary information. Patient diagnostic evaluations and treatment plans are evaluated in an interactive environment. Selected topics involving new advancements are presented and discussed.
Semester Credit Hours: 1.0

**PERI 6020**  Emergency Care Seminar
This is a pragmatic course to familiarize the student with the medical emergencies that the clinician may incur while practicing dentistry. Major texts on the medically compromised patient are used as a guideline. The course is given in seminar format.
Semester Credit Hours: 0.5

**PERI 6001**  Periodontic Practice Management
The objective of this course is to prepare the student for the business aspects of clinical practice. The student will be exposed to the banking finances, practical aspects of office management, matters relating to dental insurance, and the different types of practice.
Semester Credit Hours: 0.5

**PERI 6011**  Clinical Periodontics II
Students have the opportunity to gain clinical experience as they treat patients in the postdoctoral clinic. Cases gradually increase in complexity and severity and include treatment of the medically compromised patient, implant cases, and interdisciplinary cases.
Semester Credit Hours: 1.0–10.0

**PERI 6012**  Clinical Periodontics III
Students have the opportunity to gain clinical experience as they treat patients in the postdoctoral clinic. Cases gradually increase in complexity and severity and include treatment of the medically compromised patient, implant cases, and interdisciplinary cases.
Semester Credit Hours: 1.0–5.0

**PERI 6025**  Case Presentation Seminar
The course consists of presentation of clinical cases. Students have the opportunity to prepare to defend their approaches to therapy and gain experience in oral presentation of cases.
Semester Credit Hours: 0.5
Cross-listed/Concurrent: PERI 5025

**PERI 6030**  Periodontics Lecture Series
This course is designed to instruct the student in all aspects of periodontology. It is meant to be an adjunct to the PERI 6073 Literature Seminar. Topics dealing with basic science, pathobiology, and clinical and surgical aspects of periodontal disease will be discussed.
Semester Credit Hours: 1.0–5.0
Cross-listed/Concurrent: PERI 5031/6031

**PERI 6031**  Periodontics Lecture Series
This course is designed to instruct the student in all aspects of periodontology. It is meant to be an adjunct to the PERI 6073 Literature Seminar. Topics dealing with basic science, pathobiology, and clinical and surgical aspects of periodontal disease will be discussed.
PERI 6050  Periodontal Medicine
This course is designed to establish the principles essential for problem-oriented evaluation of the dental patient. The intent is to discuss the diagnosis of selected common orally related primary and secondary mucocutaneous conditions and oral cancer and their management. Oral lesions with other causes such as nutritional disorders and odontogenic pathologic processes are reviewed. Semester Credit Hours: 0.5

PERI 6070  Supervised Teaching
Semester Credit Hours: 2.0

PERI 6071  Supervised Teaching
Semester Credit Hours: 2.0

PERI 6072  Supervised Teaching
Graduate students are assigned to the various clinics, laboratories, and classes for the opportunity to acquire experience in teaching undergraduate students in a variety of situations. Supervision and evaluation of teaching performance are provided by the graduate faculty. Semester Credit Hours: 2.0

PERI 6073  Literature Seminars
This course is designed to familiarize the student with the historical and contemporary literature related to periodontics. The first-year course is concerned mainly with basic science literature while second- and third-year courses concentrate on the clinical literature. Students have the opportunity to evaluate the data in the literature, critique experimental design, abstract articles, critically evaluate research findings, and learn to use library resources. Semester Credit Hours: 0.5

PERI 6074  Current Literature Seminar
Current periodontal literature published during the academic year is discussed in a seminar format. Semester Credit Hours: 0.5

PERI 6075  Mock Board Exams
This course is a simulation of the exams given by the American Board of Periodontology. Students present their cases orally, with slides, to faculty examiners and take an oral examination. Semester Credit Hours: 0.5

PERI 6097  Research
Semester Credit Hours: 1.0

PERI 6098  Thesis
Completion of an acceptable thesis is required for the Master of Science degree. Registration in this course for at least one semester is required of all degree candidates. Semester Credit Hours: 1.0

Prerequisites: admission to candidacy for the Master of Science degree.

Prosthodontics – Certificate

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<td>PROS 5015 - Concepts of Occlusion</td>
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<td>PROS 5031 - Clinical Prosthodontics 1</td>
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| Fall | |
| INTD 5013 - Interdisciplinary Seminar 1 - Perio / Pros / Endo / Ortho | 1.0 |
| INTD 5020 - Dental Biomedical Core Course 1 | 4.0 |
| PATH 5035 - Oral Pathology | 2.0 |
| PATH 5121 - Biostatistics | 1.0 |
| PERI 5052 - Surgical Anatomy | 1.0 |
| PROS 5022 – Advanced Prosthodontics 1 | 1.0 |
| PROS 5031 - Clinical Prosthodontics 1 | 1.5 |
| PROS 5045 – OMFS / Pros Seminar 1 | 0.5 |
| PROS 5050 - Dental Implantology | 1.0 |
| **Total Semester Hours** | **15.5** |

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### Prosthodontics - Master of Science

Courses required for the Certificate and Master of Science are identical, with one additional required course for the master's, PROS 6098 Thesis.

#### Course Descriptions

Courses unique to the program in Prosthodontics are listed below. Offerings common to one or more programs are described under **Multidisciplinary Courses**.

**PROS 5015  Concepts of Occlusion**

Various concepts of occlusion with special emphasis on the clinical application of gnathology is the focus of this course. The laboratory phase includes the development of a functional occlusion through the cusp-fossa additive wax method and an occlusal equilibration technique.

*Semester Credit Hours: 1.0*

**PROS 5022  Advanced Prosthodontics 1**

This open forum course provides an exposure to a wide variety of faculty and guest consultants on topics of special interest to the specialty of prosthodontics.

*Semester Credit Hours: 1.0*

**PROS 5031  Clinical Prosthodontics 1**

The objective of this course is to provide extensive clinical experience in the broad spectrum of prosthodontics on a graduated basis. Each prosthodontics student will have the opportunity to maintain a comprehensive prosthodontic practice involving fixed, removable, and implant treatment procedures.

*Semester Credit Hours: 1.5–3.0*

**PROS 5045  OMFS / Pros Seminar 1**

This course is a series of seminars devoted to the discussion and coordination of treatment of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5049  Overview of Maxillofacial Prosthodontics**

This course introduces the graduate student to the discipline of maxillofacial prosthetics. Emphasis is placed on treating patients requiring prosthetic devices in the head and neck area due to surgery or trauma.

*Semester Credit Hours: 0.5*

**PROS 5050  Dental Implantology**

This course offers graduate level students an introduction to the basics of the osseointegrated implant surgical and prosthetic technique. Lectures on advanced concepts of osseointegration therapy related to several implant systems.
are included.

**PROS 5053  Advanced Implant Prosthodontics**
The objective of this course is to offer each student an opportunity to obtain background information, knowledge, and skills associated with dental implant treatment modalities.

*Semester Credit Hours: 1.0*

**PROS 5067  Supervised Teaching**
This course provides 1st year prosthodontic residents the opportunity to teach complete denture laboratory skills to predoctoral students under the supervision of experienced prosthodontic educators.

*Semester Credit Hours: 2.0*

**PROS 5068  Supervised Teaching**
This course provides 1st year prosthodontic residents the opportunity to teach removable partial denture and implant prosthodontic laboratory skills to predoctoral students under the supervision of experienced prosthodontic educators.

*Semester Credit Hours: 2.0*

**PROS 5069  Supervised Teaching**
This course provides 2nd year prosthodontic residents the opportunity to teach fixed prosthodontic laboratory skills to predoctoral students under the supervision of experienced prosthodontic educators.

*Semester Credit Hours: 2.0*

**PROS 5070  Supervised Teaching**
This course provides 3rd year residents the opportunity to teach fixed prosthodontic clinical procedures to predoctoral students with a team of experienced clinical instructors and under the supervision of an experienced practice manager.

*Semester Credit Hours: 2.0*

**PROS 5071  Supervised Teaching**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5072  Literature Review Seminar 1**
The broad field of prosthodontics literature is systematically reviewed in a recurring 3 year continuum with the objective of providing the postdoctoral student with a background of prosthodontic knowledge and history.

*Semester Credit Hours: 1.0*

**PROS 5073  Literature Review Seminar 1**
A continuation of the 3 year continuum of prosthodontic literature review

*Semester Credit Hours: 1.0*

**PROS 5074  Literature Review Seminar 2**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5075  Literature Review Seminar 2**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5076  Literature Review Seminar 3**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5077  Literature Review Seminar 3**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5078  Literature Review Seminar 4**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5079  Literature Review Seminar 4**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5080  Literature Review Seminar 5**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5081  Literature Review Seminar 5**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5082  Literature Review Seminar 6**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5083  Literature Review Seminar 6**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5084  Literature Review Seminar 7**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5085  Literature Review Seminar 7**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*

**PROS 5086  Literature Review Seminar 8**
This course is a series of seminars devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontic programs.

*Semester Credit Hours: 0.5*
PROS 6075  Literature Review Seminar 3
A continuation of the 3 year continuum of prosthodontic literature review
Semester Credit Hours: 1.0

PROS 6076  Literature Review Seminar 3
A continuation of the 3 year continuum of prosthodontic literature review
Semester Credit Hours: 1.0

PROS 6097  Research
This course offers the student an opportunity to review the literature and to design and complete a laboratory or clinical research project under the direction of a faculty advisor. Research should result in a paper by certificate students suitable for publication in a peer-rated journal. Students in the master’s programs will be expected to collect and analyze data for a thesis that must be defended as the culmination of research efforts.
Semester Credit Hours: 1.0-9.0

PROS 6098  Thesis
Completion of an acceptable thesis is required for the Master of Science degree. Registration in this course for at least one semester is required of all degree candidates.
Semester Credit Hours: 1.0-9.0
Prerequisites: admission to candidacy for the Master of Science degree

PROS 6121  Advanced Prosthodontics 3
This continuation course provides an open forum for a wide variety of faculty and guest consultants on topics of special interest to the specialty of prosthodontics.
Semester Credit Hours: 1.0


**Multidisciplinary Courses**

The following are basic science and multidisciplinary courses common to the curriculum of two or more programs:

**DIAG 5050  Fundamentals of Dental Radiography**

This lecture course reviews the basics of diagnostic radiography and introduces the latest techniques. Review includes sessions on exposure factors, projection techniques, film processing, and radiation protection. The major extraoral technique stressed in the course is panoramic radiography, including normal anatomy, technique errors, and interpretation. Skull projections are reviewed and basic principles and indications of special techniques such as xeroradiography, CT, nuclear medicine, and others are presented as time allows.

*Semester Credit Hours: 1.0*

**ENDO 5071  Supervised Teaching I**

The goal of this course is to teach the student how to be an effective teacher. This course involves the student in teaching a sophomore lecture and laboratory course where dental students receive their initial exposure to endodontics. The student is given the opportunity to be actively involved in laboratory supervision of a small group of sophomore students as they perform specific endodontic procedures on extracted teeth. The student functions as an instructor side-by-side with endodontic faculty members who observe and critique the student's performance.

*Semester Credit Hours: 1.0*

**DIAG 6071  Supervised Teaching**

Graduate students are assigned to the various clinics, laboratories, and classes for the opportunity to acquire experience in teaching undergraduate students in a variety of situations. Supervision and evaluation of teaching performance are provided by the graduate faculty.

*Semester Credit Hours: 1.0*

**ENDO 5060  Current Concepts in Endodontics**

Modern thoughts and concepts in endodontics will cover diagnosis, the dental pulp and periapex, pulpalgia, and referred pain; vital pulp therapy; treatment of the acute apical abscess, cellulitides, restorative considerations for the endodontically treated tooth, endodontic surgery, and the cracked tooth. Other topics include avulsions, endodontic-periodontic interrelationships, current concepts in endodontics and an overview of endodontic research.

*Semester Credit Hours: 1.0*

**ENDO 6098  Thesis**

*Semester Credit Hours: 4.0*

**ENDO 5060  Current Concepts in Endodontics**

Modern thoughts and concepts in endodontics will cover diagnosis, the dental pulp and periapex, pulpalgia, and referred pain; vital pulp therapy; treatment of the acute apical abscess, cellulitides, restorative considerations for the endodontically treated tooth, endodontic surgery, and the cracked tooth. Other topics include avulsions, endodontic-periodontic interrelationships, current concepts in endodontics and an overview of endodontic research.

*Semester Credit Hours: 1.0*

**GEND 5027  Pain Control and Sedation**

The course is an in-depth, comprehensive assessment of pain control in dentistry. Beginning with neuroanatomy and pain, the course builds a valid foundation in basic science before advancing to a panoramic discussion of techniques in anxiety management and pain control. Behavioral management and conscious sedation techniques review are the major emphasis and are accompanied by demonstrations.

*Semester Credit Hours: 3.5*

**INTD 5013  Interdisciplinary Seminar 1 – Perio / Pros / Endo / Ortho**

This seminar brings together the residents and graduate staff from the periodontic, prosthodontic, and endodontic postdoctoral programs to share clinically relevant multidisciplinary information. Patient diagnostic evaluations and treatment plans are evaluated in an interactive environment. Selected topics involving new advancements are presented and discussed.

*Semester Credit Hours: 1.0*

**INTD 5020  Dental Biomedical Core Course 1**

*Semester Credit Hours: 4.0*

**INTD 5021  Dental Biomedical Core Course 2**

*Semester Credit Hours: 1.0*

**INTD 5067  Introduction to Bioinformatics and Computational Biology**

The course will be taught by faculty from Biochemistry, Cellular & Structural Biology, CCRI, Periodontics, and faculty from UTSA. The course will be an introduction to methods and tools for working with DNA sequences and protein families, learning basic Unix networking, overview of numerical modeling, systems biology approaches to complex diseases, gene expression analysis, bioinformatics in clinical research, statistical tools for complex datasets, proteomics, structural methods for protein biology, chemoinformatics, molecular modeling, and mathematical model building.

*Semester Credit Hours: 2.0*
INTD 6014  Interdisciplinary Seminar 2 – Perio / Pros / Endo / Ortho
This seminar brings together the residents and graduate staff from the periodontic, prosthodontic, and endodontic postdoctoral programs to share clinically relevant interdisciplinary information. Patient diagnostic evaluations and treatment plans are evaluated in an interactive environment. Selected topics involving new advancements are presented and discussed. Semester Credit Hours: 1.0

INTD 6070  Teaching Skills for Dental Educators
This course, designed to assist graduate students and faculty in acquiring teaching skills, is composed of four modules, each covering a range of topics from lecture and clinical teaching to instructional development to assessing student achievement. Semester Credit Hours: 1.0

INTD 6115  Interdisciplinary Seminar 3 – Perio / Pros / Endo / Ortho
This seminar brings together the residents and graduate staff from the periodontic, prosthodontic, and endodontic postdoctoral programs to share clinically relevant interdisciplinary information. Patient diagnostic evaluations and treatment plans are evaluated in an interactive environment. Selected topics involving new advancements are presented and discussed. Semester Credit Hours: 1.0

INTD 5090  Graduate Research Methodology
This course is an introduction to methods and techniques used in dental research. Topics will include basic assumptions and concepts of scientific research, selecting research topics, specifying objectives and hypotheses, literature reviews, and experimental design. Semester Credit Hours: 1.5

PATH 5030  Oral Histopathology
The course will review the histopathologic features of oral diseases. Cases signed-out on the Oral & Maxillofacial Pathology Biopsy Service will be discussed in a conference format utilizing a multiheaded microscope. Correlation of the histologic findings with the clinical and radiographic presentation of oral disease processes will be emphasized. Students will have the opportunity to learn the basis of surgical pathologic diagnosis and related ancillary special studies. Semester Credit Hours: 1.0

PATH 5035  Oral Pathology
Clinicopathologic correlations, differential diagnosis, and therapeutic rationale are emphasized. The integration of history, physical findings, and clinical laboratory data with pertinent radiographic findings, clinical presentations, and anatomic pathology will be emphasized. Semester Credit Hours: 2.0

PATH 5121  Biostatistics
This course is designed to prepare the advanced education dentist with the knowledge of common statistical methods in order to critically evaluate the literature and to perform necessary analyses in support of their own research projects, particularly those directed at the completion of the Certificate from the Dental School and/or the Master of Science degree from the Graduate School of Biomedical Sciences. Semester Credit Hours: 1.0

PATH 6026  Surgical Oral Pathology I
This course is presented in the first semester and consists of 16 one-hour sessions of instruction conducted as case conferences utilizing radiographic, histopathologic, and clinical projected glass slides and Kodachromes. Students present assigned literature reviews and cases emphasizing radiographic and histopathologic changes; discussions follow. Students include those from Oral and Maxillofacial Surgery, Periodontics, Endodontics, and Dental Diagnostic Sciences. Semester Credit Hours: 1.0

PATH 6027  Surgical Oral Pathology II
This course is a continuation of PATH 6026 Surgical Oral Pathology I. It is presented in the second semester and consists of 17 one-hour sessions of instruction conducted as case conferences utilizing radiographic, histopathologic, and clinical projected glass slides and Kodachromes. Students present assigned literature reviews and cases emphasizing radiographic and histopathologic changes; discussions follow. Students include those from Oral and Maxillofacial Surgery, Periodontics, Endodontics, and Dental Diagnostic Sciences. Semester Credit Hours: 1.0

PERI 5052  Surgical Anatomy
This course emphasizes the learning of the head and neck anatomy that is related directly to surgical procedures performed by periodontists and endodontists and the practice of prosthodontic dentistry. Anatomic structures related to implant placement receive special emphasis. Surgical complications related to anatomy are described. A prosection on human cadavers is presented with a strong emphasis on surgical anatomy. Semester Credit Hours: 1.0

PROS 5050  Dental Implantology
This course offers graduate level students an introduction to the basics of the osseointegrated implant surgical and prosthetic technique. Lectures on advanced concepts of osseointegration therapy related to several implant systems are included. Semester Credit Hours: 1.0

RESD 6021  Advanced Dental Materials
Students have an opportunity to become acquainted with sophisticated research equipment through hands-on exposures. Measurements of mechanical, physical, and chemical properties of commonly used dental materials give the student the opportunity to envision and formulate research projects in dental materials. Semester Credit Hours: 3.5

RESD 5095  Research Methodology II - Development of a Thesis Proposal
This course is a continuation of INTD 5090 Research Methodology. Semester Credit Hours: 0.5

SELC 7090  Air Abrasion in Dentistry
This is a course on the uses of air abrasion technology. It is designed to better prepare students to use the technology in the clinic. Semester Credit Hours: 0.0
Associated Programs

Advanced Education in General Dentistry (AEGD)

The Advanced Education in General Dentistry (AEGD) program is designed to offer intensive clinical and didactic training in comprehensive care of the dental patient with complex problems. Administered by the Department of General Dentistry, the AEGD involves the direct delivery of advanced dental care in each of the dental specialties through the Health Science Center’s dental clinic as well as extramural sites. AEGD residents work closely with residents of the General Practice Residency program and share a common clinic facility, clinical faculty, and some didactic courses. The AEGD and General Dentistry Residency programs are designed to complement each other as they share similar but differing objectives.

The curriculum is intended to provide the scientific basis for dental practice and to develop the residents’ skills in lecture preparation and presentation. In the year of training, residents spend more than 300 clock hours in seminar, lecture, and presentation courses that cover each of the specialty areas of dentistry. Courses are designed at the postdoctoral level to complement the clinical experiences residents will encounter and the treatments they will be providing. Residents participate as educators/audience for presentations that are required in many of the courses. Clinical faculty of the AEGD are integrally involved in the major portion of the didactic component as course directors and lecturers. In some courses, AEGD residents participate alongside specialty students. Residents are afforded time to attend continuing education offerings at the Health Science Center.

Clinical training begins in July. Patient assignment to residents is closely managed to assure each resident a broad mix of treatment experiences. Comprehensive treatment of complex cases is required of each resident, although residents are also allowed to seek assignment of patients requiring treatment appropriate to her/his specific educational needs or aims. For 35 hours each week, residents provide care in the Advanced General Dentistry Clinic to patients; a substantial proportion of the patients are medically, mentally, and/or physically compromised. Four-handed dentistry is stressed as are other aspects of dentistry necessary for modern private practice. Clinical faculty are general dentists from the Department of General Dentistry, each of whom has received postdoctoral training in general dentistry. Specialty faculty fills a major role, providing consultation and supervision as needed. The specialty residency clinics serve as a referral both to and from the Advanced General Dentistry Clinic. AEGD residents provide emergency call service to patients of dental students, and the Advanced General Dentistry Clinic. Further clinical experiences are gained through 16 days of rotations at extramural sites.

General Practice Residency

The General Practice Residency program offers graduate dentists an opportunity to become broadly competent general practitioners capable of providing comprehensive, state-of-the-art dental care. To accomplish this goal, clinical, educational, and research objectives are addressed. Dental care for the medically compromised patient serves as the framework upon which clinical training is based. Such patients include organ transplant recipients, chemotherapy patients, prosthetic cardiac valve candidates, and individuals with a variety of other medical complications. Treatment of these patients is offered in both inpatient and outpatient settings, with emphasis on the management of their medical problems.

In the hospital environment, the residents’ responsibilities include consultations, treatment of inpatients, operating room dentistry, and emergency room dentistry. Complementing this exposure, the outpatient experience allows residents the opportunity to advance their knowledge and clinical skills in all the dental specialties, with continued emphasis on comprehensive care.

Research opportunities are available within the program and throughout the Health Science Center to supplement the clinical exposure. Resident participation in an ongoing or new clinical research project is encouraged. This experience is provided to give residents an appreciation of research design, data analysis, and the publication process. In addition, this exercise is designed to equip residents with the expertise required to judge the merits of future trends and treatment techniques. Educational experiences are comprised of lectures, seminars, and case presentations given by the residents. Residents are required to develop these presentations (to include outline, bibliography, and audiovisual aids) from literature reviews. The experience is intended to acquaint residents with the organization, preparation, and delivery of a lecture/seminar.

Outpatient dentistry is performed in the Advanced General Dentistry Clinic, with each resident assigned a group of comprehensive care patients. The clinic is comprised of 16 operatories, panoramic and intraoral radiographic capabilities, a waiting room, secretarial office, resident office, break room, and dental laboratory. Oral hygiene care is provided by dental hygienists. The clinic is equipped for both intravenous and inhalation sedation, and complete laboratory facilities are proximate. A small reference library is supported by the exceptionally comprehensive Health Science Center Library. Required rotations include three weeks in general anesthesia, two weeks in the Emergency Center, and two months in the dental clinic at University Hospital.

Applications must be submitted before the deadline, October 15 each year, for the program beginning July 1 and ending June 30 of the succeeding year. Applicants must hold a degree from an accredited North American dental school. The GPR program participates in the Postdoctoral Application Support Service (PASS) (optional) and in the Postdoctoral Dental Matching Program (mandatory). Program applications may be obtained from the Postdoctoral Division of the Department of General Dentistry in the Dental School and submitted directly to the GPR program. Additional information about this residency is available on the division Web site at UT Health Science Center San Antonio Catalog 2011–2012 168
http://teeth.uthscsa.edu/generaldentistrygpr.aspx. All residents in the program receive a stipend.

**Dental Public Health Residency**

The Dental Public Health Residency Program offers a one-year, full-time or a two-year, part-time educational experience that leads to a certificate in the specialty. The program, which is accredited by the Commission on Dental Accreditation, adheres to the guidelines of the American Board of Dental Public Health and is designed to allow dentists with the Master of Public Health degree or its equivalent to complete the educational requirements for Board Certification as a specialist in Dental Public Health. A stipend and travel costs for South Texas research projects may be available to U.S. citizens and permanent residents.

Public health dentists prevent and control oral diseases and promote oral health through organized community efforts. They are concerned with dental education of the public, with applied dental research, and with administration and operation of group dental care programs, both public and private. The Institute of Medicine has defined the public health mission as “fulfilling society’s interest in assuring conditions in which people can be healthy.” Three broad functions to achieve this are:

- **Assessment**—the regular collection and dissemination of data on oral health status, community needs, and epidemiologic studies.
- **Policy**—the use of the base of scientific knowledge in policy decisions affecting the public’s oral health.
- **Assurance**—of constituents that services necessary to achieve predetermined goals for oral health are available, either by providing them, by assisting and funding others, or by regulation.

Public health dentists and dental hygienists are employed in various health agencies at all levels of government, in the insurance industry, in dental and dental hygiene schools, in schools of public health, in community health centers, in the uniformed services, and in the health industry as consultants.

We encourage dentists to complete the MPH degree at an accredited School of Public Health including The University of Texas SPH programs in San Antonio, Brownsville, El Paso, Dallas, and Houston, and at the Texas Department of State Health Services, an agency of the Texas Health and Human Services System, as well as other schools of public health in Texas, such as University of North Texas—Fort Worth and TAMU School of Rural Public Health-Bryan, Texas. Residential and distance MPH programs are also offered by other accredited schools of public health (http://www.ceph.org/). The MPH degree can be completed as a full-time student or as a part-time student while maintaining employment. Likewise, this Residency will admit dentists with the MPH degree on a full-time or half-time basis, maintaining continuity of employment. Special educational provisions are made for distant residents and they will conduct their research projects on topics valuable to their employing agencies.

In this program, half of the resident’s time is concerned with design, implementation, analysis, interpretation, and reporting of two research projects. One third of the time is devoted to advanced seminars in Prevention of Oral Disease and Financing of Dental Care. Program Planning and Administration is addressed both through seminars and agency visits; other field, clinical, and teaching experiences are offered. Dental graduates with superior career attainments in dental public health may be eligible to combine the MPH degree at The University of Texas School of Public Health, San Antonio Regional Campus and this residency, but separate applications to each program are required.

The Department of Comprehensive Dentistry has programs in epidemiology, oral disease prevention and health promotion, health services, nutrition, cariology, and salivary, and cooperates in several school, mobile, and community health center clinical primary care programs. Other resources to the program include the Texas Department of State Health Services, Oral Health Program (OHP) at the Texas Department of State Health Services (DSHS), San Antonio Metropolitan Health District, and The University of Texas School of Public Health, San Antonio Program.

Application deadline is February 28 for the program commencing October 1 each year. Further information is available from the Department of Community Dentistry of the Dental School.

Application forms for qualified applicants — those dentists holding or completing the MPH degree or equivalent — are available from the Dental Public Health Residency Program.

The following Web site has further information: http://dental.uthscsa.edu/admissions/AdvEd_index.php.

**Oral and Maxillofacial Surgery Residency**

The Oral and Maxillofacial Surgery residency is a six-year medical degree certificate program with openings for two positions per year. The six-year course of study is designed to integrate the advanced biological basic sciences into progressive clinical training.

There is an excellent balance between inpatient admissions and outpatient visits encompassing dentoalveolar surgery, maxillofacial trauma, pathology, orthognathic, preprosthetic, temporomandibular, and reconstructive surgery. There are approximately 10,000 outpatient procedures performed annually in the oral surgery clinic and 450 hospital admissions.

Emphasis is placed on total health care of the hospitalized patient. Residents are expected to become competent in overall patient management including physical diagnosis, fluid and electrolyte administration, medication, interpretation of laboratory data, etc. Other activities that are used to supplement hospital clinical oral and maxillofacial surgery experiences and rotations include a dental school assignment, emergency room duty, special clinics, conferences and teaching rounds.

While assigned to the Oral and Maxillofacial Surgery service residents rotate for six months in the Dental School outpatient Surgery Suite. The Surgery Suite is a fully equipped outpatient operating facility with general anesthesia capabilities in two of the three operating rooms. Residents participate in an extensive number and variety of cases that are beyond the capability of undergraduate dental students. These cases include, but are not
necessarily limited to, impactions, biopsies, other dent alveolar procedures and benign oral lesions, implants, scar revisions, osteotomies and fractures. It also provides an opportunity for clinical teaching experience with dental students and other dental specialties.

A very active emergency room, at our Level 1 trauma center (city-county) University Hospital, provides extensive experience in the management of maxillofacial injuries, hemorrhage, shock, and acute medical crises. Residents are "on call" approximately every fourth night and must physically answer each request for consultation. A written agreement exists which outlines the primary responsibility of the service which participates in maxillofacial trauma call (OMS and Otorhinolaryngology and Plastic Surgery).

Hospital clinical experience is supplemented with the use of special clinics and conferences. Special clinics include orthognathic surgery, preprosthetic surgery, temporomandibular joint surgery and pain control. Conferences are used to supplement these clinical experiences and include weekly basic science reviews in Physiology, Anatomy, Microbiology, Pharmacology and Pathology.

The department has an orthodontist who is actively involved in clinical practice and resident training. Residents work closely with the orthodontist in screening and preoperative evaluations of orthognathic patients as well as during postoperative care.

A surgical literature conference in the form of a Journal Club meets twice a month and a combined meeting with the Army and Air Force Oral and Maxillofacial Surgery training programs are held bimonthly. Craniofacial anomalies conferences are monthly. Every Monday afternoon didactic grand rounds are held which are required for all residents on the service, and many others depending on the service on which they are rotating.

The first year starts in the Department of Oral and Maxillofacial Surgery. After one month of ward service, the resident is enrolled in The University of Texas Health Science Center at San Antonio Medical School beginning in the sophomore year, which is approximately 10 month in length. While not in class, the resident participates in oral and maxillofacial surgery rotations, lectures and conferences.

The second year of residency involves clinical clerkships (48 weeks). At this time the resident/junior medical student is assigned to medical and surgical rotations. As time permits, he/she also attends conferences and rounds with the oral and maxillofacial surgery service.

During the third year of training the resident is in his senior year of medical school and serves as a junior resident in oral and maxillofacial surgery. He/she gains experience in outpatient dentoalveolar surgery, doing physical examinations and case presentations of orthognathic surgery patients. Toward the end of this year and successful completion of medical school requirements, a medical degree is awarded at medical school graduation (usually at the end of May). Approximately 6 weeks are spent in medical school for Internal Medicine and Emergency Medicine classes and rotations. ACLS is part of this rotation. A one-month rotation in a discipline in Medicine, such as Sleep Medicine, is also required.

The fourth year of residency is a general surgery internship. Rotations on various general surgery services are designed to learn basic general surgery techniques, and surgical management, particularly pre- and postoperative care. This includes general surgery, thoracic surgery, vascular surgery, head and neck surgery, and neurosurgery. ATLS is obtained during this year. Following the successful completion of the internship the resident is eligible to take the state licensure examination in medicine.

During the fifth year the resident serves as senior assistant in oral and maxillofacial surgery where he/she is provided increasing latitude for independent action that is commensurate with knowledge and skills.

During the sixth chief resident year all aspects of oral and maxillofacial surgery are performing and he/she is responsible for running the oral and maxillofacial surgery hospital service. This year is divided between the University Hospital, the Dental School, and private practices in San Antonio.

Research: Residents are encouraged to participate in research during their training. This includes clinical research projects but there may also be opportunities for basic science research. The products of these efforts are expected to be papers submitted to journals for publication and abstracts for presentation at professional meetings.

Expenses: Medical tuition for years two, three and four is approximately $13,000 per year. The parking fee is approximately $60 per year.

Salary: The resident is paid an annual salary while he/she is providing resident service. MSII and MSIII years will not receive a salary. In the third year of residency, residents are currently expected to receive a $30,000 salary, with annual increases through the duration of the program.

Eligibility of Application: All applicants for the Oral and Maxillofacial Surgery residency program must be graduates of dental schools in the United States or Canada which are accredited by the Commission on Dental Accreditation. The application should have demonstrated outstanding academic ability, maturity, judgment and ambition.

Application Procedure: The Oral and Maxillofacial Surgery residency program participates in the Postdoctoral Application Support Service (PASS) for application and the National Dental Matching program for selection. You can receive information by writing:

PASS
1625 Massachusetts Ave., NW Suite 101
Washington, DC 20036
(202) 332-8790

Full-Time Graduate Faculty
Edward Ellis III, DDS
Professor and Chairman
David G. Leibold, DDS, MD  
Associate Clinical Professor  
Jim L. Burk, DDS  
Clinical Professor  
Daniel Perez, DDS  
Assistant Clinical Professor  
Patricia Lopez, DDS  
Assistant Professor  
Concepcion Barboza, DDS  
Prosthodontist/Periodontist  
Robert K. Bourquein, DDS  
Clinical Assistant Professor and Staff Orthodontist  
Thomas S. Jeter, DDS, MD  
Clinical Professor  

If you have any questions regarding the residency program please write or call:  
Department of Oral and Maxillofacial Surgery  
UT Health Science Center at San Antonio  
Mail Code 7908

7703 Floyd Curl Drive  
San Antonio, Texas 78229-3900  
Tel: (210) 567-3460  
Fax: (210) 567-2995  
E-mail: Lynn Mendoza, Academic Coordinator, mendozalb@uthscsa.edu  

Orthodontics

The Department of Orthodontics offers a 35-month residency for advanced training in orthodontics and dentofacial orthopedics. This program is designed to offer a broad spectrum of clinical and didactic experience in the field. Certificate-only programs are available in both Pediatric Dentistry and Orthodontics; however, a master’s degree option for students is available in basic sciences and public health. The training program will meet the formal requirements for eligibility to take the phase II and phase III portion of the American Board of Orthodontics. For more information call 210-567-3500 or 210-567-3510.
# Advanced Dental Education Post-Doctoral Program

## Academic Calendar 2011–2012

### Fall 2011

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<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Category</th>
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<tbody>
<tr>
<td>Sunday, May 01, 2011</td>
<td>Web Registration Begins</td>
<td>All</td>
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<tr>
<td>Tuesday, August 16, 2011</td>
<td>Web Registration Ends</td>
<td>All</td>
</tr>
<tr>
<td>Monday, August 22, 2011</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
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<tr>
<td>Monday, September 05, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Wednesday, September 07, 2011</td>
<td>Census Date</td>
<td>All</td>
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<tr>
<td>Thursday, November 24, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Friday, November 25, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Friday, December 16, 2011</td>
<td>Term Ends</td>
<td>All</td>
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<tr>
<td>Friday, December 16, 2011</td>
<td>Final Grades Due</td>
<td>Graduating Students</td>
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<tr>
<td>Saturday, December 17, 2011</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
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<tr>
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<td>Final Grades Due</td>
<td>Continuing Students</td>
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<tr>
<td>Monday, December 26, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Tuesday, December 27, 2011</td>
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<td>All</td>
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<tr>
<td>Wednesday, December 28, 2011</td>
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<td>All</td>
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<tr>
<td>Thursday, December 29, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Friday, December 30, 2011</td>
<td>University Holiday</td>
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### Spring 2012

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<tr>
<th>Date</th>
<th>Event</th>
<th>Category</th>
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<tbody>
<tr>
<td>Tuesday, November 01, 2011</td>
<td>Web Registration Begins</td>
<td>All</td>
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<tr>
<td>Friday, December 23, 2011</td>
<td>Web Registration Ends</td>
<td>All</td>
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<tr>
<td>Monday, January 02, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
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<td>Monday, January 16, 2012</td>
<td>University Holiday</td>
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<td>Wednesday, January 18, 2012</td>
<td>Census Date</td>
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<tr>
<td>Wednesday, May 16, 2012</td>
<td>Term Ends</td>
<td>Graduating Students</td>
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<tr>
<td>Thursday, May 17, 2012</td>
<td>Final Grades Due</td>
<td>Graduating Students</td>
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<tr>
<td>Tuesday, May 22, 2012</td>
<td>Term Ends</td>
<td>Continuing Students</td>
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<tr>
<td>Friday, May 25, 2012</td>
<td>Graduation Ceremony</td>
<td>MS Students</td>
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<td>Monday, May 28, 2012</td>
<td>University Holiday</td>
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<td>Tuesday, May 29, 2012</td>
<td>Final Grades Due</td>
<td>Continuing Students</td>
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<td>Event Date</td>
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<tr>
<td>Sunday, April 01, 2012</td>
<td>Web Regular Registration Begins</td>
<td>All</td>
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<tr>
<td>Thursday, May 17, 2012</td>
<td>Web Registration Ends</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, May 23, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>Continuing Students</td>
</tr>
<tr>
<td>Monday, May 28, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, June 05, 2012</td>
<td>Census Date</td>
<td>Continuing Students</td>
</tr>
<tr>
<td>Friday, June 29, 2012</td>
<td>Final Grades Due</td>
<td>Graduating Certificate Students</td>
</tr>
<tr>
<td>Friday, June 29, 2012</td>
<td>Graduation (No Ceremony)</td>
<td>Certificate Students</td>
</tr>
<tr>
<td>Monday, July 02, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>New Students</td>
</tr>
<tr>
<td>Wednesday, July 04, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, July 06, 2012</td>
<td>Census Date</td>
<td>New Students</td>
</tr>
<tr>
<td>Friday, August 17, 2012</td>
<td>Term Ends</td>
<td>All</td>
</tr>
<tr>
<td>Friday, August 17, 2012</td>
<td>Final Grades Due</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Saturday, August 18, 2012</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Friday, August 24, 2012</td>
<td>Final Grades Due</td>
<td>Continuing Students</td>
</tr>
</tbody>
</table>
The Graduate School of Biomedical Sciences (GSBS) was established in 1972 and currently hosts doctoral programs in Biochemistry, Biomedical Engineering, Cellular and Structural Biology, Microbiology and Immunology, Molecular Medicine, Nursing, Pharmacology, Physiology, and Radiological Sciences. Masters degrees are offered in each of these disciplines as well as in several areas of oral health sciences (Dental Diagnostic Science, Endodontics, Periodontics, and Prosthodontics), Health Professions (Clinical Laboratory Sciences and Dental Hygiene) and Clinical Investigation. These programmatic vehicles enable the Graduate School of Biomedical Sciences to assert its primary objective of educating students committed to the advancement of knowledge in contemporary areas of the biomedical sciences. A compelling aspect of graduate education in a health science center environment is the opportunity for graduate students to interface with health professionals with diverse technological and conceptual capabilities and perspectives in the biomedical sciences. The proof of accomplishment or enduring value of any educational process must be accounted in the demonstrated productivity and academic achievement of the graduates of the program. Without question, the doctoral and masters programs of the Graduate School of Biomedical Sciences have, during the past three and one-half decades, achieved outstanding success in their educational mission of preparing professional scientists who function well in academic, industrial, and government sectors.

Our educational and research faculty are drawn from all five schools of the UT Health Science Center San Antonio. More than 300 faculty members from the Graduate School of Biomedical Sciences are training approximately 400 students in our combined graduate programs. There is a diversity of talent, but a unity of purpose in teaching and mentoring students in an exciting array of interdisciplinary and discipline-based fields of study and research. The academic programs offered by the GSBS are designed to provide a fundamental foundation of knowledge and scientific inquiry for our graduate students to ultimately become independent scientists and thinkers.

The University of Texas Graduate School of Biomedical Sciences at San Antonio offers graduate programs in the biomedical sciences leading to the Doctor of Philosophy degree in the Integrated Multidisciplinary Graduate Program, Molecular Medicine, and Radiological Sciences and a Master of Science degree in Cellular & Structural Biology, Physiology, and Radiological Sciences. These programs provide opportunities for graduate students to become competent in a specialized field, to attain excellence in the conduct of research, and to gain an understanding of the interdisciplinary nature of biomedical sciences. One very special advantage of our graduate programs is that we operate in a prominent academic health science university where scientific inquiry can synergize with the healing professions to guide our science in seeking solutions to even the most vexing biomedical issues plaguing mankind. Detailed information about these graduate programs is provided in this Catalog.

Additionally, graduate programs emphasizing the development of professional competence are offered in Nursing, Pharmacy, Dentistry, Medicine, and Health Professions. The graduate program leading to the Doctor of Philosophy degree is conducted by the faculty of the Health Science Center’s School of Nursing and administered through the Graduate School of Biomedical Sciences. Postdoctoral certificate and Master’s degree programs in Endodontics, Periodontics, Prosthodontics, and Dental Diagnostic Science are offered under the joint auspices of the university’s Dental School and the Graduate School of Biomedical Sciences. A Master’s program in Clinical Investigation is designed for interested selected graduate students and health care professionals in the design and conduct of clinical studies. A Master of Science and Doctoral Program in Biomedical Engineering is jointly offered by the Graduate School of Biomedical Sciences at the Health Science Center and the Graduate School at The University of Texas at San Antonio (UTSA). The program leading to the Doctor of Pharmacy degree is jointly administered by the College of Pharmacy of Biomedical Sciences.
The University of Texas at Austin and the Graduate School of Biomedical Sciences. Graduate programs in Health Professions disciplines (Dental Hygiene and Clinical Laboratory Sciences) are conducted by faculty in the School of Health Professions and are administered by the Graduate School of Biomedical Sciences. Detailed information about these programs can be found in the schools' respective section in this Catalog.

### Dual Degree Programs

Dual degree programs of study provide a mechanism for students to obtain a Ph.D. degree in addition to an M.D. or D.D.S. degree at the UT Health Science Center at San Antonio. The purpose of these programs is to offer students the opportunity to pursue a course of study to become clinician-scientists who have not only depth of knowledge in clinical medicine or dentistry and in a basic science discipline, but also experience in research planning and execution. Students who take advantage of these programs have the opportunity to become scientists who are exceptionally qualified to apply specialized research competence to the resolution of clinical problems.

Those wishing to obtain both a professional degree and a graduate degree must satisfy the entrance requirements of both the School of Medicine or Dental School and the Graduate School of Biomedical Sciences. At this time, admission to each school is accomplished separately. MCAT or DAT scores may be used in lieu of GRE scores in these programs.

Through the interdigitation of the academic curricula in the professional school and the graduate school and of laboratory research for the dissertation, requirements for the dual degrees can be accomplished in a timely manner. In every instance, a specific graduate program or schedule shall be planned between the student, the appropriate Committee on Graduate Studies of the Graduate School, and the director of the respective dual degree program, who in turn will coordinate curricular issues with the deans' offices of the participating schools.

Additional information about dual degree programs is available from the Dean's office or the Graduate School.

A combined MD Residency/PhD program is offered through Radiological Sciences. Physicians may complete their residency in radiology, psychiatry, or radiation oncology concomitant with completing requirements for a Ph.D. degree in Radiation Biology that includes a training track in Human Imaging. Students in this program study and perform research within dedicated groups of medical physicists, biomedical imaging specialists, and biomedical researchers from specialties using imaging as a research tool. For more information, visit the Web site http://radsci.uthscsa.edu/index.php/Human_Imaging.

### Committees on Graduate Studies (COGS)

Each program is supervised by a Committee on Graduate Studies (COGS) composed of members of the graduate faculty of that program. An exception is the Integrated Multidisciplinary Graduate Program, and its governance is described in its respective section of this Catalog. The COGS is responsible for establishing admission requirements specific to the program, recommending approval or denial of admission of applicants to the program, overseeing academic curricula, monitoring its students' academic progress in didactic and research activities, attesting eligibility for admission to candidacy for a degree, and verifying to the Graduate Faculty Council that the student has fulfilled all requirements for the awarding of the degree. The Chair of the Committee on Graduate Studies is the administrative head of each program. The Chair is the voting representative of the program on the Graduate Faculty Council and serves as the liaison officer between the COGS and the Graduate School Dean's Office on all matters pertaining to applicant and student affairs. In several of the programs, one graduate faculty member serves as both Graduate Advisor and Chair of the COGS. The advisor serves as a counselor on academic matters and monitors the student's progress in (a) successfully completing contingencies of admission and course requirements of the program, and (b) selecting an area of research specialization.

The Graduate Faculty Council has the responsibility to establish and maintain policies and regulations on matters of graduate education common to all programs administered by the Graduate School of Biomedical Sciences. These include such matters as general academic requirements for admission to graduate study and to candidacy, for continuation of studies, and awarding of a degree; standards of student professional conduct; grading systems; graduate program review; and criteria for thesis and dissertation research, its supervision, and its defense. Each COGS is responsible to the Graduate Faculty Council and submits recommendations on various graduate program matters, including the granting of a degree, to the Council for review and action.

The Dean of the Graduate School of Biomedical Sciences is the administrative head of the graduate programs and serves as the Chair of the Graduate Faculty Council. Ex-officio nonvoting members of the Council include the Dean, Associate Dean(s) of the Graduate School, the Associate Dean for Graduate Nursing Program, the Assistant Dean(s) of the Graduate School, the Assistant Vice President for Student Services, and the Registrar. The voting members of the Council consist of the COGS chairs of the programs in Biochemistry, Biomedical Engineering, Cellular and Structural Biology, Clinical Investigation, Microbiology and Immunology, Molecular Medicine, Nursing, Pharmacology, Physiology, and Radiological Sciences and one faculty representative each from the graduate programs in Dentistry and Health Professions. A student representative can be elected from each of the following graduate student constituencies: Graduate Student Association, dentistry, nursing, and health professions to serve as non-voting members of the Council.
COGS Chairs and Graduate Advisors

Biochemistry
Neal Robinson, PhD
Chair and Graduate Advisor

Biomedical Engineering
David Dean, PhD
Chair and Graduate Advisor

Cellular & Structural Biology
Susan Naylor, PhD
Chair and Graduate Advisor

Clinical Investigation
Michael Lichtenstein, MD
Chair and Graduate Advisor

Clinical Laboratory Sciences
Linda Smith, PhD, Chair
George Kudolo, PhD, Graduate Advisor

Dental Diagnostic Science
Marcel Noujeim, DDS, MS
Chair and Graduate Advisor

Dental Hygiene
Mary Jacks, MS
Chair and Graduate Advisor

Endodontics
Kenneth Hargreaves, DDS, PhD
Chair and Graduate Advisor

Microbiology
William Haldenwang, PhD
Chair and Graduate Advisor

Molecular Medicine
Sang Eun Lee, PhD, Chair
Hai Rao, PhD, Graduate Advisor

Nursing
Margit Gerardi, PhD

Periodontics
Brian Mealey, DDS, MS
Chair and Graduate Advisor

Pharmacology
William Clarke, PhD
Chair and Graduate Advisor

Physiology
Shane Rea, PhD
Chair and Graduate Advisor

Prosthodontics
Ronald Verrett, DDS, MS
Chair and Graduate Advisor

Radiological Sciences
Geoffrey Clarke, PhD
Chair and Graduate Advisor

Structural Biology, Clinical Investigation, Dental Sciences, Physiology, or Radiological Sciences, apply online at http://apply.embark.com/grad/UTHSCSA.

Students interested in applying to graduate programs in the School of Health Professions apply through the Texas Common Application at http://www.applytexas.org.

Students interested in applying to the graduate programs in the School of Nursing apply through NursingCAS (Centralized Application Service) for Nursing Programs.

Students interested in the Biomedical Engineering program apply through UTSA at http://engineering.utsa.edu/bme/BME_program/.

Non-Degree Students apply online for admission at http://apply.embark.com/grad/UTHSCSA/.

Application may not be made to more than one program simultaneously.

Information on the application deadlines for the different graduate programs can be found online at http://studentservices.uthscsa.edu/pdf/AppDeadlines.pdf.

Requirements for admission to individual graduate programs are detailed online at http://gsbs.uthscsa.edu/main/academics/gradupprograms/overview.asp. General admission requirements include a bachelor's degree from an accredited institution in the United States or proof of equivalent degree and training at a foreign institution. Some graduate programs require official credentialing of transcripts from international universities. The undergraduate grade point average should be no lower than B (3.0 on a 4.0 system). The grades received in graduate courses, which are computed separately, are also considered in evaluation of the application.

Satisfactory scores on the Graduate Record Examination (GRE) General (Aptitude) Test are desirable. Although a minimal score is not required, program-specific competitive scores are needed for admission. For example, the competitive score for admission to the Integrated Multidiscipline Graduate Program is 1200. Individual programs may prefer higher minimum scores. Scores on GRE tests taken more than five years prior to the date of application are not acceptable.

Applicants from countries where English is not the native language are also required to submit scores on the Test of English as a Foreign Language (TOEFL). A minimum score of 560 is required on the paper test or 68 on the Internet-based test (with the exception of the School of Nursing, whose minimum Internet-based test score is 83). Scores on TOEFL tests taken more than two years prior to the date of application are not acceptable.

In lieu of a GRE score, applicants to the Clinical Investigation program and Advanced Dental Science programs must provide proof of a degree in medicine, dentistry, or health professions.

For students applying to the MD/PhD program, competitive scores from the Medical College Admission Test (MCAT) may be substituted for the GRE.
For students applying to the DDS/PhD program, competitive scores from the Dental Admission Test (DAT) may be substituted for the GRE.

For students applying to the Dental Hygiene program and the Nursing doctoral program, satisfactory scores from the Miller Analogies Test (MAT) may be substituted for the GRE.

Scores on the MCAT, DAT, and MAT taken more than five years prior to the date of application are not acceptable.

As part of the application process, applicants to all programs will be required to provide authorization for a security background and sanction check to be performed.

Non-Degree Students

An individual who wishes to enroll in courses presented in the Graduate School of Biomedical Sciences without entering a degree program must apply for admission as a Non-degree Student. The basic requirements for such admission are the same as those for degree students, except letters of recommendation and the GRE are not required. Non-degree applicants are also required to provide authorization for a security background and sanction check to be performed at the time of application. Non-degree Students must receive approval of registration each semester by the Dean of the Graduate School and by the instructor of each course, maintain a grade point average of at least a B (3.0 in 4.0 system) in courses taken as a Non-degree Student, and maintain a maximum course load of nine semester hours in fall or spring semesters and six semester hours in summer session. In exceptional circumstances, an individual who is under consideration for admission to a degree program in the Graduate School may be permitted to register for a greater course load, with the concurrence of the Graduate Advisor of the degree program concerned. In general, students may not register as Non-degree Students for more than four consecutive semesters. All grades received as a Non-degree Student will be included in the graduate student’s transcript and in computation of the cumulative GPA if the student is admitted subsequently to a graduate program. Under special circumstances, such as the computation of the GPA to determine academic probation, the Dean may grant exceptions to this policy. The grading policies for Non-degree Students are the same as those for degree-seeking students. Non-degree Student status will not be granted to premedical students for the purpose of taking School of Medicine courses. International students currently residing abroad should consult with the immigration office prior to making application as a non-degree student. In most instances, only degree-seeking applicants are eligible to apply for the required visa status to initiate study abroad.

Requirements and Regulations

A student enrolled in the Graduate School of Biomedical Sciences is subject to all established requirements and regulations of the Health Science Center, the Graduate School, and the respective graduate programs. Exceptions to these rules and issues not covered by previously determined guidelines will be decided by the Graduate Faculty Council.

Attendance

Attendance requirements for regularly scheduled classes, laboratories, and clinic periods are the option and prerogative of the course instructor for that particular portion of the curriculum. The policy regarding attendance for each course is announced by the instructor at the first meeting.

Unexcused absences in courses in which attendance is required may be considered sufficient cause for failure. Excused absences may be granted by the course director in such cases as illness or personal emergency. Such leaves are considered on an individual basis, and verification of the reason for the absence may be required. It is the responsibility of the student to take the initiative in arranging with the faculty to make up work that is missed.

For student employees, refer to policy 4.3.5 in the Handbook of Operating Procedures.

Residence Required for Graduation

Each doctoral student must spend a minimum of two full 16-week semesters, or the equivalent, as a full-time student in residence at the UT Health Science Center San Antonio Graduate School of Biomedical Sciences. A candidate for the M.S. degree must be registered in the thesis course for at least one term; a candidate for the Ph.D. degree must be registered in the dissertation course for at least two terms. The residence requirement is based on the premise that the scholarship and proficiency necessary for achievement of a graduate degree in the biomedical sciences are best acquired through endeavors devoted wholly to study and research in the university environment.

Time Limits

The median time for completion of the M.S. degree and the Ph.D. degree is 3 years and 6 years, respectively, in the Graduate School of Biomedical Sciences.

Ph.D. Degree: Each program has a written policy on time-to-degree that will guide the student. Coursework or major examinations taken more than six years prior to the end of the candidate’s final semester may not be accepted for credit and, if necessary for the degree, must be repeated or specifically approved by the Committee on Graduate Studies.

M.S. Degree: Each program has a written policy on time-to-degree that will guide the student.

Credit Hour Requirements

The majority of the total semester credit hours taken for an M.S. or Ph.D. degree must be earned at the Health Science Center. Students are admitted to an MS, PhD, MD/PhD, DDS/PhD, or MD residency/PhD degree program. A minimum of 30 semester credit hours is required for an M.S. degree, and a minimum of 72 semester credit hours is required for a Ph.D. degree. A minimum of 72 semester credit hours is required for the Ph.D. component of the dual degree programs. Specific curriculum requirements vary depending on individual programs.
Ph.D. Degree: The student is required to demonstrate intellectual command of the subject area of the graduate program and capability to carry out independent and original investigation in the area. The specific curriculum requirements of each graduate program are defined in the individual programs. The curriculum of each student is supervised by the appropriate Committee on Graduate Studies.

M.S. Degree: A minimum of 30 semester credit hours is required for the M.S. degree. The student must successfully complete at least 12 semester credit hours of coursework in addition to credit hours awarded in Research, Thesis, and Seminar. With the exception of dual degree programs, all work for the M.S. degree is ordinarily done at the Health Science Center’s Graduate School of Biomedical Sciences.

A maximum of six semester hours of graduate course work from another institution may be applied for credit toward the Master’s degree, but only with the approval of the Committee on Graduate Studies in the student’s program. In cases where such credit is approved, the student must still meet the residence requirement for two full semesters. For students participating in a dual degree program, usually six semester hours in the medical or dental curriculum may be credited toward the M.S. degree. As a rule, these semester hours will come from survey courses in the student’s major area. Students in the graduate programs in Nursing should consult the Transfer of Credit policies under the General Policies for Graduate Nursing Program in the School of Nursing section.

Waiver of Courses: With the approval of the Committee on Graduate Studies, graduate credit hours from other universities may be accepted in lieu of required courses. In addition, the Committee may waive certain required courses, based on the student’s previous graduate course work. These hours will be accepted in the form of credit for the course material rather than by application of credit hours directly to the student’s transcript.

<table>
<thead>
<tr>
<th>Registered for x Graduate Hours</th>
<th>Maximum Hours Per Week Permitted to Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>0–0.00%</td>
</tr>
<tr>
<td>14</td>
<td>3–7.50%</td>
</tr>
<tr>
<td>13</td>
<td>6–15.00%</td>
</tr>
<tr>
<td>12</td>
<td>10–25.00%</td>
</tr>
<tr>
<td>11</td>
<td>13–32.50%</td>
</tr>
<tr>
<td>10</td>
<td>16–40.00%</td>
</tr>
<tr>
<td>9</td>
<td>20–50.00%</td>
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<tr>
<td>8</td>
<td>23–57.50%</td>
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<tr>
<td>7</td>
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<td>30–75.00%</td>
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<tr>
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<td>36–90.00%</td>
</tr>
<tr>
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<tr>
<td>2</td>
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</tr>
<tr>
<td>1</td>
<td>40*–100.00%</td>
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</tbody>
</table>

*Present policy permits an employee to enroll in a 3-semester-hour course without reduction in pay.

**Foreign Language Requirement**
Demonstration of proficiency in a foreign language is not required for either the M.S. or Ph.D. degree.

**Ethics Course Requirement**
All doctoral students must take the course INTD 6002 - Ethics in Research or its equivalent, as a requirement for graduation. Master of Science students are strongly encouraged to take the INTD 6002, but it is not a requirement for graduation.

**Supervised Teaching**
Each graduate program will decide if supervised teaching is required for a doctoral degree in its respective program. If supervised teaching is required, the student must enroll in a program-designated teaching course for a minimum of one semester credit and receive a grade of S (Satisfactory) or H (Honors).

**Student Employment — Quantity-of-Work Rule**

Full-time students are strongly counseled against accepting any outside employment. Before seeking outside employment, graduate students are urged to discuss their plans with their faculty advisor.

Full-time graduate students may be awarded stipends as teaching or graduate research assistants when funds are available. Student stipends funded from federal sources are governed by federal regulations. Full-time students are discouraged from taking employment; stipends serve as scholarships to meet financial need.

There may be circumstances under which part-time graduate student’s desire gainful employment within the Health Science Center (or full-time employees desire to pursue part-time graduate studies), and the following guidelines should apply: Within funds available, part-time graduate students who are gainfully employed part-time within the Health Science Center in addition to pursuing graduate studies may be paid prorated rates within salary scales of job classification for which they are qualified and/or to which they are assigned. This procedure is permitted primarily to allow gainful part-time employment in an area unrelated to the student’s formal academic program. The Committee on Graduate Studies should be consulted in advance when a part-time student desires part-time employment within the student’s own supervising department, or when the student is employed in a work situation that exists whereby the employment will be of direct benefit in meeting the graduate degree requirements. The committee should then recommend an appropriate part-time rate of pay consistent with the objectives of the graduate program in general with due consideration to the pay rates of other graduate students.

Departments requesting employment of a part-time graduate student outside the supervising department (and in an area unrelated to the student’s academic program) should determine the number of hours for which the student is registered prior to contacting the Office of Human Resources regarding
appointment of such students. This will enable the Office of Human Resources to provide proper salary rate information.

Records

Registration

The Registrar’s Office will announce and provide the registration process to all students, department chairs, Committee on Graduate Studies (COGS) Chairs, and their assistants prior to the start of each semester. For individual registration concerns, confer with your program’s Committee on Graduate Studies (COGS) Chair.

A student must register each semester and summer session that he or she is enrolled in a course. This includes courses in Research, Thesis, and Dissertation. No student can receive credit for a course for which he or she has not registered.

Consequences for Non-Payment of Tuition and Fees

In graduate programs in which students are responsible for paying tuition and fees, such payment must be made by the census date. These students are responsible for paying their tuition and fees by the census date (which is always the 12th class day of the spring and fall semesters, or the 7th class day of the summer term) of each semester for which they are registered. For details on consequences of non-payment of tuition and fees, see Student Enrollment Policy and Tuition & Fees. International students must also contact the Office of International Services. Additional actions also may be taken by the Graduate School. They are:

- Discontinued enrollment in the graduate program that results termination with loss of pay, benefits, and privileges.
- Necessity to re-apply for admission for the following semester.
- A bar against readmission for the student.
- Initiation of loan repayments, if a student has loans.
- Potential loss of visa status and deportation for international students.
- Withholding of the student’s grades and official transcript.
- Withholding of a degree to which the student otherwise would be entitled.

Semester Credit Hours

One semester hour of credit earned through:

1. Lecture clock hours: 15 to 18 (normally 16). Conference hours are equivalent to lecture hours.
2. Laboratory clock hours: 45 to 60 (normally 48).

A course, for example, has a credit value of three semester hours if the class meets for three lecture hours per week in the 17-week fall or 18-week spring semesters, or meets for four lecture hours per week in the 12-week summer session.

A course with two lecture hours and six laboratory hours each week for one semester has a credit value of four semester hours.

Full-Time Status

The minimum half-time course load for a semester is 4.5 semester hours and 3.0 in the summer. The minimum full-time course load for a semester is 9 semester hours and for a summer session is 6 semester hours. The maximum load is individually determined by the student’s faculty advisor and the Committee on Graduate Studies involved. If a student is employed as a teaching assistant or graduate research assistant, research assistant, or tutor, the course load may be reduced correspondingly.

Doctoral students must be enrolled for a minimum of 9 semester credit hours each fall and spring semester and 6 semester credit hours each summer term, in order to be considered full-time doctoral graduate students.

Master's students must be enrolled for a minimum of 6 semester credit hours each fall and spring semester and 3 semester credit hours each summer term, in order to be considered full-time master’s graduate students.

Adding Courses

Students may add courses during official add days as designated by the Registrar’s Office each semester. Students are not permitted to add classes to their schedules after the census date, which is typically the 12th class day of the spring and fall semesters, or the 7th class day of the summer term.

Dropping Courses

A student who is not on academic probation may drop a course at any time during the semester provided the student is passing the course at the time and has obtained the signed approval of the course director and COGS chair.

The Registrar will record the symbol W if a course is dropped before the first evaluation period in that course. After that time, the course director will assign a grade of either WP (Withdrawn Passing) or WF (Withdrawn Failing). A student on academic probation will not be allowed to drop a course.

In case of illness and with the consent of the Dean, a student may drop a course without penalty at any time prior to the beginning of final examinations.

Transfer of Credit

Credit for coursework taken at another institution may be transferred if the student submits a Request for Transfer of Credit form available in the Graduate School Dean’s Office. The same procedure should also be used to request transfer of credit from other schools within the Health Science Center. The transfer of credit is subject to approval by the Committee on Graduate Studies of the program in which the student is enrolled and by the Dean or the Dean’s designee. Students in the graduate programs in Nursing should consult the
Processes for Transferring of Courses policies under the Graduate Program Policies for the Graduate Nursing Program.

Students in M.S. programs may apply no more than 6 semester hours of transferred credit toward satisfaction of the 30 semester credit hours required for the degree. However, the request form should list all courses taken elsewhere, which are approved by the Committee on Graduate Studies to satisfy the course requirements for the M.S. degree set forth by the program in which the student is enrolled.

Students in the Ph.D. programs are required to fulfill a minimum of 72 semester credit hours of coursework. Transfer of credit for Ph.D. students may be requested to provide evidence on the student’s transcript of the completion of courses taken elsewhere which are approved by the Committee on Graduate Studies of the program and the Dean.

Approval of admission to candidacy for the M.S. degree by the Dean;

Approval of the thesis research proposal by the Committee on Graduate Studies of the program and the Dean;

Appointment of a Supervising Committee for the thesis research by the Committee on Graduate Studies of the program and the Dean.

A candidate for the M.S. degree must register for the thesis course for at least one term.

Registration for Dissertation

Students in Ph.D. programs may register for the Dissertation course XXXX 7099 where XXXX represents one of the following: BIOC, CLS, CSBL, DENH, DIAG, ENDO, MEDI, MICR, MMED, NURS, ORTO, PERI, PHAR, PHYL, PROS, or RADI. Registration for Dissertation is only permitted after the following three actions have been taken:

1. Approval of admission to candidacy for the Ph.D. degree by the Dean;
2. Approval of the dissertation research proposal by the Committee on Graduate Studies of the program and the Dean;
3. Approval of the membership of the candidate’s Supervising Committee by the Committee on Graduate Studies of the program and the Dean.

A candidate for the Ph.D. degree must register for the Dissertation course for at least two terms. Only one of the terms may be a summer session.

Registration for Final Term

It is a requirement that a student be registered for the semester or summer session in which he or she graduates.

Final Credit Hours

A student in her/his final semester or summer session registering only for thesis or dissertation may register for “final hours.” A Ph.D. student must register for a minimum of 3 semester credit hours; a M.S. student must register for a minimum of 1 semester credit hour. When a student declares “final hours” for a semester, the student shall be considered enrolled in a full-time course load for that semester. The student pays tuition based upon the number of credit hours for which he/she registers.

Because of requirements dictated by certain types of visas, international students must consult with their COGS Chair prior to registering for final hours.

A student may register for final credit hours only once during her/his degree program. “Request for Designation of Final Hours” forms are available in the Registrar’s Office or on the Student Services Web site at http://studentservices.uthscsa.edu/GI_forms.aspx and they require the approval of the program COGS Chair.

Registration at Other UT System Components

A student who has been formally admitted to a graduate program may apply to take courses at any of the other components of The University of Texas System. Consent of the Committee on Graduate Studies and the Dean of the Graduate School must be obtained before the student may apply to another component for permission to register to take courses.

Registration for Audit

Permission to audit one or more courses is sometimes granted. Auditing conveys only the privilege of observing and excludes handing in papers or taking part in a class discussion, laboratory exercises, or fieldwork. No grade is given and no credit is reported. Graduate students must obtain permission to register to audit a course from the course director and the COGS chair of the program in which they are enrolled. Others who wish to register to audit a graduate course must apply to the Associate Dean of the Graduate School for admission as a Non-Degree Student.

Grading System

Credit hours are earned in the graduate programs only for the grades A, B, C, and S. All letter grades except H and S are included in the computation of the grade point average. Grade points are assigned as follows:

A = 4 (above average graduate work)
B = 3 (average graduate work)
Continuation, Probation, and Dismissal

Continuation in the graduate programs is dependent upon three requirements:

1. Satisfactory progress in removing any conditions imposed at the time of admission;

2. Maintenance of a minimum cumulative B (3.0) average for all courses taken while enrolled in the Graduate School of Biomedical Sciences. A student whose cumulative grade point average falls below 3.0 will be placed on probation and warned by the Dean of the Graduate School that continuation in the graduate program is in jeopardy. A student will remain on probation as long as her or his cumulative GPA is below 3.0. While on probation, a student must maintain a B average in those courses for which he or she is registered or be considered for dismissal by the Committee on Graduate Studies. Except in the case of illness, permission to drop courses will not be given while the student is on probation. A student on probation may not be admitted to candidacy or awarded a degree. Grades achieved during enrollment as a non-degree student are not used to determine academic probation.

3. A satisfactory rate of progress toward the degree as determined by the Committee on Graduate Studies is required throughout the student’s enrollment. The Committee, with the Dean’s consent, may terminate a student’s enrollment for lack of satisfactory progress.

Withdrawal

Permission for withdrawal from a graduate program may be granted by the Dean upon concurrence by the Committee on Graduate Studies of the program. The student who wishes to withdraw must complete and sign the Student Clearance Form (available from the Registrar’s Office, Room 319L MED), submit the form for signature to the COGS Chair and the Graduate School dean, and then obtain authorized signature clearance from each area listed on the lower portion of the form.

In the case of withdrawal before the end of the semester or summer session (and thus the dropping of all courses), the grading symbol WP or WF will be recorded for each course not completed, depending on the student’s standing on the last day of enrollment. In the case of withdrawal at the end of a semester or summer session, the appropriate grading symbol will be recorded for each completed course.

An application for readmission by a student who has previously withdrawn is subject to the same requirements, procedures, and acceptance considerations that apply to first-time applicants.

Leave of Absence

Permission for a leave of absence from a graduate program for a maximum period of one year may be granted by the Dean subject to prior approval by the Committee on Graduate Studies of the program. Such permission will be granted only for extenuating circumstances and indicates that the student will be allowed to return to the program within the one-year time limit. There is no guarantee that a stipend will be reinstated upon return.

The student should make a written request for a leave of absence to the Chair of the Committee on Graduate Studies for her/his program, including the reasons for the request and the expected time of return. If the request for leave of absence is approved, the student is so notified by a letter from the Dean and provided by the Graduate School Dean’s Office. The student must then complete a Student Clearance Form available from the Registrar’s Office (319L MED). The student should then complete and sign the upper portion of this form, obtain the signatures of the COGS Chair and the Graduate School dean, and obtain authorized signature clearance from each area listed form. The student should also drop any courses for which they are currently enrolled.

Another type of leave of absence is an Administration-Initiated Student Leave which is described under the General Academic Policies of this Catalog.
In Absentia (INTD 5004-1)

In lieu of taking a leave of absence, a student may opt to enroll In Absentia for up to two consecutive semesters. Enrolling In Absentia essentially creates a placeholder that will allow the student's matriculation record to remain active. It will not, however, afford an individual the status of an officially enrolled student. Additionally, a $25 fee is charged for enrolling In Absentia.

Students not prepared to return as an officially enrolled student at the end of their second consecutive term of In Absentia enrollment should follow the above procedures for requesting a leave of absence.

In Absentia (INTD 5004-2)

Students must be registered for the semester in which they graduate and all fees and tuition apply. A special arrangement is made for students who defend the dissertation or thesis after the last Graduate Faculty Council (GFC) meeting of the semester and before the first class day of the following semester.

The student who expects to defend the dissertation or thesis in this interval should register for one credit hour for the next semester. Following the successful defense of the dissertation, the student may drop the one credit hour and register In Absentia for the coming semester. This must be accomplished before the first class day of the new semester. Registration In Absentia should be designated as zero credit hours and the student will be charged a $25 fee.

Non-registration

A student who fails to register for two or more consecutive semesters and does not elect to take a leave of absence or to enroll In Absentia will be considered for dismissal from the program. The Registrar will notify the Committee on Graduate Studies and the Dean of the student's failure to register.

If dismissed, the student may reapply for admission. Such application is subject to the same requirements, procedures, and acceptance considerations that apply to first-time applicants.

Transfer between Graduate Programs

Any student who wishes to change the course of study from one graduate program to another must make written application to that program, and the application is subject to the same requirements, procedures, and acceptance considerations that apply to other applicants to the program. Students who are considering such a transfer must have an interview with the Dean.

Graduation

The degree of Doctor of Philosophy is awarded by the Board of Regents upon the satisfactory completion of a minimum of 72+ semester credit hours, the satisfactory completion of a prescribed program of study as documented by the Committee on Graduate Studies, recommendation of the Graduate Faculty Council, and certification of the candidate by the Dean and President to the Board of Regents.

The degree of Master of Science is awarded upon the satisfactory completion of a minimum of 30+ semester hours, the requirements particular to each graduate program as documented by the Committee on Graduate Studies, recommendation of the Graduate Faculty Council, and certification of the candidate by the Dean and President to the Board of Regents.

*Some programs may require additional hours.

Commencement

Graduation exercises are held each year in May.

Candidates for graduation of the Health Professions master's programs will participate in the School of Health Professions Commencement. The Graduate School Dean will be present to address the students and participate in the presentation of diplomas. Candidates for graduation of the doctoral graduate nursing programs also participate in the Graduate School Commencement.

Sequential Procedures

Doctor of Philosophy degree

Phase 1 - From matriculation through admission to candidacy

1. Assignment of faculty advisor: The Committee on Graduate Studies assigns a member of the graduate faculty as advisor to each student entering a program. The advisor serves as counselor on academic matters and monitors the student's progress in (a) successfully completing contingencies of admission and course requirements of the program and (b) selecting an area of research specialization.

2. Approval of research advisor: When the student selects the area of research specialization and the faculty member to serve as research preceptor, the Committee on Graduate Studies reviews the proposed selections. If the selections are approved, the faculty member is designated by the Committee on Graduate Studies as the student's research advisor in concert with, or in replacement of, the original faculty advisor. The faculty advisor may, of course, be selected as the research advisor. During this period, the student's potential for productive and independent investigation is assessed by the research advisor.

3. Qualifying examination: The Qualifying Examination is comprehensive in nature and may be written, oral, or both. The Committee on Graduate Studies determines the format of the examination and the composition of the Qualifying Examination Committee, with the proviso that one member must not be one of the graduate faculty of the student's program. The Qualifying Examination Committee administers the examination(s), evaluates the student's performance, and reports its judgment on
whether the student passed or failed to the Committee on Graduate Studies.

4. Admission to candidacy: Recommendation by the Committee on Graduate Studies that the student be admitted to candidacy for the Doctor of Philosophy degree requires the following:
   a. Satisfactory completion of all required courses;
   b. Cumulative grade point average of at least 3.0 in all coursework undertaken since matriculation in the program;
   c. Report by the Qualifying Examination Committee that the student has passed the examination;
   d. Report by the student's research advisor and other graduate faculty members, as appropriate, that the student has clearly evidenced the potential for productive and independent investigation.

If, in its overall evaluation of the eligibility of the student for admission to candidacy, the Committee on Graduate Studies is in favor of admission, it shall submit a Petition of Admission to Candidacy Form (GSBS Form 32) to the Dean for approval with documentation of satisfaction of the requirements listed above. Each research advisor is required to sign the form to certify her/his view of the student's potential for productive and independent investigation. The Dean may approve or disapprove the recommendation or request further documentation. When the Dean has approved admission of the student to candidacy, the candidate enters Phase II of the program.

Phase II - From admission to candidacy through granting of the degree

1. Selection of the supervising professor: No later than three months after the student's admission to candidacy, the member of the graduate faculty of the program who will serve as the supervising professor of the dissertation research shall be decided upon by mutual agreement among the candidate, the faculty member, and the Committee on Graduate Studies. Normally, the research advisor who guided the student's preliminary research activities continues as supervising professor, but this arrangement is not obligatory.

2. Draft of dissertation research proposal: The candidate shall identify a research question that will serve as a focus for the dissertation research. The candidate shall prepare a draft of a research proposal that specifies the research to be undertaken, its significance in the scientific field, and the general methods and techniques to be utilized. The proposal shall be submitted to the supervising professor for review and modification. Subsequent drafts of the proposal should then be submitted for review and modification to other faculty members who have knowledge and expertise in the area of the research proposal and who have been selected by mutual agreement among the candidate, the supervising professor, and the Committee on Graduate Studies. The final draft of the dissertation research proposal is subject to review and approval by the Committee on Graduate Studies, which may specifically designate a group of faculty members to review the proposal draft(s).

3. Composition of the dissertation supervising committee: After approval of the proposal by the Committee on Graduate Studies, the supervising professor and the candidate shall make recommendations to the Committee on Graduate Studies regarding the composition of the Supervising Committee for the dissertation research. The Supervising Committee must consist of at least five persons, as follows:
   a. The supervising professor, also a member of the program's graduate faculty, designated as Supervising Professor and Chair of the Supervising Committee;
   b. One member must be from outside the Health Science Center and must be an expert in the field of the proposed dissertation;
   c. Two members must be members of the graduate faculty of the program;
   d. One member must be a faculty member of the Health Science Center in a supporting area outside the program but need not necessarily be a member of the graduate faculty.

The Committee on Graduate Studies may nominate additional members in categories (b), (c), and (d) if necessary. Nomination is contingent upon the willingness of the designated person to serve on the Supervising Committee. The composition of the Supervising Committee should, in principle, provide a group of research scientists who constitute an important resource to the candidate and her or his dissertation research. Their functions are, with the Supervising Professor, to guide the candidate through the dissertation research and to certify to the Committee on Graduate Studies that the candidate has, in fact, carried out a meritorious research investigation of the caliber appropriate for a Ph.D. dissertation and, in their opinion, defended it satisfactorily. Upon selection of the supervising committee, the chair of the Committee on Graduate Studies (COGS) will submit to the Graduate School Dean's Office a completed GSBS Form 30 Recommendation for Approval of Dissertation Research Proposal and Supervising Committee. The student must provide the Graduate School Dean's Office an electronic copy of their dissertation proposal to accompany GSBS Form 30.

Composition of the dissertation supervising committee for doctoral students in the Integrated Multidisciplinary Graduate Program (IMGP) can be found in the IMGP section of this Catalog.

5. Approval of the dissertation proposal and supervising committee: The Graduate Faculty Council and the Dean will review the recommendation of COGS on the proposal and supervising committee. After approval by the Dean of both the proposal and the Supervising Committee, the candidate may register for their respective program's Dissertation course. Any subsequent change in the Composition of the Supervising Committee must be
approved by the COGS and approved by the Dean, who will then report the change at a regularly scheduled GFC meeting.

6. Supervision of the dissertation research: Within one month after formal approval of the Supervising Committee, the Supervising Professor shall convene the Supervising Committee to discuss with the candidate the progress of the dissertation research and the projected future work. At appropriate intervals thereafter (at least every six months), the Supervising Committee shall meet with the candidate for presentation of progress reports (written and/or oral), so that current status of the research may be evaluated and direction of future work planned. If the external Committee member is unable to attend these meetings, it is the responsibility of the candidate and the Supervising Professor to provide this member with progress reports for review and recommendations. It is essential that the Supervising Committee be fully informed of the research progress and be able to provide continued supervision throughout and that the Committee on Graduate Studies receive reports of the research progress from the Supervising Committee after each of its meetings with the candidate. The Supervising Committee and/or the Committee on Graduate Studies may approve or direct alterations in the research plans within the general context of the dissertation proposal. Major changes in the candidate’s research status (such as selection of a new Supervising Professor, new Supervising Committee members, or a new research question) must be reported to the Graduate Faculty Council and the Dean for consideration.

7. Submission of the dissertation: After agreement by the members of the Supervising Committee that the research has progressed sufficiently for submission of the dissertation, a draft of the dissertation shall be submitted to the Supervising Professor and then to all other members of the Supervising Committee for review and recommendations for modification of content. An electronic copy will also be submitted to the Graduate School Dean’s Office for review of formatting. It is the responsibility of the candidate to follow the guidelines of preparation of the dissertation provided by the Graduate School Dean’s Office in the Instructions for Preparation and Submission of Electronic Theses, Dissertations and Dissertation Abstracts. If the alternative chapter format is preferred, the candidate must obtain approval for such format from the Supervising Committee and the Committee on Graduate Studies. The candidate also has the responsibility to ensure adequate time for review and modification of the dissertation in accordance with the schedule of deadlines provided each term by the Graduate School Dean’s Office.

8. Final oral examination: When the Supervising Committee judges the dissertation to be suitable for defense, the Supervising Professor shall be responsible for submitting a signed Request for Final Oral Examination Form (GSBS Form 40) through the Committee on Graduate Studies to the Dean and request scheduling of the Final Oral Examination. Three copies of the Abstract and Vitae (stapled together) should accompany the Request for Final Oral Examination Form at the time it is submitted to the Graduate School Dean’s Office. Public announcement of the Final Oral Examination is made by the Graduate School Dean’s Office. This examination is conducted by the Supervising Committee with the Supervising Professor as chair. Interested persons may attend the public defense and have the right to question the candidate. After the public defense, the Final Oral Examination continues with an intensive oral examination by the Supervising Committee that is not customarily open to the public. The Supervising Committee members vote on the candidate’s success or failure on the Final Oral Examination; more than one vote for failure signifies failure on the examination. The Supervising Committee submits the Report on Final Oral Examination Form (GSBS Form 43) to the Committee on Graduate Studies. In the event of a failing performance by the candidate, the Supervising Committee shall also submit to the Committee on Graduate Studies a recommendation regarding remedial action; in such case, the Committee on Graduate Studies shall decide on the recommendation or other action to be taken. In the event of a successful performance by the candidate, the Committee on Graduate Studies shall vote on whether to approve the recommendation by the Supervising Committee for granting of the degree.

9. Recommendation for granting of the degree: If the Committee on Graduate Studies approves the favorable recommendation by the Supervising Committee, the Chair of the Committee on Graduate Studies shall so indicate by signature on the Report on Final Oral Examination and submit the Report to the Graduate Faculty Council for consideration. The candidate shall submit to the Graduate School Dean’s Office the final electronic version of the dissertation either by e-mail or on a disk or USB drive. The dissertation Approval Page signed by the Supervising Professor and Committee members must also be submitted to the Graduate School Dean’s Office. When the Report, the Approval Page and the electronic dissertation in final form have been received in the Graduate School Dean’s Office, the Graduate Faculty Council will consider the recommendation for granting of the degree. If the Council does not approve the recommendation, it will refer the matter to the Committee on Graduate Studies with a recommendation for remedial action. If the Council does approve the recommendation, the Dean of the Graduate School of Biomedical Sciences will notify the President of The University of Texas Health Science Center at San Antonio that the candidate has fulfilled all requirements of the Graduate School of Biomedical Sciences for the degree of Doctor of Philosophy. Upon the candidate’s certification by the President, the degree is conferred by the Board of Regents of The University of Texas System. (See “Registration for Dissertation,” “Registration for Final Term,” and “Graduation” previously discussed in this section.)
Master of Science Degree (Biomedical Sciences Programs)*

*The Sequential Procedures for the thesis-option Master of Science degree in Clinical Investigation, the Master’s degree programs in the School of Health Professions and Dental School are modified to correlate with the curricula of these programs. A copy of the appropriate Sequential Procedures may be obtained from the Graduate Advisor of those programs.

Phase 1 - From matriculation to admission to candidacy
1. Assignment of faculty advisor: The Committee on Graduate Studies assigns a member of the graduate faculty as advisor to each student entering a program. The advisor serves as counselor on academic matters and monitors the student’s progress in (a) successfully completing contingencies of admission and course requirements of the program and (b) selecting an area of research specialization.

2. Approval of research advisor: When the student selects the area of research specialization and the faculty member to serve as research preceptor, the Committee on Graduate Studies reviews the proposed selections. If the selections are approved, the faculty member is designated by the Committee on Graduate Studies as the student’s research advisor in concert with, or in replacement of, the original faculty advisor. The faculty advisor may, of course, be selected as the research advisor. During this period, the student’s potential for productive and independent investigation is assessed by the research advisor.

3. Qualifying examination: The Graduate School of Biomedical Sciences does not require a comprehensive Qualifying Examination prior to admission to candidacy for the M.S. degree. However, the Committee on Graduate Studies may require the student to pass a written and/or oral Qualifying Examination prior to consideration for admission to candidacy, or it may waive such examination.

4. Admission to candidacy: Recommendation by the Committee on Graduate Studies that the student be admitted to candidacy for the Master of Science degree requires the following:
   a. Satisfactory completion of all required courses;
   b. Cumulative grade point average of at least 3.0 in all coursework undertaken since matriculation in the program;
   c. Report by the Qualifying Examination Committee that the student has passed the examination or that the examination has been waived;
   d. Report by the student’s research advisor and other graduate faculty members, as appropriate, that the student has clearly evidenced the potential for productive and independent investigation. GSBS Form 31 should be submitted to the Graduate School Dean’s Office for approval.

Phase II - From admission to candidacy through granting of the degree
1. Selection of supervising professor: No later than one month after the student’s admission to candidacy, the member of the graduate faculty of the program who will serve as the supervising professor of the thesis research shall be decided upon by mutual agreement among the candidate, the faculty member, and the Committee on Graduate Studies. Normally, the research advisor who guided the student’s preliminary research activities continues as supervising professor, but this arrangement is not obligatory.

2. Draft of the thesis research proposal: No later than three months after admission to candidacy, the candidate shall submit a draft of a proposal for the thesis research to the supervising professor for review and modification. Subsequent drafts of the proposal may then be submitted for review and modification to other faculty members who have knowledge and expertise in the area of the research proposal. After approval of the final proposal draft by the supervising professor, the proposal is submitted to the Committee on Graduate Studies for consideration of approval.

3. Appointment of the supervising committee: After approval of the thesis proposal by the Committee on Graduate Studies, the supervising professor and the candidate shall make recommendations to the Committee on Graduate Studies regarding the composition of the Supervising Committee for the thesis research. The Supervising Committee must consist of at least four persons, as follows:
   a. The supervising professor, also a member of the program’s graduate faculty, designated as Supervising Professor and Chair of the Supervising Committee;
   b. Two members must be members of the graduate faculty of the program;
   c. One member must be a faculty member of the Health Science Center in a supporting area outside the program or a person outside the Health Science Center who is an expert in the field of the proposed thesis.

Immediately upon selection of the Supervising Committee, the Chair of the Committee on Graduate Studies will submit to the Graduate School Dean’s Office a completed GSBS Form 42.

Composition of Supervising Committee — The Master of Science Degree. A copy of the proposed work in electronic form must accompany the form. Each member of the Supervising Committee is required to sign the form to certify her/his approval to serve on the committee. Any subsequent change in the Composition of the Supervising Committee must be approved by the COGS and approved by the Dean.

The composition of the Supervising Committee should, in principle, provide a group of research scientists who constitute an important resource to the candidate and her or his thesis research. Their functions are, with the Supervising Professor,
to guide the candidate through the thesis research and to certify to the Committee on Graduate Studies that the candidate has, in fact, carried out a meritorious research investigation of the caliber appropriate for an M.S. thesis and, in their opinion, defended it satisfactorily.

5. **Supervision of the thesis research**: Within one month after appointment of the Supervising Committee, the Supervising Professor shall convene the Supervising Committee to discuss with the candidate the progress of the thesis research and the projected future work. At appropriate intervals thereafter, the Supervising Committee shall meet with the candidate for progress reports (written and/or oral) so that current status of the research may be evaluated and direction of future work planned. It is essential that the Supervising Committee be fully informed of the research progress and be able to provide continued supervision throughout and that the Committee on Graduate Studies receive reports of the research progress from the Supervising Committee after each of its meetings with the candidate.

6. **Submission of the thesis**: After members of the Supervising Committee agree that the research has progressed sufficiently for submission of the thesis, a draft of the thesis shall be submitted to the Supervising Professor and then to the other members of the Supervising Committee for review and recommendations for modification of content. An electronic copy will also be submitted to the Graduate School Dean’s Office for review of formatting and recommendations for modification. It is the responsibility of the candidate to follow the guidelines for preparation of the thesis provided by the Graduate School Dean’s Office in the *Instructions for Preparation and Submission of Electronic Theses, Dissertations and Dissertation Abstracts*. If an alternative chapter format is preferable, the candidate must obtain approval for such format from the Supervising Committee and the Committee on Graduate Studies. The candidate also has the responsibility to ensure adequate time for review and modification of the thesis.

7. **Final oral examination**: The Graduate School requires that the thesis be defended by the candidate in a Final Oral Examination conducted by the Supervising Committee; the format in which this examination is conducted (see Options 1 and 2 below) shall be decided by the Committee on Graduate Studies and it is recommended that it be uniform for all M.S. candidates in that program.

**Option 1**: If the Committee on Graduate Studies does elect to require that the thesis be defended in formal Final Oral Examination scheduled through the Graduate School Dean’s Office and open to all interested persons, then the procedures in number 11 (see “Phase II” of Doctor of Philosophy degree) for Ph.D. candidates should be followed.

**Option 2**: If the Committee on Graduate Studies chooses a less formal format, without public notification through the Graduate School Dean’s Office, the following procedures apply. The *Request for Final Oral Examination Form* (GSBS Form 40), signed by the Supervising Committee members, should be submitted to the Chair of the Committee on Graduate Studies, who shall indicate approval by signature and transmit the Request to the Graduate School Dean’s Office for approval by the Dean.

Three copies of the Abstract and the Vita should be submitted with the request for the candidate’s files in their respective department, the Registrar’s Office, and the Graduate School Dean’s Office.

The Supervising Committee members vote on the candidate’s success or failure on the Examination; more than one vote for failure signifies failure on the Final Oral Examination. The Supervising Committee submits the *Report on Final Oral Examination* (GSBS Form 41) to the Committee on Graduate Studies. In the event of a failing performance by the candidate, the Supervising Committee shall also submit to the Committee on Graduate Studies a recommendation regarding remedial action or further examinations; in such cases, the Committee on Graduate Studies shall decide upon the recommendation or other action to be taken. In the event of a successful performance by the candidate, the Committee on Graduate Studies shall vote on whether to approve the recommendation by the Supervising Committee for granting of the degree.

8. **Recommendation for granting of the degree**: If the Committee on Graduate Studies approves the favorable recommendation by the Supervising Committee, the Chair of the Committee on Graduate Studies shall so indicate by signature on the *Report on Final Oral Examination* and submit the Report to the Graduate Faculty Council for consideration. The candidate shall submit to the Graduate School Dean’s Office the final electronic version of the thesis either by e-mail or on a disk or USB drive. The thesis Approval Page signed by the Supervising Professor and Committee members must also be submitted to the Graduate School Dean’s Office. When the Report, the Approval Page and the electronic thesis have all been received in the Graduate School Dean’s Office, the Graduate Faculty Council will consider the recommendation for granting the degree. If the Council does not approve the recommendation, it will refer the matter to the Committee on Graduate Studies with a recommendation for remedial action. If the Council does approve the recommendation, the Dean of the Graduate School of Biomedical Sciences will notify the President of The University of Texas Health Science Center at San Antonio that the candidate has fulfilled all requirements for the degree Master of Science. Upon the candidate’s certification by the President, the degree is conferred by the Board of Regents of The University of Texas System.

**Sequential Procedures Forms**

The following forms, required for the sequential procedures described above, are available online at [http://gsbs.uthscsa.edu/main/currentstudents/currentstudentresources.asp](http://gsbs.uthscsa.edu/main/currentstudents/currentstudentresources.asp).
<table>
<thead>
<tr>
<th>Form No.</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Petition for Admission to Candidacy for M.S. Degree</td>
</tr>
<tr>
<td>32</td>
<td>Petition for Admission to Candidacy for Ph.D. Degree</td>
</tr>
<tr>
<td>30</td>
<td>Recommendation for Approval of Dissertation Research Proposal and Supervising Committee (Ph.D.)</td>
</tr>
<tr>
<td>40</td>
<td>Request for Final Oral Examination (Ph.D. or M.S.)</td>
</tr>
<tr>
<td>41</td>
<td>Report on Final Oral Examination (M.S.)</td>
</tr>
<tr>
<td>42</td>
<td>Composition of Supervising Committee (M.S.)</td>
</tr>
<tr>
<td>43</td>
<td>Report on Final Oral Examination (Ph.D.)</td>
</tr>
</tbody>
</table>

A completed Application for Degree and Diploma Name Request must be filed during the semester before the term in which the candidate expects to graduate. This form is available from the Registrar’s Office or online at [http://studentservices.uthscsa.edu/CS_diploma.aspx](http://studentservices.uthscsa.edu/CS_diploma.aspx).

**Instructions for Preparation and Submission of Electronic Theses, Dissertations, and Dissertation Abstracts**

The candidate should obtain these instructions online at [http://gsbs.uthscsa.edu/main/currentstudents/graduationinformation](http://gsbs.uthscsa.edu/main/currentstudents/graduationinformation) before writing the thesis or dissertation.
Integrated Multidisciplinary Graduate Program (IMGP)

The Graduate School of Biomedical Sciences offers a doctoral level Integrated Multidisciplinary Graduate Program (IMGP) designed to develop both scholarly and laboratory expertise. Our discipline-based doctoral programs in Biochemistry, Cellular & Structural Biology, Microbiology & Immunology, Pharmacology, and Physiology have evolved into the IMGP that provides contemporary, interdisciplinary advanced education and scientific research based on fundamental principles in the biomedical sciences. Prospective students seeking a Ph.D. degree apply to the IMGP rather than to the former individual, discipline-based doctoral programs.

The IMGP is currently composed of nine multidisciplinary tracks, which address several compelling training areas in the biomedical sciences. These thematic tracks have been aligned with the major research foci of the faculty in the institution, and faculty from all five schools in the university participate in these doctoral training tracks. Faculty members may participate in four different tracks. The ten tracks are:

1. Biology of Aging
2. Cancer Biology
3. Cellular & Molecular Biology
4. Genetics, Genomics & Development
5. Microbiology & Immunology
6. Molecular Biophysics & Biochemistry
7. Molecular, Cellular & Integrative Physiology
8. Neuroscience
9. Pharmacology
10. Genetics

Detailed information on the research focus and scholarly activities of participating faculty members of each of these tracks may be found at http://gsbs.uthscsa.edu/main/academics/graduprograms/phd/imgp/overview.asp. Each track is under the leadership of two faculty members, appropriate faculty committees, and the Committees on Graduate Studies in different programs.

Research Activities

The research activities of faculty members in the IMGP(http://gsbs.uthscsa.edu/main/academics/graduprograms/phd/imgp/overview.asp) are diverse and range from very basic to strongly clinically oriented research. An overview of research activities may be found under the research descriptions for different programs within this Catalog and on school, department, and track Web sites. More detailed research descriptions may be found under individual faculty members' Web sites.

Application and Admission

Applicants are required to have a minimum of a Bachelor's degree. Applicants should have received credit for courses taken in:

- Biology* 2 years as required for science majors
- Chemistry* 1 year organic & inorganic chemistry; Analytical and Physical Chemistry are recommended.
- Physics 1 year
- Mathematics Minimum of 1 semester of Calculus

*Courses should include laboratory experience.

In addition, the Graduate Record Examination (GRE) for all applicants and the Test of English as a Foreign Language (TOEFL) for international applicants must be taken within 5 years for the GRE and 2 years for the TOEFL prior to date of application. The minimum required scores for the TOEFL are 560 for the paper-based test and 68 for the Internet-based test.

Required Student Background Checks: The University of Texas Health Science Center at San Antonio is committed to admit and retain students who meet high professional standards. The Health Science Center requires all applicants to undergo security and criminal background checks. See Background Checks under the General Regulations and Requirements section of this Catalog.

Apply Online. To apply online to the IMGP, go to http://gsbs.uthscsa.edu. Application priority deadline is January 15th with a final application deadline of March 15th. Applicants are strongly encouraged to apply early and submit complete applications with all supporting materials to receive priority review. There is NO application fee.

Supporting Documents Required with Online Application

- Transcripts: one official transcript in a sealed envelope is required from each college/university attended. If you have attended a non-U.S. college/university, all international transcripts must be evaluated by an accredited foreign credentialing service.

- Official test scores (HSC code 6908): the GRE and TOEFL scores must be sent directly from the Educational Testing Service (ETS) to the Health Science Center. No photocopies or faxed copies will be accepted.
NOTE: Applicants who are Permanent Residents of the U.S. must supply a certified copy of both the front and back sides of their federal Permanent Resident (“Green”) Card.

Mail all supporting documents to:
UT Health Science Center San Antonio
Application Center
Attn. Graduate School
MSC 7709
7703 Floyd Curl Drive
San Antonio, Texas 78229-3900
USA

Applications are reviewed by an Admissions Committee composed of faculty members representing all 9 tracks in the IMGP. Highly qualified applicants are invited for personal interviews beginning early in the spring semester while highly qualified international applicants are interviewed via telephone.

Required Health Insurance Coverage Prior to Enrollment

Refer to the “Student Health Insurance” section under General Regulations and Requirements in this Catalog.

Required Immunizations Prior to Enrollment

Refer to the Immunization Requirements section in this Catalog. The Board of Regents may require immunizations against additional diseases for some students. The Board of Regents may require further immunizations in times of emergency or epidemic. The cost of all immunizations will be the responsibility of the student.

Financial Support for Graduate Students

The Graduate School of Biomedical Sciences offers financial assistance, in the form of graduate research or teaching assistantships, to full-time students admitted to the IMGP doctoral program. In Year 1 stipend support is provided by the Graduate School of Biomedical Sciences and by dissertation supervising professors beginning in Year 2 of the program. Assistantships are renewed annually based on demonstration of satisfactory progress in meeting degree requirements. Graduate students who are classified as graduate research assistants or teaching assistants are considered in-state residents regardless of the length of time they have lived in Texas and are entitled to pay in-state tuition.

For International Students Only

For questions regarding student visas, required documents, and forms, please refer to the Office of International Services or contact the office at 210-567-6241.

Curriculum

Students entering the IMGP are admitted “undifferentiated,” that is, without admission into a specific track. All entering students take an interdisciplinary core course in Fundamentals of Biomedical Sciences and participate in laboratory rotations in the first two semesters. In the second semester students select a specific track and a supervising professor to guide them through their advanced course work and research experiences. Also, in the second semester, students enroll in track-specific courses and electives and in Ethics in Research. The curriculum is interdisciplinary in nature such that students in a particular track may take courses in other tracks. In the second year, students continue taking track-specific electives and journal clubs, participating in seminars, and engaging in research in the laboratory of their supervising professor.

Major milestones are the advancement to Ph.D. candidacy exam and formal approval of a dissertation supervising committee. Admission to Ph.D. candidacy depends upon successful completion of requisite courses, satisfactory performance in the advancement to Ph.D. candidacy exam, and proficiency in independent laboratory work and research skills. Following the student’s admission to Ph.D. candidacy, students develop a dissertation research proposal and conduct research under the direction of a supervising professor and a dissertation supervising committee.

The composition of the dissertation supervising committee is predicated on providing expertise and objectivity in the training and education of graduate students. The committee must consist of at least five persons with the following suggest membership:

1. A supervising professor and two credentialed faculty members in the same track as the student or the same department as the supervising professor;
2. A credentialed faculty member whose primary appointment is not in the same department as the supervising professor;
3. An expert in the area of the dissertation research and who has no appointment in the Health Science Center.

Membership of the Supervising Committee must be approved by the COGS overseeing the track selected by the student. The dissertation supervising committee periodically meets to review the student’s progress. The Ph.D. degree is awarded after the student’s demonstration of acquired skills and knowledge in the selected field of specialization, the ability to do independent research in the area, and a successful, public defense of the dissertation, which represents an original contribution to biomedical science and which is of publishable quality in reputable, scholarly journals. Full-time students register for a minimum of 9 semester credit hours in both the fall and spring semesters and 6 semester credit hours in the summer term. For the Ph.D. degree, a minimum of 72 semester credit hours is required. The Ph.D. degree typically requires 5–6 years of intense course work and research.

IMGP Courses

The following courses are available to students enrolled in the IMGP. The Fundamentals of Biomedical Sciences, Ethics in Research, and Laboratory Rotations courses are required. Other requisite courses depend upon the specific track chosen by the student.
BIOC 5083  Hydrodynamic Methods
This course provides students with the opportunity to gain a solid understanding of hydrodynamics and macromolecular transport processes, such as sedimentation and diffusion. The focus will be on hydrodynamic methods involving analytical ultracentrifugation and light scattering. Topics in sedimentation velocity, sedimentation equilibrium, buoyant density sedimentation, as well as static and dynamic light scattering and the complementarity of these approaches will be discussed. Macromolecular interactions involving mass action, concentration dependent nonideality, and reaction rates are covered. This course will also cover a range of data analysis approaches including the van Holde-Weischet method, the second moment method, direct boundary fitting by finite element modeling, the C(s) method, the 2-dimensional spectrum analysis, genetic algorithm optimization, nonlinear least squares fitting approaches to user-defined models. Statistical analysis using Monte Carlo and bootstrap methods also will be covered.
Semester Credit Hours: 2.0
Prerequisites: INTD 5000

BIOC 5085  Biophysical Methods in Biology
This course is required for all students enrolled in the Molecular Biophysics & Biochemistry track. For all other students, it is an elective course. This course covers modern biophysical methods for studying biological macromolecules in sufficient detail to understand the current literature. Topics to be covered include: Macromolecular structure determination by X-ray crystallography and NMR spectroscopy; absorbance, fluorescence, and EPR spectroscopy; circular dichroism; light scattering; mass spectrometry; and hydrodynamics, including diffusion, electrophoresis, sedimentation velocity, and sedimentation equilibrium.
Semester Credit Hours: 2.0
Prerequisites: INTD 5000

BIOC 5087  Molecular Biochemistry
This course is required for all students enrolled in the Molecular Biophysics & Biochemistry Track. The objective of this course is to provide comprehensive treatment of the exploration of genes and proteins through molecular biological techniques tailored towards experimental biochemistry. Topics to be covered include: basic enzymology; methods of enzyme characterization including kinetics, protein-ligand binding equilibrium studies, the physiological significance of multilisite enzymes; the theory and practice of PCR including real-time PCR, PCR mutagenesis, and clone construction by PCR; problems in the preparation of large quantities of recombinant proteins in E. coli; site-specific and saturation mutagenesis; the bioinformatics of protein families; and molecular genetic systems used to explore gene expression and protein interactions in bacteria, yeast, Drosophila, and mammals.
Semester Credit Hours: 2.0

BIOC 5091  Special Topics in Biochemistry; Quantitative Biochemistry
This course is required for all students enrolled in the Molecular Biophysics & Biochemistry Track and is open to all students enrolled in the Integrated Multidisciplinary Graduate Program. The course covers statistical and mathematical analysis of typical biochemical data. Topics to be discussed include: enzyme kinetics, first and second order chemical reactions, ligand binding, scintillation counting of radioactivity, UV-VIS difference and derivative spectra, analytical ultracentrifugation, and solution of multiple simultaneous equations using matrix algebra. Emphasis is placed upon the use of computers to analyze experimental data using programs running under Windows, or Linux platforms. Students will also become familiar with file transfers between these two platforms and the use of VNC viewer to enable their PC computers to be used as a Linux terminal.
Semester Credit Hours: 1.0

BIOC 5091  Special Topics in Biochemistry: Nuclear Magnetic Resonance Spectroscopy for Biochemists
This course provides a working knowledge of the basic underlying theory of modern pulsed Nuclear Magnetic Resonance methods in the study of the structures and internal dynamics of biological macromolecules in solution. The theoretical concepts to be covered include an overview of pulse excitation, digital sampling, and Fourier transformation. The product operator formalism will be used to describe how modern multinuclear multidimensional pulse methods function to yield the desired signals. The practical concepts to be covered will include an overview of modern methods for obtaining sequential resonance assignments, determining high-resolution three-dimensional structures, and analyzing internal dynamics.
Semester Credit Hours: 2.0

BIOC 6010  Gene Expression
The course covers gene expression focusing on regulation at the levels of transcription, RNA processing, transport and stability, and translation. Proteins and other regulatory molecules involved in these processes will also be covered. Particular emphasis will be placed on transcriptional control mechanisms including: RNA polymerases, chromatin remodeling, methylation and other epigenetic modifications, families of transcription factors including their DNA binding properties, protein-protein interaction domains, trans-activation mechanisms, regulation by ligand binding, phosphorylation and other signaling mechanisms and nuclear-cytoplasmic transport; posttranscriptional mechanisms including: mechanisms of RNA splicing, nuclear-cytoplasmic transport of RNA, RNA localization and targeting, RNA stability; and translational control. Post-transcriptional and translational control mechanisms will highlight the roles of RNA binding proteins and their modifications in these processes.
Semester Credit Hours: 2.0
Prerequisites: INTD 5000

BIOC 6015  Metabolic Disorders
This course will present an introduction to dysfunctions in normal metabolic processes that lead to major human disorders and pathologies. Major topics to be covered include the causes and pathogenesis associated with Type 2 diabetes, obesity, and related hormonal signaling pathways. Other topics will focus on lipid and protein metabolic disorders, and on dysfunctions associated with mitochondrial and extracellular matrix defects.
Semester Credit Hours: 2.0
BIOC 6035  Biochemistry of Multimolecular Complexes
This course covers the assembly and biochemistry of several multimolecular complexes including those of transcription, cell motion, cell permeation, cell signaling, apoptosis, viral assembly and protein assembly-related processes of conformational diseases such as ALS, Huntington, Alzheimer, and Parkinson diseases. The techniques used to obtain information about these multimolecular complexes are also to be covered. The biochemical aspects of these studies will address both simple enzymatic activities and the more complex activities of biological motors.
Semester Credit Hours: 1.0
Prerequisite: INTD 5000

BIOC 6036  Macromolecular Structure & Mechanism
This course will cover the fundamentals of protein and nucleic acid structure and of enzyme catalysis. The course is required for students in the Molecular Biochemistry and Biophysics track. The topics to be covered include: DNA and RNA structure, protein structure, protein folding, ligand binding by proteins, and enzyme catalysis.
Semester Credit Hours: 1.0

BIOC6037  Integration of Metabolic Pathways
This course is required of students in the Molecular Biophysics and Metabolic Pathways track. The objective is to provide an understanding of the individual reactions in intermediary metabolism and how the reactions are integrated by regulatory mechanisms. The topics to be covered include carbohydrate, lipid, and nitrogen metabolism and mechanisms of regulation of individual enzymes and metabolic pathways.
Semester Credit Hours: 2.0

BIOC 6071  Supervised Teaching
This course consists of teaching medical or dental biochemistry under close supervision of instructors. Management of small conference teaching groups as well as formal lecture presentations will be included.
Semester Credit Hours: 1.0–9.0

CSBL 5007  Methods in Cell Biology
Through a combination of lectures and demonstrations, the instructors will introduce students to techniques that are currently being used in cellular biology laboratories. The emphasis will be on the applications themselves, their uses, limitations, and the necessary controls. The following topic areas will be covered: imaging and microscopy, immunological techniques, bioinformatics (DNA and protein), rodent anatomy and histology, cytogenetics, and in vitro cell growth and transfection.
Semester Credit Hours: 1.0

CSBL 5023  Development
The course provides a survey of concepts in developmental biology (induction, cell-cell interactions, morphogen gradients, morphogenetic movements, transcription regulation, organogenesis) using experimental examples from both invertebrate and vertebrate embryos. The first set of lectures will focus on gametogenesis, fertilization, and early developmental events, such as cleavage, midblastula transition, gastrulation, and axis formation. The second set of lectures will explore the fates of germ layers in the contexts of cell type-specific differentiation and cell-cell interactions during organogenesis.
Semester Credit Hours: 1.0

CSBL 5024  Genomics
This course covers historical aspects of the Genomic project and high throughput methods (microarray, SAGE, proteomics, etc.) to perform global analysis of gene expression; the course also provides an overview of new biological fields such as systems biology, functional genomics, and comparative genomics. The students will have the opportunity to become familiarized with tools, methods, databases, and approaches used to extract biological information from global analyses. Hands-on training on biological databases and classes covering examples of the use of genomics to answer questions related to cancer and diseases is an important part of the course, helping the students to visualize how genomics can be used in their own research projects.
Semester Credit Hours: 1.0

CSBL 5025  Genetics
This course is designed to provide an overview of genetic research. Topics to be covered include: cytogenetics, mitochondrial genetics, cancer genetics, linkage analysis, complex traits, population genetics, animal models, sex determination, and epigenetics.
Semester Credit Hours: 1.0

CSBL 5026  Stem Cell Biology
This course is an up-to-date overview on current topics in stem cell biology. It is intended for the (future) basic scientist who is interested in studying the regulatory mechanisms of stem cells as well as for the (future) clinician who is interested in how stem cell biology will continue to impact patient’s care. Topics that will be discussed are: (1) basic biology and stem cells, including embryonic stem cells, adult stem cells, stem cells in different tissues and model systems; (2) microenvironment-mediated; (3) epigenetic regulators of stem cells; (4) stem cells in medicine, including regenerative medicine, cancer and aging; and (5) ethics.
Semester Credit Hours: 1.0

CSBL 5077  Scientific Writing
This course will provide students with the opportunity to develop skills in scientific writing and the presentation of research results. It will emphasize learning-by-doing-and-re-doing. Students will be required to write something every week. The capstone project for students will be to write a grant proposal and defend it in front of the class. One hour per week will be devoted to lecture and critique of published work; the other hour will consist of critique and revision of student writing by other students, as well as by the course director. Topics to be covered include: (1) fundamentals of writing clearly, (2) principles of revision, (3) effective presentation of data, (4) fundamentals of oral presentation, (5) writing/presenting to the appropriate audience, (6) how to write background/introductory sections, (7) how to write materials and methods, (8) how to write the discussion section, and (9) how to constructively
critique one’s own and others’ writing.

Semester Credit Hours: 2.0

CSBL 5083  Practical Optical Microscopy
This course will be a one-hour elective for graduate students consisting of eight (8) one-hour lectures plus eight (8) one-hour laboratories. The course focuses on the practical aspects of using optical microscopes. The objectives are to teach students the fundamental principles of optical microscopy and to provide them with hands-on experience using the optical instrumentation in the Institutional Imaging Core.
Semester Credit Hours: 1.0

CSBL 5089  Graduate Colloquium
This course is designed to provide graduate students with training in evaluating the scientific literature and in presentation of research in a seminar or journal club format. The course will focus on critical thinking, including evaluation of existing literature, interpretation of experimental results, and comparison of alternative models and interpretations. These tools are essential both for oral presentations and for writing grant proposals and manuscripts. Emphasis will be placed on evaluation of the science, organization of the manuscript, and on oral presentation skills.
Semester Credit Hours: 2.0

CSBL 5095  Experimental Design and Data Analysis
The purpose of the course is to provide an introduction to experimental design and statistical analysis. The emphasis of the course will be on the selection and application of proper tests of statistical significance. Practical experience will be provided in the use of both parametric and nonparametric methods of statistical evaluation. Among the topics to be covered are: data reduction, types of distributions, hypothesis testing, scales of measurement, chi square analysis, the special case of the comparison of two groups, analysis of variance, a posteriori multiple range tests, tests of the assumptions of parametric analyses, advanced forms of the analysis of variance, linear regression, and correlation analysis. This course will partially be conducted online; therefore, access to a computer with Web access is required. A camera and microphone/headphone attached to the computer will enhance the learning experience.
Semester Credit Hours: 2.0

CSBL 6021  Animal Models
The relevant biology, applicability, and practical use of a number of animal models to biomedical research is covered. Invertebrate (e.g., C. elegans) and vertebrate (e.g., fish and rodents) model systems are included in the course. Strengths and weaknesses of each organism that render them particularly valuable as animal models are emphasized. Experimental approaches and tools that are utilized in conjunction with each animal model are rigorously examined. The course is taught from primary scientific literature using classic historical publications and recent publications.
Semester Credit Hours: 3.0

CSBL 6048  Biology of Aging
Biology of Aging is the core course of the Biology of Aging Track. The course consists of two modules: Molecular and Cellular Homeostasis and Aging and Systems Homeostasis and Aging. The purpose of this course is to provide students with the most up-to-date information on the current understanding of the aging process. This advanced interdisciplinary graduate course provides experimental understanding of the interrelated areas of aging and age-related diseases. Faculty from the Departments of Cellular & Structural Biology, Physiology, Pharmacology, Biochemistry and Medicine will be involved in teaching this course, which will cover the molecular and cell biology of aging, model systems used for aging studies, age-related changes in organs and tissues, and age-related diseases.
Semester Credit Hours: 4.0
Prerequisites: required for Biology of Aging Track; elective for others

CSBL 6049  Molecular and Cellular Homeostasis and Aging
Module 1: This course provides up-to-date information on the current understanding of The Impact of Aging on Molecular and Cellular Processes. The focus is on investigation of specific mechanisms of aging. Experimental design and analysis, including pros and cons of approaches used to gain knowledge and how to appropriately interpret data, will be discussed throughout the course. The relationship between age-related changes in function and potential contributions to adult diseases will be discussed.
Semester Credit Hours: 2.0

CSBL 6050  Systems Homeostasis and Aging
Module 2: The systems within an animal interact to maintain survival throughout adulthood, though declines in function as a result of age occur. Insights on organismic aging have been gained via comparative biology, genetics and environmental manipulations. The course will focus on recent findings in the dissection of specific mechanisms of aging in model organisms. Knowledge gained of integrated physiological systems will be related to human aging and age-related diseases.
Semester Credit Hours: 2.0

CSBL 6058  Neurobiology of Aging
The nervous system of many species, including humans, shows obvious decline in function as a result of increasing age. In addition to the gradual decline observed in neural function, it is clear that increasing age also results in increased susceptibility of the nervous system to degenerative diseases such as Alzheimer’s Disease, Parkinson’s Disease, and Amyotrophic Lateral Sclerosis. This course will focus on recent findings and topics related to the underlying pathology of aging in the nervous system and the relationship of aging to neurodegenerative disease.
Semester Credit Hours: 2.0

CSBL 6064  Genes and Development
Genes and Development is the core course of the Genetics, Genomics, and Development Track. The course consists of four modules: genetics, genomics, developmental biology, and stem cell biology. Basic concepts in genetics such as cytochromes, mitochondrial genetics, cancer genetics, linkage analysis, complex traits, population genetics, animal models, sex determination, and epigenetics will be presented. The genomics section will include historical aspects of the genome project and high throughput analysis. The students are
introduced to new techniques in global analysis as well as have hands-on experience. The developmental biology section provides a survey of concepts in developmental biology (induction, cell-cell interactions, morphogen gradients, morphogenetic movements, transcriptional regulation, organogenesis) using experimental examples from both invertebrate and vertebrate embryos. The stem cell biology section includes the following topics: basic biology of stem cells, including embryonic stem cells, adult stem cells, stem cells in different tissues and model systems; microenvironment-mediated and epigenetic regulators of stem cells; stem cells in medicine, including regenerative medicine, cancer, and aging; and ethics. Required for the Genetics Genomics and Development Track

Semester Credit Hours: 4.0

CSBL 6068 Cancer Biology Core I

This course reviews select topics in molecular and cellular biology of importance to molecular oncology. Topics examined include oncogenes, tumor suppressor genes, apoptosis, control of cell cycle regulation, and control of cellular growth and proliferation. The goal of the course is to prepare graduate students to critically evaluate published research in molecular oncology. Required for Cancer Biology Track.

Semester Credit Hours: 2.0

CSBL 6069 Cancer Biology Core II

This course is designed to provide an overview of the molecular alterations identified in the most common cancer types in humans. The general guidelines on recent diagnosis and therapeutic advances in oncology will be presented. In addition, it will offer an overview on special populations affected by cancers or by less frequent but biologically informative cancers and basic concepts related to experimental tools relevant to cancer biology, including mouse models of tumors and molecular profiling. The conceptual notions on clinical trials of cancer drugs and the process of development of novel therapeutic drugs in cancer will be discussed. Required for Cancer Biology Track.

Semester Credit Hours: 2.0

CSBL 6071 Supervised Teaching

The course consists of participation in the teaching program of the first-year medical, dental or health professions curriculum. Semester hours vary depending on the time spent in teaching.

Semester Credit: 1.0–2.0

CSBL 6073 Selective Topics in Oncology: Gynecological Cancers

This is an advanced elective course for the Cancer Biology Track that provides a unique learning experience that prepares student in the emerging research areas of gynecological cancers for Graduate School designing research experiments using pre-clinical and clinical introductory research materials. The entire course comprises a small-group format in which students interact closely with a group of faculty who has active research or clinical program focusing on molecular, clinical and therapeutic areas of gynecological cancers.

Semester Credit Hours: 2.0

CSBL 6074 Molecular Aspects of Epigenetics

The purpose of this course is to develop an understanding of the molecular aspects of epigenetics. This Advanced Course will provide a unique learning experience that prepares the student to evaluate and design new research in the areas of epigenetic processes including imprinting, gene silencing, X chromosome inactivation, position effect, reprogramming and the progress of tumorigenesis. This module concerns epigenetic mechanisms. Topic will include: DNA methylation, Histone modifications, Epigenetics and stem cells, Cancer epigenetics, RNA interference and epigenetics, Bioinformatics of epigenetics and Translational epigenetics. This course will be covered by didactic program as well as student discussion. For the student discussion module, faculty and students will jointly discuss key publications that serve to bridge the gap between the student’s prior understanding of the field and the state of the art in that area.

Semester Credit Hours: 2.0

CSBL 6090 Seminar

Attendance and participation in the regularly scheduled department seminar series is required during each semester the course is offered. The activities included in the seminar course are attendance at invited seminars, journal club and the student presentations including student annual progress and final dissertation and thesis presentations. Semester Credit Hours: 1.0

CSBL 6094 Advanced Neuroanatomy

This course in neuroanatomy is offered to graduate students seeking to advance their knowledge beyond the fundamental level. The course consists of reading from more advanced texts and current anatomical literature as well as dissection of deep white matter tracts within the cortex. The student must also complete a 20-page paper on a neuroanatomical topic.

Semester Credit Hours: 0.5-2.0

CSBL 6165 Medical Genetics

This course provides an introduction to the basic concepts of medical genetics and current areas of medical genetic research. The course reviews basic genetic concepts including the principles of Mendelian and nontraditional inheritance, cytogenetics, molecular genetics, quantitative and population genetics, and discuss important medical aspects of genetic counseling and pedigree analysis, dysmorphology, cancer genetics and counseling for inherited cancers, developmental genetics, prenatal diagnosis, newborn screening, and pharmacogenetics. Diagnosis and current research toward treatment and cure of common genetic disorders affecting metabolism, reproduction, the endocrine system, the functioning of the eye and the nervous system are discussed. An important aspect of the course will be a discussion of ethical issues in medical genetics. A basic background in genetics, cell biology, and biochemistry is assumed.

Semester Credit Hours: 3.0

Prerequisites: A basic background in genetics, cell biology, and biochemistry
INTD 5000 Fundamentals of Biomedical Sciences
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, organismal and systems biology, and microbiology and immunology. The course is designed for first-year graduate students matriculating into the Integrated Multidisciplinary Graduate Program.
Semester Credit Hours: 8.0
Prerequisites: Consent of instructor

INTD 5007 Advanced Cell and Molecular Biology
This course offers students the opportunity to gain in-depth fundamentals of cell and molecular biology necessary to critically read, understand, and evaluate the current research on each of the topics covered. The topics include cell surface receptor-mediated signal transduction, nuclear receptor signaling, mitochondria and apoptosis, stem cell and differentiation, and DNA damage response and cell cycle checkpoints. An important focus of this course is to help students bridge the gap between didactic learning and analytical thinking as a graduate student. The course faculty uses a variety of techniques to introduce students to a critical reading and discussion of the current research literature.
Semester Credit Hours: 3.0
Also offered as three individual modules:

INTD 6007 Advanced Cell and Molecular Biology: Cell Signaling
This is a 6-week course that represents one-third of INTD 5007 Advanced Cell and Molecular Biology. This module will focus in depth on Cell Signaling. The lectures will cover signal transduction of various cytokines and growth factors via cell surface receptors and steroid hormone signaling to the nucleus. The emphasis will be on the molecular mechanism of signaling in the regulation of cellular function. The overall format of the course is the same as INTD 5007. This advanced course provides a unique learning experience that prepares the student to evaluate and design new research in the cutting-edge areas of modern cell biology and molecular biology. Instead of a didactic program of lectures, the entire course comprises a small-group format in which students interact closely with a group of faculty who have active research programs. In each module, faculty provide students with a brief overview of the research area. Students and faculty will then jointly discuss key publications that serve to bridge the gap between the student's prior understanding of the field and the state of the art in that area.
Semester Credit Hours: 1.0

INTD 5008 Laboratory Rotations
This course provides an opportunity for students to participate in research activities in the laboratories of faculty members in different tracks to learn laboratory skills and to gain an introduction to the research fields of faculty members.
Semester Credit Hours: 2.0

INTD 5040 Fundamentals of Neuroscience I: Molecular, Cellular, and Developmental Neuroscience
Two components: Neuroscience students register for both PHYL 5041 and INTD 5040. This course is intended to introduce students to a broad survey of the basics of molecular, cellular and developmental neuroscience. The course is organized into a series of three modules: biochemical and cellular properties of nervous system cells, development of neuronal systems, and neurotransmission and neuroregulation, which covers the fundamentals of these three areas. Current topics and concepts are discussed in discussion sessions that include student participation.
Semester Credit Hours: 2.0

INTD 5043 Fundamentals of Neuroscience II: Systems Neuroscience
This course is intended to introduce students to a broad survey of the basics of molecular, cellular and developmental neuroscience. The course is organized into two modules: cellular and molecular neuroscience, and signaling and developmental neuroscience, which covers the fundamentals of these two areas. Current topics and concepts are discussed in discussion sessions that include student participation.
Students are expected to enroll in PHYL 5041 Excitable Membranes and PHYL 5045 Mammalian Physiology, as co-requisites.
Semester Credit Hours: 3.0

INTD 5047  Neuroanatomy
The purpose of this course is to provide students with a practical working knowledge of the structure of both the peripheral and central nervous system. The emphasis will be on the organization of the human brain, although the brains of other species may also be included if appropriate for a specific brain region. The course will look at each of the individual components of the central nervous system in some depth but will also emphasize the complex integration of these various components into a functional brain. The topics covered in the course are specifically designed to mesh in time with those covered in Fundamentals of Neuroscience II describing the function of these areas. For this reason, it would be best if these two courses were taken concomitantly. The course will be didactic with digital images, models, and wet specimens included in the course.
Semester Credit Hours: 2.0

INTD 5067  Introduction to Bioinformatics and Computational Biology
The course will be taught by faculty from Biochemistry, Cellular & Structural Biology, CCRI, Periodontics, and faculty from UTSA. The course will be an introduction to methods and tools for working with DNA sequences and protein families, learning basic Unix networking, overview of numerical modeling, systems biology approaches to complex diseases, gene expression analysis, bioinformatics in clinical research, statistical tools for complex datasets, proteomics, structural methods for protein biology, cheminformatics, molecular modeling, and mathematical model building.
Semester Credit Hours: 2.0

INTD 5081  Topics in Cardiovascular Research
This course is designed to familiarize students with the current literature related to cardiovascular disease. Each week a different research topic selected from the recent literature is presented and discussed. Students are expected to attend and participate in the discussions. In addition, students are required to prepare and present once during the semester. A list of previous and current course presentations will be available online.
Semester Credit Hours: 1.0

INTD 5091  Special Topics
This is a placeholder course, for which graduate students may register, if they are unable to select a specific track core course at the time of registration. Tracks are: Biology of Aging, Cancer Biology; Cell and Molecular Biology; Genetics, Genomics, & Development; Microbiology & Immunology; Molecular Biophysics & Biochemistry; Molecular, Cellular, & Integrative Physiology; Neuroscience; and Pharmacology. The course may be repeated for credit.
Semester Credit Hours: 1.0–4.0

INTD 5094  Independent Study
This elective allows for detailed in-depth study in a specific area of study. The area and mode of study are to be agreed upon by the student and instructor. The course may be repeated for credit when the area of study varies.
Semester Credit Hours: 1.0–4.0
Prerequisites: Graduate standing and consent of instructor.

INTD 6002  Ethics in Research
This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.
Semester Credit Hours: 0.5

INTD 6007  Advanced Cell and Molecular Biology: Cell Signaling
This is a 6-week course that represents one-third of INTD 5007 Advanced Cell and Molecular Biology. This module will focus in depth on Cell Signaling. The lectures will cover signal transduction of various cytokines and growth factors via cell surface receptors and steroid hormone signaling to the nucleus. The emphasis will be on the molecular mechanism of signaling in the regulation of cellular function. The overall format of the course is the same as INTD 5007. This advanced course provides a unique learning experience that prepares the student to evaluate and design new research in the cutting-edge areas of modern cell biology and molecular biology. Instead of a didactic program of lectures, the entire course comprises a small-group format in which students interact closely with a group of faculty who have active research programs. In each module, faculty provide students with a brief overview of the research area. Students and faculty will then jointly discuss key publications that serve to bridge the gap between the student’s prior understanding of the field and the state of the art in that area.
Semester Credit Hours: 1.0

INTD 6008  Advanced Cell and Molecular Biology: Mitochondria And Apoptosis
This is a 6-week course that represents one-third of INTD 5007 Advanced Cell and Molecular Biology. This module will focus in depth on Mitochondria and Apoptosis. Topics will include: Mitochondria and Respiration; Mitochondria and Reactive Oxygen Species; Mitochondria and Apoptosis. The overall format of the course is planned to be the same as INTD 5007. This advanced course provides the opportunity for a unique learning experience where the student can prepare to evaluate and design new research in the cutting-edge areas of modern cell biology and molecular biology. Instead of a didactic program of lectures, the entire course comprises a small-group format in which students interact closely with a group of faculty who have active research programs. In each module, faculty provide students with a brief overview of the research area. Students and faculty will then jointly discuss key publications that serve to bridge the gap between the student’s prior understanding of the field and the state of the art in that area.
Semester Credit Hours: 1.0
INTD 6009  Advanced Cell and Molecular Biology: DNA Damage and Cell Cycle
This is a 6-week course that represents one-third of INTD 5007 Advanced Cell and Molecular Biology. This module is focused on the Cell Cycle and DNA Damage Responses. Topics will include: Cell cycle regulation, checkpoint control and responses to DNA damage. The overall format of the course is planned to be the same as INTD 5007. This advanced course provides the opportunity for a unique learning experience where the student can prepare to evaluate and design new research in the cutting-edge areas of modern cell biology and molecular biology. Instead of a didactic program of lectures, the entire course comprises a small-group format in which students interact closely with a group of faculty who have active research programs. In each module, faculty provide students with a brief overview of the research area. Students and faculty will then jointly discuss key publications that serve to bridge the gap between the student's prior understanding of the field and the state of the art in that area.
Semester Credit Hours: 1.0

INTD 6011  Introduction to Science of Teaching
This course will provide insight into the basic skills of learning and teaching. Faculty from the Academic Center for Excellence in Teaching and the GSBS will provide students the skills, strategies and experience for a future in academia and teaching. Topics will include lecture presentations on why scientists choose to teach, planning a student learning experience, in addition to developing a lecture syllabus, curriculum, and teaching portfolio and philosophy. This course is recommended prior to Supervised Teaching Course INTD 6071
Semester Credit Hours: 1.0

INTD 6033  Cell Signaling Mechanisms
This course covers the molecular mechanisms of action of various extracellular mediators including hormones, neurotransmitters, growth factors, cytokines, etc., and cell signaling events. Several areas will be discussed including: (1) mechanisms of mediator synthesis; (2) interaction of mediators with specific receptors; (3) modulation by mediators of various second messenger systems including cyclic nucleotides, inositol phospholipids, calcium, protein phosphorylation, ion flux, etc.; and (4) intra- and intercellular mechanism for regulating mediator action.
Semester Credit Hours: 2.0

INTD 6041  Basic Science Resident Lecture Series in Neurology
This is an interdisciplinary advanced elective in which students attend 20 lectures, selected from the full offering of daily one-hour lectures comprising the Neurology Residents’ Basic Sciences lecture series. These lectures cover a range of topics, such as Epilepsy, Movement Disorders, the Thalamus, Parkinson’s Disease, Alzheimer’s Disease, Stroke, Sleep, etc., all given from a clinical perspective. In addition, graduate students will have the opportunity to observe or participate in at least two enrichment activities related topically to the lectures they attend, which may include such settings as case presentations, diagnostic training sessions, or clinical observations, again selected from the list of offerings included in the “Neurology Residents” series.
Semester Credit Hours: 1.5

INTD 6043  Structure and Function of Membrane Proteins
This is a course targeted at students within any of the Graduate Tracks. The objective is to provide a broad view, allowing for in-depth consideration in selected areas, of the structure and diverse functions of proteins within a membrane environment. Specific topics covered will include: Ion selective channels, large membrane transporters, membrane pumps, and membrane receptors. The format of the course will be didactic lecture followed by student presentations of relevant topics.
Semester Credit Hours: 2.0

INTD 6045  Clinical Practicum in Neuroscience
This course will provide students with a brief, but intense and very focused exposure to clinical practice in a relevant area of their choosing, designed and coordinated to best match their interests in close individual collaboration with a clinical mentor in one of the participating components: Neurosurgery, Neurology, Psychiatry, or Endodontics. Representative activities could include participation in case presentation and treatment planning, attending rounds with physicians and residents, direct observation of clinical procedures, patient interviews, follow-up care and outcome review. Potential venues may include inpatient psychiatric ward, sleep clinic, epilepsy clinic, stroke clinic, neurosurgical theater and surgical ICU. In consultation with the course director, students will first select one of the sub-sections, then design their individually tailored clinical practicum experience with the coordinator for that section.
Semester Credit Hour: 1.0

INTD 6090  Seminar
This course is intended for first-year IMGP students only. Students will be required to attend a minimum of 10 departmental (any) seminars during the semester and submit a 100–500 word synopsis of each seminar within two weeks of the seminar.
Semester Credit Hours: 1.0

INTD 6090  Seminar (Neuroscience track)
This course is intended for first-year IMGP students only. Students will be required to attend a minimum of 10 departmental (any) seminars during the semester and submit a 100–500 word synopsis of each seminar within two weeks of the seminar.
Semester Credit Hours: 1.0

INTD 6097  Research
This research course is for first-year IMGP students only.
Semester Credit Hours: 0.5–9.0

MICR 5003  Core Concepts in Microbiology and Immunology
This course will provide an integrated view of the microbial world and the mammalian immune response. Students will receive a foundation in the basic concepts and experimental approaches that are crucial for understanding core concepts in pathogenic microbiology, virology, parasitology, mycology, and
immunology through directed readings and didactic instruction. A special emphasis will be placed on integrating knowledge from each discipline using specific examples to illustrate important concepts in host-pathogen interaction.

**Semester Credit Hours: 4.0**

**MICR 5025 Eukaryotic Pathogens**
The course will provide students with the opportunity to gain a basic comprehensive understanding of parasitology and mycology. The first part of this course will focus on virulence mechanisms and the host immune response with respect to a variety of parasites that cause major human diseases. The second part of this course will cover several important areas of medical mycology including molecular biology, diagnostic/epidemiology, mating/phenotypic switching, morphology, pathogenesis, and antifungal therapies.

**Semester Credit Hours: 1.0**

**MICR 5026 Bacterial Pathogenesis**
This is an introductory course in microbial pathogenesis focusing on bacterial pathogens that are important in human disease. Students will receive a foundation in the basic concepts and experimental approaches that are crucial for understanding the discipline through directed readings and didactic instruction. Specific concepts, strategies, and mechanisms used by human bacterial pathogens to cause disease will be illustrated.

**Semester Credit Hours: 1.0**

**MICR 5027 Immunology**
This course will focus on fundamental concepts in immunology with emphasis on experimental strategies for elucidating the cellular and molecular mechanisms underlying immune responses. Lecture topics will illustrate important concepts in innate immunity, cytokine signaling, antigen recognition and presentation, the genetics of immune receptors and the major histocompatibility complex, immunity to infection, and immunopathology (e.g., hypersensitivity, autoimmunity, immunodeficiency, etc.).

**Semester Credit Hours: 1.0**

**MICR 5028 Virology**
This course focuses on the molecular and cellular biology of animal viruses, and their interactions with host cells. Many of the viruses to be covered in this course are medically significant or have provided critical information that has expanded our understanding of cell biology, immunology, development, and differentiation.

**Semester Credit Hours: 1.0**

**MICR 5029 Building Scientific Thinking Skills**
The goal of this course is to provide the opportunity for graduate students to develop critical thinking skills in reading scientific literature, developing/critiquing scientific ideas and grant proposals and effectively communicating one’s own scientific ideas with peers. The courses will be offered in three consecutive stages. First, each student will be assigned/encouraged to read articles focusing on a topic in the areas of Microbiology and Immunology and give a 50 minute review presentation on the topic to the class followed by questions/critiques from fellow students and faculty members. Second, each student is guided to develop a mini-proposal on a chosen topic followed by written critiques from fellow students and faculty members. Finally, each student is arranged to give an oral defense of his or her written proposal to the class followed by questions from fellow students and faculty members. Since the proposal writing and defense portions mimic the process involved in M&I track qualifying examination, this course will not only have a long lasting impact on the students’ scientific skill development, but also help prepare the students for qualifying exam.

**Semester Credit Hours: 2.0**

**MICR 5030 Microbiology and Immunology Track Journal Clubs**
The M&I track students, together with faculty members and other researchers, will meet once a week to discuss articles on life science with an emphasis on the Microbiology and Immunology disciplines. At each meeting, an individual will present one or several papers, or a review and related materials. The presentation will be followed by questions and discussions involving everyone present at the meeting. Each meeting is scheduled for one hour.

**Semester Credit Hours: 0.5**

**MICR 5090 Acquiring Presentation Skills**
This course is designed to prepare the student for giving a scientific lecture or seminar. Students present at least one lecture per academic year. Each student is coached and evaluated by faculty members in terms of both effective public speaking and critically analyzing scientific data. In addition, the seminars are videotaped. Students are required to attend all seminars.

**Semester Credit Hours: 1.0**

**MICR 5091 Current Topics in Microbiology and Immunology**
Students will be given an opportunity to gain in-depth understanding of selected topics in microbiology and immunology through a combination of library research and discussion with faculty.

**Semester Credit Hours: TBA**

**Prerequisites: consent of instructor**

**MICR 5092 Special Problems in Microbiology**
The course provides an opportunity for the student to engage in a special research project or to develop proficiency in the use of certain laboratory methods.

**Semester Credit Hours: 1.0–9.0**

**Prerequisites: consent of instructor**

**MICR 6022 Advanced Microbial Physiology**
This course consists of readings and conferences. The course includes current concepts and experimental studies in microbial structure-function relationships and regulatory mechanisms.

**Semester Credit Hours: 2.0**

**Prerequisite: consent of instructor**

**MICR 6024 Advanced Microbial Genetics**
This course consists of lectures and conferences. This course is an in-depth study of selected areas of microbial genetics, and presentation and discussion of current literature in these areas.

**Semester Credit Hours: 1.0–4.0**

**Prerequisites: consent of instructor**
MICR 6026 Advanced Molecular Genetics of Eukaryotic Pathogens
This course will cover the major research methods and techniques used to study human fungal pathogens.
Semester Credit Hours: 2.0

MICR 6043 Advanced Topics in Virology
In-depth study of selected topics in animal virology at the molecular level.
Semester Credit Hours: 2.0

MICR 6050 Advanced Topics in Tumor Immunology
This course provides an opportunity for students to gain a solid foundation in modern tumor immunology. Topics include tumor antigens, autoimmunity, mechanisms of killing, dysregulation of inflammation, and counter measures mediated by tumor to thwart or subvert host immunity.
Semester Credit Hours: 1.0
Prerequisites: consent of instructor

MICR 6071 Supervised Teaching
This course consists of teaching under the close supervision of instructors as laboratory assistants and as leaders in tutorial or review sessions. The more advanced students may present formal lectures in the classroom or lead discussions in the laboratory.
Semester Credit Hours: 1.0–9.0
Prerequisites: consent of chair of department

PHAR 5013 Principles of Pharmacology
Topics include principles of drug action; receptor classification and quantitation; dose-response relationships; cellular mechanisms of drug action; fundamental concepts of drug-receptor interactions; voltage-gated and ligand-gated ion channels; drug actions mediated by transduction and non-transduction enzymes; time course of drug action; absorption, distribution, biotransformation and elimination of drugs; pharmacokinetics; and experimental approaches to drug action.
Semester Credit Hours: 3.0

PHAR 5014 Therapeutics
The overall objective of this course will be to provide students with a current overview of the therapeutics related to major classes of drugs. The course will be required for Pharmacology students as a 3-hour course. Each section will offered separately as a 0.5-hour micro-elective for students from other programs. There will be a course director for the overall course while each section will be governed by a director who will be responsible for the format of the lectures and examinations for that section. Each section will include at least one examination that will determine the overall grade for Pharmacology students taking the 3-hour course. Student performance will be evaluated on a lettered grading scale.
Semester Credit Hours: 3.0
Prerequisites: INTD 5000

PHAR 5020 Basics of Research Design
This course aims at teaching first-year graduate students fundamentals of research design and analysis of scientific literature to orient them with setting up scientific experiments and writing grant proposals. The course is divided into three sections: research design, communicating scientific data, and getting scientific ideas funded.
Semester Credit Hours: 1.5

PHAR 5090 Seminar
This course is intended for non-track affiliated students. This course consists of presentation and discussion of recent advances and research by staff, students, and outside scientists.
Semester Credit Hours: 1.0

PHAR 5091 Pharmacology Micro-electives
Micro-electives are courses that can be of any type (“tutorial” or original literature review, short [2-week] didactic, technique, etc.). In general, since they are short, they are often offered at any time of convenience between the student(s) and the faculty.

5091.001 New Views on Monoaminergic Neurotransmission: Are Transporters Important?
5091.002 Drug Discovery: Nuts and Bolts
5091.003 Historical Perspectives of Receptor Theory
5091.004 Cell Membrane Microdomains and Signaling
5091.005 Neuropeptide Metabolism
5091.006 Serotonin: From Soup (Transmission) to Nuts (Behavior)
5091.007 Central-Cardio-Respiratory Systems
5091.008 Neural Substrates of Regulatory Behaviors: Peptides and Monoamines
5091.009 Current Issues in Basic Research on Mechanisms of Epilepsy
5091.010 Appetite Control: Adiposity Hormones and Neuropeptides
5091.011 Fundamentals of Behavioral Pharmacology
5091.012 Therapeutics: Autonomic Pharmacology
5091.013 Therapeutics: Cardiovascular-Renal Pharmacology (Prerequisite: PHAR 5091.012)
5091.014 Therapeutics: Central Nervous System Phamacotherapeutics
5091.015 Therapeutics: Chemotherapy
5091.016 Therapeutics: Endocrine Pharmacology
5091.017 Therapeutics: Pharmacological Management of Pain

PHAR 5092 Special Problems in Pharmacology: Research Practicum
Students will have the opportunity to complete two laboratory rotations in different laboratories by the end of their first year in the track. Laboratory rotation mentors may be selected from the Graduate Faculty of the Pharmacology graduate program who have active research laboratories. Each rotation is a full-semester rotation.
Semester Credit Hours: 1.0–9.0
PHAR 6025 Molecular Pharmacology
This course will be presented in a journal club/paper discussion format and will focus on the molecular aspects of pharmacology, with emphasis on molecular biology, biochemistry, and cell biology of a variety of physiological systems subjected to pharmacological manipulation. The topics to be discussed will include molecular mechanisms of drug action, signal transduction and regulation, molecular approaches, and recent advances in areas of molecular pharmacology.
Semester Credit Hours: 2.0

PHAR 6027 Fundamentals of Neuroethics
Recent advances in neuroscience have considerably improved our understanding of brain function. However, the fascinating examination of brain’s mysteries often intersects with the concerns of ethics and public policy. This course aims at presenting and discussing philosophical and scientific perspectives on major ethical issues pertinent to neuroscience research. Several subjects will be covered in the course, including the effects of pharmacological and surgical interventions on the brain/minimal injury, therapy versus enhancement, brain imaging and mental privacy, neuroscience of decision making, consciousness, unconsciousness, and death.
Semester Credit Hours: 1.0

PHAR 6029 Mammalian Physiology
This course begins with fundamental processes that govern membrane transport, membrane potential, and excitation-contraction coupling. The course then proceeds to coverage of organ system function including cardiovascular, respiratory, renal, gastrointestinal and endocrine/metabolic physiology.
Semester Credit Hours: 4.0

PHYL 5041 Excitable Membranes
Students may take the full course - PHYL 5045; however, they are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).
This course addresses fundamental mechanisms of cell excitability in neurons and other excitable tissues. The format is a combination of lectures, readings/discussions, laboratory demonstrations, and simulation software (where available). Examples of the latter include software to simulate the resting membrane potential, action potentials, and synaptic events. The module will emphasize contemporary issues in the scientific literature as well as translational science where dysfunction in channels and synapses underlie common disorders such as Alzheimer’s Disease, Myasthenia Gravis, Cystic Fibrosis, Long QT Syndrome, and Epilepsy to name just a few.
Semester Credit Hours: 1.0

PHYL 5042 Cardiovascular Physiology
Students may take the full course - PHYL 5045; however, they are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).
This course explores the physiological mechanisms by which the cardiovascular system carries out its principle function. Mechanisms that produce and regulate cardiac pumping, organ blood flow, capillary fluid and solute exchange, and arterial blood pressure are examined. The nature and importance of various local, neural, and hormonal mechanisms are emphasized. Integrated control of cardiovascular function in situations requiring cardiovascular adjustments (e.g., exercise, blood pressure alterations) are also covered.
Semester Credit Hours: 1.0

PHYL 5043 Respiratory and Renal Physiology
Students may take the full course - PHYL 5045; however, they are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).
This course covers the physiology of respiratory and renal function in the human body. Our focus is on basic mechanisms of function, role in body homeostasis, as well as dysfunction of both systems associated with pulmonary and renal disease. Two sessions are set aside for discussion around significant advances in each field. One or more recently published articles will serve as the focus for each of these discussions sessions.
Semester Credit Hours: 1.0

PHYL 5044 Endocrinology/Metabolism and Gastrointestinal Physiology
Students may take the full course - PHYL 5045; however, they are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).
The course serves to expose students to the current state of knowledge in the field of endocrinology and metabolism, including reproductive physiology, and the related topics of the physiology of the digestive tract. Three sessions are assigned to advanced topics. In these three sessions students will engage in a discussion format centered around one recent important publication. The lecturer will lead the discussion with the aim of showing how the topics the students have been exposed to integrate one with another, providing the context for present-day discoveries.
Semester Credit Hours: 1.0

PHYL 5045 Mammalian Physiology
This course begins with fundamental processes that govern membrane transport, membrane potential, and excitation-contraction coupling. The course then proceeds to coverage of organ system function including cardiovascular, respiratory, renal, gastrointestinal and endocrine/metabolic physiology.
Lecture material is enhanced by supplemental discussion of research literature encompassing molecular biology, integrative function, and pathophysiological implications. **Students may take the full course but are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).**

**Semester Credit Hours: 4.0**

**PHYL 6071  Supervised Teaching**
A student enrolled in this course is expected to participate in the teaching program of the Department; the student earns one semester hour of credit per semester of teaching.

*Semester Credit Hours: 1.0*

**PHYL 6090  Seminar**
The course is comprised of research presentations by Physiology graduate students. This course is required of all students each semester.

*Semester Credit Hours: 1.0*

**PHYL 6091  Selected Topics of Physiology**
Students must take at least two courses selected from among the offerings in:
- PHYL 6091-01 Cardiovascular
- PHYL 6091-03 Cell Biology in Neural Science

- PHYL 6091-04 Endocrine and Metabolism
- PHYL 6091-05 Molecular Physiology
- PHYL 6091-07 Ion Channels in Disease

Courses that may be substituted for one of these selections:
- INTD 5040 - Fundamentals of Neuroscience I: Molecular, Cellular, and Developmental Neuroscience
- INTD 5043 - Fundamentals of Neuroscience II: Systems Neuroscience
- INTD 7002 – Neurobiology of Learning and Memory
- CSBL 6048 - Biology of Aging
- CSBL 6058 – Neurobiology of Aging

Not all selected topics are offered each semester. Please discuss this with the Academic Coordinator for more details. Substituted courses in conflict with Physiology course schedule will require approval from COGS.

*Semester Credit Hours: 2.0*
Biochemistry

All prospective students seeking Ph.D. training in Biochemistry must apply for admission to the Integrated Multidisciplinary Graduate Program (IMGP), which is coordinated by the Graduate School of Biomedical Sciences. Biochemistry faculty members actively participate in all elements of the IMGP. The only IMGP track administratively coordinated by the Department of Biochemistry’s Committee on Graduate Studies is Molecular Biophysics & Biochemistry. Students are not actively recruited to the M.S. program in Biochemistry, but admission is handled on a case-by-case basis. Applicants to the M.S. program should apply directly to the Department of Biochemistry, not the IMGP.

The graduate program in Biochemistry offers students the training necessary for them to conduct independent biochemical research in an academic, industrial, or clinical environment. The Biochemistry curriculum, within the Molecular Biophysics & Biochemistry track, is designed to provide a synergistic series of formal courses, seminars, teaching opportunities, and individualized biochemical research experiences in the laboratories of participating faculty. Students are encouraged to broaden their scientific experience by taking courses in other IMGP tracks, e.g., Biology of Aging; Cell and Molecular Biology; Membrane Biology and Cell Signaling; Neuroscience, to the extent that these courses would complement their chosen research specialty.

Independent research experiences are available in most areas of contemporary biochemistry and molecular biology including: protein structure and function, signaling pathways, metabolic regulation, membrane assembly, control of gene expression, mapping of eukaryotic genomes, assembly of viruses, and the mechanisms of hormone action. The basic research conducted in the Department of Biochemistry is complemented by faculty participation in nearly all of the IMGP tracks as well as collaborative research programs with faculty members in other basic science and clinical departments at the Health Science Center.

Requirements for Admission

Admission to the Molecular Biophysics within the Department of Biochemistry is identical to that described previously for admission to the Integrated Multidisciplinary Graduate Program. It is expected that students who are interested in choosing the Diabetes & Metabolic Disorders track will have successfully completed at least one year’s undergraduate work in biochemistry, biology, organic chemistry, physical chemistry, physics, and mathematics.

Financial Support for Graduate Students

Financial support during the first year is provided by the IMGP. Starting in the second year, financial support, including tuition expenses, will be provided through research assistantships from research grants awarded to individual faculty members. Stipend amounts are set by the IMGP and are the same for all IMGP tracks. Every effort will be made by the Department of Biochemistry to provide financial aid to all students enrolled in the biochemistry Ph.D program.

Postgraduate Positions for Program Graduates

Graduates of the Ph.D. program in Biochemistry are typically in a favorable position to seek further postdoctoral training and to be in a highly competitive position for academic appointments at state and private institutions or employment in industrial and government laboratories.

Curriculum

Students pursuing the Ph.D. degree will be expected to acquire a comprehensive knowledge of biochemistry, which will be assessed by their performance in course work, their oral defense of an original research proposal at the end of the second year, and faculty evaluation of a formal written Ph.D. dissertation proposal. Although no minor area is required, students are encouraged to diversify their programs with courses offered by other IMGP tracks at the Health Science Center. A dissertation, which represents an original contribution to the field of biochemistry that is publishable in a reputable, scholarly journal, is a requirement for the Doctor of Philosophy degree. A minimum of 72 semester credit hours is also required for the Ph.D. degree. The faculty expects students entering the graduate program in Biochemistry to pursue studies leading to a Ph.D. degree. However, if a student is admitted to the Master of Science degree program, the requirements are less rigorous than those for the Ph.D. degree. These requirements are met by coursework and a research thesis that is defended in an oral examination.
Core Courses

Introductory graduate level courses cover fundamental information in the basic biological sciences that is required in the education of a modern biomedical scientist. Topics covered in the core Fundamentals of Biomedical Sciences course are organized in a coordinated and non-redundant manner and are taught by an interdisciplinary group of faculty.

INTD 5000  Fundamentals of Biomedical Sciences*
This course covers the fundamentals of biochemistry, molecular biology, cell biology, organismal and systems biology, and microbiology and immunology. The course is designed for first-year graduate students matriculating into the Integrated Multidisciplinary Graduate Program.
Semester Credit Hours: 8.0
Prerequisites: Consent of instructor

INTD 5008  Laboratory Rotations*
This course provides an opportunity for students to participate in research activities in the laboratories of faculty members in different tracks to learn laboratory skills and to gain an introduction to the research fields of faculty members.
Semester Credit Hours: 2.0

INTD 6002  Ethics in Research*
This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.
Semester Credit Hours: 0.5
* Required of all students in the IMGP

BIOC 0003  Scientific Writing
The course consists of writing a progress report describing research results obtained during the last year. The course is required of all graduate students beginning the first semester after selection of a supervising professor.
Semester Credit Hours: 1.0

BIOC 6069  Contemporary Biochemistry
The course has two aspects. In the first, students will have the opportunity to put together a didactic lecture on a biochemical topic, essentially an oral review. Alternatively, students who attend a scientific meeting may pick a theme that was presented at that meeting in any of multiple venues (symposia, platform presentations, posters) and develop it as a presentation equivalent to an oral review. In each case, students will research the background of the material and present the latest findings. This is not intended to be a journal club but rather a didactic or teaching lecture. The course Director will work with the students ahead of time to assist them in preparing their presentation. The second aspect is that students who are not themselves presenting are required to attend the presentations. Biochemistry students must present at least once in years 3–5 of their matriculation in order to graduate with the Ph.D. degree. May be repeated for credit.
Semester Credit Hours: 1.0

Prerequisites: must have passed Advancement to Candidacy Examination

BIOC 6071  Supervised Teaching
This course consists of teaching medical or dental biochemistry under close supervision of instructors. Management of small conference teaching groups as well as formal lecture presentations will be included.
Semester Credit Hours: 1.0–9.0

BIOC 6097  Research
This course consists of independent, original research under the direction of a faculty advisor.
Semester Credit Hours: 1.0–9.0

BIOC 6098  Thesis
Registration for a least one term is required of M.S. candidates.
Semester Credit Hours: 1.0–9.0
Prerequisites: admission to candidacy for the M.S. degree

BIOC 7099  Dissertation
Registration for at least two terms is required for Ph.D. candidates.
Semester Credit Hours: 1.0–9.0
Prerequisites: admission to candidacy for the Ph.D. degree

Advanced Biochemistry Courses for Students Enrolled In The Molecular Biophysics & Biochemistry Track

Students enrolled in the Molecular Biophysics & Biochemistry Track must take 14 semester credit hours of Advanced Biochemistry Courses – five required courses (8.0 semester credit hours), and three additional advanced courses (6.0 semester credit hours). The courses listed below are approved advanced biochemistry courses. Advanced courses in the other IMGP programs that are at least 2.0 semester credit hours may be substituted for one or more of the elective advanced courses, but each substitution requires prior approval by the Biochemistry Committee on Graduate Studies. Any of the following courses are approved advanced biochemistry courses. Advanced courses in other IMGP programs may be substituted for one or more of these, but each substitution requires prior approval by the Biochemistry Committee on Graduate Studies.

Required Advanced Courses

BIOC 5085  Biophysical Methods in Biology: 2 credits
BIOC 5087  Molecular Biochemistry: 2 credits
BIOC 5091  Special Topics in Biochemistry: Quantitative Biochemistry: 1 credit
BIOC 6036  Macromolecular Structure & Mechanism: 1 credit
BIOC 7037  Integration of Metabolic Pathways: 2 credits

Elective Advanced Courses: 2 credits each

BIOC 5083  Hydrodynamic Methods
BIOC 5091  Special Topics in Biochemistry: Nuclear Magnetic Resonance Spectroscopy for Biochemists
BIOC 6015  Metabolic Disorders
BIOC 6010  Gene Expression
BIOC 6035  Biochemistry of Multimolecular Complexes
INTD 6043  Structure and Function of Membrane Proteins
Typical Course Curriculum for Students Who Enter the IMPG Graduate Program and Choose the Molecular Biophysics & Biochemistry

**Molecular Biophysics & Biochemistry Track**

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<th>YEAR 1</th>
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<td>INTD 5000 Fund. Biomed. Sciences</td>
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<td>BIOC 5091 Special Topics in Biochemistry: Quantitative Biochemistry</td>
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<tr>
<td>BIOC 6036 MacroMol, Struc &amp; Mech</td>
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<td>BIOC 7037 Intergrated of Metabol Path</td>
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<td>BIOC 0003 Scientific Writing</td>
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<td>BIOC 5085 Biophysical Meth. Biol.</td>
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**Advanced Biochemistry Course Descriptions**

**BIOC 5083 Hydrodynamic Methods**

This course provides students with the opportunity to gain a solid understanding of hydrodynamics and macromolecular transport processes, such as sedimentation and diffusion. The focus will be on hydrodynamic methods involving analytical ultracentrifugation and light scattering. Topics in sedimentation velocity, sedimentation equilibrium, buoyant density sedimentation, as well as static and dynamic light scattering and the complementarity of these approaches will be discussed. Macromolecular interactions involving mass action, concentration dependent nonideality, and reaction rates are covered. This course will also cover a range of data analysis approaches including the van Holde-Weischet method, the second moment method, direct boundary fitting by finite element modeling, the C(s) method, the 2-dimensional spectrum analysis, genetic algorithm optimization, nonlinear least squares fitting approaches to user-defined models, Statistical analysis using Monte Carlo and bootstrap methods.
also will be covered.

Semester Credit Hours: 2.0

**Required Advanced Course Descriptions**

**BIOC 5085  Biophysical Methods in Biology**
This course is required for all students enrolled in the Molecular Biophysics & Biochemistry track. For all other students, it is an elective course. This course covers modern biophysical methods for studying biological macromolecules in sufficient detail to understand the current literature. Topics to be covered include: Macromolecular structure determination by X-ray crystallography and NMR spectroscopy; absorbance, fluorescence, and EPR spectroscopy; circular dichroism; light scattering; mass spectrometry; and hydrodynamics, including diffusion, electrophoresis, sedimentation velocity, and sedimentation equilibrium.

Semester Credit Hours: 2.0
Prerequisites: INTD 5000

**BIOC 5087  Molecular Biochemistry**
This course is required for all students enrolled in either Molecular Biophysics & Biochemistry Track. The objective of this course is to provide comprehensive treatment of the exploration of genes and proteins through molecular biological techniques tailored towards experimental biochemistry. Topics to be covered include: basic enzymology; methods of enzyme characterization including kinetics, protein-ligand binding equilibrium studies, the physiological significance of multisite enzymes; the theory and practice of PCR including real-time PCR, PCR mutagenesis, and clone construction by PCR; problems in the preparation of large quantities of recombinant proteins in *E. coli*; site-specific and saturation mutagenesis; the bioinformatics of protein families; and molecular genetic systems used to explore gene expression and protein interactions in bacteria, yeast, *Drosophila*, and mammals.

Semester Credit Hours: 2.0

**BIOC 5091  Special Topics in Biochemistry**
This course consists of selected topics in specialized areas of biochemistry; current views will be emphasized (e.g., “Quantitative Biochemistry” and “Nuclear Magnetic Resonance Spectroscopy for Biochemists” — see below).

Semester Credit Hours: 1.0–9.0

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**Quantitative Biochemistry**
This course is required for all students enrolled in either Molecular Biophysics & Biochemistry Track or the Diabetes & Metabolic Disorders Track, and is open to all students enrolled in the Integrated Multidisciplinary Graduate Program. The course covers statistical and mathematical analysis of typical biochemical data. Topics to be discussed include: enzyme kinetics, first and second order chemical reactions, ligand binding, scintillation counting of radioactivity, UV-VIS difference and derivative spectra, analytical ultra-sedimentation, and solution of multiple simultaneous equations using matrix algebra. Emphasis is placed upon the use of computers to analyze experimental data using programs running under Windows, or Linux platforms. Students will also become familiar with file transfers between these two platforms and the use of VNC viewer to enable their PC computers to be used as a Linux terminal.

Semester Credit Hours: 1.0

**Nuclear Magnetic Resonance Spectroscopy for Biochemists**
This course provides a working knowledge of the basic underlying theory of modern pulsed Nuclear Magnetic Resonance methods in the study of the structures and internal dynamics of biological macromolecules in solution. The theoretical concepts to be covered include an overview of pulse excitation, digital sampling, and Fourier transformation. The product operator formalism will be used to describe how modern multinuclear multidimensional pulse methods function to yield the desired signals. The practical concepts to be covered will include an overview of modern methods for obtaining sequential resonance assignments, determining high-resolution three-dimensional structures, and analyzing internal dynamics.

Semester Credit Hours: 2.0

**BIOC 6015  Metabolic Disorders**
This course will present an introduction to dysfunctions in normal metabolic processes that lead to major human disorders and pathologies. Major topics to be covered include the causes and pathogenesis associated with Type 2 diabetes, obesity, and related hormonal signaling pathways. Other topics will focus on lipid and protein metabolic disorders, and on dysfunctions associated with mitochondrial and extracellular matrix defects.

Semester Credit Hours: 2.0

**BIOC 6036  Macromolecular Structure & Mechanism**
This course will cover the fundamentals of protein and nucleic acid structure and of enzyme catalysis. The course is required for students in the Molecular Biochemistry and Biophysics track. The topics to be covered include: DNA and RNA structure, protein structure, protein folding, ligand binding by proteins, and enzyme catalysis.

Semester Credit Hours: 1.0

**BIOC 7037  Integration of Metabolic Pathways**
This course is required of students in the Molecular Biophysics and Metabolic Pathways track. The objective is to provide an understanding of the individual reactions in intermediary metabolism and how the reactions are integrated by regulatory mechanisms. The topics to be covered include carbohydrate, lipid, and nitrogen metabolism and mechanisms of regulation of individual enzymes and metabolic pathways.

Semester Credit Hours: 2.0
Biomedical Engineering

The Ph.D. in Biomedical Engineering program is jointly offered between the UT Health Science Center San Antonio and The University of Texas at San Antonio (UTSA). The primary objective of this program is to broadly train students in the principles of biomedical engineering so they are well prepared to participate in the development of new approaches for the diagnosis and treatment of human diseases.

*A Master of Science in Biomedical Engineering is available.

As the program is multidisciplinary, the curriculum is designed to provide a synergistic combination of formal courses, seminars, teaching opportunities, interactions with clinicians, and individualized biomedical engineering research experiences in the laboratories of the biomedical engineering faculty. All students are required to take core courses in the areas of Biomaterials, Biomechanics, Bioelectronics/Imaging, and Biology, as well as Ethics in Research, Experimental Design and Data Analysis, and Introduction to Clinical Practices. In addition to the basic core curriculum, students are required to take additional coursework in their area of specialization. Students have access to the bioengineering and biosciences laboratories at both the Health Science Center and UTSA. This provides a unique opportunity to have learning experiences in medical, dental, bioscience, and engineering environments.

Research Activities

Biomedical Engineering research activities are conducted both at the Health Science Center and at UTSA. At the Health Science Center, research activities include measuring and imaging the anatomy, chemistry, and function of the body and the brain using the latest positron emission tomography and other imaging technology. The Research Imaging Institute leads international brain mapping research. The Center for Clinical Bioengineering concentrates on research into connective tissues, immunology, and oral health, and promotes the use of biomedical engineering for biomaterials, biomechanics, and tissue engineering research. It houses state-of-the-art analytical tools for materials characterization and provides an interface between academic research and industry.

Research at UTSA occurs at several graduate research laboratories, which include Biomaterials, Biomechanics, Biomedical Imaging, Bioelectronics, Coding, Communication & Control, Intelligent Systems, Digital Systems & Instrumentation, CNC & Robotics, Image Processing, and Structural & Dynamics. Research facilities that support existing programs in the sciences and engineering are housed in the new Biosciences Building and adjacent Science and Engineering Buildings.

Requirements for Admission

The following general minimum requirements are needed for application to the Ph.D. in Biomedical Engineering program:

1. A minimum of a bachelor’s or master’s degree, with emphasis either in engineering, physical science, or biological science from a regionally accredited institution in the United States or proof of an equivalent degree and training at a foreign institution.
2. A minimum grade point average of no lower than B (3.00 in a 4.00 system) in the last 60 hours of undergraduate and/or graduate coursework.
3. A satisfactory score for the combined verbal and quantitative portions of the Graduate Record Examination.
4. A minimum score of 560 on the paper-based Test of English as a Foreign Language (TOEFL) for applicants from countries where English is not the native language. *minimum score of 220 on the computer-based test and 68 on the Internet-based test
5. Letters of recommendation, preferably three, attesting to the applicant’s readiness for doctoral study.

Admission to the Ph.D. in Biomedical Engineering program is very competitive and satisfaction of the above minimum requirements does not guarantee admission to the program. All students are required to have sufficient background in engineering, chemistry, biology, and/or physics prior to being admitted to the program. The Committee on Graduate Studies in Biomedical Engineering will also consider applicants who have a strong educational or research background in the physical or biological sciences, but no formal degree in engineering. These applicants will be advised of the need for remedial courses, if any, which will then have to be satisfied prior to admission to the program.

Financial Support for Graduate Students

Competitive stipends are available to students on an annual basis. Students are required to apply annually for these competitive stipends. Students supported with stipends are required to maintain a combined (both UTSA and the HSC) GPA of 3.0 during the supported year and may also be required to fulfill academic duties such as teaching assistant, laboratory assistant, and conducting seminars. Students are also encouraged to seek other financial aid such as the NSF Graduate Research Fellowship (see http://www.nsf.gov for details on application and deadline) and assistance from Biomedical Engineering faculty.

Postgraduate Positions for Program Graduates

Career opportunities for graduates from this program include positions in research institutes, biomedical and medical industries, government laboratories such as NIST and FDA, and academic institutions. For graduates who are interested in applying their biomedical engineering knowledge to patient care, they have the opportunity to pursue a career in medicine and dentistry by applying to the medical and dental schools.
# Curriculum

All students are required to take core courses in the areas of Biomaterials, Biomechanics, Bioelectronics/Imaging, and Biology, as well as Ethics in Research, Experimental Design and Data Analysis, and Introduction to Clinical Practices. In addition to the basic core curriculum, students are required to take additional coursework in their area of specialization. Students have access to the bioengineering and biosciences laboratories at both the Health Science Center and UTSA.

All candidates for the doctoral degree are required to take a core curriculum equivalent to 25.5 hours. In addition, students are required to take 9 hours of coursework that is prescribed by the student’s Supervising Professor or Graduate Advisor. Prescribed electives have to be selected from the list of electives specific to this program (provided below). These courses typically provide a foundation for the student’s dissertation research.

A minimum of 9 semester credit hours of Free* Electives are required and may be selected from any course offered at either the Health Science Center or UTSA with the approval of the Program Director, Supervising Professor, and course instructor. Students are encouraged to consider elective courses that not only prepare them with skills in engineering and science, but also with their overall career objectives. Several courses offered in the UTSA College of Business serve as an example:

- MOT 5163 Management of Technology
- MOT 5243 Essentials of Project and Program Management
- MOT 5253 Starting the High-Tech Firm
- MOT 5313 Emerging Technologies
- MOT 5323 Biotechnology Industry

*Free Electives are courses that a student, along with the advice of the Supervising Professor, may select to bolster her/his fund of knowledge. These courses are typically in the student’s area of research and can be selected from any course offered at the Health Science Center and UTSA.

A minimum of 15 hours of Doctoral Dissertation (ORTO 7099), Research (ORTO 6097), and Supervised Teaching (ORTO 6071) are also required for the degree. Registration for Seminar (ORTO 6090) is required every fall and spring semester a student is enrolled in the program. With Program Director approval, students have the option of not registering for seminar in their final 2 semesters. Further, Ph.D. students are not required to register for seminar in their 5th year for the Ph.D. program as long as they have been registered for seminar in all of the preceding 4 years.

Overall, students must complete a minimum of 81 hours of graduate work as specified above and must maintain an overall grade point average of at least 3.0. The required and selected courses are intended to focus and support the individual’s mastery of her or his particular area of expertise.

The table below summarizes the distribution of hours required for the doctoral degree in Biomedical Engineering.

<table>
<thead>
<tr>
<th>Course Type</th>
<th>SCH Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required (Core courses)</td>
<td>25.5</td>
</tr>
<tr>
<td>Prescribed electives</td>
<td>Minimum of 9.0</td>
</tr>
<tr>
<td>Free electives</td>
<td>Minimum of 9.0</td>
</tr>
<tr>
<td>Other: Dissertation/Research, Seminar, and Teaching</td>
<td>Minimum of 15.0</td>
</tr>
<tr>
<td>Total</td>
<td>Minimum of 81.0</td>
</tr>
</tbody>
</table>

The entire Program of Study must be approved by the student’s Supervising Professor (Dissertation Advisor), the Supervising Committee (Doctoral Dissertation Committee), and COGS/GSC, and then submitted to the Dean of the Graduate School for final approval. The Dean of the Graduate School and the Dean of the College of Engineering at UTSA review the program of study prior to certifying that the student has met all requirements for graduation.

## Core Courses - The Health Science Center

### CSBL 5019 Gross Human Anatomy for Graduate Students

This course will teach structural and functional anatomy of the normal human body. Lectures will serve as introductory information for the laboratory dissections to follow and to clarify the interactions of the various anatomical components to accomplish the function of the body. The course will cover the central and peripheral nervous systems, vertebral column and back, head and neck, body wall, thorax, abdomen, pelvis and perineum, and the upper and lower limbs. Special emphasis will be placed on the laboratory experience in which the learner will perform a detailed dissection of the entire human body in order to achieve an understanding of the three-dimensional relationships and thus the interactive function of the body. These dissections will be supplemented by the study of prosected specimens, model skeletons, and other demonstration materials. Human materials fee: $500. Laboratory fee: $30.

*(NOTE: students may elect to substitute PHYL 5013 Dental Physiology for this course.)*

Semester Credit Hours: 6.0

**Prerequisites:** Graduate standing

### CSBL 5095 Experimental Design and Data Analysis

The purpose of the course is to provide an introduction to experimental design and statistical analysis. The emphasis of the course will be on the selection and application of proper tests of statistical significance. Practical experience will be provided in the use of both parametric and nonparametric methods of statistical evaluation. Among the topics to be covered are the following: data reduction, types of distributions, hypothesis testing, scales of measurement, chi square analysis, the special case of the comparison of two groups, analysis of variance, a posteriori multiple range tests, tests of the assumptions of parametric analyses, advanced forms of the analysis of variance, linear regression, and correlation.
analysis. This course will partially be conducted online; therefore, access to a computer with Web access is required. A camera and microphone/headphone attached to the computer will enhance the learning experience.

Semester Credit Hours: 2.0

INTD 6002 Ethics in Research
This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.

Semester Credit Hours: 0.5

This course will provide an introduction to clinical medicine for the graduate biomedical engineering students. It will provide the opportunity for the student to gain a working knowledge of engineering aspects as it relates to clinical practice. A variety of specialties will be presented. The students will also have the opportunity to observe surgery to gain additional insight. Integration with the medical industry will be made at the end.

Semester Credit Hours: 1.0

Prerequisites: open to Biomedical Engineering graduate students

ORTO 6004 Biology for Bioengineers
This course provides a broad background in biological concepts with specific attention given to biological processes important in bioengineering. Topics will include biochemistry, genetics, molecular biology, cell biology, and physiology. Applications will emphasize understanding cellular processes important in bioengineering, such as gene therapy and tissue repair and regeneration.

Semester Credit Hours: 3.0

Prerequisites: permission of the instructor

PHYL 5013 Dental Physiology
Lecture instruction in the basic concepts of cell and organ function and in the integrated function of mammalian organ systems is presented. The physiology of the nervous system is included.

(Students may elect to substitute CSBL 5019 - Gross Human Anatomy for Graduate Students for this course.)

Semester Credit Hours: 6.5

RADI 5015 Physics of Diagnostic Imaging I
(equivalent to BME 6703 at UTSA)
This course introduces the student to the basic principles and radiological practice using noninvasive imaging systems. Topics include production of x-rays, interaction of radiation with matter, and the physics of imaging using computed tomography, ultrasound, and magnetic resonance.

Semester Credit Hours: 3.0

Prerequisites: consent of instructor

Core Courses - UTSA
See the UTSA Catalog for UTSA official, complete, and up-to-date course descriptions. The Health Science Center is not responsible for UTSA courses.

BME 6703 Biomedical Imaging
(equivalent to RADI 5012 at the Health Science Center)
Semester Credit Hours: 3.0
Prerequisite: Graduate standing
This course will examine, from a systems perspective, the techniques used in a variety of medical imaging modalities, which include X-ray imaging, computed tomography (CT), magnetic resonance imaging (MRI), nuclear medicine (PET), ultrasound imaging, optical imaging and photoacoustic imaging. The fundamental principles and engineering underlying each imaging modality will be discussed and a performance analysis of each system will be examined. Credit can be earned for only one of the following: BME 6703 or RADI 5015.

BME 6803 Biomechanics I
(2-3) 3.0 Semester Credit Hours
Prerequisite: BME 6033 and graduate standing
Fundamentals in applications of engineering mechanics for studying and modeling fluid flow, tissues, organs, and the whole human body will be discussed. This course includes a laboratory.

(Formerly BME 6833. Same as ME 6833. Credit can be earned for only one of the following: BME 6803, BME 6833, ME 5833, or ME 6833).

BME 6903 Biomaterials
3.0 Semester Credit Hours
Prerequisite: Permission of the instructor
Fundamentals of biomaterials science and engineering principles and concepts for repairing, replacing, and protecting human tissues and organs will be discussed.

(Formerly BME 5903 and BME 6813. Same as ME 6813. Credit can be earned for only one of the following: BME 5903, BME 6903, BME 6813, ME 5813 or ME 6813).

BME 6034 Biomedical Engineering Analysis
(3-2) 4.0 Semester Credit Hours
Prerequisite: Graduate standing in engineering or consent of the instructor
This course is designed to introduce students to advanced mathematical and numerical methods necessary to solve problems frequently encountered in biomedical engineering. Topics covered include vector differential and integral calculus, linear algebraic equations, and ordinary and partial differential equations.

(Formerly BME 6033, BME 6093, BME 6034, ME 5833 or BME 5833.)

Prescribed Electives - The Health Science Center

INTD 5000 Fundamentals of Biomedical Sciences
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, organismal and systems biology, and microbiology and immunology. The course is designed for first-year graduate students matriculating into the Integrated Multidisciplinary Graduate Program.

Semester Credit Hours: 8.0
Prerequisites: Consent of instructor
INTD 5005  Core Course I: Biochemistry
Topics to be covered include: protein structure; properties of enzymes; structure, biosynthesis, and function of lipids; pathways and regulation of carbohydrate metabolism and biosynthesis and regulation of amino acids, nucleotides, and related compounds.
Semester Credit Hours: 2.0
Prerequisites: consent of instructor

INTD 5006  Principles of Cellular and Molecular Biology
Students in the Orthodontics MS program in Cellular and Structural Biology, and other programs as appropriate, must take this course for needed background and training in cellular and molecular biology, which they previously obtained by enrollment in Core II: Molecular Biology and Core III: Cell Biology courses. Students must attend appropriate lectures (see list of lecture topics) in the INTD 5000 - Fundamentals of Bio-medical Sciences course. No separate scheduling is required for this course.
Semester Credit Hours: 3.0
Prerequisites: consent of instructor

INTD 5007  Advanced Cell and Molecular Biology
This course offers students the opportunity to gain in-depth fundamentals of cell and molecular biology necessary to critically read, understand, and evaluate the current research on each of the topics covered. The topics include cell surface receptor-mediated signal transduction, nuclear receptor signaling, mitochondria and apoptosis, stem cell and differentiation, and DNA damage response and cell cycle checkpoints. An important focus of this course is to help students bridge the gap between didactic learning and analytical thinking as a graduate student. The course faculty uses a variety of techniques to introduce students to a critical reading and discussion of the current research literature.
Semester Credit Hours: 3.0
Prerequisites: INTD 5006 or special permission from the instructor

INTD 5041  Neuroscience - Medical
Lectures, conferences, and laboratories deal with study of the anatomy and function of the brain and spinal cord. The course will include presentations of neurological cases and will be taught by an interdisciplinary task force from the Departments of Cellular & Structural Biology, Physiology, Medicine, and Surgery. Laboratory fee: $32. Microscope fee: $48.
Semester Credit Hours: 5.0
Prerequisites: consent of instructor

INTD 5067  Introduction to Bioinformatics and Computational Biology
The course will be taught by faculty from Biochemistry, Cellular & Structural Biology, CGRI, Periodontics, and faculty from UTSA. The course will be an introduction to methods and tools for working with DNA sequences and protein families, learning basic Unix networking, overview of numerical modeling, systems biology approaches to complex diseases, gene expression analysis, bioinformatics in clinical research, statistical tools for complex datasets, proteomics, structural methods for protein biology, chemoinformatics, molecular modeling, and mathematical model building.
Semester Credit Hours: 2.0

INTD 6033  Cell Signaling Mechanisms
This course covers the molecular mechanisms of action of various extracellular mediators including hormones, neurotransmitters, growth factors, cytokines, etc., and cell signaling events. Several areas will be discussed including: (1) mechanisms of mediator synthesis; (2) interaction of mediators with specific receptors; (3) modulation by mediators of various second messenger systems including cyclic nucleotides, inositol phospholipids, calcium, protein phosphorylation, ion flux, etc.; and (4) intra- and intercellular mechanism for regulating mediator action.
Semester Credit Hours: 2.0

MICR 5051  Introduction to Immunology
This course is a study of immune responses with emphasis on experimental strategies for elucidating cellular and molecular mechanisms. Three phases of study: (1) immunochemistry and molecular biology of antibodies, lymphocyte receptors, and products of the major histocompatibility complex; (2) cellular interactions and immuno-regulation; and (3) immunopathologies (hypersensitivity, autoimmunity, immunodeficiency, trans-plantation rejection, and tumor immunology).
Semester Credit Hours: 2.0

PHAR 5013  Principles of Pharmacology
Topics include principles of drug action; receptor classification and quantitation; dose-response relationships; cellular mechanisms of drug action; fundamental concepts of drug-receptor interactions; voltage-gated and ligand-gated ion channels; drug actions mediated by transduction and non-transduction enzymes; time course of drug action; absorption, distribution, biotransformation and elimination of drugs; pharmacokinetics; and experimental approaches to drug action.
Semester Credit Hours: 3.0

PHYL 5045  Mammalian Physiology
The course explores the physiological mechanisms by which the cardiovascular system carries out its principle functions. Mechanisms that produce and regulate cardiac pumping, organ blood flow, capillary fluid and solute exchange, and arterial blood pressure are examined. The nature and importance of various local, neural, and hormonal mechanisms are emphasized. Integrated control of cardiovascular function in situations requiring cardiovascular adjustments (e.g., exercise, blood pressure alterations) are also covered.
Semester Credit Hours: 4.0

PHYL 6091  Selected Topics of Physiology
Students must take at least two courses selected from among the offerings in:
- PHYL 6091-01 Cardiovascular
- PHYL 6091-03 Cell Biology in Neural Science
- PHYL 6091-04 Endocrine and Metabolism
- PHYL 6091-05 Molecular Physiology
- PHYL 6091-07 Ion Channels in Disease

Courses that may be substituted for one of these selections:
- INTD 5040 - Fundamentals of Neuroscience I: Molecular, Cellular, and Developmental Neuroscience
- INTD 5043 - Fundamentals of Neuroscience II: Systems Neuroscience
- CSBL 6048 - Neurobiology of Aging

Not all selected topics are offered each semester. Please discuss this with the Academic Coordinator for more details. Substituted courses in conflict with Physiology course schedule will require approval from COGS.

**Semester Credit Hours:** 2.0

**RADI 6014** **Physics of Dental Imaging**

This course is a survey of imaging procedures used in modern dentistry with an emphasis on the clinical objectives and physical principles underlying intraoral, panoramic, cephalometric, and digital dental radiography.

**Semester Credit Hours:** 2.0

**Prerequisites:** consent of instructor

**RADI 6016** **Physics of Diagnostic Imaging II**

This course includes theory and applications of various forms of electronic imaging systems; advanced diagnostic imaging principles involving mathematical image analysis, digital image processing, digital image display, and concepts of electronic imaging.

**Semester Credit Hours:** 3.0

**Prerequisites:** consent of instructor

**RADI 6017** **Neuroimaging Methods**

This course will deal extensively with several noninvasive brain imaging techniques to study the functional organization of the human and animal brains. Methods covered include positron-emission tomography (PET), event-related potentials, magneto-encephalography, optical imaging, voltage and calcium imaging, autoradiography, as well as transcranial magnetic stimulation. The course will only touch upon anatomical and functional MRI as well as high field MRI, as students will receive exhaustive MRI training from other classes. Course format will include both lectures on the several methods and seminars in which recent technical advances in the field are discussed.

**Semester Credit Hours:** 3.0

**Prerequisites:** consent of instructor

**RADI 6019** **Pulse Sequence Programming for MRI**

This course is an introduction to the basic principles of image processing as applied to digital radiography, computed tomography, ultrasound imaging, and magnetic resonance images.

**Semester Credit Hours:** 3.0

**Prerequisites:** RADI 6016

**RESD 6102** **Biomaterials II**

A didactic introduction to dental materials by classification, this course describes the manipulative and technical aspects of each existing material category and relates the basic physical, mechanical, and chemical properties to the desired end use so that intelligent choices may be made as new materials become available.

**Semester Credit Hours:** 1.0

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**Prescribed Electives - UTSA**

See the [UTSA Catalog](#) for UTSA official, complete, and up-to-date course descriptions. The Health Science Center is not responsible for UTSA courses.

**BIO 5433** **Neurophysiology**

(3-0) 3 hours credit

**Prerequisite:** BIO 3433 or an equivalent

The fundamentals of neurophysiology are presented from the cellular to the systems level.

**BIO 5483** **Computational Neuroscience**

(3-0) 3 hours credit

**Prerequisite:** BIO 3433 or an equivalent

A non-mathematical approach to the computational functions of the brain, including sensory coding, neural control of movement, and the computational properties of neurons and neuronal networks.

**BIO 5503** **Sensory Physiology**

(3-0) 3 hours credit

**Prerequisite:** BIO 3433 or consent of instructor

Principles of sensory physiology, including sensory transduction and central processing of sensory information in vertebrate and invertebrate species.

**BME 6043** **Critical Thinking and Writing for Biomedical Engineering**

(3-0) 3 hours credit

**Prerequisites:** Ph.D. students who are either taking their qualifying examinations or have been admitted to candidacy; consent of the instructor and the Graduate Advisor of Record

This course introduces students to grant applications, manuscript writing and provides the opportunity to learn through writing and critiquing research proposals, manuscripts, abstracts, and scientific presentations.

**BME 6093** **Topics in Biomedical Engineering**

(3-0) 3 hours credit

**Prerequisites:** Graduate standing, consent of instructor and the Graduate Advisor of Record

May be repeated for credit on a different topic of study.

**BME 6203** **Physiology for Engineers**

3.0 Semester Credit Hours

**Prerequisite:** permission of the instructor or completion of ORTO 6004 (Health Science Center)

Designed to provide students with the essential graduate-level background for the application and practices of biomedical engineering. Integration of the nervous, skeletal, muscle, cardiovascular, and other systems from the sub-cellular to the whole-organism level will be emphasized.

**BME 6213** **Cellular Engineering**

(3-0) 3 hours credit

**Prerequisite:** permission of the instructor and completion of ORTO 6004 (Health Science Center)

This course will focus on the use of engineering skills and principles in the analysis and design of cellular function including protein engineering, enzyme kinetics, drug design, receptor-ligand interactions, cell signaling, metabolism, growth, adhesion and migration.
BME 6223 Transport Processes in Biological Systems
(3-0) 3 hours credit
Prerequisite: Permission of the instructor and completion of ORTO 6004 (Health Science Center)
This course will introduce the concepts of quantitative modeling of biological systems, particularly with respect to mass, momentum and energy transport, and reaction kinetics. We will study the use of conservation laws in quantifying cardiopulmonary, renal, and thermal systems of the human physiology, and also apply these principles in developing artificial and extracorporeal devices, drug delivery systems and pharmacokinetic analysis.

BME 6303 Computational Oncology and Cancer Treatment Simulations
(3-0) 3 hours credit
Prerequisite: Completed BME 6034 or permission of the instructor
The objective of this course is to provide both engineering and medical students an introductory knowledge and skills of computational cancer biology, mathematical modeling and computer simulation, particularly in cancer diagnosis, treatment planning, image-guided control, and prognosis simulation. It will also cover basic methods in visualization and computational analysis of complex data.

BME 6313 Computational Bioengineering and Biomedicine
(3-0) 3 hours credit
Prerequisite: Completed BME 6034 or permission of the instructor
The objective of this course is to provide both engineering and medical students an introductory knowledge and skills of mathematical modeling and computer simulation, particularly in bioengineering. The course will consist of three parts: theoretical background, computational methods, and practical applications. This course is cross-listed with EGR 5023. Credit can be earned for only one of the following: BME 6313 or EGR 5023.

BME 6323 Bioinformatics
(3-0) 3 hours credit
Prerequisite: Graduate standing and permission of the instructor
This course is an introduction to algorithms and methods in bioinformatics, with special emphasis on computational molecular biology. Areas of study include fundamental topics such as sequence alignment, gene prediction, RNA secondary structure prediction, phylogenetic inference, gene regulation, microarray data analysis, and advanced topics such as biological network analysis and next-generation sequencing data analysis. This course is cross-listed with CS 5263. Credit can be earned for only one of the following: BME 6323 or CS 5263.

BME 6333 Stochastic Modeling in Bioengineering
(3-0) 3 hours credit
Prerequisite: Permission of the instructor
This course deals with development and application of probabilistic and uncertainty quantification methods in engineering. In particular, it covers random variable definitions, probability distributions, distribution selection, functions of random variables, numerical methods including Monte Carlo sampling, First Order Reliability Methods, component and systems reliability, and decision process under uncertainty. This course is cross-listed with ME 5543. Credit can be earned for only one of the following: BME 6333 or ME 5543.

BME 6343 Statistical Pattern Recognition and Data Mining in Biomedical Engineering
(3-0) 3 hours credit
Prerequisite: Completed BME 6333 and permission of the instructor
This course introduces the fundamental theories and algorithms of statistical classification, regression, and clustering including Bayesian networks, k-nearest neighbor classifier, linear classifier, decision tree, kernel approach for classification and regression, k-means clustering, and hierarchical clustering. Applications to, among others, modeling and analysis of gene regulation, cancer prognosis and diagnosis, gene function predictions, will be discussed in detail.

BME 6353 Computational Methods in Mass Spectrometry
(3-0) 3 hours credit
Prerequisite: Completed BME 6333 and permission of the instructor
This course will introduce basic computational processing methods of Mass Spectrometry (MS) for protein quantification and identification. Background topics includes protein, proteome, and proteomics; protein separation; protein digestion; peptide separation using HPLC; introduction to Mass Spectrometry. The course will focus on computational methods for protein identification and characterization by MS; tandem MS or MS/MS analysis; de novo sequencing and database searching; and quantitative proteomics.

BME 6363 Multi-Scale Computational Modeling of Biomedical Systems
(3-0) 3 hours credit
Prerequisite: Completed EE 3413 or EE 5143 and permission of the instructor
This course is an introduction to the mathematical modeling, simulation and analysis of the biological systems focusing on cardiovascular system. The proposed topics include: fundamental physical/biochemistry laws to model a biological system, current mathematical modeling methods, introduction to cardiovascular system with respect to LV functions, cellular functions, and gene expressions, applications of the modeling methods to cardiovascular system, simulation tools for biological system, and stability analysis and parameter sensitivity analysis of mathematical models for biological systems. This course is cross-listed with EE 5243. Credit can be earned for only one of the following: BME 6363 or EE 5243, Topic I.

BME 6513 Mechanical Behavior of Living Tissues
(3-0) 3 hours credit
Prerequisite: permission of the instructor
Stress strain relationships, viscoelasticity, mechanical
properties, and mechanical modeling of collagenous and mineralized human tissues will be addressed.

**BME 6524  Biological Laboratory Techniques in Biomedical Engineering**
*(1-3) 3 hours credit*

**Prerequisite: Permission of instructor and completion of ORTO 6004**

Emphasis for this course will be on optical and fluorescence microscopy of mammalian cells and tissues using sterile technique. Common cell-biomaterial characterization techniques will be performed including live/dead analysis, apoptosis, and quantification of cell signaling markers using immunological and advanced fluorescence assays with practical applications to biomaterial design.

**BME 6713  Biomedical Signal Processing**
*(2-0) 3 hours credit*

**Prerequisite: permission of the instructor**

Theory and classification of biological signals such as EEG, EKG, EMG, etc. Data acquisition and analysis procedures for biological signals, including computer applications.

**BME 6723  Bioinstrumentations**
*(1-3) 3 hours credit*

**Prerequisite: Permission of the instructor**

This course will cover fundamental principles of bioinstrumentation used in clinical and research measurements. Topics include: principles of transducer operation, amplifiers and signal processing, recording and display. Overview of specific examples in optical sensors, biological sensors, MRI, ultrasound, pacemakers and defibrillators.

**BME 6733  Fundamentals of Microfabrication and Application**
*(3-0) 3 hours credit*

**Prerequisite: Permission of the instructor**

This course describes the science of miniaturization which is essential for nanotechnology development. Micro-fabrication techniques for micro-electro-mechanical systems (MEMS), bioMEMS, microfluidics, and nanomaterials and their application in biomedical research will be covered.

**BME 6743  Fundamentals of Biophotonics**
*(3-0) 3 hours credit*

**Prerequisite: Permission of the instructor**

This course describes the fundamental principles of biophotonics and their wide range of applications in biomedical research. Topics will include fundamentals of light interactions with molecules, cells, and tissues, Optical Biosensing (Fiber-Optic Biosensors, Evanescent Wave Biosensors, Surface Plasmon Resonance Biosensors), Optical Imaging (Transmission Microscopy, Fluorescence Microscopy, Confocal Scanning Microscopy, Multiphoton Microscopy, Fluorescence Lifetime Imaging Microscopy), Flow Cytometry, Photodynamic Therapy, Laser Tweezers and Laser Scissors, and Nanotechnology for Biophotonics.

**BME 6753  Biosensors: Fundamentals and Applications**
*(3-0) 3 hours credit*

**Prerequisite: Permission of the instructor**

This course will cover biosensing basics and in-depth view of device design and performance analysis. Topics include optical, electrochemical, acoustic, piezoelectric, and biosensors. Emphasized applications in biomedical, environmental, and homeland security areas are discussed.

**BME 6793  Topics in Image and Signal Processing**
*(2-0) 3 hours credit*

**Prerequisite: permission of the instructor**

May be repeated for credit on a different topic of study.

**BME 6823  Biomechanics II**
*(2-0) 3 hours credit*

**Prerequisite: Graduate standing**

This course covers the biomechanics of biological tissue deformation and their constitutive equations. Topics may include elasticity, viscoelasticity, deformation, stress analysis, strain measurement, stress and strain in organs. Tissues covered may include heart, blood vessels, cartilage, and bone.

**BME 6893  Topics in Biomechanics**
*(2-0) 3 hours credit*

**Prerequisite: permission of the instructor**

May be repeated for credit on a different topic of study. (Same as ME 6893.) Credit cannot be earned for both BME 6893 and ME 6893 when the topic is the same.

**BME 6913  Biomaterials II**
*(3-0) 3 hours credit*

**Prerequisites: BME 5903 or BME 6903; and permission of the instructor.**

Application of biomaterials in medicine and dentistry will be emphasized.

**BME 6923  Tissue Engineering**
*(3-0) 3 hours credit*

**Prerequisite: Graduate standing**

This course is an introduction to the principles and current practice of tissue engineering endeavors. Strategies for choosing and using mammalian cells and scaffold biomaterials as well as select chemical and biophysical stimuli in order to obtain neotissue formation are reviewed in detail. Case studies are discussed to illustrate successful tissue engineering solutions of clinical problems pertinent to tissue regeneration. (Formerly BME 5923 and BME 6853. Credit can be earned for only one of the following: BME 5923, BME 6853, or BME 6923.)

**BME 6933  Tissue-Biomaterials Interaction**
*(3-0) 3 hours credit*

**Prerequisite: Graduate standing**

This course is an introduction to biocompatibility with special emphasis on the interaction of proteins, cells and tissues with biomaterials. Blood-material interactions are reviewed in detail. Case studies of implants are discussed to illustrate biomaterial selection as a key aspect to successful design of implant materials and prosthetic devices.

**BME 6943  Biomaterials and Cell Signaling**
*(3-0) 3 hours credit*

**Prerequisite: Graduate standing**

Develop current understanding of topics in cell receptors and signaling mechanisms with application for biomaterial design. Focus will emphasize receptor-ligand communication, methods
of identification and quantification, and pathways involved for cell to material stress response.

**BME 6953  Biomaterials for Drug Delivery/Pharmacology**

*(3-0) 3 hours credit*

**Prerequisite:** Graduate standing

Provides conceptual understanding of therapeutic agents used to regulate physiological function of cells comprising organ systems with relevance to biomaterials. Interpretation of drug mechanisms at a molecular, cellular and tissue level. Traditional reviews of pharmacodynamics and pharmacokinetics will be addressed with particular application to biomaterial interaction and drug-delivery systems.

**BME 6963  Fundamentals to Polymer Science with Select Biomedical Applications**

*(3-0) 3 hours credit*

**Prerequisite:** Graduate standing and BME.6903; or permission of the Instructor

This course introduces the fundamentals of polymer chemistry, characterization of the chemical and material properties, and determination of the biocompatibility of polymer formulations. Current applications of polymeric biomaterials in diagnostic and therapeutic devices, implants, tissue engineering and regenerative medicine are highlighted and discussed in detail.

**BME 6973  Current Analytical Tools for Biomaterials Characterizations**

*(1-3) 3 hours credit*

**Prerequisite:** Graduate standing and BME.6903; or permission of the Instructor

This course introduces the fundamentals of biomaterials characterizations and its limitations.

**BME 6993  Topics in Biomaterials**

*(3-0) 3 hours credit*

**Prerequisite:** permission of the instructor

May be repeated for credit on a different topic of study.

**CHE 5263  Advanced Analytical Chemistry**

*(3-0) 3 hours credit*

**Prerequisites:** CHE 3224 and 4253 or equivalents

The physical and chemical principles of modern instrumental techniques used for chemical analysis, with emphasis on absorption, emission, magnetic resonance, and Raman spectroscopies; mass spectrometry; chromatography; electrophoresis; and electrochemical techniques. (Formerly CHE 5163. Credit cannot be earned for both CHE 5263 and CHE 5163.)

**EE 5243  Topics in Systems and Control**

*(3-0) 3 hours credit*

**Prerequisite:** EE 5143

Topics may include the following:

**Topic 1:** Adaptive Systems and Control. Current methods in adaptive systems and control including stability, convergence, robustness, system identification, recursive parameter estimation, and design of parameterized controllers.

**Topic 2:** Multivariable Control Systems. Analysis and design of multivariable feedback systems, stability, performance, and robustness. Techniques may include LQG, Youla parameterization, and Nyquist-like methods.

**Topic 3:** Optimal Control. Optimal and suboptimal techniques for controller design using the principle of optimality, min-max principles, and induced norm minimization.

**Topic 4:** Nonlinear Control Systems. Nonlinear systems modeling, existence and uniqueness of solutions, phase plane analysis, Lyapunov stability, and advanced nonlinear techniques. May be repeated for credit as topics vary.

**EE 5263  Topics in Digital Signal Processing and Digital Filtering**

*(3-0) 3 hours credit*

**Prerequisite:** EE 5163 or consent of instructor

Topics may include the following:

**Topic 1:** Nonlinear Filters. Order statistic filters, morphological filters, stack/Boolean filters, and other related topics.

**Topic 2:** Adaptive Filtering. Adaptive linear combiners, adaptive lattices, adaptive quadratic methods, and other related topics.

**Topic 3:** Applications of DSP. Remote sensing, biomedical image analysis, underwater acoustics, video compression and processing, and analysis of biological signals.

**Topic 4:** Computer Vision. Image perception, parallel and sequential edge detection in the visual system, shape from shading, stereo vision, image segmentation by textural perception in humans, chain codes, B-splines, 3-D representations. May be repeated for credit as topics vary.

**EE 5353  Topics in Multimedia Signal Processing**

*(3-0) 3 hours credit*

**Prerequisites:** EE 5153 or 5163 or consent of instructor

Topics may include the following:

- **Topic 1:** Multimedia Signal Processing and Secure Communications. Signal representation systems and their based coders; the basic concepts of digital steganography and cryptography; multimedia data hiding and detection techniques; secure information transmission over mobile channels; the various object recognition techniques; and performance and effectiveness assessment.

- **Topic 2:** Digital Image Processing. Study of binary image processing; histogram and point operations; algebraic and geometric image operations; 2-D digital Fourier transforms; convolution; linear and nonlinear filtering; morphological filters; image enhancement; linear image restoration (deconvolution); digital image coding and compression; and digital image analysis. (Formerly EE 5363. Credit cannot be earned for both EE 5353 Topic 2 and EE 5363.)

- **Topic 3:** Computer Vision and Application. Image perception, edge detection in the visual system, future vectors, image enhancement, shape from shading, image segmentation by textural perception in humans, chain codes, B-splines, and classification (SVM and others).

- **Topic 4:** Biomedical Image Processing. Digital image fundamentals, digital image enhancement in the spatial domain, digital image enhancement in the frequency domain, optimal image filtration in the frequency domain,
image restoration and order-statistics filters, morphological image processing, processing of microarray images, segmentation and gene-expression calculation, processing of FISH stacked images, automated analysis of gene copy numbers by fluorescence in situ hybridization, and fundamental methods of image reconstruction by projections and their applications in computerized tomography.
(Same as BME 6703. Credit cannot be earned for both EE 5353 Topic 4 and BME 6703.)

- **Topic 5:** Development of Multimedia Applications for Wireless Devices. Programming on wireless systems. Multimedia (image, audio and video) formats. Multimedia Processing. Development of sample applications. May be repeated for credit as topics vary.

**EE 5463**  
**Artificial Neural Networks**  
(3-0) 3 hours credit  
Prerequisite: EE 5163 or consent of instructor  
Study of parallel optimization algorithms using Hopfield networks, perceptrons, backpropagation competitive systems, and other unsupervised techniques.

**EE 6343**  
**Advanced Topics in Systems and Control**  
(3-0) 3 hours credit  
Prerequisite: consent of Graduate Advisor of Record and Dissertation Director  
Current topics in the control area. May be repeated for credit as topics vary.

**EE 6363**  
**Advanced Topics in Signal Processing**  
(3-0) 3 hours credit  
Prerequisite: consent of Graduate Advisor of Record and Dissertation Director  
Current topics in the signal processing area. May be repeated for credit as topics vary.

**ME 5013**  
**Topics in Mechanical Engineering**  
(3-0) 3 hours credit  
Prerequisite: Graduate standing in engineering or consent of instructor  
Current topics in Mechanical Engineering. May be repeated for credit as topics vary.

**ME 5243**  
**Advanced Thermodynamics**  
(3-0) 3 hours credit  
Prerequisite: ME 3293 or an equivalent  
Concepts and postulates of macroscopic thermodynamics, formulation of thermodynamic principles, and stability of thermodynamic systems.

**ME 5413**  
**Advanced Solid Mechanics**  
(3-0) 3 hours credit  
Prerequisite: ME 3813 or an equivalent  
Variational mechanics, energy methods, elementary viscoelastic/plastic problems, and wave propagation.  
(Formerly EGR 5313. Credit cannot be earned for both ME 5413 and EGR 5543.)

**ME 5463**  
**Fracture Mechanics**  
(3-0) 3 hours credit  
Prerequisites: ME 3243 and 3813 or their equivalents  
Introduction to failure and fracture of engineering materials. Griffith’s energy balance, stress intensity and strain energy release rate approaches to brittle fracture, Dugdale and Irwin approaches to ductile fracture. Application to modern engineering materials. (Formerly EGR 5313. Credit cannot be earned for both ME 5463 and EGR 5313.)

**ME 5473**  
**Viscoelasticity**  
(3-0) 3 hours credit  
Prerequisite: ME 3813 or an equivalent  
Principle of fading memory, integro-differential constitutive laws, mechanical models, time and temperature superposition, and linear and nonlinear methods. Applications to polymers, composites, and adhesives. (Formerly EGR 5323. Credit cannot be earned for both ME 5473 and EGR 5323.)

**ME 5483**  
**Finite Element Methods**  
(3-0) 3 hours credit  
Prerequisite: Graduate standing in engineering or consent of instructor  
Derivation and computer implementation of the finite element method for the solution of boundary value problems.

**ME 5613**  
**Advanced Fluid Mechanics**  
(3-0) 3 hours credit  
Prerequisite: ME 3663 or an equivalent  
Dynamics of incompressible fluid mechanics viscous flow, Navier-Stokes equations, boundary layer theory, and numerical operations for incompressible fluid flow.

**ME 5653**  
**Computational Fluid Dynamics**  
(3-0) 3 hours credit  
Prerequisite: ME 3663 or an equivalent  
The mathematical models for fluid-flow simulations at various levels of approximation, basic description techniques, and the nature of flow equations and their boundary conditions.

**ME 5713**  
**Mechanical Behavior of Materials**  
(3-0) 3 hours credit  
Prerequisites: ME 3243 and 3813 or their equivalents  
Mechanical behavior of engineering materials (metals, alloys, ceramics, and polymers) elasticity, dislocation theory, strengthening mechanism, fracture, fatigue, creep, and oxidation.

**ME 5743**  
**Composite Materials**  
(3-0) 3 hours credit  
Prerequisites: ME 3243 and 3813 or their equivalents  
Introduction to mechanics of composites, micromechanics, macromechanics, lamination theory, design, and applications of fiber-reinforced composites and particulate composites. (Formerly EGR 5413. Credit cannot be earned for both ME 5743 and EGR 5413.)

**STA 5103**  
**Applied Statistics**  
(3-0) 3 hours credit  
Prerequisite: STA 3523 or consent of instructor  
Simple linear model, noncentral distributions, other graphical displays, correlation, multiple regression, nonlinear regression, one-way analysis of variance, fixed effects model, random effects model, higher-order classifications, mixed model, model selection, analysis of covariance, and regression formulation of classification models.
Other (Doctoral Research, Dissertation, Supervised Teaching, and Research Seminar)

The Health Science Center:
ORTO 5091  Independent Study
This course will be arranged through BME faculty. Topic and mode of study are to be agreed upon by student and instructor. Semester hours are variable and credit hours will be determined by topic. The course is offered all terms. The course may be repeated for credit when topics vary.
Semester Credit Hours: 0.5-3.0
Prerequisites: Graduate student standing and consent of instructor

ORTO 6071  Supervised Teaching
(equivalent to BME 6021 at UTSA)
Supervised teaching of undergraduate, graduate, medical/dental students, or clinical residents will be required for at least one semester. For example, students may be required to lecture at undergraduate courses at UTSA, or lecture to orthopaedic/dental residents about implants and materials at the Health Science Center. The exact nature of the teaching will be determined based on each student’s program of study.
Semester Credit Hours: 1.0
Prerequisites: admitted to candidacy and consent of the supervising professor, program director, and COGS chair

ORTO 6097  Research
(equivalent to BME 7951 at UTSA)
This course consists of independent, original research under the direction of a faculty advisor.
Semester Credit Hours: 1.0–9.0 Variable
Prerequisites: admission to candidacy for Master of Science degree

ORTO 7099  Dissertation
(equivalent to BME 7991 at UTSA)
Registration for at least two semesters (12 SCH) after admission to candidacy for the doctoral degree is required for Ph.D. candidates.
Semester Credit Hours: 1.0–9.0
Prerequisites: admission to candidacy for Doctor of Philosophy degree in Biomedical Engineering, and consent of supervising professor, program director, and COGS chair

UTSA:
See the UTSA Catalog for UTSA official, complete, and up-to-date course descriptions. The Health Science Center is not responsible for UTSA courses.

BME 6011 Research Seminar
(equivalent to ORTO 6090 at Health Science Center)
1-0 1 hour credit
Prerequisites: Graduate student standing; consent of instructor and the Graduate Advisor of Record
The seminar coordinator may require students to present their research.
May be repeated for credit. The grade report for the course is either “CR” (satisfactory performance) or “NC” (unsatisfactory performance).
(Formerly BME 5011 and BME 6991)

BME 6021 Supervised Teaching
(equivalent to ORTO 6071 at Health Science Center)
1 to 3 hours credit
Prerequisites: Doctoral student standing; consent of the instructor and the Graduate Advisor of Record
Supervised teaching of undergraduate or graduate students will be required for at least one semester. Students may be required to lecture at undergraduate courses or graduate courses in the field of their expertise. Students will work with the instructor of the course or with their research supervisor on the number of classes to be taught

BME 6051 Independent Study in Biomedical Engineering
(equivalent to ORTO 5091 at Health Science Center)
1 to 3 hours credit
Prerequisites: Graduate standing; consent of the instructor and of Graduate Advisor of Record
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of regular course offerings.
May be repeated for credit on a different topic of study, but no more than 6 credit hours, regardless of discipline, will apply toward the degree.

BME 7951 Doctoral Research
(equivalent to ORTO 6097 at Health Science Center)
1, 2, 3 or 6 Hours Credit
Prerequisites: Doctoral student standing; consent of instructor and of Graduate Advisor of Record
This course consists of independent, original research under the direction of a faculty advisor.
May be repeated for a maximum credit of 18 hours.

BME 7991 Doctoral Dissertation
(equivalent to ORTO 7099 at Health Science Center)
1, 2, 3 or 6 Hours Credit
Prerequisites: Admission to Doctoral candidacy; consent of the Graduate Advisor of Record and Dissertation Advisor
May be repeated for a maximum of 18 credit hours.
Cellular and Structural Biology

The graduate program in Cellular and Structural Biology provides a rewarding opportunity for students wishing to pursue either the M.S. or Ph.D. for preparation for a fulfilling career in biomedicine. Ph.D. students in Biology of Aging; Cancer Biology; Cell & Molecular Biology; and Genetics, Genomics & Development tracks of the Integrated Multidisciplinary Graduate Program (IMGP) are under the oversight of the Committee on Graduate Studies in Cellular and Structural Biology. Students may also apply for admission to an M.S. degree program in Cellular and Structural Biology.

The strength of our program is its diversity; faculty are performing state-of-the-art research in areas of animal models of human disease, cancer biology, development and reproduction, molecular basis of aging, molecular genetics, neurobiology and endocrinology, stem-cell biology, and the anatomical sciences. The curriculum and research experience are aimed at producing trainees with the technical competence and scholarly background to become independent investigators, capable of designing and executing programs of excellence in research and teaching.

All graduate students pursue a program of study designed to develop both their scholarly and laboratory aptitudes through one-on-one mentoring by the graduate faculty. In addition, in-depth instruction is also provided on effective seminar presentation as well as grant and manuscript preparation.

The majority of students in the Cellular and Structural Biology graduate program are seeking the Ph.D. degree. The doctoral program combines course work, seminars, journal clubs, and mentored research experiences. The Ph.D. degree is awarded when the candidate has demonstrated an ability to conduct original and independent research, is knowledgeable in the applicable areas of cell and molecular biology, and has completed a minimum of 72 semester credit hours of coursework. Also offered are three Master’s degree programs; one in the anatomical sciences, one in biotechnology, and the third in orthodontics. In all three, both research and academic skills are emphasized. For all M.S. students, an independent thesis and 30 hours of course work are required. There is considerable flexibility in the program in order to accommodate the needs and interests of the individual students.

Research Activities

The department has strong financial support for its basic research projects and has been consistently ranked among the top cell biology programs for funding from the National Institutes of Health. Additional research support has been derived from grants from the American Cancer Society, Veterans Administration, the Department of Defense, and other private foundations. While most Ph.D. students receive financial support during their tenure in the program, all are encouraged to apply for fellowships and grants; several have been successful in obtaining external funding.

A strength of the graduate program in Cellular and Structural Biology is its wide range of research foci. These include cell biology and cell signaling, developmental biology, cancer biology, aging, molecular immunology, human genetics, animal models, reproductive biology, endocrinology, neurobiology, and the anatomic sciences. State-of-the-art laboratories are equipped for biochemical, cellular, genomic, and recombinant DNA research. In addition, there are core facilities for the generation of stem cells, optical microscopy and imaging, genomics, and quantitative morphological analysis, which benefit all students and faculty in the program.

Many of the graduate faculty are members of the Barshop Institute for Longevity and Aging Studies, the Cancer Therapy and Research Center, and the Greehey Children's Cancer Research Institute. In addition, the graduate faculty members collaborate extensively with individuals from clinical departments in the dental, medical, and nursing schools. Such interactions are particularly important in facilitating human-oriented and translational research programs. Students have the opportunity to gain teaching experience by assisting with courses offered by the department to graduate, medical, health professions, and dental school students.

Requirements for Admission

The Ph.D. students are admitted to graduate school under the IMGP. M.S. students apply directly to the Department of Cellular and Structural Biology.

For the M.S. program:

Completed applications, including scores on the Graduate Record Examination (GRE) General (Aptitude) Test, certified transcripts of all college work, a letter from the applicant stating her/his objectives in graduate study, and three letters of recommendation must be received before March 15 in order for the applicant to be considered for admission the following August. Early application is strongly recommended.

A GPA score of 3.0 and a competitive score on the GRE Aptitude Test (current average is 1100) and previous research experience are preferred. Applicants must have a bachelor’s degree or an equivalent degree and credit for the following courses:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>Biology</td>
<td>Two years as required for science majors</td>
</tr>
<tr>
<td>Chemistry</td>
<td>One year of general inorganic and a course in organic chemistry</td>
</tr>
<tr>
<td>Physics</td>
<td>One year as required for science majors</td>
</tr>
<tr>
<td>Mathematics</td>
<td>At least one semester of calculus</td>
</tr>
</tbody>
</table>

In unusual cases, students who do not meet all of the above requirements may be considered for admission.

Curriculum for M.S. Candidates

The graduate program in Cellular and Structural Biology offers a Master’s Degree in Biomedical Sciences in which a student may follow one of three previously noted basic tracks. The Biotechnology track is designed for the student who is interested in technical and/or supervisor positions in
biotechnology companies, forensic labs, or in academic positions that require extensive knowledge of molecular biology. By comparison, the Anatomy track is geared towards an individual interested in teaching anatomical sciences; both research and educational skills are emphasized. Students in the Orthodontics track have previously received the D.D.S. degree or its equivalent and are enrolled in the postgraduate program in the Department of Orthodontics. They a) complete required course work and laboratory research training, and b) demonstrate their clinical expertise before being awarded the M.S. degree and establishing a private practice or entering academic dentistry.

Curriculum for Ph.D. Candidates

The majority of students in the graduate program are seeking the Ph.D. degree. Four of the IMGP tracks are housed in Cellular and Structural Biology: Biology of Aging; Cancer Biology; Cell & Molecular Biology; and Genetics, Genomics and Development. The program combines coursework, seminars, journal clubs, and mentored research experiences. The student is admitted to candidacy after completing required coursework, passing an oral qualifying exam, and demonstrating proficiency in independent laboratory research. The qualifying examination is based on a grant proposal written by the student and covers general scientific knowledge as well. The Ph.D. degree is awarded when the candidate has demonstrated an ability to conduct original and independent research, is knowledgeable in the general areas of molecular cell biology and her/his specialization, and has completed a minimum of 72 semester credit hours of course work.

The Ph.D. typically requires 4–6 years of training. In the first year of study, Ph.D. students are in the general IMGP program. They must complete the core course, Fundamentals of Biomedical Sciences (INTD 5000). During this time, they must also complete laboratory rotations and identify a mentor. All four tracks in the Cellular and Structural Biology program share common curricular elements. The students in our program are required to take Colloquium, a course designed to familiarize them with reading and presenting scientific literature. In addition, all students take a statistics course, Experimental Design and Data Analysis and a scientific writing course. Each track has a required core course in the given area of specialization. Additional required and elective courses are taken to augment the research training. In addition, Ph.D. students are expected to teach one semester in one of the graduate or professional courses offered by the department. The overall program is designed to produce a diversely educated and talented scientist who will be able to choose among career opportunities in industry, education, or other arenas.

Financial Support for Graduate Students

Currently, students pursuing Ph.D. degrees in the Graduate Program are supported by training grants from the National Institutes of Health and the Cancer Prevention and Research Institute of Texas (CPRIT), research grants of faculty, and state stipends. The current stipend is $26,000 per year.

Postgraduate Positions for Program Graduates

Graduates have successfully competed for postdoctoral fellowships at prestigious institutions and for positions in top-notch biotech companies, including the National Institutes of Health, Abbott Laboratories, Burroughs-Wellcome, and world-class universities. This has allowed them to successfully obtain rewarding research or teaching positions in either an academic or industrial setting. Others have chosen alternative opportunities, such as patent law, medical school, or dental school.

Courses Required for All Cellular and Structural Biology Tracks

IMGP Courses

INTD 5000 Fundamentals of Biomedical Sciences

This core course covers the fundamentals of biochemistry, molecular biology, cell biology, organismal and systems biology, and microbiology and immunology. The course is designed for first-year graduate students matriculating into the Integrated Multidisciplinary Graduate Program.

Semester Credit Hours: 8.0

Prerequisites: Consent of instructor

INTD 5008 Laboratory Rotations

This course provides an opportunity for students to participate in research activities in the laboratories of faculty members in different tracks to learn laboratory skills and to gain an introduction to the research fields of faculty members.

Semester Credit Hours: 2.0

INTD 6002 Ethics in Research

This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.

Semester Credit Hours: 0.5

Cellular & Structural Biology Courses

CSBL 5077 Scientific Writing

This course will provide students with the opportunity to develop skills in scientific writing and the presentation of research results. It will emphasize learning-by-doing and re-doing. Students will be required to write something every week. The capstone project for students will be to write a grant proposal and defend it in front of the class. One hour per week will be devoted to lecture and critique of published work. The other hour will consist of critique and revision of student writing by other students, as well as by the course director. Topics to be covered include the following: (1) fundamentals of writing clearly, (2) principles of revision, (3) effective presentation of data, (4) fundamentals of oral presentation, (5) writing/presenting to the appropriate audience, (6) how to write background/introductory sections, (7) how to write materials
and methods, (8) how to write the discussion section, and (9) how to constructively critique one’s own and others’ writing.

Semester Credit Hours: 2.0

CSBL 5089   Graduate Colloquium
This course is designed to provide graduate students with training in evaluating the scientific literature and in presentation of research in a seminar or journal club format. The course will focus on critical thinking, including evaluation of existing literature, interpretation of experimental results, and comparison of alternative models and interpretations. These tools are essential both for oral presentations and for writing grant proposals and manuscripts. Emphasis will be placed on evaluation of the science, organization of the manuscript, and on oral presentation skills.  

Semester Credit Hours: 2.0

CSBL 5095   Experimental Design and Data Analysis
The purpose of the course is to provide an introduction to experimental design and statistical analysis. The emphasis of the course will be on the selection and application of proper tests of statistical significance. Practical experience will be provided in the use of both parametric and nonparametric methods of statistical evaluation. Among the topics to be covered are the following: data reduction; types of distributions; hypothesis testing; scales of measurement; chi square analysis; the special case of the comparison of two groups; analysis of variance; a posteriori multiple range tests; tests of the assumptions of parametric analyses; advanced forms of the analysis of variance; linear regression, and correlation analysis. This course will be partially conducted online; therefore, access to a computer with Web access is required. A camera and microphone/headphone attached to the computer will enhance the learning experience.  

Semester Credit Hours: 2.0

CSBL 6097   Research
Independent, original research under the direction of a faculty advisor.  

Semester Credit Hours: 1.0–9.0

Courses Suggested for All Cellular and Structural Biology Tracks

CSBL 5007   Methods in Cell Biology
Through a combination of lectures and demonstrations, the instructors will introduce students to techniques that are currently being used in cellular biology laboratories. The emphasis will be on the applications themselves, their uses, limitations, and the necessary controls. The following topic areas will be covered: imaging and microscopy; immunological techniques; bioinformatics (DNA and protein); rodent anatomy and histology; cytogenetics; and in vitro cell growth and transfection.  

Semester Credit Hours: 1.0

Track-Specific Requirements

Biology of Aging Track

CSBL 6048   Biology of Aging
Required for Biology of Aging Track; also offered as two individual Modules—CSBL 6049 Molecular & Cellular Homeostasis & Aging, and CSBL 6050 Systems Homeostasis & Aging  

Semester Credit Hours: 4.0

Prerequisites: required for Biology of Aging Track; elective for others

Also offered as two individual modules:

CSBL 6049   Molecular and Cellular Homeostasis & Aging
Module 1: This course provides up-to-date information on the current understanding of the impact of aging on Molecular And Cellular Processes. The focus is on investigation of specific mechanisms of aging. Experimental design and analysis, including pros and cons of approaches used to gain knowledge and how to appropriately interpret data, will be discussed throughout the course. The relationship between age-related changes in function and potential contributions to adult diseases will be discussed.  

Semester Credit Hours: 2.0

CSBL 6050   Systems Homeostasis and Aging
Module 2: The systems within an animal interact to maintain survival throughout adulthood, though declines in function as a result of age occur. Insights on organismic aging have been gained via comparative biology, genetics and environmental manipulations. The course will focus on recent findings in the dissection of specific mechanisms of aging in model organisms. Knowledge gained of integrated physiological systems will be related to human aging and age-related diseases.  

Semester Credit Hours: 2.0
Cancer Biology Track

CSBL 6068 Cancer Biology Core I
This course reviews topics in molecular and cellular biology of importance to molecular oncology. Topics examined include oncogenes, tumor suppressor genes, apoptosis, control of cell cycle regulation, and control of cellular growth and proliferation. The goal of the course is to prepare graduate students to critically evaluate published research in molecular oncology. Required for Cancer Biology Track.
Semester Credit Hours: 2.0
Prerequisites: Cancer Biology Core I

CSBL 6069 Cancer Biology Core II
This course is designed to provide an overview of the molecular alterations identified in the most common cancer types in humans. The general guidelines on recent diagnosis and therapeutic advances in oncology will be presented. In addition, it will offer an overview on special populations affected by cancers or by less frequent but biologically informative cancers and basic concepts related to experimental tools relevant to cancer biology, including mouse models of tumors and molecular profiling. The conceptual notions on clinical trials of cancer drugs and the process of development of novel therapeutic drugs in cancer will be discussed. Required for Cancer Biology Track.
Semester Credit Hours: 2.0
Prerequisites: Cancer Biology Core I

Cell & Molecular Biology Track

INTD 5007 Advanced Cell and Molecular Biology
Required for Cell and Molecular Biology Track; also offered as three individual modules—INTD 6007 Advanced Cell and Molecular Biology: Cell Signaling, INTD 6008 Advanced Cell and Molecular Biology: Mitochondria & Apoptosis, and INTD 6009 Advanced Cell and Molecular Biology: DNA Damage and Cell Cycle
This course offers students the opportunity to gain in-depth fundamentals of cell and molecular biology necessary to critically read, understand, and evaluate the current research on each of the topics covered. The topics include cell surface receptor-mediated signal transduction, nuclear receptor signaling, mitochondria and apoptosis, stem cell and differentiation, and DNA damage response and cell cycle checkpoints. An important focus of this course is to help students bridge the gap between didactic learning and analytical thinking as a graduate student. The course faculty uses a variety of techniques to introduce students to a critical reading and discussion of the current research literature.
Semester Credit Hours: 3.0
Prerequisites: INTD 5006 or special permission from the instructor
Also offered as three individual modules:
   INTD 6007 Advanced Cell and Molecular Biology: Cell Signaling
   This is a 6-week course that represents one-third of INTD 5007 Advanced Cell and Molecular Biology. This module will focus in depth on Cell Signaling. The lectures will cover signal transduction of various cytokines and growth factors via cell surface receptors and steroid hormone signaling to the nucleus. The emphasis will be on the molecular mechanism of signaling in the regulation of cellular function. The overall format of the course is the same as INTD 5007. This advanced course provides a unique learning experience that prepares the student to evaluate and design new research in the cutting-edge areas of modern cell biology and molecular biology. Instead of a didactic program of lectures, the entire course comprises a small-group format in which students interact closely with a group of faculty who have active research programs. In each module, faculty provide students with a brief overview of the research area. Students and faculty will then jointly discuss key publications that serve to bridge the gap between the students’ prior understanding of the field and the state of the art in that area.
   Semester Credit Hours: 1.0

INTD 6008 Advanced Cell and Molecular Biology: Mitochondria and Apoptosis
This is a 6-week course that represents one-third of INTD 5007 Advanced Cell and Molecular Biology. This module will focus in depth on Mitochondria and Apoptosis. Topics will include: Mitochondria and Respiration; Mitochondria and Reactive Oxygen Species; Mitochondria and Apoptosis. The overall format of the course is planned to be the same as INTD 5007. This advanced course provides the opportunity for a unique learning experience where the student can prepare to evaluate and design new research in the cutting-edge areas of modern cell biology and molecular biology. Instead of a didactic program of lectures, the entire course comprises a small-group format in which students interact closely with a group of faculty who have active research programs. In each module, faculty provide students with a brief overview of the research area. Students and faculty will then jointly discuss key publications that serve to bridge the gap between the student’s prior understanding of the field and the state of the art in that area.
   Semester Credit Hours: 1.0

INTD 6009 Advanced Cell and Molecular Biology: DNA Damage and Cell Cycle
This is a 6-week course that represents one-third of INTD 5007 Advanced Cell and Molecular Biology. This module is focused on the Cell Cycle and DNA Damage Responses. Topics will include: Cell cycle regulation, checkpoint control and responses to DNA damage. The overall format of the course is planned to be the same as INTD 5007. This advanced course provides the opportunity for a unique learning experience where the student can prepare to evaluate and design new research in the cutting-edge areas of modern cell biology and molecular biology. Instead of a didactic program of lectures, the entire course comprises a small-group format in which students interact closely with a group of faculty who have active research programs. In each module, faculty provide students with a brief overview of the research area. Students and faculty will then jointly discuss key publications that serve to bridge the gap between the student’s prior understanding of the field and the state of the art in that area.
   Semester Credit Hours: 1.0
CSBL 6074  Molecular Aspects of Epigenetics

The purpose of this course is to develop an understanding of the molecular aspects of epigenetics. This advanced course will be a unique learning experience with the goal of preparing students to evaluate and design new research in the areas of epigenetic processes including imprinting, gene slicing, X chromosome inactivation, position effect, reprogramming, and the process of tumorigenesis. This module concerns epigenetic mechanisms. Topics include: DNA methylation, histone modifications, epigenetics and stem cells, cancer epigenetics, RNA interference and epigenetics, bioinformatics and epigenetics, and translational epigenetics. This course will include a didactic program and student discussion. For the student discussion module, faculty and students will jointly discuss key publications that serve to bridge the gap between the students’ prior understanding of the field and the state of the art in that area.

*Semester Credit Hours: 2.0*

**Genetics, Genomics & Development Track**

CSBL 6064  Genes and Development

*Required for the Genetics, Genomics & Development Track; also offered as four individual modules: CSBL 5023 Development, CSBL 5024 Genomics, CSBL 5025 Genetics, and CSBL 5026 Stem Cell Biology*

Genes and Development is the core course of the Genetics, Genomics, and Development Track. The course consists of four modules: genetics, genomics, developmental biology, and stem cell biology. Basic concepts in genetics such as cytogenetics, mitochondrial genetics, cancer genetics, linkage analysis, complex traits, population genetics, animal models, sex determination, and epigenetics will be presented. The genomics section will include historical aspects of the genome project and high throughput analysis. The students are introduced to new techniques in global analysis as well as have hands-on experience. The developmental biology section provides a survey of concepts in developmental biology (induction, cell-cell interactions, morphogen gradients, morphogenetic movements, transcriptional regulation, organogenesis) using experimental examples from both invertebrate and vertebrate embryos. The stem cell biology section includes the following topics: basic biology of stem cells, including embryonic stem cells, adult stem cells, stem cells in different tissues and model systems; microenvironment-mediated and epigenetic regulators of stem cells; stem cells in medicine, including regenerative medicine, cancer, and aging; and ethics. Required for the Genetics, Genomics & Development Track.

*Semester Credit Hours: 4.0*

**Also offered as four individual modules:**

- **CSBL 5023 Development**
  The course provides a survey of concepts in developmental biology (induction, cell-cell interactions, morphogen gradients, morphogenetic movements, transcriptional regulation, organogenesis) using experimental examples from both invertebrate and vertebrate embryos. The first set of lectures will focus on gametogenesis, fertilization, and early developmental events, such as cleavage, midblastula transition, gastrulation, and axis formation. The second set of lectures will explore the fates of germ layers in the contexts of cell type-specific differentiation and cell-cell interactions during organogenesis.
  *Semester Credit Hours: 1.0*

- **CSBL 5024 Genomics**
  This course covers historical aspects of the Genomic project and high throughput methods (microarray, SAGE, proteomics, etc.) to perform global analysis of gene expression; the course also provides an overview of new biological fields such as systems biology, functional genomics, and comparative genomics. The students will have the opportunity to become familiarized with tools, methods, databases, and approaches used to extract biological information from global analyses. Hands-on training on biological databases and classes covering examples of the use of genomics to answer questions related to cancer and diseases is an important part of the course, helping the students to visualize how genomics can be used in their own research projects.
  *Semester Credit Hours: 1.0*

- **CSBL 5025 Genetics**
  This course is designed to provide an overview of genetic research. Topics to be covered include: cytogenetics, mitochondrial genetics, cancer genetics, linkage analysis, complex traits, population genetics, animal models, sex determination, and epigenetics.
  *Semester Credit Hours: 1.0*

- **CSBL 5026 Stem Cell Biology**
  This course is an up-to-date overview on current topics in stem cell biology. It is intended for the (future) basic scientist who is interested in studying the regulatory mechanisms of stem cells as well as for the (future) clinician who is interested in how stem cell biology will continue to impact patient’s care. Topics that will be discussed are: (1) basic biology and stem cells, including embryonic stem cells, adult stem cells, stem cells in different tissues and model systems; (2) microenvironment-mediated; (3) epigenetic regulators of stem cells; (4) stem cells in medicine, including regenerative medicine, cancer and aging; and (5) ethics.
  *Semester Credit Hours: 1.0*

**Electives for CSBL Tracks**

**Any of the Track Core courses:**

- **Track Electives – Biology of Aging**

- **Track Electives – Cancer Biology**

CSBL 6073  Selective Topics in Oncology: Gynecological Cancers

This is an advanced elective course for the Cancer Biology Track that provides a unique learning experience that prepares students in the emerging research areas of gynecological cancers for Graduate School designing research experiments using pre-clinical and clinical introductory research materials. The entire course comprises a small-group format in which students interact closely with a group of faculty who has active research or
clinical program focusing on molecular, clinical and therapeutic areas of gynecological cancers.

Semester Credit Hours: 2.0

CSBL 6074 Molecular Aspects of Epigenetics
The purpose of this course is to develop an understanding of the molecular aspects of epigenetics. This Advanced Course will provide a unique learning experience that prepares the student to evaluate and design new research in the areas of epigenetic processes including imprinting, gene silencing, X chromosome inactivation, position effect, reprogramming and the progress of tumorigenesis. This module concerns epigenetic mechanisms. Topic will include: DNA methylation, Histone modifications, Epigenetics and stem cells, Cancer epigenetics, RNA interference and epigenetics, Bioinformatics of epigenetics and Translational epigenetics. This course will be covered by didactic program as well as student discussion. For the student discussion module, faculty and students will jointly discuss key publications that serve to bridge the gap between the students’ prior understanding of the field and the state of the art in that area.

Semester Credit Hours: 2.0

Other Departmental Electives

CSBL 5083 Practical Optical Microscopy
This course will be a one-hour elective for graduate students consisting of eight (8) one-hour lectures plus eight (8) one-hour laboratories. The course focuses on the practical aspects of using optical microscopes. The objectives are to teach students the fundamental principles of optical microscopy and to provide them with hands-on experience using the optical instrumentation in the Institutional Imaging Core.

Semester Credit Hours: 1.0

CSBL 6021 Animal Models
The relevant biology, applicability, and practical use of a number of animal models to biomedical research is covered. Invertebrate (e.g., C. elegans) and vertebrate (e.g., fish and rodents) model systems are included in the course. Strengths and weaknesses of each organism that render them particularly valuable as animal models are emphasized. Experimental approaches and tools that are utilized in conjunction with each animal model are rigorously examined. The course is taught from primary scientific literature using classic historical publications and recent publications.

Semester Credit Hours: 3.0

CSBL 6165 Medical Genetics
This course provides an introduction to the basic concepts of medical genetics and current areas of medical genetic research. The course reviews basic genetic concepts including the principles of Mendelian and nontraditional inheritance, cytogenetics, molecular genetics, quantitative and population genetics, and discuss important medical aspects of genetic counseling and pedigree analysis, dysmorphology, cancer genetics and counseling for inherited cancers, developmental genetics, prenatal diagnosis, newborn screening, and pharmacogenetics. Diagnosis and current research toward treatment and cure of common genetic disorders affecting metabolism, reproduction, the endocrine system, the functioning of the eye and the nervous system are discussed. An important aspect of the course will be a discussion of ethical issues in medical genetics. A basic background in genetics, cell biology, and biochemistry is assumed.

Semester Credit Hours: 3.0

Prerequisites: A basic background in genetics, cell biology, and biochemistry

CSBL 5013 Gross Anatomy
The History of Anatomy course is designed to acquaint medical, dental and graduate students with the history of medicine and especially with the physicians and scientists who made essential discoveries in human anatomy. Using a biographical approach, the course is presented as a seminar with lectures, assigned readings and student presentations.

Semester Credit Hours: 2.5

CSBL 5020 Dental Neuroscience
This course will present the student with the basics of neuroanatomy underlying somatosensory perception, special senses, orofacial reflexes, and common neurological disorders. The emphasis will be on neuroanatomical pathways relevant to the head and neck, especially those mediated by the trigeminal system. The course will also include consideration of motor pathways and special senses, disorders of which will necessarily influence treatment plans developed by future dental practitioners. Acquisition of a basic understanding of the neuroanatomical pathways will be reinforced by laboratory sessions with representative images of the brain and sections of the spinal cord.

Semester Credit Hours: 1.5

CSBL 5032 Dental Histology
Through lectures, demonstrations, and laboratory work, students in this course will be given the opportunity to study the microscopic structure of the basic tissues and organs of the human body, followed by details of the embryologic development and microscopic structure of the various organs of the oral cavity. Current concepts in cellular biology are presented during the portion of the course in which they are most relevant. The general purpose of this course is to give students the opportunity to become acquainted with the basic embryology, cytology, and histology of normal human tissues and organs, thereby providing a foundation of knowledge for the understanding of normal activity and disease processes.

Lab fee: $125

Semester Credit Hours: 5.0

CSBL 6015 Selected Topics in Oncology: Gynecological Cancers
This advanced elective course for the Cancer Biology Track provides a unique learning experience intended to prepare students in the emerging research areas of gynecological cancers for designing research experiments using pre-clinical and clinical research materials. The entire course comprises a small-group format in which students interact closely with a group of faculty who has active research or clinical programs.
focusing on molecular, clinical, and therapeutic areas of gynecological cancers.

Semester Credit Hours: 2.0

CSBL 6073  Selective Topics in Oncology: Gynecological Cancers
This is an advanced elective course for the Cancer Biology Track. The course is a unique learning experience in preparing students in the emerging research areas of gynecological cancers for designing research experiments using preclinical and clinical research materials. The entire course is a small-group format in which student interact closely with a group of faculty who have active research or clinical programs focusing

on molecular, clinical, and therapeutic areas of gynecological cancers.

Semester Credit Hours: 2.0

CSBL 6094  Advanced Neuroanatomy
This course in neuroanatomy is offered to graduate students seeking to advance their knowledge beyond the fundamental level. The course consists of reading from more advanced texts and current anatomical literature as well as dissection of deep white matter tracts within the cortex. The student must also complete a 20-page paper on a neuroanatomical topic.

Semester Credit Hours: 0.5-2.0
Clinical Investigation

The Master of Science Degree Program in Clinical Investigation (MSCI) trains clinicians and health care professionals in the conduct of clinical investigations. Applicants to the Clinical Investigation program must provide proof of a degree in medicine, dentistry, graduate nursing, health professions, or evidence of concurrent enrollment in the Graduate School of Biomedical Sciences. A GRE score is not required for applicants who have completed a graduate degree in a health-related discipline (MD, DDS, RN, or PhD). Enrollees in the MSCI Program must complete a mentored research project over two years while participating in a highly integrated set of didactic courses leading to the MSCI degree. The proposed courses are:

- Responsible Conduct of Patient-Oriented Clinical Research
- Patient-Oriented Clinical Research Methods-I
- Patient-Oriented Clinical Research Biostatistics-I
- Integration of Molecular Biology with Patient-Oriented Clinical Research
- Data Management, Quality Control, and Regulatory Issues
- Scientific Communication
- Patient-Oriented Clinical Research Methods-II
- Patient-Oriented Clinical Research Biostatistics-II
- Health Services Research

Students will have the opportunity to become expert in the design and conduct of outstanding multidisciplinary patient-oriented research studies involving direct interaction with human subjects in culturally diverse settings.

Clinical Investigation Courses

**MEDI 5070  Responsible Conduct of Patient-Oriented Clinical Research**

This interdisciplinary course is designed to train participants in the responsible conduct of patient-oriented clinical research. Students will have the opportunity to learn to and, by the end of the course, be required to: (1) delineate a history of hallmark abuses of humans enrolled in clinical research, (2) describe the evolution of national and international codes and regulations guiding inclusion of human subjects in clinical investigations, (3) list the elements of informed consent and describe procedures and precautions for enrolling special populations into clinical investigation, (4) write a consent form in understandable language, (5) recognize different forms of scientific misconduct, (6) describe the role and processes of a peer review board to judge violations in research ethics, (7) develop strategies for self-assessment and validation of scientific objectivity in one’s own research, and (8) recognize the ethical responsibilities and consequences of whistle blowing.

*Semester Credit Hours: 2.0*

**MEDI 5071  Patient-Oriented Clinical Research Methods-I**

This interdisciplinary course is the first in a two-semester sequence designed to train participants in the conduct of patient-oriented clinical research. Students will have the opportunity to learn to and, by the end of the course, be required to: (1) define a research question, (2) effectively conduct a systematic review of the scientific literature, (3) design strategies for recruitment into a study, (4) delineate strategies for minimizing bias in cross-sectional and retrospective studies, and (5) read and interpret research reports of cross-sectional and case-control investigations.

*Semester Credit Hours: 2.0*

**MEDI 5072  Patient-Oriented Clinical Research Biostatistics-I**

This interdisciplinary course is the first in a two-semester sequence designed to train participants in the analysis and biostatistics of patient-oriented clinical research. Students will have the opportunity to learn to and, by the end of the course, be required to: (1) identify and summarize different categories of data; (2) set up and perform tests of hypotheses; (3) estimate sample sizes for survey and case-control studies; and (4) use statistical software packages to enter, summarize, graph, visualize, and analyze data.

*Semester Credit Hours: 2.0*

**MEDI 5073  Integrating Molecular Biology with Patient-Oriented Clinical Research**

This interdisciplinary course is designed to train participants on integrating molecular biology methods into patient-oriented clinical research. Students will have the opportunity to learn to: (1) appropriately use molecular terms in clinical investigation; (2) describe the events involved in protein synthesis; (3) describe the principles involved in molecular techniques (e.g., polymerase chain reactions, southern blots); (4) identify the appropriate specimens, collection, and handling requirements for each molecular technique; (5) identify and correct common sources of error in performing molecular techniques; (6) cite examples of clinical applications of molecular techniques in clinical medicine; and (7) apply molecular techniques in the laboratory to specific clinical problems.

*Semester Credit Hours: 2.0*

**MEDI 5074  Data Management, Quality Control, and Regulatory Issues**

This interdisciplinary course is designed to train participants in the necessary data management and quality control procedures required for the conduct of patient-oriented clinical research. It consists of three segments:

**Introduction to data management principles and standard practices:**

Students will have the opportunity to learn to describe trends and best practices in informatics for the organization of biomedical and health information. They will have the opportunity to learn and practice:

- Key data-management principles, and 6 habits of effective clinical investigators
- Use of both spreadsheets and relational database management systems for the creation and management of traditional-scale datasets for translational research
- Implementation of quality assurance systems for data collection and management for research projects. Development of the following for the student’s own mentored research:
  - A data dictionary for the project and a manual of operations describing staff training requirements for data collection and
- A budget for the data management elements of the project.

Introduction to bioinformatics:
- Be able to discuss the role of bioinformatics in dealing with high-dimension datasets, and current strategies for dealing with massive datasets, such as are required for genetic and proteomic data;
- Be introduced to bioinformatics specialists – both within and outside the institution – with who collaborations can develop for the design, development, and implementation of future research projects and data management systems;
- Be able to describe the essential function of the electronic health record, barriers to its use, and the impact of health information technology standards on interoperability of clinical systems, including health IT messaging.

**MEDI 5075 Scientific Communication**
This interdisciplinary course is designed to train participants to write effectively in all aspects of conducting patient-oriented clinical research. Students will have the opportunity to learn to and, by the end of the course, be required to: (1) recognize and avoid errors in grammar, punctuation, and usage that are common in scientific writing; (2) construct units of writing whose structure, style, and logical continuity allows instant and clear comprehension; (3) construct concise, informative titles; (4) develop clear, comprehensive, abstracts for papers and grant proposals; (5) construct complete, well-rationalized sets of specific aims for grant proposals; and (6) effectively apply the 4-Point Rule (What is the question? How did we approach it? What happened? What does it mean?) to all forms of scientific writing.

**MEDI 5076 Introduction to Informatics**
This elective course is designed to serve the interests of practicing clinicians who are pursuing a career in clinical investigations. In this course, students will be introduced to widely available tools online and UT Health Science Center at San Antonio resources. They will become familiar with some of the guiding principles and current issues in informatics. The students will occasionally participate in practicum sessions that will give them hands-on experience with the resources discussed in the class as well as have an opportunity to discuss Ethical, Social, and Legal Issues (ESLI) surrounding informatics today.

**Semester Credit Hours: 1.0**

**MEDI 5077 Practicum in Translational Science**
This elective course provides an opportunity for participation in unique clinical and translational research activities that are highly individualized for each student on the basis of prior experience and research interests.

**Semester Credit Hours: 1.0–3.0**

**MEDI 6001 Introduction to Translational Science**
This elective course provides an in-depth overview of the essential components encompassed by translational science. Content is provided through a series of lectures, assigned readings, literature reviews, class presentations, and discussions with faculty.

**Semester Credit Hours: 1.0**

**MEDI 6060 Patient-Oriented Clinical Research Methods-2**
This interdisciplinary course is the second in a two-semester sequence designed to train participants in the conduct of patient-oriented clinical research. Students will have the opportunity to learn to and, by the end of the course, be required to: (1) define criteria for inferring causation from observational studies; (2) design strategies for subject retention in a prospective study; (3) design strategies for monitoring progress in a randomized control trial; (4) delineate strategies for minimizing bias in cohort studies and randomized control trials; (5) compare and contrast the uses, strengths, and weaknesses of different clinical trial designs; (6) read and interpret research reports of cohort studies and randomized control trials; and (7) describe the steps in conducting a meta-analysis.

**Semester Credit Hours: 2.0**

**Prerequisites: MEDI 5071**

**MEDI 6061 Patient-Oriented Clinical Research Biostatistics-2**
This interdisciplinary course is the second in a two-semester sequence designed to train participants in the biostatistical analysis and patient-oriented clinical research. Students will have the opportunity to learn to and, by the end of the course, be required to: (1) perform a two-way analysis of variance and explain the results; (2) perform survival analysis; (3) compare and contrast the purpose and characteristics of different forms of interventional trials; and (4) plan the sample size, analysis, and stopping rules of a randomized clinical trial.

**Semester Credit Hours: 2.0**

**Prerequisites: MEDI 5072**

**MEDI 6064 Grantsmanship and Peer Review**
The purpose of this elective course is to provide an overview of the peer review process for research proposals as well as the essential components of grant management. Lecture and assignment topics will include: (1) funding agencies, missions, deadlines, and instruction; (2) Institutional Grantsmanship Issues; (3) National Institutes of Health (NIH) Organization (Institutes, Councils, Centers, and Budgets); (4) NIH Awards and Study Sections; (5) process and communications with the NIH; (6) interpreting and responding to written critiques; (7)
mock study section meeting; and (8) grantsmanship after funding.  
Semester Credit Hours: 1.0

**MEDI 6065 Health Services Research**  
This course focuses on concepts and methods used in research focusing on health care quality, utilization, access, and safety. The seminar will utilize skills-based learning, small group activities, and outside assignments. By the end of the course, candidates will be required to:

- Articulate underlying core concepts.
- Describe basic methods used in health services research.
- Identify relevant databases and data sources for health services research.
- Critically appraise and interpret published reports of health services research.
- Discuss current issues in HSR.
- Understand how to incorporate health services concepts, methods, or tools into current research.  
Semester Credit Hours: 2.0  
Prerequisites: MEDI 5071 and 6060

**MEDI 6066 Instrument Development and Validation**  
This elective course introduces methods to develop and evaluate self-report measures. The seminar is built on classical test theory with a focus on the practice of creative surveys. Participants should be able to (1) estimate various forms of reliability, (2) demonstrate various forms of validity evidence, and (3) explain how statistical analyses may be used to inform the validation process.  
Semester Credit Hours: 1.0

**MEDI 6067 Genetics and Genetic Epidemiology**  
The main objective of this elective course is to familiarize students with current concepts and methods used in patient-oriented genetic studies. The class is oriented toward all health professionals – no prior genetics coursework is required. Topics include a review of the human genome structure followed by lectures and discussion on current research areas such as genetic epidemiologic studies, applications of microarray technologies, and pharmacogenomics. By the end of the course, candidates will have had the opportunity to learn to do the following: 1) articulate basic concepts and current analytical methods used for human genetics research, 2) identify and use relevant databases and data sources for genetics research, 3) interpret the literature and discuss current issues of human genetics research, and 4) understand the potential and current limits of personalized medicine.  
Semester Credit Hours: 1.0

**MEDI 6068 Cross-Cultural Adaptation of Research Instruments**  
This elective course introduces students to the concept of cross-cultural equivalence of research instruments – a prerequisite for making valid comparisons across two or more ethnic groups – and the process of cross-cultural adaptation used to achieve this equivalence. Students will have the opportunity to learn the multiple steps necessary to successfully cross-culturally adapt research instruments and how to assure content, semantic, technical, conceptual, and criterion equivalence of individual items and scales. A number of instruments used in cross-cultural research will be reviewed and critiqued with regard to their cross-cultural equivalence.  
Semester Credit Hours: 1.0

**MEDI 6097 Research**  
The Research Course is set up for the student to conduct their Mentored Research Project with their supervising professor. This time is to be spent directly working on the project and includes, but is not limited to, writing consent forms, collecting data, analyzing data, and preparing a manuscript. After MSCI COGS approval of the research project, students take three semester credit hours of research during each semester of the Master of Science in Clinical Investigation Degree Program.  
Semester Credit Hours: 3.0

**MEDI 6098 Thesis**  
An MSCI Program student is required to enroll in Thesis the semester they submit their manuscript for approval by the MSCI COGS. The 1.0 semester credit hour is required to graduate from the MSCI Program.  
Semester Credit Hour: 1.0

**MEDI 6100 Practicum in IACUC Procedures**  
This elective course presents an in-depth introduction to the institutional program that provides oversight and regular review of projects that involve the care and use of animals. This includes consideration of the operational procedures of the Institutional Animal Care and Use Committee (IACUC) of the UT Health Science Center at San Antonio. Course objectives are achieved through a combination of readings, monthly attendance at selected IACUC meetings, and discussions with faculty.  
Semester Credit Hours: 1.0

**MEDI 6101 Topics in Translational Science**  
This elective course addresses selected topics in translational science through a series of lectures, assigned readings, literature reviews, class presentations, and discussions with faculty.  
Semester Credit Hours: 1.0

**MEDI 6102 Practicum in IRB Procedures**  
This elective course presents an in-depth introduction to the institutional program that provides oversight and regular review of research projects that involve human subjects. This includes consideration of the operational procedures of the multiple Institution Review Boards (IRB) of the UT Health Science Center at San Antonio. Course objectives are achieved through a combination of readings, monthly attendance at selected IRB meetings, and discussions with faculty.  
Semester Credit Hours: 1.0

**MEDI 6103 Selected Topics in Advanced Research Ethics**  
This elective course provides an in-depth understanding of a selected topic in research ethics. Students work independently to develop a detailed literature review specific to an area of research and are required to prepare a manuscript describing the results. Regular meetings with the Course Director will review progress towards course goals.  
Semester Credit Hours: 1.0
Microbiology & Immunology

I. Definition of Microbiology and Immunology (MI) Track

The Microbiology and Immunology (MI) Ph.D. track is part of the Health Science Center-wide Integrated Multidisciplinary Graduate Program (IMGP). The MI Ph.D. Track focuses on microbial infection, host responses to infection, and other aspects of the immune system in health and disease. The track faculty members apply state-of-the-art experimental approaches, including genomics, proteomics and bioinformatics, as well as other genetic, biochemical, cellular and functional assays to study the regulation, host interactions and pathogenesis of viral, bacterial, fungal, and parasitic infections. In addition to mechanisms of host interactions with microorganisms, responses to allergens, tumor, and self-antigens are also investigated at the molecular, cellular, and systemic levels. Students will have the opportunity to gain the broad knowledge and skills necessary for future research careers in many different areas of basic and clinical life sciences, including Microbial Genetics, Physiology and Pathogenesis, Infectious Diseases, Immune Regulation, Vaccinology, Tumor Immunology, Autoimmunity, and Allergy.

II. MI Track COGS

The MI Ph.D. track is directed by the track Committee on Graduate Studies (COGS). COGS’s duties include the development and maintenance of curriculum, monitoring student progress, approval selection of Supervising Professors, mediating disputes between students and Supervising Professors, reviewing qualifications for membership on the track Graduate Faculty, and other pertinent policy considerations. Faculty members in the MI track participate in the IMGP student admissions process.

III. MI Track Mentors

The MI Track faculty mentors come from a wide variety of departments and institutions in the San Antonio area, including the Departments of Microbiology and Immunology, Medicine, Pathology, Cell and Structural Biology at the Health Science Center, the Department of Biology at UTSA, the Greehey Children’s Cancer Research Institute, San Antonio Cancer Institute, and Texas Biomedical Research Institute.

IV. MI Track Curriculum

1. Course Work

In addition to taking the IMGP courses INTD 5000 - Fundamentals of Biomedical Sciences and INTD 5008 - Laboratory Rotations, students who choose to enter the MI track are required to take several MI track-specific courses, including “Core Concepts in Microbiology & Immunology” (4 SCH), “Building Scientific Thinking Skills” (2 SCH) and “Ethics in Scientific Research” (0.5 SCH), and one advanced course (with at least 1 SCH) from any track. Please note that although the 4 SCH track core concept course will be taught in four modules for the convenience of students from other tracks, all students in the MI track are required to take all four modules and it will be graded as a single course.

2. Formation of Temporary Supervising Committee

A student may enroll in MI Track Research to begin dissertation research under the supervision of her/his Temporary Supervising Professor after completion of the required rotations and chooses a supervising professor (subject to approval by MI Track COGS). By the end of the summer semester of year 1, each student must form a Temporary Supervising Committee, which assists the student in developing a dissertation research project, meets as required to assess the student’s research progress, and serves as the core of the student’s Qualifying Examination Committee. The committee must consist of the Temporary Supervising Professor and two other members of the Microbiology & Immunology Track Graduate Faculty. Members are selected by the student and her/his supervising professor and must be approved by COGS. Changes in the composition of the Temporary Supervising Committee are allowed at any time but are subject to the approval of COGS. The Temporary Supervising Committee functions until the student’s Dissertation Supervising Committee is formed (usually in the student’s third year). Members of the Temporary Committee may become members of the Dissertation Committee.

3. Advancement to Ph.D. Candidacy

Students can petition COGS for admission to candidacy for the Ph.D. degree only after passing the Qualifying Examination. The petition must be made to the Chair of COGS. The approval of COGS for admission to candidacy is based on several criteria, including: (a) successful completion of the Qualifying Examination, (b) a positive evaluation of the student’s potential for independent research and (c) satisfactory performance in formal course work (including the elective advanced course). A student cannot advance to candidacy if he/she is on academic probation. When all of these criteria are met, COGS recommends to the Dean of the Graduate School that the student be admitted to candidacy.

4. Dissertation

After entering into candidacy, a student is to submit to the Chair of COGS a list of at least five individuals to serve as Dissertation Supervising Committee members for the student’s dissertation research. The Dissertation Supervising Committee along with the dissertation proposal must be approved by COGS and the Graduate Faculty Council (GFC). The dissertation proposal is intended to serve as a
framework for the dissertation project, not as a rigid, detailed agenda for the student’s research efforts.

When the Dissertation Supervising Committee is satisfied that the research accomplished by the student is of sufficient quality and quantity to constitute a significant contribution to the field, formal permission is granted to the student to write her/his dissertation. If the Dissertation Supervising Committee judges the dissertation to be suitable for defense, the student must submit a Request for Final Oral Examination, with all of the appropriate signatures approving the dissertation and the examination date, to the Dean of the Graduate School of Biomedical Sciences. A public announcement of the Final Oral Examination is distributed by the Dean of the Graduate School so that all interested persons may attend the public defense. After presenting her/his dissertation research in a departmental seminar, the candidate fields questions from members of the audience who are not on the Dissertation Supervising Committee. Next, the Dissertation Supervising Committee meets with the candidate in a closed-door session to administer an intensive and detailed oral examination of the dissertation and the dissertation research. The committee members then vote on the candidate’s success or failure on the Final Oral Examination. If the student passes the Final Oral Examination, the outcome of the Dissertation Supervising Committee’s deliberations are sent to COGS, and if acceptable, the recommendation to grant the Ph.D. is forwarded to the Graduate Faculty Council.

Required Courses for the Ph.D. Degree

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTD 6002</td>
<td>Ethics in Research</td>
<td>0.5</td>
</tr>
<tr>
<td>MICR 5003</td>
<td>Core Concepts in Microbiology and Immunology</td>
<td>4.0</td>
</tr>
<tr>
<td>MICR 5025</td>
<td>Eukaryotic Pathogens</td>
<td>2.0</td>
</tr>
<tr>
<td>MICR 5026</td>
<td>Bacterial Pathogenesis</td>
<td>1.0</td>
</tr>
<tr>
<td>MICR 5027</td>
<td>Immunology</td>
<td>1.0</td>
</tr>
<tr>
<td>MICR 5028</td>
<td>Virology</td>
<td>1.0</td>
</tr>
<tr>
<td>MICR 5029</td>
<td>Building Scientific Thinking Skills</td>
<td>1.0</td>
</tr>
</tbody>
</table>

MICR 5003  Core Concepts in Microbiology and Immunology
This course will provide an integrated view of the microbial world and the mammalian immune response. Students will receive a foundation in the basic concepts and experimental approaches that are crucial for understanding core concepts in pathogenic microbiology, virology, parasitology, mycology, and immunology through directed readings and didactic instruction. A special emphasis will be placed on integrating knowledge from each discipline using specific examples to illustrate important concepts in host-pathogen interaction.

MICR 5025  Eukaryotic Pathogens
The course will provide students with the opportunity to gain a basic comprehensive understanding of parasitology and mycology. The first part of this course will focus on virulence mechanisms and the host immune response with respect to a variety of parasites that cause major human diseases. The second part of this course will cover several important areas of medical mycology including molecular biology, diagnostic/epidemiology, mating/phenotypic switching, morphology, pathogenesis, and antifungal therapies.

MICR 5026  Bacterial Pathogenesis
This is an introductory course in microbial pathogenesis focusing on bacterial pathogens that are important in human disease. Students will receive a foundation in the basic concepts and experimental approaches that are crucial for understanding the discipline through directed readings and didactic instruction. Specific concepts, strategies, and mechanisms used by human bacterial pathogens to cause disease will be illustrated.

MICR 5027  Immunology
This course will focus on fundamental concepts in immunology with emphasis on experimental strategies for elucidating the cellular and molecular mechanisms underlying immune responses. Lecture topics will illustrate important concepts in innate immunity, cytokine signaling, antigen recognition and presentation, the genetics of immune receptors and the major histocompatibility complex, immunity to infection, and immunopathology (e.g., hypersensitivity, autoimmunity, immunodeficiency, etc.).

MICR 5028  Virology
This course focuses on the molecular and cellular biology of animal viruses, and their interactions with host cells. Many of the viruses to be covered in this course are medically significant or have provided critical information that has expanded our understanding of cell biology, immunology, development, and differentiation.

MICR 5029  Building Scientific Thinking Skills
The goal of this course is to provide the opportunity for graduate students to develop critical thinking skills in reading scientific literature, developing/critiquing scientific ideas and grant proposals and effectively communicating one’s scientific ideas with peers. The courses will be offered in three consecutive stages. First, each student will be assigned/encouraged to read articles focusing on a topic in the areas of Microbiology and Immunology and give a 50 minute review presentation on the topic to the class followed by questions/critiques from fellow students and faculty members. Second, each student is guided to develop a mini-proposal on a chosen topic followed by written critiques from fellow students and faculty members. Finally, each student is arranged to give an oral defense of his or her written proposal to the class followed by questions from fellow students and faculty members. Since the proposal writing and defense portions mimic the process involved in M&I track qualifying examination, this course will not only have a long lasting impact on the students’ scientific skill development, but also help prepare the students for the immediate qualifying exam.
MICR 5030  Microbiology and Immunology
Track Journal Clubs
The MI track students, together with faculty members and other researchers, will meet once a week to discuss articles on life science with an emphasis on the Microbiology and Immunology disciplines. At each meeting, an individual will present one or several papers, or a review and related materials. The presentation will be followed by questions and discussions involving everyone present at the meeting. Each meeting is scheduled for one hour.
Semester Credit Hours: 0.5

MICR 5090  Acquiring Presentation Skills
This course is designed to prepare the student for giving a scientific lecture or seminar. Students present at least one lecture per academic year. Each student is coached and evaluated by faculty members in terms of both effective public speaking and critically analyzing scientific data. In addition, the seminars are videotaped. Students are required to attend all seminars.
Semester Credit Hours: 1.0

MICR 6071  Supervised Teaching
This course consists of teaching under the close supervision of instructors as laboratory assistants and as leaders in tutorial or review sessions. The more advanced students may present formal lectures in the classroom or lead discussions in the laboratory.
Semester Credit Hours: 1.0–9.0
Prerequisites: consent of chair of department

MICR 7099  Dissertation
Registration for at least two terms is required of Ph.D. candidates. In addition, Ph.D. candidates may be required to complete a course in Biostatistics.
Semester Credit Hours: 1.0–9.0
Prerequisites: admission to candidacy for the Doctor of Philosophy degree

Electives

MICR 5011  Medical Microbiology
This course is designed primarily for medical students; graduate credit will be permitted only under unusual circumstances. Broad coverage of human immunology, virology, bacteriology, mycology, and parasitology with emphasis upon problems likely to be encountered in medical practice.
Semester Credit Hours: 5.0
Prerequisites: consent of instructor

MICR 5091  Current Topics in Microbiology and Immunology
Students will be given an opportunity to gain in-depth understanding of selected topics in microbiology and immunology through a combination of library research and discussion with faculty.
Semester Credit Hours: 3.0
Prerequisites: consent of instructor

MICR 5092  Special Problems in Microbiology
The course provides an opportunity for the student to engage in a special research project or to develop proficiency in the use of certain laboratory methods.
Semester Credit Hours: 1.0–9.0
Prerequisites: consent of instructor

MICR 6022  Advanced Microbial Physiology
This course consists of readings and conferences. The course includes current concepts and experimental studies in microbial structure-function relationships and regulatory mechanisms.
Semester Credit Hours: 2.0
Prerequisites: Microbial Physiology and consent of instructor

MICR 6024  Advanced Microbial Genetics
This course consists of lectures and conferences. This course is an in-depth study of selected areas of microbial genetics, and presentation and discussion of current literature in these areas.
Semester Credit Hours: 1.0–4.0
Prerequisites: Microbial Genetics and consent of instructor

MICR 6026  Advanced Molecular Genetics of Eukaryotic Pathogens
This course will cover the major research methods and techniques used to study human fungal pathogens.
Semester Credit Hours: 2.0

MICR 6043  Advanced Topics in Virology
The course is an in-depth study of selected topics in animal virology at the molecular level.
Semester Credit Hours: 2.0

MICR 6050  Advanced Topics in Tumor Immunology
This course provides an opportunity for students to gain a solid foundation in modern tumor immunology. Topics include tumor antigens, autoimmunity, mechanisms of killing, dysregulation of inflammation, and counter measures mediated by tumor to thwart or subvert host immunity.
Semester Credit Hours: 1.0

MICR 6052  Advanced Immunobiology
This course consists of lectures only. This course is an in-depth study of the immune system and how it is regulated, including presentation and discussion of current literature in these areas.
Semester Credit Hours: 2.0
Prerequisites: Introduction to Immunology or consent of instructor
# Molecular Medicine

The program in Molecular Medicine offers a research oriented, interdisciplinary course of study leading to the M.S. and Ph.D. degrees. The faculty is composed of both basic and clinical scientists drawn from the Departments of Biochemistry, Cellular and Structural Biology, Medicine, Molecular Medicine, Obstetrics and Gynecology, Pathology, Physiology, Radiation Oncology, and Surgery. The objective of the program is to train future scholars in the use of molecular biological approaches for the investigation of fundamental biomedical questions associated with the diagnosis and treatment of human diseases. Through completion of the program, students will have the opportunity to prepare for careers as independent investigators and teachers in cellular and molecular medicine.

The research interests of the faculty cover many areas of molecular and cell biology, including the molecular genetic basis of cancer and tumorigenesis, mechanisms of cancer metastasis, animal models of disease, transcriptional regulation, development of anticancer drugs, control of mammalian development, bone cell biology in health and disease, mouse genetics, molecular biological basis of aging, DNA repair, genetic recombination, eukaryotic cell-cycle regulation, protein structure, protein degradation, and signal transduction.

The laboratories of the molecular medicine program faculty members are located in The University of Texas Institute of Biotechnology and the Barshop Institute for Longevity and Ageing Studies in the Texas Research Park, as well as at the main campus of the Health Science Center. State-of-the-art facilities for cellular and molecular biological research and biochemistry are also available, as well as specialized instrumentation required for electron, fluorescence, confocal, and atomic force microscopy; the generation of transgenic and chimeric mice; biomolecular interaction studies; biopolymer synthesis; peptide and nucleic acid sequencing; and protein purification.

## Admission Requirements

In addition to the requirements for admission to the Graduate School of Biomedical Sciences, applicants to the molecular medicine program must have received credit for the following courses:

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology*</td>
<td>Two years as required for science majors</td>
</tr>
<tr>
<td>Biochemistry, Molecular Biology, or Genetics*</td>
<td>One year</td>
</tr>
<tr>
<td>Chemistry*</td>
<td>One year of general inorganic and a course in organic chemistry. Analytical and physical chemistry are strongly recommended.</td>
</tr>
</tbody>
</table>

*Courses should include laboratory experience.

## Curriculum

During the first year, students attend core courses in advanced molecular biology, molecular medicine, and laboratory techniques. At the same time, they are introduced to research through a series of rotations in the laboratories of individual faculty members. At the end of the first year, students must pass an oral Comprehensive Examination covering material presented in the first-year classes. Following successful completion of the Comprehensive Examination, each student selects a faculty advisor and begins doctoral research. During their third year in the program, students must pass the Qualifying Evaluation, which consists of a written dissertation proposal followed by defense of the proposal in an oral examination. Completion of course work, the comprehensive and qualifying examinations, and doctoral research should take four to five years. A minimum of 72 semester credit hours is required to obtain a Ph.D.

### Electives*

*The specific optional electives will be determined by the student and her/his faculty mentor.

### Required Courses for the Ph.D. Degree

#### MMED 6016 Advanced Molecular Cell Biology

This course is a study of the organization and function of the genome at the molecule level. The topics include: gene structure, transcriptional control, RNA structure and processing, translation, genome replication and repair, the molecular biology of tumors, and the molecular genetics of development. This is a general course intended to introduce the student to the important molecules involved in the life processes of the cell. Their structure, function, localization, and interactions will be the focus of study. The students will also be introduced to the implications that these molecular events have in human health and disease.

*Semester Credit Hours: 5.0*

#### MMED 5001 Molecular Medicine

This course is designed to integrate the fundamental principles of molecular biology with modern medicine. The topics will include the basics of gene mapping, tactics used in the cloning of genes involved in diseases, the analysis of the structure and function of genes in relation to the characteristics of various diseases, alterations of the genome in disease states, and potential strategies to exploit this knowledge in gene therapy. This course will build upon the basic knowledge presented in Advanced Molecular Biology using specific examples of current and future applications of this new knowledge.

*Semester Credit Hours: 3.0*
MMED 6091  Seminars in Molecular Medicine
Registration every term in residence is required of all Molecular Medicine students.
Semester Credit Hours: 1.0

MMED 5015  Modern Methods in Cell and Molecular Biology
This course is designed to introduce students to the basic experimental techniques used in the study of cell biology, molecular biology, and protein analysis. This is a hands-on laboratory course that utilizes a special student laboratory and specialized equipment.
Semester Credit Hours: 1.0

MMED 5016  Fundamentals of Biostatistics
The fundamentals of modern biostatistics with special emphasis on proper design of experiments, critical analysis of data, and their presentation will be offered. Particularly, modern biostatistical techniques required to solve the practical problems in bioinformatics will be discussed. A refresher of very basic concepts in statistics will be given; however, the course will be devoted to contemporary statistical analysis of data including hypothesis construction and testing, model validation, and data association. The course will include short lectures describing particular statistical problems faced by researchers in molecular biology, approaches to solve them, and interpretation of the results of statistical analysis. Extensive practical training using popular statistical software packages will follow each lecture.
Semester Credit Hours: 1.0

MMED 5017  Practical Bioinformatics for Molecular Biologists
The course is an introduction to bioinformatics through computer laboratory exercises designed to have students become familiar with quantitative multi-dimensional data analysis methods. Problem areas such as sequence analysis, molecular evolution, gene regulation, and pathway construction and analysis will be approached from a practical viewpoint. Comparative genomics and functional genomics also will be covered. The required biostatistics background required for implementation also will be reviewed as part of this course. A combination of survey lectures on broader topics and focused computer exercises covering specific methodologies will be used.
Semester Credit Hours: 3.0

MMED 5019  Graduate Colloquium in Molecular Medicine
A course designed to provide graduate students with experience in seminar preparation and presentation with an emphasis on critical evaluation of data and delivery of material.
Semester Credit Hours: 1.0

INTD 6002  Ethics in Research
This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to, the following: data management, peer review; recognizing scientific misconduct; authorship; and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.
Semester Credit Hours: 0.5

MMED 6071  Supervised Teaching
Teaching under the close supervision of instructors in Advanced Molecular Biology and Modern Methods in Cellular and Molecular Biology as laboratory assistants, review session, and tutorial leaders. Assistants may be called upon to present formal lectures.
Semester Credit Hours: 1.0–9.0

MMED 6097  Research
Independent, original research under the direction of faculty advisor.
Semester Credit Hours: 1.0–9.0

MMED 6098  Thesis
Research under the supervision of a mentor to complete the requirements for an M.S. degree. Registration for at least one term is required of M.S. candidates.
Semester Credit Hours: 1.0–9.0

or

MMED 7099  Dissertation
This course consists of research under the supervision of a mentor to complete the requirements for a Ph.D. degree. Registration for at least two terms is required of Ph.D. candidates.
Semester Credit Hours: 1.0–9.0
Pharmacology Track

It is fair to say that pharmacology has touched the lives of just about everyone in the developed world. Drugs comprise the largest arsenal for the treatment of disease by the physician. At some point in their life, virtually everyone has taken a drug for medical purposes. As an experimental discipline, pharmacology is relatively young, having been established in the mid-1800s. Despite its youth, pharmacology has been one of the greatest medical successes of the twentieth century. In a short time we have come a long way in understanding drug action; however, we still have a long way to go to develop drugs that treat disease without adverse effects and improve quality of life.

Of all the basic science specialties, pharmacology is the best-positioned as an interdisciplinary and translational discipline. In the broadest sense, pharmacology is the study of how chemical agents, both natural and synthetic (i.e., drugs), interact with biological systems. This encompasses investigation of the derivation, chemical properties, physiological and behavioral effects, mechanisms of action, biological transformations, and the therapeutic and non-therapeutic uses of drugs. Pharmacology has evolved as a scientific discipline from one that merely described the overt effects of biologically active chemicals to one that explores the mechanisms, at a molecular level, through which drugs cause biological effects. It is now becoming possible, for example, to understand the specific structural sites on a protein with which a drug interacts to alter the function of that protein, be it an enzyme, receptor, etc. Training in pharmacology, therefore, includes an understanding of various basic biomedical disciplines such as biochemistry, molecular and cellular biology, and physiology. Moreover, a knowledge of pathophysiology is an essential part of training since a key objective of pharmacology is to further the understanding of both the cause and treatment of disease. Methodologies used in pharmacological research range from molecular biological techniques and model cell approaches to whole-animal studies in which electrophysiological, neurochemical, and behavioral techniques are utilized. Although techniques may overlap with other disciplines, it is the emphasis on drugs that sets pharmacology apart.

Consistent with the interdisciplinary and translational nature of pharmacology, pharmacologists can be found working in a large variety of occupations. In addition to the traditional academic research laboratory in a university setting, pharmacologists are highly desired in industry for drug development research and function as journal editors, scientific consultants, teachers, and as policy advisors and administrators in the government sector.

Neuroscience Track

Doctoral study in neuroscience is an incredibly rewarding and challenging program. No other discipline probes the intricate machinery of the nervous system to address such fundamental issues as how we think, move, perceive, learn, and remember. Following traditions established in the early 1950s, when modern efforts to understand the nervous system led to early breakthroughs in the treatment of many neurological and psychiatric disorders, neuroscience research continues to have an enormous clinical impact. Numerous neuroscientists have been recipients of the Nobel Prize over the last century.

The Neuroscience track provides didactic and laboratory training in subject areas ranging from molecular, cellular and neurochemical to systems, behavioral, cognitive and clinical, all focused on regulation and function of the nervous system. Drawing on the expertise of over 50 faculty from 5 basic science departments and 8 affiliated departments and divisions within the medical and dental schools, we emphasize a flexible program of study and research tailored to the individual needs and interests of all students in Neuroscience. All incoming graduate students will take a one-semester core course covering fundamentals of biochemistry, molecular biology, cell biology, physiology, microbiology, and immunology, giving the background necessary for all the advanced studies. After the first semester, students launch into courses specializing in their respective areas of interest.

The basic neuroscience curriculum entails Molecular, Cellular and Developmental Neuroscience in the spring of the first year, followed by Systems Neuroscience and Neuroanatomy in the fall semester of the second year. In addition, we offer a rich diversity of research rotation opportunities under the supervision of a broad selection of faculty dedicated to mentoring graduate student research. As students’ research interests develops, numerous opportunities for advanced electives, journal clubs, seminars, and annual retreat, participation in brain awareness week activities, and several social functions. Formal didactic training ends after successfully passing the qualifying exam and advancing to candidacy, at which time the students engage in full-time dissertation laboratory research.

Beginning even with the first rotation, students are encouraged to present their research in a variety of settings, to attend professional meetings locally, nationally and even...
internationally, and to publish their work in peer-reviewed journals. A highly interactive community of faculty, postdoctoral fellows, laboratory staff and fellow students contribute to a challenging, stimulating and supportive environment within which our students develop into successful neuroscientists.

The Program in Neuroscience at the UT Health Science Center San Antonio has a history of training neuroscientists for successful and productive careers. Neuroscientists are employed in many different settings, including universities and medical centers to government agencies and private industry. The training students receive, emphasizing analytical thinking and problem solving in a scientific environment, is applicable to numerous disciplines. The pharmaceutical and biotechnology industries hire many neuroscientists into productive and exciting careers developing new therapeutic agents for human betterment. Some go into government, patent law, or the publishing industry. Regardless of the path, students have the opportunity to leave this program equipped with an education, research experience, and way of thinking that will prepare them for a successful and fulfilling future.

Research Activities

The faculty of the Pharmacology Graduate Program is composed of more than 40 scientists from the Pharmacology Department as well as several other departments at the Health Science Center. Research activities in the department are based upon a multidisciplinary approach to many areas of biomedical research with major strengths in the areas of neuropharmacology, molecular pharmacology, aging, metabolic regulation, and cancer pharmacology. Our faculty use approaches that range from molecular and cellular through electrophysiology and systems to behavior. Because of their expertise with different approaches, many of our faculty collaborates with each other on integrated research projects. This enables our students to receive training in all these areas and gain an appreciation of the effects of drugs at all these levels of analysis. Our goal is not only to train students to become accomplished scientists in a specific area of research but also to become independent, creative, and productive thinkers. Accomplishing this goal has enabled our graduates to move on to rewarding and successful careers in academia, the pharmaceutical industry, and government. We are very excited about recent developments in pharmacology that allow new and challenging means of exploring the biological effects of drugs. Please visit our Web site (http://pharmacology.uthscsa.edu) to learn about the specific research projects of each of the faculty.

Funding for these research projects comes from grants and contracts awarded to the Health Science Center on the behalf of individual investigators. The majority of the current funding comes from the National Institutes of Health, including grants from the National Institute on Drug Abuse; the National Heart, Lung and Blood Institute; the National Institute of Neurological Disorders and Stroke; the National Institute of Mental Health; the National Institute on Alcohol Abuse and Alcoholism; and the National Institute of General Medical Sciences. At present, additional support for research is being provided by the American Heart Association, the Howard Hughes Medical Institute, the Pharmaceutical Manufacturers Association Foundation, various pharmaceutical companies, and the Department of Defense.

Requirements for Admission

Students are admitted into the Integrated Multidisciplinary Graduate Program (IMGP). Please see the requirements for admission to the IMGP for information (http://gsbs.uthscsa.edu). Following admission to the IMGP and completion of the core curriculum, students may choose a mentor in the Pharmacology Track and follow the Pharmacology Curriculum (see below).

Financial Support for Graduate Students

For the first year, financial support is provided by the IMGP. After the first year, students are supported by their mentors. Continued support is based upon maintenance of good academic standing and full-time enrollment in the graduate school.

Postgraduate Positions for Program Graduates

Most graduates of the doctoral program in pharmacology have remained in biomedical research. Recent graduates are engaged in postdoctoral training throughout the United States and those who have completed postdoctoral training hold positions as faculty in medical and dental schools or are employed by pharmaceutical companies, private research foundations, biotechnology firms, and government agencies.

Curriculum

A minimum of 72 semester credit hours is required for the attainment of the Doctor of Philosophy degree. Special emphasis is placed on flexibility in the graduate degree program in Pharmacology so it may relate to the interests, purposes, and needs of individual students. The curriculum is designed to give students a fundamental background in the basic biological sciences through the core curriculum of the IMGP that is followed by selection of specific courses in Pharmacology. Please visit our Web site (http://pharmacology.uthscsa.edu) for a complete list of current course offerings. In addition to didactic training, students have the opportunity to obtain significant laboratory research experience, beyond that provided by the IMGP rotations, in a research practicum taken in the summer semester of the first year.

Upon successful completion of the required coursework, students are required to pass a comprehensive qualifying examination in pharmacology that consists of written (NIH NRSA-style grant application) and oral components. The overall objective of the examination is to determine whether the student has a sufficient basis of knowledge, a command of the scientific method, and originality of thought necessary for advancement to the subsequent phase of mentored
dissertation work as a Ph.D. candidate. The written component of the qualifying exam is generally begun in January of the second year and the oral component must be completed by June 30 of the second year.

Following successful completion of the qualifying examination, students are considered for admission to Ph.D. candidacy. Admission to candidacy requires 1) satisfactory completion of all required courses with a cumulative GPA of at least 3.0 in all course work undertaken since matriculation in the program; 2) successful completion of the qualifying examination; and 3) report by the student's chosen supervising professor that the student has clearly demonstrated the potential for productive and independent investigation.

After admission to candidacy for the Ph.D. degree, students develop a dissertation research proposal and conduct research under the direction of their supervising professor and a dissertation supervisory committee. The supervisory committee reviews the student's choice of research for the dissertation and periodically meets to review the student's progress. The basis on which the Ph.D. degree is finally awarded is the candidate's demonstration of acquired skills and knowledge in the selected field of specialization and the ability to do independent research in the area. Upon completion of the dissertation and its acceptance by the supervisory committee, students must pass a Final Oral Examination.

Throughout their tenure, students attend seminars given by internationally renowned guest scientists, Health Science Center faculty members, and student peers. Students have the opportunity to interact with guest speakers during special student luncheons. Students also give brief presentations about their research projects, and discuss and analyze scientific literature in various journal clubs. Travel to meetings of scientific societies to present research progress (an expense allowance is provided) is highly encouraged of junior students and is expected of senior students.

Required Courses for the Ph.D. Degree—Pharmacology Track

The Pharmacology Curriculum is continually reviewed and the format and content of the current graduate courses are revised to incorporate topics of current scientific interest as well as to incorporate changes in the graduate curriculum. Please see the department's Web site (http://pharmacology.uthscsa.edu) for up-to-date information on courses.

CSBL 5095  Experimental Design and Data Analysis

The purpose of the course is to provide an introduction to experimental design and statistical analysis. The emphasis of the course will be on the selection and application of proper tests of statistical significance. Practical experience will be provided in the use of both parametric and nonparametric methods of statistical evaluation. Among the topics to be covered are: data reduction, types of distributions, hypothesis testing, scales of measurement, chi square analysis, the special case of the comparison of two groups, analysis of variance, a posteriori multiple range tests, tests of the assumptions of parametric analyses, advanced forms of the analysis of variance, linear regression, and correlation analysis. This course will be partially conducted online; therefore, access to a computer with Web access is required. A camera and microphone/headphone attached to the computer will enhance the learning experience.

Semester Credit Hours: 2.0

INTD 5000  Fundamentals of Biomedical Sciences

This core course covers the fundamentals of biochemistry, molecular biology, cell biology, organismal and systems biology, and microbiology and immunology. The course is designed for first-year graduate students matriculating into the Integrated Multidisciplinary Graduate Program.

Semester Credit Hours: 8.0

Prerequisites: Consent of instructor

INTD 5008  Laboratory Rotations

This course provides an opportunity for students to participate in research activities in the laboratories of faculty members in different tracks to learn laboratory skills and to gain an introduction to the research fields of faculty members.

Semester Credit Hours: 2.0

INTD 6002  Ethics in Research

This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.

Semester Credit Hours: 0.5

INTD 6090  Seminar

This course is intended for first-year IMGP students only. Students will be required to attend a minimum of 10 departmental (any) seminars during the semester and submit a 100–150 word synopsis of each seminar within two weeks of the seminar.

Semester Credit Hours: 1.0

INTD 6090  PHA Seminar

This course consists of presentation and discussion of recent advances and research by staff, students, and outside scientists.

Semester Credit Hours: 1.0

PHAR 5013  Principles of Pharmacology

Topics include principles of drug action; receptor classification and quantitation; dose-response relationships; cellular mechanisms of drug action; fundamental concepts of drug-receptor interactions; voltage-gated and ligand-gated ion channels; drug actions mediated by transduction and non-transduction enzymes; time course of drug action; absorption, distribution, biotransformation and elimination of drugs; pharmacokinetics; and experimental approaches to drug action.

Semester Credit Hours: 3.0
**PHAR 5014  Therapeutics**
The overall objective of this course will be to provide students with a current overview of the therapeutics related to major classes of drugs. The course will be required for Pharmacology students as a 3-hour course. Each section will offer separately as a 0.5-hour micro-elective for students from other programs. There will be a course director for the overall course while each section will be governed by a director who will be responsible for the format of the lectures and examinations for that section. Each section will include at least one examination that will determine the overall grade for Pharmacology students taking the 3-hour course. Student performance will be evaluated on a lettered grading scale.

*Semester Credit Hours: 3.0*

*Prerequisites: INTD 5000*

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**PHAR 5020  Basics of Research Design**
This course aims at teaching first-year graduate students fundamentals of research design and analysis of scientific literature to orient them with setting up scientific experiments and writing grant proposals. The course is divided into three sections: research design, communicating scientific data, and getting scientific ideas funded.

*Semester Credit Hours: 1.5*

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**PHAR 5090  Seminar**
This course is intended for Non-track affiliated students. This course consists of presentation and discussion of recent advances and research by staff, students, and outside scientists.

*Semester Credit Hours: 1.0*

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**PHAR 5092  Special Problems in Pharmacology—Research Practicum**
Students will have the opportunity to complete two laboratory rotations in different laboratories by the end of their first year in the graduate program. Laboratory rotation mentors may be selected from the Graduate Faculty of the Pharmacology graduate program who have active research laboratories. Each rotation is a full-semester rotation.

*Semester Credit Hours: 1.0–9.0*

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**PHAR 6097  Research**
This course is comprised of independent, original research under the direction of a faculty advisor.

*Semester Credit Hours: 0.5–9.0*

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**PHAR 6098  Thesis**
Registration for at least one term is a Graduate School requirement for all MS candidates.

*Semester Credit Hours: 1.0–9.0*

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**PHAR 7099  Dissertation**
Registration for at least two terms is a Graduate School requirement for all Ph.D. candidates.

*Semester Credit Hours: 1.0–9.0*

*Prerequisites: admission to candidacy for Doctor of Philosophy degree*

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**Electives—Pharmacology Track**

**CSBL 6048  Biology of Aging**
Biology of Aging is the core course of the Biology of Aging Track. The course consists of two modules: Molecular and Cellular Homeostasis and Aging and Systems Homeostasis and Aging. The purpose of this course is to provide students with the most up-to-date information on the current understanding of the aging process. This advanced interdisciplinary graduate course provides experimental understanding of the interrelated areas of aging and age-related diseases. Faculty from the Departments of Cellular & Structural Biology, Physiology, Pharmacology, Biochemistry, and Medicine will be involved in teaching this course, which will cover the molecular and cell biology of aging, model systems used for aging studies, age-related changes in organs and tissues, and age-related diseases.

*Semester Credit Hours: 4.0*

*Prerequisites: required for Biology of Aging Track; elective for others*

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**INTD 5040  Fundamentals of Neuroscience I: Molecular, Cellular, and Developmental Neuroscience**
Two components; Neuroscience students register for both PHYL 5041 and INTD 5040. This course is intended to introduce students to a broad survey of the basics of molecular, cellular, and developmental neuroscience. The course is organized into a series of three modules: biochemical and cellular properties of nervous system cells; development of neuronal systems; and neurotransmission and neuromodulation, which covers the fundamentals of these three areas. Current topics and concepts are discussed in discussion sessions that include student participation.

*Semester Credit Hours: 3.0*

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**INTD 5043  Fundamentals of Neuroscience II: Systems Neuroscience**
This course, the second component of our broad survey of the basics of neuroscience, begins at the level of the neural circuit, and guides the students through an understanding of increasingly complex levels of organization and function in the brain. Topics include neurotransmitter systems, sensory and motor function, motivated behavior, regulation, and integration of autonomic, behavioral, and emotional responses in the limbic system, higher order cognitive processes, and the neurobiological basis underlying some important psychiatric disorders and their treatment.

*Semester Credit Hours: 3.0*

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**INTD 5047  Neuroanatomy**
The purpose of this course is to provide students with a practical working knowledge of the structure of both the peripheral and central nervous system. The emphasis will be on the organization of the human brain, although the brains of other species may also be included if appropriate for a specific brain region. The course will look at each of the individual components of the central nervous system in some depth but will also emphasize the complex integration of these various components into a functional brain. The topics covered in the course are specifically designed to mesh in time with those covered in Fundamentals of Neuroscience II describing the
function of these areas. For this reason, it would be best if these two courses were taken concomitantly. The course will be didactic with digital images, models, and wet specimens included in the course.

Semester Credit Hours: 2.0

INTD 5067 Introduction to Bioinformatics and Computational Biology

The course will be taught by faculty from Biochemistry, Cellular & Structural Biology, CCRI, Periodontics, and faculty from UTSA. The course will be an introduction to methods and tools for working with DNA sequences and protein families, learning basic Unix networking, overview of numerical modeling, systems biology approaches to complex diseases, gene expression analysis, bioinformatics in clinical research, statistical tools for complex datasets, proteomics, structural methods for protein biology, chemoinformatics, molecular modeling, and mathematical model building.

Semester Credit Hours: 2.0

INTD 6033 Cell Signaling Mechanisms

This course covers the molecular mechanisms of action of various extracellular mediators including hormones, neurotransmitters, growth factors, cytokines, etc., and cell signaling events. Several areas will be discussed including: (1) mechanisms of mediator synthesis; (2) interaction of mediators with specific receptors; (3) modulation by mediators of various second messenger systems including cyclic nucleotides, inositol phospholipids, calcium, protein phosphorylation, ion flux, etc.; and (4) intra- and intercellular mechanism for regulating mediator action.

Semester Credit Hours: 2.0

INTD 6041 Basic Science Resident Lecture Series in Neurology

This is an interdisciplinary advanced elective in which students attend 20 lectures, selected from the full offering of daily one-hour lectures comprising the Neurology Residents’ Basic Sciences lecture series. These lectures cover a range of topics, such as Epilepsy, Movement Disorders, the Thalamus, Parkinson’s Disease, Alzheimer’s Disease, Stroke, Sleep, etc., all given from a clinical perspective. In addition, graduate students will have the opportunity to observe or participate in at least two enrichment activities related topically to the lectures they attend, which may include such settings as case presentations, diagnostic training sessions, or clinical observations, again selected from the list of offerings included in the “Neurology Residents” series.

Semester Credit Hours: 1.5

INTD 6045 Clinical Practicum in Neuroscience

This course will provide students with a brief, but intense and very focused exposure to clinical practice in a relevant area of their choosing, designed and coordinated to best match their interests in close individual collaboration with a clinical mentor in one of the participating components: Neurosurgery, Neurology, Psychiatry, or Endodontics. Representative activities could include participation in case presentation and treatment planning, attending rounds with physicians and residents, direct observation of clinical procedures, patient interviews, follow-up care, and outcome review. Potential venues may include inpatient psychiatric ward, sleep clinic, epilepsy clinic, stroke clinic, neurosurgical theater, and surgical ICU. In consultation with the course director, students will first select one of the following sub-sections, then design their individually tailored clinical practicum experience with the coordinator for that section.

Semester Credit Hours: 0.5–9.0

PHAR 5091 Pharmacology Micro-electives

Micro-electives are courses that can be of any type (“tutorial” or original literature review, short [2-week] didactic, technique, etc.). In general, since they are short, they are often offered at any time of convenience between the student(s) and the faculty.

5091.001 New Views on Monoaminergic Neurotransmission: Are Transporters Important?
5091.002 Drug Discovery: Nuts and Bolts
5091.003 Historical Perspectives of Receptor Theory
5091.004 Cell Membrane Microdomains and Signaling
5091.005 Neurotransmitter Metabolism
5091.006 Serotonin: From Soup (Transmission) to Nuts (Behavior)
5091.007 Central-Cardio-Respiratory Systems
5091.008 Neural Substrates of Regulatory Behaviors: Peptides and Monoamines
5091.009 Current Issues in Basic Research on Mechanisms of Epilepsy
5091.010 Appetite Control: Adiposity Hormones and Peptides
5091.011 Fundamentals of Behavioral Pharmacology
5091.012 Therapeutics: Autonomic Pharmacology
5091.013 Therapeutics: Cardiovascular-Renal Pharmacology (Prerequisite: PHAR 5091.012)
5091.014 Therapeutics: Central Nervous System Pharmacotherapeutics
5091.015 Therapeutics: Chemotherapy
5091.016 Therapeutics: Endocrine Pharmacology
5091.017 Therapeutics: Pharmacological Management of Pain

Semester Credit Hours: 2.0

PHAR 6020 Molecular and Pharmacological Basis of Therapeutics

This course provides the graduate student with current knowledge of how genetic variants can affect drug response and the potential to optimize drug therapy. Course format will include lectures, discussion of selected literature, individual student presentations, and the opportunity for the development of a mini pharmacogenetic/genomic protocol and consent form to address a clinical/biomedical question mutually agreed upon between course director and students.

Semester Credit Hours: 2.0
PHAR 6025 Molecular Pharmacology
This course will be presented in a journal club/paper discussion format and will focus on the molecular aspects of pharmacology, with emphasis on molecular biology, biochemistry, and cell biology of a variety of physiological systems subjected to pharmacological manipulation. The topics to be discussed will include molecular mechanisms of drug action, signal transduction and regulation, molecular approaches, and recent advances in areas of molecular pharmacology.
Semester Credit Hours: 2.0

PHAR 6027 Fundamentals of Neuroethics
Recent advances in neuroscience have considerably improved our understanding of brain function. However, the fascinating examination of brain’s mysteries often intersects with the concerns of ethics and public policy. This course aims at presenting and discussing philosophical and scientific perspectives on major ethical issues pertinent to neuroscience research. Several subjects will be covered in the course, including the effects of pharmacological and surgical interventions on the brain/min binomial, therapy versus enhancement, brain imaging, and mental privacy, neurobiology of decision making, consciousness, unconsciousness, and death.
Semester Credit Hours: 1.0

PHAR 6071 Supervised Teaching
This course provides a mentored teaching experience. The student will be responsible for directing an undergraduate Physiology laboratory course under the guidance of the Physiology faculty. The student will prepare and provide limited lectures addressing background information required to understanding and performing research laboratories, as well as direct undergraduates in performance of these laboratories. Physiology faculty will insure that graduate students are prepared and knowledgeable about the laboratories they will direct. In addition, students will receive training in general pedagogy and specifically, in the performance, conduct, and directing of physiology research and its dissemination. In addition to learning to direct a laboratory course and providing lecture-based information, graduate students will be trained in preparing, administering, and marking laboratory exams.
Semester Credit Hours: 1.0–9.0
Prerequisites: PHYS 5081

Required Courses for the Ph.D. Degree—Neuroscience Track

CSBL 5095 Experimental Design and Data Analysis
The purpose of the course is to provide an introduction to experimental design and statistical analysis. The emphasis of the course will be on the selection and application of proper tests of statistical significance. Practical experience will be provided in the use of both parametric and nonparametric methods of statistical evaluation. Among the topics to be covered are: data reduction, types of distributions, hypothesis testing, scales of measurement, chi square analysis, the special case of the comparison of two groups, analysis of variance, a posteriori multiple range tests, tests of the assumptions of parametric analyses, advanced forms of the analysis of variance, linear regression, and correlation analysis. This course will partially be conducted online; therefore, access to a computer with Web access is required. A camera and microphone/headphone attached to the computer will enhance the learning experience.
Semester Credit Hours: 2.0

INTD 5000 Fundamentals of Biomedical Sciences
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, organismal and systems biology, and microbiology and immunology. The course is designed for first-year graduate students matriculating into the Integrated Multidisciplinary Graduate Program.
Semester Credit Hours: 8.0
Prerequisites: Consent of instructor

INTD 5008 Laboratory Rotations
This course provides an opportunity for students to participate in research activities in the laboratories of faculty members in different tracks to learn laboratory skills and to gain an introduction to the research fields of faculty members.
Semester Credit Hours: 2.0

INTD 5040 Fundamentals of Neuroscience I: Molecular, Cellular, Developmental Science
Two components; Neuroscience students register for both PHYL 5041 and INTD 5040. This course is intended to introduce students to a broad survey of the basics of molecular, cellular, and developmental neuroscience. The course is organized into a series of three modules: biochemical and cellular properties of nervous system cells, development of neuronal systems, and neurotransmission and neuromodulation, which covers the fundamentals of these three areas. Current topics and concepts are discussed in discussion sessions that include student participation.
Semester Credit Hours: 2.0

INTD 5043 Fundamentals of Neuroscience II: Systems Neuroscience
This course, the second component of our broad survey of the basics of neuroscience, begins at the level of the neural circuit, and guides the students through an understanding of increasingly complex levels of organization and function in the brain. Topics include neurotransmitter systems, sensory and motor function, motivated behavior, regulation, and integration of autonomic, behavioral, and emotional responses in the limbic system, higher order cognitive processes, and the neurobiological basis underlying some important psychiatric disorders and their treatment.
Semester Credit Hours: 3.0

INTD 5047 Neuroanatomy
The purpose of this course is to provide students with a practical working knowledge of the structure of both the peripheral and central nervous system. The emphasis will be on the organization of the human brain, although the brains of other species may also be included if appropriate for a specific brain region. The course will look at each of the individual components of the central nervous system in some depth but will also emphasize the complex integration of these various components into a functional
brain. The topics covered in the course are specifically designed to mesh in time with those covered in Fundamentals of Neuroscience II describing the function of these areas. For this reason, it would be best if these two courses were taken concomitantly. The course will be didactic with digital images, models, and wet specimens included in the course.

Semester Credit Hours: 2.0

INTD 6002  Ethics in Research

This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.

Semester Credit Hours: 0.5

INTD 6090  Seminar-NS (Neuroscience)

This course is presentation and discussion of recent advances and research by faculty, students, and outside scientists.

Semester Credit Hours: 1.0

PHAR 5092  Special Problems in Pharmacology—Research Practicum

Students will have the opportunity to complete two laboratory rotations in different laboratories by the end of their first year in the graduate program. Laboratory rotation mentors may be selected from the Graduate Faculty of the Pharmacology graduate program who have active research laboratories. Each rotation is a full-semester rotation.

Semester Credit Hours: 1.0–9.0

PHAR 6097  Research

Independent, original research under the direction of a faculty advisor.

Semester Credit Hours: 0.5–9.0

PHAR 7099  Dissertation

Registration for at least two terms is a Graduate School requirement for all Ph.D. candidates.

Semester Credit Hours: 1.0–9.0

Prerequisites: admission to candidacy for Doctor of Philosophy degree

Electives—Neuroscience Track

BIOC 5091  Special Topics in Biochemistry

This course consists of selected topics in specialized areas of biochemistry; current views will be emphasized (e.g., “Quantitative Biochemistry” and “Nuclear Magnetic Resonance Spectroscopy for Biochemists” – see below).

Semester Credit Hours: 1.0–9.0

Quantitative Biochemistry

This course is required for all students enrolled in either Molecular Biophysics & Biochemistry Track or the Diabetes & Metabolic Disorders Track, and is open to all students enrolled in the Integrated Multidisciplinary Graduate Program. The course covers statistical and mathematical analysis of typical biochemical data. Topics to be discussed include: enzyme kinetics, first and second order chemical reactions, ligand binding, scintillation counting of radioactivity, UV-VIS difference and derivative spectra, analytical ultracentrifugation, and solution of multiple simultaneous equations using matrix algebra. Emphasis is placed upon the use of computers to analyze experimental data using programs running under Windows, or Linux platforms. Students will also become familiar with file transfers between these two platforms and the use of VNC viewer to enable their PC computers to be used as a Linux terminal.

Semester Credit Hours: 2.0

BIOC 6010  Gene Expression

The course covers gene expression focusing on regulation at the levels of transcription, RNA processing, transport and stability, and translation. Proteins and other regulatory molecules involved in these processes will also be covered. Particular emphasis will be placed on transcriptional control mechanisms including: RNA polymerases, chromatin remodeling, methylation and other epigenetic modifications, families of transcription factors including their DNA binding properties, protein-protein interaction domains, trans-activation mechanisms, regulation by ligand binding, phosphorylation and other signaling mechanisms and nuclear-cytoplasmic transport; posttranscriptional mechanisms including: mechanisms of RNA splicing, nuclear-cytoplasmic transport of RNA, RNA localization and targeting, RNA stability; and translational control. Post-transcriptional and translational control mechanisms will highlight the roles of RNA binding proteins and their modifications in these processes.

Semester Credit Hours: 2.0

Prerequisites: INTD 5000

BIOC 6033  Cellular Signaling Mechanisms

This course covers the molecular mechanisms of action of various extracellular mediators including hormones, neurotransmitters, growth factors, cytokines, etc., and cell signaling events. Several areas will be discussed including (1) mechanisms of mediator synthesis, (2) interaction of mediators with specific receptors, (3) modulation by mediators of various second messenger systems including cyclic nucleotides, inositol phospholipids, calcium, protein phosphorylation, ion flux, etc., and (4) intra- and intercellular mechanism for regulating mediator action.

Semester Credit Hours: 2.0
CSBL 6020  Concepts in Vertebrate Development
This course will employ classical experimental embryology as a background for presenting recent advances in molecular and cellular aspects of vertebrate development. Topics include: gametogenesis and fertilization, cleavage and midblastula transition, gastrulation, neural induction, neural crest migration, CNS patterning, limb development, and inductive events in endodermal differentiation. Emphasis will be placed on mechanisms of morphogenesis and differentiation at the molecular level.  
Semester Credit Hours: 4.0

CSBL 6021  Animal Models
The relevant biology, applicability, and practical use of a number of animal models to biomedical research is covered. Invertebrate (e.g., C. elegans) and vertebrate (e.g., fish and rodents) model systems are included in the course. Strengths and weaknesses of each organism that render them particularly valuable as animal models are emphasized. Experimental approaches and tools that are utilized in conjunction with each animal model are rigorously examined. The course is taught from primary scientific literature using classic historical publications and recent publications.  
Semester Credit Hours: 3.0

CSBL 6048  Biology of Aging
Biology of Aging is the core course of the Biology of Aging Track. The course consists of two modules: Molecular and Cellular Homeostasis and Aging and Systems Homeostasis and Aging. The purpose of this course is to provide students with the most up-to-date information on the current understanding of the aging process. This advanced interdisciplinary graduate course provides experimental understanding of the interrelated areas of aging and age-related diseases. Faculty from the Departments of Cellular & Structural Biology, Physiology, Pharmacology, Biochemistry, and Medicine will be involved in teaching this course, which will cover the molecular and cell biology of aging, model systems used for aging studies, age-related changes in organs and tissues, and age-related diseases.  
Semester Credit Hours: 4.0  
Prerequisites: required for Biology of Aging Track; elective for others

CSBL 6064  Genes and Development
Genes and Development is the core course of the Genetics, Genomics, and Development Track. The course consists of four modules: genetics; genomics; developmental biology; and stem cell biology. Basic concepts in genetics such as cytogenetics, mitochondrial genetics, cancer genetics, linkage analysis, complex traits, population genetics, animal models, sex determination, and epigenetics will be presented. The genomics section will include historical aspects of the genome project and high throughput analysis. The students are introduced to new techniques in global analysis as well as have hands-on experience. The developmental biology section provides a survey of concepts in developmental biology (induction, cell-cell interactions, morphogen gradients, morphogenetic movements, transcriptional regulation, organogenesis) using experimental examples from both invertebrate and vertebrate embryos. The stem cell biology section includes the following topics: basic biology of stem cells, including embryonic stem cells, adult stem cells, stem cells in different tissues and model systems; microenvironment-mediated and epigenetic regulators of stem cells; stem cells in medicine, including regenerative medicine, cancer, and aging; and ethics.  
Semester Credit Hours: 4.0

INTD 6041  Basic Science Resident Lecture Series in Neurology
This is an interdisciplinary advanced elective in which students attend 20 lectures, selected from the full offering of one-hour lectures comprising the Neurology Residents’ Basic Sciences lecture series. These lectures cover a range of topics, such as Epilepsy, Movement Disorders, the Thalamus, Parkinson’s Disease, Alzheimer’s Disease, Stroke, Sleep, etc., all given from a clinical perspective. In addition, graduate students will have the opportunity to observe or participate in at least two enrichment activities related topically to the lectures they attend, which may include such settings as case presentations, diagnostic training sessions, or clinical observations, again selected from the list of offerings included in the “Neurology Residents” series.  
Semester Credit Hours: 1.5

INTD 6043  Structure and Function of Membrane Proteins
This is a course targeted at students within any of the Graduate Tracks. The objective is to provide a broad view, allowing for in depth consideration in selected areas, of the structure and diverse functions of proteins within a membrane environment. Specific topics covered will include: ion selective channels, large membrane pores, membrane transporters, membrane pumps, and membrane receptors. The format of the course will be didactic lecture followed by student presentations of relevant topics.  
Semester Credit Hours: 2.0

INTD 6045  Clinical Practicum in Neuroscience
This course will provide students with a brief but intense and very focused exposure to clinical practice in a relevant area of their choosing, designed and coordinated to best match their interests in close individual collaboration with a clinical mentor in one of the participating components: Neurosurgery, Neurology, Psychiatry, or Endodontics. Representative activities could include participation in case presentation and treatment planning, attending rounds with physicians and residents, direct observation of clinical procedures, patient interviews, follow-up care, and outcome review. Potential venues may include inpatient psychiatric ward, sleep clinic, epilepsy clinic, stroke clinic, neurosurgical theater, and surgical ICU. In consultation with the course director, students will first select one of the following sub-sections, then design their individually tailored clinical practicum experience with the coordinator for that section.  
Semester Credit Hours: 1.0

INTD 7002  Neurobiology Learning of Memory
This course will focus on recent findings and topics related to the underlying aspects of the neural basis of learning and memory. Students will learn about: Molecular basis of memory formation, consolidation and retrieval, Memory and Emotion,
PHAR 5013  **Principles of Pharmacology**
Topics include principles of drug action; receptor classification and quantitation; dose-response relationships; cellular mechanisms of drug action; fundamental concepts of drug-receptor interactions; voltage-gated and ligand-gated ion channels; drug actions mediated by transduction and non-transduction enzymes; time course of drug action; absorption, distribution, biotransformation and elimination of drugs; pharmacokinetics; and experimental approaches to drug action.
*Semester Credit Hours: 2.0*

PHAR 5020  **Basics of Research Design**
This course aims at teaching first-year graduate students fundamentals of research design and analysis of scientific literature to orient them with setting up scientific experiments and writing grant proposals. The course is divided into three sections: research design, communicating scientific data, and getting scientific ideas funded.
*Semester Credit Hours: 3.0*

PHAR 5091  **Pharmacology Micro-electives**
Micro-electives are courses that can be of any type ("tutorial" or original literature review, short [2-week] didactic, technique, etc.). In general, since they are short, they are often offered at any time of convenience between the student(s) and the faculty.

- **5091.001** New Views on Monoaminergic Neurotransmission: Are Transporters Important?
- **5091.002** Drug Discovery: Nuts and Bolts
- **5091.003** Historical Perspectives of Receptor Theory
- **5091.004** Cell Membrane Microdomains and Signaling
- **5091.005** Neuropeptide Metabolism
- **5091.006** Serotonin: From Soup (Transmission) to Nuts (Behavior)
- **5091.007** Central-Cardio-Respiratory Systems
- **5091.008** Neural Substrates of Regulatory Behaviors: Peptides and Monoamines
- **5091.009** Current Issues in Basic Research on Mechanisms of Epilepsy
- **5091.010** Appetite Control: Adiposity Hormones and Neuropeptides
- **5091.011** Fundamentals of Behavioral Pharmacology
- **5091.012** Therapeutics: Autonomic Pharmacology
- **5091.013** Therapeutics: Cardiovascular-Renal Pharmacology (*Prerequisite: PHAR 5091.012*)
- **5091.014** Therapeutics: Central Nervous System Pharmacotherapeutics
- **5091.015** Therapeutics: Chemotherapy
- **5091.016** Therapeutics: Endocrine Pharmacology
- **5091.017** Therapeutics: Pharmacological Management of Pain

*Semester Credit Hours: 0.5–9.0*

PHAR 6025  **Molecular Pharmacology**
This course will be presented in a journal club/paper discussion format and will focus on the molecular aspects of pharmacology, with emphasis on molecular biology, biochemistry, and cell biology of a variety of physiological systems subjected to pharmacological manipulation. The topics to be discussed will include molecular mechanisms of drug action, signal transduction and regulation, molecular approaches, and recent advances in areas of molecular pharmacology.
*Semester Credit Hours: 2.0*

PHAR 6027  **Fundamentals of Neuroethics**
Recent advances in neuroscience have considerably improved our understanding of brain function. However, the fascinating examination of brain's mysteries often intersects with the concerns of ethics and public policy. This course aims at presenting and discussing philosophical and scientific perspectives on major bioethical issues pertinent to neuroscience research. Several subjects will be covered in the course, including the effects of pharmacological and surgical interventions on the brain/min binomial, therapy versus enhancement, brain imaging and mental privacy, neurobiology of decision making, consciousness, unconsciousness, and death.
*Semester Credit Hours: 1.0*

PHAR 6071  **Supervised Teaching**
This course provides a mentored teaching experience. The student will be responsible for directing an undergraduate Physiology laboratory course under the guidance of the Physiology faculty. The student will prepare and provide limited lectures addressing background information required to understanding and performing research laboratories, as well as direct undergraduates in performance of these laboratories. Physiology faculty will insure that graduate students are prepared and knowledgeable about the laboratories they will direct. In addition, students will receive training in general pedagogy and specifically, in the performance, conduct, and directing of physiology research and its dissemination. In addition to learning to direct a laboratory course and providing lecture-based information, graduate students will be trained in preparing, administering, and marking laboratory exams.
*Semester Credit Hours: 1.0–9.0*
*Prerequisites: PHYS 5081*

PHYL 5045  **Mammalian Physiology**
The course explores the physiological mechanisms by which the cardiovascular system carries out its principle functions. Mechanisms that produce and regulate cardiac pumping, organ blood flow, capillary fluid and solute exchange, and arterial blood pressure are examined. The nature and importance of various local, neural, and hormonal mechanisms are emphasized. Integrated control of cardiovascular function in situations requiring cardiovascular adjustments (e.g., exercise, blood pressure alterations) are also covered.
*Semester Credit Hours: 4.0*

PHYL 6091  **Selected Topics of Physiology**
Students must take at least two courses selected from among the offerings in:
- PHYL 6091-01 Cardiovascular
- PHYL 6091-02 Calcium Signaling
• PHYL 6091-03 Cell Biology in Neural Science
• PHYL 6091-07 Ion Channels in Disease

Courses that may be substituted for one of these selections:
• INTD 5040 - Fundamentals of Neuroscience I: Molecular, Cellular, and Developmental Neuroscience
• INTD 5043 - Fundamentals of Neuroscience II: Systems Neuroscience
• CSBL 6048 - Biology of Aging

Not all selected topics are offered each semester. Please discuss this with the Academic Coordinator for more details. Substituted courses in conflict with Physiology course schedule will require approval from COGS.

Semester Credit Hours: 2.0

RADI 6024 Radiological Anatomy and Physiology

This course will provide students with an opportunity to learn anatomy, physiology, and commonly used medical terminology as it relates to radiologic imaging. Anatomic and physiologic features will be illustrated with radiologic images in formats commonly encountered in clinical radiology. By the end of the course, students are expected to be familiar with basic medical terminology and have a good understanding of medical anatomy, physiology, and some basic pathology as related to specific organs for which radiologic images are commonly applied.

Semester Credit Hours: 3.0
Pharmacy – Joint Pharm.D.

The Doctor of Pharmacy (Pharm.D.) program provides students the opportunity to acquire the education and training required to provide comprehensive pharmaceutical care services in a variety of practice environments. A select number of students may participate in the Joint Pharm.D. Program administered by the UT Austin College of Pharmacy and the UT Health Science Center San Antonio, after successfully completing two years of professional coursework in Pharmacy on the UT Austin campus. During the third professional year on the Health Science Center campus, the student has the opportunity to increase her/his knowledge and comprehension of pathophysiology, drug literature evaluation and biostatistics, pharmacoconomics, IV admixtures, and pharmacotherapy. The emphasis on problem-based instruction provides students the opportunity to improve their skills in retrieving and interpreting drug and biomedical information as well as integrating and applying previously acquired knowledge to new situations. The fourth professional year consists of seven 6-week clerkships that are conducted in a variety of acute care and ambulatory care facilities throughout the region.

The Dean of the UT Austin College of Pharmacy is responsible for administration of the joint Pharm.D. Program. In addition, several committees within the College of Pharmacy help support the day-to-day operation of the program. The Deans of the Health Science Center Graduate School of Biomedical Sciences, the Health Science Center School of Medicine, and the UT Austin College of Pharmacy collaborate on the development of Joint Program policies and procedures. Faculty of The University of Texas College of Pharmacy Pharmacotherapy Division also holds appointments in the School of Medicine at the UT Health Science Center San Antonio. The Pharmacotherapy Division Head reports jointly to the Dean of the College of Pharmacy and reports as a center director to the Dean, Health Science Center School of Medicine.

Requirements for Admission

Admission to the College of Pharmacy is contingent on and separate from admission to The University of Texas at Austin.

In addition to completing all pre-pharmacy course requirements, each applicant must make a satisfactory score on the PCAT exam. Additional measures of scholarly accomplishments and academic potential may be evidenced by grade point average, letters of recommendation, extramural service activities, and oral and written communication skills. Preference is given to applicants who are legal residents of Texas.

The Joint Pharm.D. degree is conferred on the basis of successful completion of all academic credits and the joint nature of the degree is recognized on the diploma of the graduate. Eligibility to graduate is certified by the Health Science Center Graduate Dean and the Dean, College of Pharmacy, UT Austin.

All professional degree programs in Pharmacy are accredited by the Accreditation Council on Pharmaceutical Education, a specialized accrediting agency recognized by the Secretary of Education, United States Department of Education. The last site visit and accreditation review was conducted in November 2010 and the College of Pharmacy received the maximum, six-year accreditation of its degree programs. The Council may be contacted at 312-644-3575 or through its Web site at http://www.ACPE-accredit.org.

Additional Information

The University of Texas at Austin Undergraduate Catalog contains detailed information about the Pharm.D. program and the College of Pharmacy. Further information may be obtained from the College’s Web page (http://www.utexas.edu/pharmacy) or by writing:

Assistant Dean for Admissions
College of Pharmacy
The University of Texas at Austin
1 University Station, A1900
Austin, TX 78712-0120
Physiology

Physiology is the study of the structure, function, and integration of the human body. In the pioneering days, research efforts were primarily directed at tissues and organs. This research continues to this day and has resulted in a comprehensive picture of the function of the human body. As molecular and genetic methods have come of age, physiologists have implemented these techniques to elucidate the molecular mechanisms that underlie physiological function. It is now clear that in order to develop a complete understanding of the normal and dysfunctional human body, we must ask questions at all levels, from the molecular to the cellular, to the organ, to the whole organism.

Graduate studies leading to a Doctor of Philosophy degree in the basic biomedical sciences are offered in the Integrated Multidisciplinary Graduate Program (IMGP). In this program, all incoming students have a common entry point. Within the first year, students select one of nine research tracks based on their specific interests. The Department of Physiology administers the Molecular, Cellular, and Integrative Physiology (MCIP) track.

A Master of Science degree program designed specifically for K–12 teachers is also offered through Physiology. Classes are held in the evenings during the school year. See the M.S. Degree Program for K–12 Teachers section below for more details.

Molecular, Cellular and Integrative Physiology (MCIP) Track

The track in Molecular, Cellular, and Integrative Physiology (MCIP) attracts graduate students with diverse training and backgrounds, including chemistry, biology, physics, and engineering, who are interested in basic biomedical research at the molecular, cellular, or integrative level. By understanding how the molecules, cells and organs of the body interact to achieve normal biological function, researchers in the MCIP track seek to gain fundamental insight into the mechanisms of disease. The MCIP track consists of collaborative faculty with wide-ranging interests including ion channels, synaptic transmission and neuroscience, cardiac and vascular physiology, aging and metabolism whose combined expertise provides an environment that promotes the translation of research discoveries from the "bench to the bedside." Completion of 72 credit hours and all course requirements is required for the Ph.D. Degree.

For more information about our department and graduate program, please visit our Web site at http://physiology.uthscsa.edu.

M.S. Degree Program for K–12 Teachers

Physiology offers a specific program of study for primary and secondary science teachers, which leads to a Master of Science Degree in Physiology. Applicants must have earned a Bachelor’s degree from an accredited institution or provide proof of an equivalent degree from a foreign institution.

The M.S. Degree Program in Physiology for K–12 teachers requires enrollment in both the fall and spring semesters of two consecutive school years plus the summer semester between the two school years. Enrollment will be for 6 hours of credit each semester. All courses during the school year are in the evening. Completion of 30 credit hours and all course requirements is required for the M.S. Degree.

Curriculum Objectives

- Increase understanding of the molecular, cellular, and integrative mechanisms of human bodily functions.
- Train in the methodologies of physiological research.

Study Activities and Environment

By accepting a small class size of 8–12 students and encouraging close working relationships among students and faculty, the program uses the following activities for learning physiology:

- Reading, classroom lectures, and discussions about the mechanisms of bodily function.
- Training in laboratory skills necessary for physiological research.

For more information about our department and graduate program please visit our Web site at http://physiology.uthscsa.edu.

Required Courses for the MCIP Track

CSBL 5095 Experimental Design and Data Analysis

The purpose of the course is to provide an introduction to experimental design and statistical analysis. The emphasis of the course will be on the selection and application of proper tests of statistical significance. Practical experience will be provided in the use of both parametric and nonparametric methods of statistical evaluation. Among the topics to be covered are: data reduction, types of distributions, hypothesis testing, scales of measurement, chi square analysis, the special case of the comparison of two groups, analysis of variance, a posteriori multiple range tests, tests of the assumptions of parametric analyses, advanced forms of the analysis of variance, linear regression, and correlation analysis. This course will partially be conducted online; therefore, access to a computer with Web access is required.
A camera and microphone/headphone attached to the computer will enhance the learning experience.
Semester Credit Hours: 2.0

or

**PATH 5021 Biostatistics**
An introduction to Biostatistics, emphasis is upon application of statistical methods to biological problems. Topics include descriptive statistics, probability, hypothesis testing, and estimation.
Semester Credit Hours: 3.0

**INTD 5000 Fundamentals of Biomedical Sciences**
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, organismal and systems biology, and microbiology and immunology. The course is designed for first-year graduate students matriculating into the Integrated Multidisciplinary Graduate Program.
Semester Credit Hours: 8.0

**INTD 5008 Laboratory Rotations**
This course provides an opportunity for students to participate in research activities in the laboratories of faculty members in different tracks to learn laboratory skills and to gain an introduction to the research fields of faculty members.
Semester Credit Hours: 2.0

**INTD 6002 Ethics in Research**
This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.
Semester Credit Hours: 0.5

**PHYL 5045 Mammalian Physiology**
This course begins with fundamental processes that govern membrane transport, membrane potential, and excitation-contraction coupling. The course then proceeds to coverage of organ system function including cardiovascular, respiratory, renal, gastrointestinal and endocrine/metabolic physiology. Lecture material is enhanced by supplemental discussion of research literature encompassing molecular biology, integrative function, and pathophysiological implications.
*Students may take the full course but are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).*
Semester Credit Hours: 4.0

**PHYL 5041 Excitable Membranes**
*Students may take the full course - PHYL 5045; however, they are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).*
This course addresses fundamental mechanisms of cell excitability in neurons and other excitable tissues. The format is a combination of lectures, readings/discussions, laboratory demonstrations, and simulation software (where available). Examples of the latter include software to simulate the resting membrane potential, action potentials, and synaptic events.

The module will emphasize contemporary issues in the scientific literature as well as translational science where dysfunction in channels and synapses underlie common disorders such as Alzheimer’s Disease, Myasthenia Gravis, Cystic Fibrosis, Long QT Syndrome, and Epilepsy to name just a few.
Semester Credit Hours: 1.0

**PHYL 5042 Cardiovascular Physiology**
*Students may take the full course - PHYL 5045; however, they are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).*
This course explores the physiological mechanisms by which the cardiovascular system carries out its principle function. Mechanisms that produce and regulate cardiac pumping, organ blood flow, capillary fluid and solute exchange, and arterial blood pressure are examined. The nature and importance of various local, neural, and hormonal mechanisms are emphasized. Integrated control of cardiovascular function in situations requiring cardiovascular adjustments (e.g., exercise, blood pressure alterations) are also covered.
Semester Credit Hours: 1.0

**PHYL 5043 Respiratory and Renal Physiology**
*Students may take the full course - PHYL 5045; however, they are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).*
This course covers the physiology of respiratory and renal function in the human body. Our focus is on basic mechanisms of function, role in body homeostasis, as well as dysfunction of both systems associated with pulmonary and renal disease. Two sessions are set aside for discussion around significant advances in each field. One or more recently published articles will serve as the focus for each of these discussions sessions.
Semester Credit Hours: 1.0

**PHYL 5044 Endocrinology/Metabolism and Gastrointestinal Physiology**
*Students may take the full course - PHYL 5045; however, they are only required to take three out of the four modules (PHYL 5041, 5042, 5043, and 5044).*
The course serves to expose students to the current state of knowledge in the field of endocrinology and metabolism, including reproductive physiology, and the related topics of the physiology of the digestive tract. Three sessions are assigned to advanced topics. In these three sessions students will engage in a discussion format centered around one recent important publication. The lecturer will lead the discussion with the aim of showing how the topics the students have been exposed to integrate one with another, providing the context for present-day discoveries.
Semester Credit Hours: 1.0

**PHYL 6071 Supervised Teaching**
A student enrolled in this course is expected to participate in the teaching program of the Department; the student earns one semester hour of credit per semester of teaching.
Semester Credit Hours: 1.0

**PHYL 6090 Seminar**
The course is comprised of research presentations by Physiology graduate students. This course is required of all
PHYL 6091 Selected Topics of Physiology
Students must take at least two courses selected from among the offerings in:
- PHYL 6091-01 Cardiovascular
- PHYL 6091-03 Cell Biology in Neural Science
- PHYL 6091-04 Endocrine and Metabolism
- PHYL 6091-05 Molecular Physiology
- PHYL 6091-07 Ion Channels in Disease

Courses that may be substituted for one of these selections:
- INTD 5040 - Fundamentals of Neuroscience I: Molecular, Cellular, and Developmental Neuroscience
- INTD 5043 - Fundamentals of Neuroscience II: Systems Neuroscience
- INTD 7002 – Neurobiology of Learning and Memory
- CSBL 6048 - Biology of Aging
- CSBL 6058 – Neurobiology of Ageing

Not all selected topics are offered each semester. Please discuss this with the Academic Coordinator for more details. Substituted courses in conflict with Physiology course schedule will require approval from COGS.

Semester Credit Hours: 2.0

PHYL 6097 Research
If a track chooses to give a seminar course, the specific course requirements will be determined by the track. The sub-designations for each track are:
- Biology of Aging (INTD 6097.1-BA)
- Cancer Biology (INTD 6097.2-CA)
- Cell & Molecular Biology (INTD 6097.3-CMB)
- Genetics, Genomics & Development (INTD 6097.4-GGD)
- Membrane Biology & Cell Signaling (INTD 6097.5-MBCS)
- Metabolism & Metabolic Disorders (INTD 6097.6-MMD)
- Microbiology & Immunology (INTD 6097.7-MI)
- Molecular Biophysics & Biochemistry (INTD 6097.8-MBB)
- Molecular, Cellular, & Integrative Physiology (INTD 6097.9-MCIP)
- Neuroscience (INTD 6097.10-NS)
- Pharmacology (INTD 6097.11-PHA)

Semester Credit Hours: 1.0–9.0

PHYL 7099 Dissertation
Registration for at least two terms is required for Ph.D. candidates.

Semester Credit Hours: 1.0–9.0
Prerequisites: admission to candidacy for the Ph.D. degree

M.S. Degree Program for K–12 Teachers

Curriculum Objectives
- Increase understanding of the molecular, cellular, and integrative mechanisms of human bodily functions.

Study Activities and Environment
By accepting a small class size of 8–12 students and encouraging close working relationships among students and faculty, the program uses the following activities for learning physiology:
- Reading, classroom lectures, and discussions about the mechanisms of bodily function.
- Training in laboratory skills necessary for physiological research.

Required Course for the

PHYL 5011 Discovery of Physiological Principles I
The course includes discussion of historic discoveries and ethical research issues in physiology, development of laboratory skills, analysis of laboratory demonstrations, and participation in laboratory experiments in areas covered in Cell Structure and Function.

Semester Credit Hours: 2.0
Prerequisites: concurrent enrollment in PHYL 5021

PHYL 5014 Discovery of Physiological Principles II
This course includes discussion of historic discoveries and ethical research issues in physiology, development of laboratory skills, analysis of laboratory demonstrations and participation in laboratory experiments in areas covered in Organ System Physiology I.

Semester Credit Hours: 2.0
Prerequisites: concurrent enrollment in PHYL 5024

PHYL 5017 Discovery of Physiological Principles III
This course consists of laboratory demonstrations and experiments in areas covered in Organ Systems Physiology II and acquisition of skills for analyzing and communicating the results of laboratory research.

Semester Credit Hours: 2.0
Prerequisites: concurrent enrollment in PHYL 5025

PHYL 5021 Cell Structure and Function
The focus of this course is on physiology of the cell. Areas to be studied include cell structures and their biological roles; characteristics, roles, synthesis, and utilization of proteins, carbohydrates, and lipids in the cell; mechanisms of exchange of materials between cell and environment; and mechanism of excitability in nerve and muscle cells.

Semester Credit Hours: 4.0
Prerequisites: concurrent enrollment in PHYL 5011

PHYL 5024 Organ System Physiology I
This course is a study of the mechanisms that produce and control the functions of about one-half of the body’s organ systems.

Semester Credit Hours: 4.0
Prerequisites: PHYL 5011 & 5021, and concurrent enrollment in PHYL 5014
PHYL 5025  Organ System Physiology II
This course is a continuation of the study, begun in Organ Systems Physiology I, of the mechanisms that produce and control the functions of the body’s organ system.
Semester Credit Hours: 4.0
Prerequisites: PHYL 5011, 5014, 5021, & 5024

PHYL 5026  Physiology in Everyday Life and Medicine
The focus of this course is on the application of physiological principles to the understanding of selected issues related to life cycle, well-being, and disease.
Semester Credit Hours: 3.0
Prerequisites: PHYL 5011, 5014, & 5024

PHYL 6098  Thesis
Registration for at least one term is required of M.S. candidates.
Semester Credit Hours: 1.0–9.0
Prerequisites: admission to candidacy for Master of Science degree
Radiological Sciences

The graduate program in Radiological Sciences trains students in: (1) the sciences and technologies that are used to produce radiant energy forms, (2) the scientific knowledge gained by using radiant energy forms to understand and modify biological processes, and (3) the application of radiant energy forms for the diagnosis and treatment of human diseases. The degrees offered are: (1) Ph.D. or Master of Science degree in Medical Physics, (2) Ph.D. degree specializing in Radiation Biology, or (3) Master of Science degree specializing in Medical Health Physics.

The curriculum provides an opportunity for students to acquire a core of fundamental knowledge through a synergistic program of formal courses, seminars, teaching opportunities, and hands-on research experience. Each student is encouraged to design, with the assistance of a research advisor, an individual course of study consistent with her/his career goals.

Research Activities

The research program in Radiological Sciences acts as a bridge between basic sciences and the application of such knowledge in the diagnostic and therapeutic processes of medicine. Exceptional facilities are available in the areas of nuclear magnetic resonance imaging, computer image analysis, nuclear medicine imaging, x-ray imaging, gamma-ray irradiation, and chemical analysis of contrast agents. Ongoing research programs cover a wide range of modern imaging, irradiation effects, and radiation applications. These programs are supported by grants from federal and private agencies. Extensive facilities are available to aid in the study of a wide range of radiation interaction problems in biological materials.

Requirements for Admission

In addition to meeting the general requirements for admission to the Graduate School of Biomedical Sciences, applicants to the program in Radiological Sciences must have obtained a baccalaureate degree in natural science or engineering. A baccalaureate degree in some other field must have provided sufficient science and mathematics courses to give the applicant the equivalent of a degree in natural science or engineering. Applicants must have undergraduate credit for the following courses:

**Biology:**
- Two semesters of general biology (two years for Radiation Biophysics, Human Imaging, and Neuroscience Imaging)

**Chemistry:**
- Two semesters of general chemistry (through biochemistry for Radiation Biophysics, Human Imaging, and Neuroscience Imaging)

**Physics:**
- One year of general physics*

**Mathematics:**
- Two semesters of calculus

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<th>Computer Science:</th>
<th>Introduction to Computer Science (one semester)</th>
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Additional Prerequisites for Medical Physics Track Applicants

Students entering the medical physics track of the graduate program shall have acquired a strong foundation in basic physics. This should be documented by either an undergraduate degree in physics or a degree in a related engineering or physical science with course work equivalent to a minor in physics (typically three upper-division physics courses).

1. **Math:** Four semesters of Calculus including differential equations. Students shall indicate courses providing experiences with linear algebra and Fourier analysis.

2. **Physics:** BA in Physics or appropriate science or engineering that includes at least an upper-level course in electricity and magnetism plus two additional upper-level courses such as modern physics, classical mechanics, introductory quantum mechanics, or thermodynamics.

Although students may be admitted with deficiencies that can be eliminated by successfully completing approved courses at other institutions, all deficiencies must be removed before admission to candidacy for a degree.

Financial Support for Graduate Students

Financial support for students is provided through teaching and graduate assistantships that are awarded on a competitive basis.

Curriculum

The Master of Science degree requires a minimum of 30 semester credit hours of graduate work. For the Ph.D. degree, 42 semester credit hours are required above the minimum of 30 required for admission to candidacy. Students are expected to successfully complete the required courses in addition to a selection of advanced courses. Required courses and any electives will be determined for each student in consultation with her/his graduate advisor, as an educational plan is designed to meet specific career goals.

Master of Science degree candidates must complete required courses, pass a qualifying examination, formulate an original research proposal, and carry out the research and defense of a thesis. The Ph.D. student is eligible for admission to candidacy after completing required coursework, passing a qualifying examination, and demonstrating proficiency as an independent researcher. Following admission to candidacy, the student must complete an original research project and orally defend a dissertation. The Ph.D. degree is awarded when the candidate has demonstrated competence in conducting original and independent research in the general area of radiological sciences.
The Medical Physics track includes curricula in Diagnostic Physics, in which students’ studies emphasize medical imaging physics and technologies, or Radiation Therapy Physics, in which students’ studies emphasize the uses of radiant energy forms for treatment of diseases. The Medical Physics track is independently certified by the Commission on the Accreditation of Medical Physics Education Programs (CAMPEP). The Radiation Biology track includes curricula in Radiation Biophysics, in which students’ studies emphasize investigation of the effects of radiation on biological processes, a combined MD residency/PhD Human Imaging degree program, in which students learn to use imaging as a clinical research tool, and Neuroscience imaging, in which aspiring neuroscientists learn to use MRI and PET technologies in combination with other neuroscience research methods. The Human Imaging program is unique in that it combines the proven effectiveness of graduate school research education techniques with rigorous clinical training to create a new cadre of research leaders for academic medicine. The Human Imaging PhD curriculum requires graduate imaging courses in addition to MD basic science courses. The Imaging Neurosciences curriculum teaches biology students to become adept at using imaging technologies as primary tools for undertaking neurological investigations.

Required Courses for the Ph.D. Degree

**INTD 5000  Fundamentals of Biomedical Sciences**
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, organismal and systems biology, and microbiology and immunology. The course is designed for first-year graduate students matriculating into the Integrated Multidisciplinary Graduate Program.
*Semester Credit Hours: 8.0*
*Prerequisites: Consent of instructor*

**RADI 5007  Statistics in the Radiological Sciences**
This is course an overview of biomedical statistics methods and basic applications to experimental design with special emphasis given to those methods used in radiation detection, image analysis, and evaluations of diagnostic efficacy. Students will have the opportunity to learn the theory behind these methods and apply them to actual and simulated problems in Radiological Sciences.
*Semester Credit Hours: 1.0*

**INTD 6002  Ethics in Research**
This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.
*Semester Credit Hours: 0.5*

**RADI 5015  Physics of Diagnostic Imaging I**
This course introduces the student to the basic principles and radiological practice using noninvasive imaging systems.

Topics include production of x-rays, interaction of radiation with matter, and the physics of imaging using computed tomography, ultrasound, and magnetic resonance. (Equivalent to BME 6703 at UTSA).
*Semester Credit Hours: 3.0*
*Prerequisites: consent of instructor*

**RADI 5025  Basic Radiation Biology**
This course is an overview of the physics and chemistry of radiation biology; the biological effects of ionizing and non-ionizing radiations and hyperthermia at the cellular and tissue levels and whole body and late effects.
*Semester Credit Hours: 1.5–3.0*
*Prerequisites: consent of instructor*

**RADI 5090  Seminars in Radiological Sciences**
Each student is required to register a minimum of two terms following an M.S. degree plan or four terms following a Ph.D. plan. Seminars will review current findings in the field.
*Semester Credit Hours: 1.0–9.0*

**RADI 6024  Radiological Anatomy and Physiology**
This course will provide students with an opportunity to learn anatomy, physiology, and commonly used medical terminology as it relates to radiologic imaging. Anatomic and physiologic features will be illustrated with radiologic images in formats commonly encountered in clinical radiology. By the end of the course, students are expected to be familiar with basic medical terminology and have a good understanding of medical anatomy, physiology, and some basic pathology as related to specific organs for which radiologic images are commonly applied.
*Semester Credit Hours: 3.0*

**RADI 6071  Supervised Teaching**
This course is a presentation of lectures and supervised teaching under the direction of faculty.
*Semester Credit Hours: 1.0–9.0*

**RADI 6097  Research**
This course is supervised research under the guidance of a faculty member.
*Semester Credit Hours: 1.0–9.0*

**RADI 6098  Thesis**
Registration for at least two terms is required for M.S. candidates.
*Semester Credit Hours: 1.0–9.0*
*Prerequisites: admission to candidacy for the Master of Science degree*

**RADI 7099  Dissertation**
Registration for at least one term is required for Ph.D. candidates.
*Semester Credit Hours: 0.5–9.0*
*Prerequisites: admission to candidacy for Doctor of Philosophy degree*
Electives

INTD 5005  Core Course I: Biochemistry
Topics to be covered include: protein structure; properties of enzymes; structure, biosynthesis, and function of lipids; pathways and regulation of carbohydrate metabolism and biosynthesis and regulation of amino acids, nucleotides, and related compounds.
Semester Credit Hours: 2.0
Prerequisites: consent of instructor

INTD 5006  Principles of Cellular and Molecular Biology
Students in the Orthodontics MS program in Cellular and Structural Biology, and other programs as appropriate, must take this course for needed background and training in cellular and molecular biology, which they previously obtained by enrollment in Core II: Molecular Biology and Core III: Cell Biology courses. Students must attend appropriate lectures (see list of lecture topics) in the INTD 5000 - Fundamentals of Biomedical Sciences course. No separate scheduling is required for this course.
Semester Credit Hours: 4.0
Prerequisites: consent of instructor

INTD 5046  Mind & Brain: Metanalysis in Human Brain Mapping
The objective of this course is to familiarize students with human functional brain imaging methods, experimental designs, statistical analyses, inferential strategies, and content. Students are guided through a literature-based research project that culminates in a quantitative metanalysis of a set of studies using similar tasks.
Semester Credit Hours: 2.5

RADI 0001  Object-Oriented MRI Pulse Sequence Programming
A course designed to teach students to design and implement a large programming project in the C-language. The programming homework assignments are designed so that students can integrate them as components of their global project. Students are encouraged to select their project topic, but emphasis is on Diagnostic and Therapy Physics applications.
Semester Credit Hours: 3.0

RADI 5001  Basic Radiation Safety in the Laboratory
This course provides the student with the opportunity to gain a conceptual understanding of the radiation protection principles involved in the research, diagnostic, and therapeutic uses of radiation sources. This course will cover the safe receipt, use, storage, and disposal of radiation sources in the biomedical research setting. The contents of this course fulfill Health Science Center training requirements in order to use radioactive materials on campus. Successful participants will earn three Health Science Center safety certificates of completion: Basic Radiation Safety Training, Basic Laser Safety Training, and Basic Laboratory Safety Training.
Semester Credit Hours: 1.0

RADI 5005  Fundamentals of Radiation Dosimetry
This course is a detailed study of the fundamentals of radiation dosimetry in general rather than dealing only with its application in medical and health physics. Coverage includes charged particle and photon interactions with matter, the relationship between interactions and absorbed dose, cavity theory, ion chamber design and theory, and calibration techniques using ion chambers.
Semester Credit Hours: 3.0

RADI 5010  Medical Biophysics
This course is an introduction to the basic principles of biophysics as applied to medicine and biology. Emphasis will be placed on non-imaging topics of medical biophysics such as mechanics, thermodynamics, diffusion, electrical conduction, biomagnetism, and light spectroscopy.
Semester Credit Hours: 3.0

RADI 5011  Radiation and Nuclear Physics
This course reviews nuclear structure, interactions of radiation with matter, and the statistical nature of radiation. The course covers gas, scintillation, and solid-state detector technologies and their applications, including spectroscopy.
Semester Credit Hours: 3.0

RADI 5018  Physics Measurements in Imaging
This is a laboratory course focusing on performance of measurements used in quality assurance (QA), system characterization, and acceptance testing of medical imagers.
Semester Credit Hours: 2.0
Prerequisites: concurrent enrollment in RADI 5015

RADI 5020  Principles of Health Physics I
This course covers the basic principles of protection dealing with the major forms of ionizing radiation.
Semester Credit Hours: 3.0

RADI 5030  Neuroscience Imaging Laboratory
Students are assigned to rotate in 6 laboratories at the RIC: MRI, PET, TMS, ERP, animal imaging, and optical imaging. In each lab, students will have the opportunity for hands-on experience on subject preparation, data acquisition, and processing.
Semester Credit Hours: 1.0

RADI 5050  Human Neuroelectrophysiology
A detailed study of the electrophysiological basis of human behavior, with an emphasis on event-related brain potentials associated with cognitive function, perception, and action.
Semester Credit Hours: 3.0
Prerequisites: BIO 4813 (or PSY 4183 and PSY 3103) and BIO 3433, or consent of instructor

RADI 6012  Physics of Nuclear Medicine Imaging
This course is a study of physical principles of planar, SPECT, and PET radionuclide imaging; instrument theory; dosimetry; computer uses; and safety considerations.
Semester Credit Hours: 3.0
Prerequisites: RADI 5011
RADI 6014  Physics of Dental Imaging  
This course is a survey of imaging procedures used in modern dentistry with an emphasis on the clinical objectives and physical principles underlying intraoral, panoramic, cephalometric, and digital dental radiography.  
*Semester Credit Hours: 2.0*  
*Prerequisites: consent of instructor*  

RADI 6016  Physics of Diagnostic Imaging II  
This course includes theory and applications of various forms of electronic imaging systems; advanced diagnostic imaging principles involving mathematical image analysis, digital image processing, digital image display, and concepts of electronic imaging.  
*Semester Credit Hours: 3.0*  
*Prerequisites: consent of instructor*  

RADI 6017  Neuroimaging Methods  
This course will deal extensively with several noninvasive brain imaging techniques to study the functional organization of the human and animal brains. Methods covered include positron-emission tomography (PET), event-related potentials, magneto-encephalography, optical imaging, voltage and calcium imaging, autoradiography, as well as transcranial magnetic stimulation. The course will only touch upon anatomical and functional MRI as well as high field MRI, as students will receive exhaustive MRI training from other classes. Course format will include both lectures on the several methods and seminars in which recent technical advances in the field are discussed.  
*Semester Credit Hours: 3.0*  
*Prerequisites: consent of instructor*  

RADI 6018  Foundations of Neuroscience Imaging  
This course will explore several advanced topics in cognitive neuroimaging techniques. Examples of such topics include strategies to study the functional and/or anatomical organization of the human brain and paradigms used for studying a variety of brain functions. Students interested in functional MRI as well as DTI will have an opportunity to gain extensive knowledge and experience.  
*Semester Credit Hours: 3.0*  

RADI 6019  Pulse Sequence Programming for MRI  
This course is an introduction to the basic principles of image processing as applied to digital radiography, computed tomography, ultrasound imaging, and magnetic resonance images.  
*Semester Credit Hours: 3.0*  
*Prerequisites: RADI 6016*  

RADI 6020  Advanced Topics in Cognitive Neuroscience  
This course will explore several advanced topics in cognitive neuroscience. It includes exhaustive study of a brain function in normal and in disease states. Brain functions include but are not limited to sensation, perception, action, language, motion, and cognition.  
*Semester Credit Hours: 3.0*  

RADI 6023  Clinical Medical Physics Laboratory  
This course offers the opportunity for medical physics students to work directly with professional medical physicists in a clinical setting.  
*Semester Credit Hours: 1.0–9.0 Variable*  

RADI 6028  Advanced Molecular Radiobiology  
This course assesses the types of molecular damage that occurs after radiation exposure of cells, and the methods used to detect such damage.  
*Semester Credit Hours: 3.0*  
*Prerequisites: RADI 5025*  

RADI 6030  Physics of Radiotherapy  
Theory, design, and operation of radiation-producing equipment used in radiation therapy are introduced. Exposure and absorbed dose calculations, patient dosimetry, treatment planning, and use of computers in radiation therapy are covered.  
*Semester Credit Hours: 3.0*  

RADI 6031  Physics Measurements in Radiotherapy  
Performance of measurements on radiation therapy equipment used to determine therapy treatment parameters is the opportunity for study in this course.  
*Semester Credit Hours: 3.0*  

RADI 6033  Advanced Radiotherapy Physics  
This course includes the coverage of advanced radiation therapy special topics: intensity modulated radiation therapy, advanced brachytherapy, and radiation therapy shielding.  
*Semester Credit Hours: 3.0*  

RADI 6035  Physics Measurements in Radiotherapy II  
In this course students will have the opportunity to further gain didactic and hands-on familiarity with radiation therapy measurement equipment (ion chambers, films, TLDs, water tanks, profilers, etc.) and learn daily clinical practices. Students will have the opportunity to learn the roles of a radiation oncology team, the generation of radiation therapy treatment plans, patient quality assurance, and advanced, specialized radiation therapy techniques. Learning can be accomplished through attendance of didactic lectures, homework assignments, presentations of class projects, and a comprehensive oral exam.  
*Semester Credit Hours: 3.0*  
*Prerequisites: RADI 5005, 6030, and 6031*  

RADI 6042  Non-ionizing Radiation Biology  
This course is an overview of the biological and known or potential health effects of non-ionizing radiation, with attention to radio frequency radiation in the microwave range, extremely low frequency (ELF) field exposures, LASER emissions, and ultraviolet (UV) light exposure.  
*Semester Credit Hours: 1.0–9.0*  

RADI 6049  Introduction to Magnetic Resonance  
This course presents the basics of the practice of magnetic resonance as the experimentalist or clinician first meets
them. The approach begins with images, equipment, and scanning protocols. The student will have the opportunity to face issues pertinent to practice with theoretical background added as experience grows. Through this approach, key ideas are introduced in an intuitive style that is faithful to the underlying physics.

**Semester Credit Hours:** 2.0

**RADI 6050  Magnetic Resonance Imaging**

This course explores the physics of magnetic resonance image formation through discussion of imaging problems, reviews of current research topics with an emphasis on quantitative methods using MRI, and hands-on experience in MRI laboratories.

**Semester Credit Hours:** 2.0

**Prerequisites:** RADI 6049

**RADI 6051  Statistical Parametric Mapping**

Course content includes principles of NMR Spectroscopy as applied to the resolution of molecular structural problems in chemistry, biology, and medicine; and principles and methods for designing BOLD contrast MRI experiments and evaluating fMRI data.

**Semester Credit Hours:** 3.0

**RADI 6060  Biophotonics and Optical Imaging**

Optical methodologies for imaging, diagnosis, and therapy are rapidly advancing in biology and medicine. This course will review basic elements of optics and optical sources, especially lasers and light-emitting solid state devices, in the context of biomedical applications. Dosimetry, tissue optics, and the principles of laser-tissue interaction will be considered in depth. Current medical uses of lasers will be surveyed, along with their scientific and technical foundations. The course will conclude with several case studies of research areas that are currently "hot topics" in biomedical optics. The course grade will be based on one exam given during the course, and a final term paper on a topic chosen by the student and approved by the instructors.

**Semester Credit Hours:** 3.0

**RADI 6062  Cognitive Neuroscience**

Cognitive Neuroscience deals with the neural basis of cognition and behavior, including considerations of perception, attention, motor control, language, learning, memory, executive function, spatial cognition, emotion, and social cognition. It also presents discussions on neurocognitive development and the evolution of the human brain. Unlike courses in basic neuroscience, this course has a more human focus, presenting in-depth discussions of neuroimaging techniques and literature. In addition, it focuses on psychological models of cognitive function derived from psychological experimentation, human lesion studies, and computational modeling. Cognitive Neuroscience presents an integrated view of the psychology and neurobiology of human cognition and behavior. By the end of the semester, students will have had the opportunity to: (a) become highly familiar with the structure of the human nervous system; (b) become conversant about the physical basis and limitations of neuroimaging techniques; (c) become familiar with the principal brain areas thought to be involved in a host of human cognitive competencies and behaviors, including perception, action, emotion, and language; and (d) understand how psychological theory and neural theory come together to form the foundation of cognitive neuroscience.

**Semester Credit Hours:** 3.0

**RADI 6091  Special Topics**

This course covers topics of special interest that may include emerging and new modalities in radiological sciences relating to x-ray, nuclear, or magnetic imaging.

**Semester Credit Hours:** 1.0–9.0

**RADI 7005  Treatment Planning Techniques in Radiation Therapy**

The goal of the course is to provide an overview of the physics and clinical elements that contribute to the development of computerized treatment plans in radiation therapy. The commissioning and acceptance testing of a planning system will be discussed and demonstrated in several planning platforms. Anatomy specific treatment planning will be described, including imaging of the specific disease, as well as contouring and plan development. Multiple plans will be generated for each site using different planning modalities, such as 2D, 3D, and IMRT.

**Semester Credit Hours:** 3.0

**RADI 7010  Motor Learning and Brain Imaging**

This course is designed for the advanced student (doctoral or postdoctoral) to obtain a comprehensive overview of the field of motor learning from behavioral and brain imaging perspectives. Topic coverage will include general motor learning and speech motor learning (with reference to treatment of motor speech disorders). The course will be structured in a seminar format. The course will explore measurement methods and issues in motor learning and the neural substrates of learning in intact and disordered subject groups.

**Semester Credit Hours:** 3.0
The MD/PhD program expects students who are pursuing the dual degrees to maintain standards of academic excellence, to progress in a timely fashion toward both the MD and PhD degrees, and to maintain professionalism. The MD/PhD Program Advisory Committee therefore stipulates the academic requirements listed below. Failure to meet these requirements will result in dismissal from the dual degree program and termination of financial support from the MD/PhD program. The student's standing with respect to either the School of Medicine or the Graduate School of Biomedical Sciences is a separate matter to be pursued through the appropriate dean's office.

1. While enrolled for the MD degree, students are required to maintain a minimum yearly grade point average of 3.25 and successfully complete two research rotations. In addition, dual degree students are required to pass the USMLE step 1 exam on the first attempt.

2. While enrolled as PhD students, dual degree students are required to maintain a GPA of 3.25 for each semester they are enrolled in graduate school. MD/PhD students must have a cumulative GPA of 3.25 to be eligible to take the advancement to candidacy examination, prior to establishing the formal dissertation supervising committee.

3. Attendance at the monthly Bench-to-Bedside series and the annual retreat is required of all students throughout both the MD and PhD components of the program.

4. During the graduate phase of their training, MD/PhD students are required to demonstrate satisfactory progress toward completion of their dissertation research projects. This documentation must be confirmed every six months, in the form of positive written evaluations by their dissertation research supervising committees, as well as any other positive written evaluative material that the respective track and program COGS may wish to provide.

5. The MD/PhD Program Promotions Board provides a mechanism for review of student progress and enforcement of these policies. The Promotions Board is empowered to review academic and research performance in accordance with the minimum requirements stipulated above and to make recommendations regarding MD/PhD program retention or dismissal of students based upon its evaluation of their academic progress and status.

6. MD/PhD students shall have the right to appeal a decision of dismissal from the program. The appeal will be heard by the MD/PhD Program Advisory Committee. The student may further appeal to the President of the Health Science Center, but only on issues of procedural irregularity.
Coordinate Graduate Courses

The following courses are offered to provide computational and statistical background pertinent to the design and interpretation of experimental research projects.

**PATH 5021  Biostatistics**
An introduction to Biostatistics, emphasis is upon application of statistical methods to biological problems. Topics include descriptive statistics, probability, hypothesis testing, and estimation.
*Semester Credit Hours: 3.0*

**PATH 5025  Individual Study in Biometry**
This course is for students who wish to study special problems in biometry or application of biometric methods to problems in the life sciences. A plan of study is determined by the student and the biometry faculty with topics varying according to the interests and requirements of the student.
*Semester Credit Hours: 1.0–9.0*
## Graduate School of Biomedical Sciences
### Academic Calendar 2011–2012

#### Fall 2011

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, May 01, 2011</td>
<td>Web Registration Begins</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, August 16, 2011</td>
<td>Web Registration Ends</td>
<td>All</td>
</tr>
<tr>
<td>Wed.–Fri., August 17–19, 2011</td>
<td>Orientation</td>
<td>New Students</td>
</tr>
<tr>
<td>Monday, August 22, 2011</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
</tr>
<tr>
<td>Monday, September 05, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wed., September 07, 2011</td>
<td>Census Date</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, November 24, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, November 25, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, December 16, 2011</td>
<td>Term Ends</td>
<td>All</td>
</tr>
<tr>
<td>Saturday, December 17, 2011</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Tuesday, December 20, 2011</td>
<td>Final Grades Due</td>
<td>All</td>
</tr>
<tr>
<td>Monday, December 26, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, January 03, 2012</td>
<td>Web Registration Begins</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, January 03, 2012</td>
<td>Web Registration Ends</td>
<td>All</td>
</tr>
<tr>
<td>Wed.–Fri., January 04–06, 2012</td>
<td>Orientation</td>
<td>New Students</td>
</tr>
<tr>
<td>Monday, January 09, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
</tr>
<tr>
<td>Monday, January 16, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, January 25, 2012</td>
<td>Census Date</td>
<td>All</td>
</tr>
<tr>
<td>Monday, February 20, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Monday, March 05, 2012</td>
<td>Spring Break Begins</td>
<td>All</td>
</tr>
<tr>
<td>Friday, March 09, 2012</td>
<td>Spring Break Ends</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, May 09, 2012</td>
<td>Term Ends</td>
<td>All</td>
</tr>
<tr>
<td>Friday, May 11, 2012</td>
<td>Final Grades Due</td>
<td>All</td>
</tr>
<tr>
<td>Friday, May 25, 2012</td>
<td>Graduation Ceremony</td>
<td>Graduating Students</td>
</tr>
</tbody>
</table>

#### Spring 2012

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, November 01, 2011</td>
<td>Web Registration Begins</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, January 03, 2012</td>
<td>Web Registration Ends</td>
<td>All</td>
</tr>
<tr>
<td>Wed.–Fri., January 04–06, 2012</td>
<td>Orientation</td>
<td>New Students</td>
</tr>
<tr>
<td>Monday, January 09, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
</tr>
<tr>
<td>Monday, January 16, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, January 25, 2012</td>
<td>Census Date</td>
<td>All</td>
</tr>
<tr>
<td>Monday, February 20, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Monday, March 05, 2012</td>
<td>Spring Break Begins</td>
<td>All</td>
</tr>
<tr>
<td>Friday, March 09, 2012</td>
<td>Spring Break Ends</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, May 09, 2012</td>
<td>Term Ends</td>
<td>All</td>
</tr>
<tr>
<td>Friday, May 11, 2012</td>
<td>Final Grades Due</td>
<td>All</td>
</tr>
<tr>
<td>Friday, May 25, 2012</td>
<td>Graduation Ceremony</td>
<td>Graduating Students</td>
</tr>
</tbody>
</table>

#### Summer 2012

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, April 01, 2012</td>
<td>Web Registration Begins</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, May 10, 2012</td>
<td>Web Registration Ends</td>
<td>All</td>
</tr>
<tr>
<td>Wed.–Fri., May 09–11, 2012</td>
<td>Orientation</td>
<td>New Students</td>
</tr>
<tr>
<td>Wednesday, May 23, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
</tr>
<tr>
<td>Monday, May 28, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Monday, June 4, 2012</td>
<td>Census Date</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, July 04, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, August 10, 2012</td>
<td>Term Ends</td>
<td>All</td>
</tr>
<tr>
<td>Saturday, August 18, 2012</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Tuesday, August 28, 2012</td>
<td>Final Grades Due</td>
<td>All</td>
</tr>
</tbody>
</table>
The School of Health Professions is a dynamic center of learning, service, and research for those interested in being a part of the challenging health care industry. The vision of the faculty members in the School of Health Professions states that, “We inspire and empower people to create healthier communities.”

The School of Health Professions educates future allied health professionals who will serve the people of Texas and the nation. The words “allied health” represents the largest group of health care providers in the United States. According to the American Medical Association, there are 80 verifiable allied health disciplines. This diversity creates a large, powerful group of allied health professionals of more than 3 million people who constitute more than 60% of the entire health care workforce. In Texas, there are more than 270,000 allied health professionals.

Accreditation

All educational programs in the School of Health Professions are accredited by their respective accrediting bodies. Information about accreditation status and the accrediting body are presented in each department’s section of this Catalog.

Educational Programs

The diversity of professions within “allied health” makes the term difficult to define. For the School of Health Professions, we describe allied health professionals as those who are involved in the identification, evaluation, treatment, and prevention of diseases, injuries, and other health-related conditions, while educating the public on prevention, wellness, and self-management for healthful lifestyles. At the School of Health Professions, educational programs are provided in the following disciplines:

Clinical Laboratory Sciences (CLS)
- Bachelor of Science in CLS
- Post-Baccalaureate Certificate in CLS (generalist and categorical)
- Bachelor of Science in Cytogenetics
- Post-Baccalaureate Certificate in Cytogenetics
- Master of Science in CLS – Forensic/Analytical Toxicology

Dental Hygiene (DH)
- Bachelor of Science in DH (entry-level)
- Bachelor of Science in DH (degree completion)
- Master of Science in Dental Hygiene

Dietetics and Nutrition (DIET)
- Coordinated Program in Dietetics
- Advanced Standing – Master of Dietetics

Emergency Health Sciences (EHS)
- EMT- Basic certificate
- EMT- Paramedic certificate
- Bachelor of Science in EHS

Occupational Therapy (MOT)
- Master of Science in Occupational Therapy

Physical Therapy (DPT)
- Doctorate in Physical Therapy

Physician Assistant Studies (PAS)
- Master of Physician Assistant Studies

Respiratory Care (RC)
- Bachelor of Science in Respiratory Care

For further information about School of Health Professions departments and educational programs, use the following telephone numbers and Web site addresses:

<table>
<thead>
<tr>
<th>Department</th>
<th>Web Site</th>
<th>Telephone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome Center</td>
<td><a href="mailto:SHPwelcome@uthscsa.edu">SHPwelcome@uthscsa.edu</a></td>
<td>(210) 567-8744</td>
</tr>
<tr>
<td></td>
<td><a href="http://SHPwelcome.uthscsa.edu">http://SHPwelcome.uthscsa.edu</a></td>
<td>(210) 567-8569</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(866) 802-6288</td>
</tr>
<tr>
<td>Clinical Laboratory Sciences (CLS)</td>
<td><a href="http://www.uthscsa.edu/shp/cls/">http://www.uthscsa.edu/shp/cls/</a></td>
<td>(210) 567-8860</td>
</tr>
<tr>
<td>Dean’s Office</td>
<td><a href="http://www.uthscsa.edu/shp/dean/index.asp">http://www.uthscsa.edu/shp/dean/index.asp</a></td>
<td>(210) 567-8800</td>
</tr>
<tr>
<td>Dental Hygiene (DH)</td>
<td><a href="http://www.uthscsa.edu/shp/dh/">http://www.uthscsa.edu/shp/dh/</a></td>
<td>(210) 567-8820</td>
</tr>
<tr>
<td>Emergency Health Sciences (EHS)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Essential Functions

Many departments in the School of Health Professions have adopted statements of "essential functions" or "core performance standards" that stipulate the function level of capability required to perform competently in the education program and/or as a professional after graduation.

Individuals with disabilities are encouraged to apply to the School of Health Professions programs. However, it is the responsibility of the student to notify the Chair of the Department if there is any reason why the abilities/expectations described in the Core Performance Standards cannot be met. Students who indicate they cannot meet one or more of these standards and who request a review in writing will be reviewed to determine what, if any, reasonable accommodations might be possible to facilitate successful completion of the degree requirements. For further information, contact the Assistant Dean for Student Success.

International Applicants

International applicants who have completed all or part of their college-level education at schools outside the United States must:

- Submit their foreign transcripts for a course-by-course descriptive evaluation through a university-approved evaluation service; and
- Submit their scores on the Test of English as a Foreign Language (TOEFL). Required minimum scores on the TOEFL are 560 (paper test) or 68 (Internet).

Official copies of the transcript evaluation must be submitted directly to the Registrar from the service provider. Official copies of TOEFL scores must be submitted to the Application Center.

Non-Degree Student Status

An individual who wishes to enroll in courses offered by the School of Health Professions without entering a certificate or degree program must apply for admission as a non-degree student. In general, a non-degree seeking student will have an academic background similar to those ordinarily admitted to Health Professions programs; course prerequisites and minimum grade point averages (GPA) are generally consistent with the published admissions criteria for each program. Permission to enroll as a non-degree seeking student may be granted by the Dean, Associate Dean, or Department Chair and will be enrolled only if space is available.

Students seeking non-degree student status must:

- receive approval for registration each semester by the Dean, Associate Dean, or Department Chair and the instructor of each course;
- maintain a minimum grade point average consistent with the department's established policies for regular students; and
- enroll for no more than 9 semester credit hours during fall or spring semesters or 6 hours during the summer session.
Course grading policies and standards for non-degree status students are the same as those for regular students. All grades received as a non-degree status student will be included on the student’s transcript and used for computing the cumulative GPA if the student is subsequently admitted to a certificate or degree program. Under special circumstances, such as the computation of the GPA to determine academic probation, the Dean or Associate Dean may grant exceptions to this policy.

**College Level Examination Program (CLEP)**

Course credit for specified general education and elective prerequisites may be accepted without a letter grade in the School of Health Professions certificate and degree programs if a student earns a satisfactory score on College Level Examination Program (CLEP) examinations.

### Conditions and Limitations

- Applicants and students are responsible for requesting that official CLEP scores be sent by The College Board to the Application Center.
- CLEP credit awarded by another institution is acceptable if scores are consistent with the minimum scores listed in the tables below. Notation of CLEP credit on an official transcript from the institution is sufficient documentation.
- CLEP credit cannot be used to establish credit for prerequisite courses for which a grade of F had been recorded.
- CLEP credit will not be recognized for prerequisite courses in which the student received college credit for the same course or its equivalent.
- Credit for CLEP exams used to satisfy requirements for entry into a program will not be listed on the transcript.

### Core Curriculum Requirements and Prerequisite Courses That May Be Satisfied by CLEP Examinations

<table>
<thead>
<tr>
<th>Prerequisite Course</th>
<th>CLEP Examination</th>
<th>Minimum Score/*</th>
<th>Maximum Credit Granted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>• Principles of Accounting</td>
<td>50/47</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry (Lecture)</td>
<td>• Chemistry</td>
<td>50/46</td>
<td>3</td>
</tr>
<tr>
<td>College Algebra, or Higher</td>
<td>• College Algebra</td>
<td>50/46</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• College Algebra-Trig.</td>
<td>50/45</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• Calculus</td>
<td>50/41</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• Trigonometry</td>
<td>50/50</td>
<td>3</td>
</tr>
<tr>
<td>Computer Literacy</td>
<td>• Information Systems and Computer Applications</td>
<td>50/52</td>
<td>3</td>
</tr>
<tr>
<td>Developmental Psychology</td>
<td>• Human Growth and Dev.</td>
<td>50/45</td>
<td>3</td>
</tr>
<tr>
<td>Economics</td>
<td>• Prin. of Macroeconomics</td>
<td>50/44</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• Prin. of Microeconomics</td>
<td>50/41</td>
<td>3</td>
</tr>
<tr>
<td>English</td>
<td>• English Literature</td>
<td>50/46</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• Freshman College Composition</td>
<td>50/44</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• American Literature</td>
<td>50/46</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• Analyzing and Interpreting Lit.</td>
<td>50/47</td>
<td>3</td>
</tr>
<tr>
<td>English Composition</td>
<td>• English Composition</td>
<td>50/42</td>
<td>3</td>
</tr>
<tr>
<td>General Biology (Lecture &amp; Lab)</td>
<td>• Biology</td>
<td>50/46</td>
<td>5</td>
</tr>
<tr>
<td>Introduction to Business Admin.</td>
<td>• Principles of Management</td>
<td>50/46</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Psychology</td>
<td>• Introductory Psychology</td>
<td>50/47</td>
<td>3</td>
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<tr>
<td>Introduction to Sociology</td>
<td>• Introductory Sociology</td>
<td>50/47</td>
<td>3</td>
</tr>
<tr>
<td>Marketing</td>
<td>• Principles of Marketing</td>
<td>50/50</td>
<td>3</td>
</tr>
<tr>
<td>United States Government</td>
<td>• American Government</td>
<td>50/47</td>
<td>3</td>
</tr>
<tr>
<td>United States History</td>
<td>• U.S. History I</td>
<td>50/47</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• U.S. History II</td>
<td>50/46</td>
<td>3</td>
</tr>
</tbody>
</table>

*Minimum scores listed are recommended by American Council on Education standard-setting panels for the paper-and-pencil version of the CLEP administered before July 1, 2001.*
Credit by Examination

Students in some Health Professions certificate or degree programs may attempt to earn credit by examination for designated courses. Credit by examination will not be given for credit-bearing courses that the student previously passed or failed at the Health Science Center or any other college or university.

Academic credit is awarded only to officially enrolled students or former students. With the approval of the Dean, additional eligibility requirements may be established by each department. Information about additional requirements is available from the department office or the Application Center.

Credit by examination satisfies degree requirements in the same way as credit earned by passing a course. Credit earned by examination does not jeopardize eligibility for scholarships that require a certain class standing (e.g. Junior class).

A student may be eligible for credit by examination by passing the examination according to criteria set by the department that administers it. Credit by examination is reported to the Registrar’s Office only when the student requests that the examination was passed. At the department’s request, the Registrar’s Office will post the credit earned by examination on the student’s official transcript. Credits earned by examination are not included in the calculation of the student’s grade point average.

All tests administered for credit by examination require the payment of a fee, determined by the department. Fees must be paid before the test is administered. Fees vary, depending on the nature of the test, time required for administration, and other factors.

Defense Activity for Non-Traditional Education Support (DANTES)

Course credit for specified core curriculum requirements and program prerequisites may be accepted without a letter grade in the School of Health Professions professional certificate and degree programs if a student earns a satisfactory score on Defense Activity for Non-Traditional Education Support (DANTES) examinations.

Conditions and Limitations

- Applicants and students are responsible for requesting that official DANTES scores be sent by DANTES to the Application Center.
- DANTES credit awarded by another institution is acceptable if scores are consistent with the minimum scores listed in the tables below. Notation of DANTES credit on an official transcript from the institution is sufficient documentation.
- DANTES credit cannot be used to establish credit for core curriculum or program prerequisite courses for which a grade of F had been recorded.
- DANTES credit will not be recognized for core curriculum or program prerequisite courses in which the student received college credit for the same course or its equivalent.

### Core Curriculum Requirements and Program Prerequisites that may be Satisfied by DANTES Examinations

<table>
<thead>
<tr>
<th>Core Curriculum Course</th>
<th>DANTES Examination</th>
<th>Minimum Score¹</th>
<th>Maximum Credit Granted²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>Principles of Financial Accounting</td>
<td>49</td>
<td>3</td>
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<tr>
<td>Principles of Accounting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Law</td>
<td>Business Law II</td>
<td>52</td>
<td>3</td>
</tr>
<tr>
<td>College Algebra, or higher</td>
<td>Fundamentals of College Algebra</td>
<td>47</td>
<td>3</td>
</tr>
<tr>
<td>Communication</td>
<td>Technical Writing</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td>Computer Literacy</td>
<td>Introduction to Computing</td>
<td>45</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Management Information Systems</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Developmental Psychology</td>
<td>Lifespan Developmental Psychology</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td>Electives³</td>
<td>Note: Many DANTES examinations may satisfy credits for electives.</td>
<td>Varies</td>
<td></td>
</tr>
<tr>
<td>Humanities &amp; Visual and Performing Arts</td>
<td>Art of the Western World</td>
<td>48</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Human/Cultural Geography</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ethics in America</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction to World Religions</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Introduction to Business Administration</td>
<td>Introduction to Business</td>
<td>46</td>
<td>3</td>
</tr>
</tbody>
</table>
### Management Science
- Human Resource Management
- Principles of Supervision

### Mathematics (Algebra and Statistics)
- Fundamentals of College Algebra
- Principles of Statistics

### Natural Sciences
- Astronomy
- Environment and Humanity: The Race to Save the Planet
- Principles of Physical Science I
- Physical Geology

### Social and Behavioral Sciences
- Lifespan Developmental Psychology
- General Anthropology
- Organizational Behavior
- Introduction to Law Enforcement
- Criminal Justice
- Fundamentals of Counseling

### Speech
- Principles of Public Speaking

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1. Minimum scores are based on American Council on Education (ACE) recommendations.
2. Three semester credit hours per DANTES examination may be awarded.
3. Many DANTES examinations may satisfy credits for electives. Each program that includes electives in program prerequisites will designate which DANTES examinations may or may not be used for elective credit and maximum number of semester credit hours that may be awarded. Minimum scores for awarding elective credit will be determined by the application of ACE recommendations.

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### Tuition and Fees

Tuition and fees in the School of Health Professions vary by department and program. In addition to tuition, there are required fees for all students. There are also additional program-specific fees that vary by department and course.

### Scholarships

A variety of scholarships are available to students in the School of Health Professions. Some are available to all students in the school and others are available only to students in the respective department. For more information, consult with the Assistant Dean for Student Success.

### General Policies and Regulations

#### Academic Advising

Students in Health Professions programs may be assigned a faculty advisor to assist the student’s progress through the program. Advisors assist students in solving problems and/or finding alternatives or options. The advisor provides advice and opinions, facts or information, and clarifies policies for the student. Topics that may be addressed through faculty advising include academic issues, program policies, study problems, time management, and clinical progress, as well as the advisor’s referral to other support systems in the university or community. It is the student’s responsibility to meet with the advisor when encountering difficulties. Further information about the department’s policies and practices regarding faculty advisors are provided in each department’s student manual/handbook.

#### Academic Integrity

Students in the School of Health Professions are expected to be above reproach in all professional and academic activities. Policies on academic dishonesty and integrity will be strictly enforced; students who fail to conform to standards of academic integrity and scholastic honesty are subject to disciplinary actions. Academic dishonesty includes cheating on examinations or assignments, plagiarism, fabricating data or results, presenting another person’s work as one’s own without giving proper credit or citation, falsifying data or results, etc. These forms of academic dishonesty are classified as “disciplinary” issues and are investigated by the Assistant Dean for Student Success. Violations of academic integrity standards may result in severe penalties including suspension or dismissal from the university. To avoid charges of academic dishonesty, consult with the department chair or faculty member about expectations. For further information about procedures in regard to academic integrity, see procedures and regulations governing Student Conduct and Discipline.

#### Professional Demeanor

Health Professions students are regarded as professional persons and are expected to conduct themselves in a professional manner. Professionalism relates to the intellectual, ethical, and behavioral attributes necessary to perform as a health care provider. Students are expected to perform at a professional level when interacting with student peers, patients, faculty, and staff, and when representing the institution at clinical sites and community activities. A breach of professional conduct may be considered grounds for disciplinary action or dismissal from the program.

- In addition to the “Guide for Professional Conduct” (below), students are responsible for knowing and adhering to the following regulations and guidelines on
professional conduct and discipline: Health Science Center’s procedures and regulations governing Student Conduct and Discipline
- Rules and Regulations of The University of Texas System Board of Regents

Additional guides for professional conduct may be issued by Health Professions departments and/or professional organizations.

Guide for Professional Conduct

Professionalism relates to the intellectual, ethical, behavioral, and attitudinal attributes necessary to perform as a health care provider. The student will be expected to:

- Demonstrate sound judgment commensurate with the level of training and experience.
- Serve all patients without discrimination.
- Recognize and respect the role and competencies of other professionals and cooperate with them to provide effective health care.
- Exhibit concern primarily for the patient’s welfare rather than for a grade.
- Exhibit an attitude of respect, concern, and cooperativeness toward peers, staff, and faculty.
- Hold in confidence the details of professional services rendered and the confidences of any patient.
- Achieve the highest degree of honesty and integrity by communicating and behaving in an honest, ethical manner.
- Accept responsibility for own work and results; demonstrate willingness to accept suggestions for improvement.
- Maintain physical, mental, and emotional composure in all situations.
- Abide by the regulations and policies of the program and clinical training sites.
- Practice personal grooming and hygiene.
- Practice appropriate safety and aseptic techniques.
- Provide the patient with relevant information to enable the patient to participate in making decisions regarding her/his condition, prognosis, and treatment options.
- Refuse to participate in or conceal any unlawful, incompetent, or unethical practice.

Professional Attire

Students in the School of Health Professions programs must dress at all times in a manner consistent with a professional image while on campus and at practicum sites. Appropriate attire for clinical rotations, practicums, or other clinical/educational settings will vary, depending upon department requirements, facility environments, local customs and expectations. It is the student’s responsibility to inquire about dress expectations and to comply with them.

Advancement, Probation, and Dismissal

Decisions about advancement, probation, and dismissal may be made on the basis of academic performance and/or professional behaviors. Academic standards for advancement in the certificate or degree program are determined by the faculty of each department. Failure to meet the standards may result in the student’s being placed on probation or dismissed from the program.

Continuation in a School of Health Professions program is dependent on maintenance of a minimum cumulative grade point average as set by the department. A student whose cumulative GPA falls below the minimum may be subject to academic probation. All decisions concerning probation or dismissal will be based on recommendations from the faculty. The faculty may recommend dismissal, academic probation, repetition of the course when next offered, repetition of the year/semester, or other actions as deemed appropriate. Under no circumstances will a student on probation be awarded a degree.

Students who do not adhere to professional conduct standards may be dismissed from the certificate or degree program. General standards for professional behavior are provided under the Guide for Professional Conduct. Other standards and policies may be set by the faculty. Professional behavior and ethics standards from professional organizations may also be applied.

Students may be dismissed, suspended, or refused readmission at any time if circumstances of a legal, moral, health, social, or academic nature are considered to justify such action.

Additional policies and procedures regarding probation, dismissal, and student appeals may be found in the Catalog sections General Regulations and Requirements and Grades, Promotion, and Advancement.

Grades

The standing of students in their work is expressed by the following grades:

- A = Excellent
- B = Above Average
- C = Average
- D = Below Average
- F = Failure

Grades for courses in which performance is graded an S (Satisfactory) or U (Unsatisfactory) are not used in computing the grade point average.

The grade point average is calculated using the following grade points:

- A = 4 points
- B = 3 points
- C = 2 points
- D = 1 point
- F = 0 points

The symbol I (incomplete) may be recorded for a student who has not completed course assignments at the conclusion of the course.
In some programs, students have the option of seeking exemption from certain courses in the curriculum if they have successfully completed an equivalent course in the curriculum at another college or university or content in an examination. The symbol CR (Credit) is recorded for a course(s) for which the student has been exempted.

**Grades in Clinical Rotations, Practicums, and Fieldwork Courses**

Clinical Rotations, Practicums, and Fieldwork Courses may be graded S (Satisfactory) or U (Unsatisfactory), or may be assigned a letter grade, depending on the Departmental policy. A grade of S or other designation of an acceptable grade is assigned if the student successfully satisfies the criteria for clinical courses. Failure to successfully satisfy the course criteria may result in an I (Incomplete) or a U (Unsatisfactory) or a letter grade considered unsatisfactory base on departmental policy.

Criteria and time frame for removal of an I or U or other unsatisfactory grade in clinical courses are determined based on clinical documentation and consultation with the clinical supervisorclinical instructor. An I or U or other unsatisfactory grade may require that the student complete an additional clinical affiliation or other remediation that could extend the professional curriculum beyond the expected graduation date. More than one unsatisfactory grade is not allowed within the total clinical course sequence.

**Incompletes**

A grade of I (Incomplete) may be assigned when a student has not satisfactorily completed all course requirements by the conclusion of the course. Unless the student has been granted a Leave of Absence, all incomplete work must be completed within one year, at which time the grade will be changed to the appropriate letter grade. When an I is issued pending a grade in a course that is a prerequisite for another course, the I must be removed before the student is allowed to enroll in the next sequential course.

**Dropping a Course**

There is a Six-Course Drop Limit established by the Texas Senate (SB 1231). This legislation is applicable to all Texas public colleges and universities.

**Withdrawal from a Course**

From the beginning of the third week to the end of the eleventh week of classes (or first week to the seventh week for summer term), a student may withdraw from a course and receive a W (Withdraw) on her or his transcript. Students who wish to withdraw must meet with their faculty advisor and the course instructor, fill out the course withdrawal form, and obtain necessary signatures. Between the end of the eleventh week (or the end of the seventh week for summer term) and the last day of class before finals, students who wish to withdraw from a course must petition the faculty through a written request to the course instructor. The petition must state why the student is unable to continue in the course. Acceptable reasons for withdrawal do not include dissatisfaction with the instructor or course or with the expected grade or performance. The faculty will approve or deny the request. If approved, the student will receive a W on her or his transcript. If the request is denied, the instructor will assign a final grade in accordance with the criteria that is applied to other students in the course.

The instructor may recommend to the Department Chair that a student be administratively dropped from a course when the instructor can show that circumstances warrant such action. The Dean must approve this request. If approved, a grade of W will be assigned.

See also Clearance to Withdraw—Dismissal, Leave of Absence, Withdrawal.

**Dean’s Honor List**

Students in certificate or bachelor’s degree programs in the School of Health Professions with a grade point average (GPA) of 3.5 or greater for an academic semester or session may qualify for inclusion on the Dean’s Honor List. In addition to the minimum GPA, Dean’s Honor students must complete at least 9 semester credit hours during a regular semester or 5 semester credit hours during a summer session.

**Graduation with Honors**

Honors designations are awarded to students graduating from the baccalaureate programs based upon the following scale:

- Magna Cum Laude - Cumulative GPA of 3.50–3.74
- Summa Cum Laude - Cumulative GPA of 3.75–4.0

**Appeal Procedures**

The purpose of academic appeals is to provide students with an objective hearing of wide-range issues related to the student’s professional education. The appeal procedures below provide opportunities for students to request a review of recommendations and decisions made by the department faculty, submit information not previously available to the faculty, or suggest alternative remedies. Students in Master of Science degree programs follow appeal processes for the Graduate School of Biomedical Sciences. These procedures apply to circumstances and events related to the student’s education program, including academic issues, professional conduct or judgment, or ethical behavior. Policies and procedures for scholastic dishonesty or other non-academic disciplinary matters differ from these procedures and are addressed in procedures and regulations governing Student Conduct and Discipline in this Catalog. Established school or program policies themselves cannot be appealed.

**Appeal of Grades or Evaluations**

The procedures below are followed in the School of Health Professions for appeal of academic matters including grades or other evaluations awarded for a course, assignment, project, examination, clinical procedure, clinical rotations, or other program-related performance.

Meeting with the Instructor — before initiating an appeal, the student must contact the course instructor to discuss the academic matter or grade within five business days of the
occurrence. “Occurrence” is the notification of a student’s grade or performance evaluation.

Step 1  
**Appeal to the Department Chair** — If the matter is not resolved with the faculty member, the student may appeal in writing to the Department Chair within five business days following the meeting with the instructor. The written appeal should include:

a. name of the student  
b. nature of the occurrence  
c. date of the occurrence  
d. name of the instructor(s) involved  
e. summary of the student’s meeting with the instructor, including date, time, and outcomes  
f. student’s rationale for the appeal

Step 2  
**Meeting with the Department Chair** — Within five business days after submitting the written appeal to the Department Chair, the student will be responsible for setting an appointment with the Department Chair to discuss the appeal. This meeting should occur as soon as feasible. The Department Chair’s responsibilities include:

a. investigating the facts and examining the evidence  
b. meeting with the instructor(s) and student to clarify areas of dispute  
c. mediating a mutually-acceptable resolution, if possible  
d. documenting in writing actions taken to seek resolution

The Department Chair will notify the student and faculty member in writing of her/his decision within five business days following the final meeting with concerned parties.

Step 3  
**Appeal to the Dean** — If mutually acceptable resolution is not achieved, or if the student wishes to appeal the Department Chair’s decision, the student may submit a written request to the Dean to review the merits of the student’s appeal. The request must be submitted within five business days of the Department Chair’s notice. The Dean will review the student's appeal and the information and may solicit other information deemed appropriate for resolving the matter. The Dean will inform the student and the Department Chair in writing of the Dean’s decision within five business days following the final meeting with concerned parties. The decision of the Dean will be final and may not be appealed. The President may review the appeal process.

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**Appeal of Program-Related Penalties**

At times, the faculty may judge that it is in the best interest of the student, patients, education program, or public to recommend that penalties be assessed against a student. Such penalties may include probation, suspension, dismissal, repeat of course(s), or other penalties deemed appropriate under the circumstances. Reasons for penalties may include a variety of factors, e.g., poor academic performance, violations of professional standards of conduct, poor professional judgment, failure to demonstrate ethical behavior, etc. The following procedures are followed for appeal of program-related penalties.

Step 1  
**Initial Decision and Notification** — The student will have been identified as performing below expectations in the education program, and the faculty assesses one or more penalties. It is recommended that the faculty provide opportunity for the student to provide information related to the matter before the decision is made about penalties. If the proposed penalty is dismissal, the faculty is required to provide the student an opportunity for a personal hearing before the decision is reached. Minutes of the meeting in which the decision was made will summarize the allegations, facts, and rationale for the faculty’s decision. The Department Chair will notify the student in writing of the faculty’s decision and the rationale, and inform the student about appeal procedures. Copies of the faculty meeting minutes and the notification to the student will be sent to the Dean. If the student does not appeal the decision, the penalty becomes effective five business days after receipt of the Department Chair’s notification.

Step 2  
**Appeal to the Dean** — The student may appeal the faculty’s decision by submitting a written request to the Dean within five business days of receipt of the Department Chair’s notification. The written appeal should include:

a. date  
b. student’s name  
c. specific reasons that the penalty assessed by the faculty is deemed inappropriate, e.g., extenuating circumstances affecting the student’s performance or behavior that the faculty was unaware of at the time of the decision, misapplication of department policy or procedure, etc.

Step 3  
**Hearing Before the Student Appeal/Grievance Committee** — The Dean will convene the Student Appeal/Grievance Committee (SAGC) to hear the student’s appeal. The SAGC may seek further information; conduct additional investigation; and may approve, reject, or modify the faculty’s decision. (See “Review by the Student Appeal/Grievance Committee,” below.) The Dean will notify the student and Department Chair in writing of the decision within five business days of the decision. The decision by the SAGC will be final and may not be appealed. The Dean and/or the President may review the appeal process.

**Review by the Student Appeal/Grievance Committee**

Students in the School of Health Professions are afforded the opportunity to appeal program-related penalties to the Student Appeal/Grievance Committee (SAGC). The SAGC is appointed annually by the Dean and consists of at least one faculty representative from each department.
Hearing Officer and Hearing Panel — When the Dean receives an appeal from a student, the Dean convenes the SAGC and appoints a Hearing Officer from the committee. The Hearing Officer is the spokesperson for the SAGC and is responsible for:

1. Selecting a hearing panel of at least five SAGC members to hear the appeal on behalf of the SAGC.
2. Informing the student, hearing panel, Dean, and other interested parties of the date and location of the appeal hearing at least ten business days before the hearing.
3. Conducting the hearing in a fair, unbiased manner.
4. Recording the testimony at the hearing in audio or video format. The hearing panel’s deliberation following testimony is not recorded.
5. Providing the Dean with a written summary of the hearing and the hearing panel’s decisions.
6. Maintaining a file of all evidence accumulated in the appeal process.
7. Providing all materials related to the appeal to the Dean following the final disposition of the appeal.

Appeal Hearing Participants — The appeal hearing provides for an objective hearing of all facts related to the appeal and should include not only the student, but also a spokesperson for the faculty. The hearing is “closed” and confidential. Only individuals personally involved in the hearing are permitted to attend and participate, including hearing panel members, the student, witnesses, and counsel, if desired.

Witnesses — If called, witnesses give only their testimony; witnesses may not be present in the hearing before or after their testimony is given. If the student wishes to call witnesses, the student must inform the Hearing Officer of the names of the witnesses and a brief written summary of their relevant testimony at least five business days before the hearing. Likewise, if the faculty representative wishes to call witnesses, the faculty representative must inform the Hearing Officer of witnesses’ names and a brief written summary of their relevant testimony at least five business days before the hearing. The Hearing Officer must inform each party of the witnesses that the other party plans to call at least three days before the hearing.

Procedures During the Hearing

Only those individuals who have an interest in the appeal may attend and participate in the appeal hearing. Generally, these individuals are: hearing officer, hearing panel, student, student’s witnesses, student’s counsel, faculty representative, faculty’s witnesses, and university’s counsel. Witnesses may be present only during their testimony and questioning.

1. The Hearing Officer reviews the purposes of the hearing and procedures to be followed, and clarifies the data-gathering and decision-making functions of the hearing panel. The Hearing Officer reads the student’s appeal submitted to the Dean. Only the concerns of the student presented in the written appeal are discussed during the hearing.
2. The student presents the issues and rationale for the appeal. The hearing panel may question the student. The student and faculty representative may question each other, at the discretion of the Hearing Officer.
3. The Hearing Officer will call witnesses as desired by the student and the faculty representative, and the hearing panel may question the witnesses. The student and the faculty representative may question the witnesses at the discretion of the Hearing Officer.
4. Counsel of choice, if requested by the student, may be present to protect the civil rights of the student. The hearing is not intended to be adversarial in the sense of a court trial and, therefore, witnesses are not “cross examined” as in a legal context. At all times, it is the prerogative of the Hearing Officer to carefully and discretely monitor and control the extent and degree of questioning and terminate it as her/his judgment dictates.
5. When all testimony has been provided, all individuals except the Hearing Officer and hearing panel leave the hearing room. The hearing panel discusses the matters and may request additional information as deemed appropriate and necessary. Although it is desirable to conclude appeals expeditiously, the hearing panel may use as much time as necessary to assess thoroughly and evaluate the situation. Following careful review of all information, the hearing panel makes a decision about the student’s appeal.
6. The Hearing Officer notifies the Dean of the hearing panel’s decision within five business days of its final meeting on the appeal.
7. The Dean notifies the student and the Department Chair in writing of the hearing panel’s decision within five business days of the decision.

Attendance

Because of the nature and complexity of the health professions programs, students are expected to attend every class, laboratory, conference, demonstration, meeting, clinical assignment, etc., that is a component of the curriculum. The once-a-year offering of most courses and step-by-step format of the curriculum allow minimal or no opportunity for make-up sessions. Attendance requirements for classes, laboratories, and clinic periods are the option and prerogative of the course instructor. The policy regarding attendance is outlined in each course syllabus and may be found in the department’s student manual/handbook, and the policies are announced by the instructor at the first class meeting.

Excused absences may be granted by the course director, program director, or department chair in cases of illness or personal emergency (e.g., extended hospitalization, death in the family). Excused absences are considered on an individual basis and verification of the reason for the absence may be required. Unexcused absences may be considered sufficient cause for failure. Prolonged absences for any reason may not be remediable. The faculty are not required to provide make-up or additional sessions for classes missed by students, regardless of the reason for the absence. Students are responsible for all material presented when they are absent and are responsible for arranging with the course director to make up missed work, if allowed.
Attendance is a professional attribute that the faculty expects every student to demonstrate. Repeated or multiple absences, unexcused absences, and tardiness will be considered unprofessional conduct and may result in faculty review and penalties, including dismissal from the program. Course grading requirements may include participation and any absence is considered non-participation. The ability of the graduating health professions student is totally dependent on the sum of her/his experiences during the educational and training period.

Leave of Absence

Under unusual circumstances, such as prolonged illness or injury, a student may request a leave of absence for up to a year from a certificate or degree program. The request must be made in writing to the Department Chair. On recommendation from the department's faculty, the Department Chair may grant a leave of absence for a period not to exceed one year. If a student is granted a leave of absence before the end of the academic term, a grade of I (Incomplete) may be recorded for each course that has not been completed. The student will be required to complete these courses under conditions prescribed by the faculty. Specific procedures for requesting a leave of absence may be established by each department within the above guidelines.

Withdrawal from a Certificate or Degree Program

Permission for withdrawal from a certificate or degree program in the School of Health Professions may be granted by the Dean or Associate Dean with the concurrence of the faculty. The student who wishes to withdraw must complete the Student Clearance Form (see Clearance to Withdraw on the Student Services Web site), submit the form for the required signatures, and obtain authorized signature clearance from each area listed on the lower portion of the form. Before leaving the program, the student should arrange for an exit interview with the Assistant Dean for Student Success. An additional Exit Interview is also required for students who are receiving financial aid.

In the case of withdrawal before the end of the academic semester or session, a grade of W will be recorded for each course not completed. In the case of withdrawal at the end of the academic semester or session, the appropriate grade will be recorded for each completed course.

Readmission

An application for readmission by a student who has previously withdrawn from a certificate or degree program is subject to the same requirements, procedures, and acceptance considerations that apply to first-time applicants.

Although the university is under no obligation to readmit any student who has withdrawn or has been dismissed, a student may seek readmission for further study by petitioning the faculty. Whether readmission will be considered at the entry level or an advanced level will be determined on an individual basis.
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Group(s)</th>
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<tbody>
<tr>
<td><strong>Fall 2011</strong></td>
<td></td>
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</tr>
<tr>
<td>Sunday, May 01, 2011</td>
<td>Web Registration Begins</td>
<td>All</td>
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<tr>
<td>Tuesday, July 5, 2011</td>
<td>Web Regular Registration Ends</td>
<td>PA Year 2</td>
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<tr>
<td>Monday, July 11, 2011</td>
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<tr>
<td>Tuesday, July 26, 2011</td>
<td>Census Date</td>
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<td>Web Registration Ends</td>
<td>PT Year 3</td>
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<td>Monday, August 01, 2011</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>PT Year 3</td>
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<tr>
<td>Tuesday, August 16, 2011</td>
<td>Census Date</td>
<td>PT Year 3</td>
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<td>Tuesday, August 16, 2011</td>
<td>Web Registration Ends</td>
<td>All (excluding PA Year 2 &amp; PT Year 3)</td>
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<tr>
<td>Tues.--Fri., August 16-19, 2011</td>
<td>Orientation</td>
<td>New Students</td>
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<tr>
<td>Monday, August 22, 2011</td>
<td>Term Begins (Official 1st Class Day)</td>
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<tr>
<td>Monday, September 05, 2011</td>
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<td>Monday, September 26, 2011</td>
<td>Term Begins (Official 1st Class Day)</td>
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<td>Wednesday, October 05, 2011</td>
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<td>Thursday, November 24, 2011</td>
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<td>Friday, November 25, 2011</td>
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<td>Wednesday, December 14, 2011</td>
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<td>All Other HP Students</td>
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<td>PA Years 2 &amp; 3 &amp; OT Year 3</td>
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<td>Saturday, December 17, 2011</td>
<td>Graduation (No Ceremony)</td>
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<td><strong>Spring 2012</strong></td>
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<tr>
<td>Tuesday, November 1, 2011</td>
<td>Web Registration Begins</td>
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<td>Orientation</td>
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<td>Monday, January 09, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
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<td>Monday, January 16, 2012</td>
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<td>Wednesday, January 18, 2012</td>
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<td>Monday, March 12, 2012</td>
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<td>Friday, April 06, 2012</td>
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<tr>
<td>Saturday, May 26, 2012</td>
<td>Graduation Ceremony</td>
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**Summer 2012**

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<td>Web Regular Registration Begins</td>
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<td>Tuesday, May 15, 2012</td>
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<td>Mon.–Tue., May 21–22, 2012</td>
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<td>Thursday, May 24, 2012</td>
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<td>PA Year 1</td>
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<td>Monday, May 28, 2012</td>
<td>University Holiday</td>
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<tr>
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<td>Wednesday, May 30, 2012</td>
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<td>Thursday, June 28, 2012</td>
<td>Term Ends</td>
<td>PA Year 1</td>
</tr>
<tr>
<td>Wednesday, July 4, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, July 5, 2012</td>
<td>Final Grades Due</td>
<td>PA Year 1</td>
</tr>
<tr>
<td>Wednesday, July 25, 2012</td>
<td>Term Ends</td>
<td>PT Year 2</td>
</tr>
<tr>
<td>Friday, August 10, 2012</td>
<td>Term Ends</td>
<td>All Other HP Students</td>
</tr>
<tr>
<td>Friday, August 17, 2012</td>
<td>Term Ends</td>
<td>PA Year 2</td>
</tr>
<tr>
<td>Friday, August 17, 2012</td>
<td>Final Grades Due</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Saturday, August 18, 2012</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Friday, August 24, 2012</td>
<td>Final Grades Due</td>
<td>All Other Continuing Students</td>
</tr>
</tbody>
</table>
Clinical Laboratory Sciences

- Bachelor of Science in Clinical Laboratory Sciences
- Post-Baccalaureate Generalist Certificate in Clinical Laboratory Sciences
- Advanced Standing Program for CLT/MLT Professionals
- Post-Baccalaureate Categorical Certificates (Microbiology, Clinical Chemistry, Immunohematology, Hematology)
- Master of Science in Clinical Laboratory Sciences - Forensic/Analytical Toxicology
- Bachelor of Science in Cytogenetics
- Post-Baccalaureate Certificate in Cytogenetics
- General Policies and Information
- Course Descriptions

Clinical laboratory scientists are laboratory practitioners who analyze blood, urine, tissue, or other body specimens to provide critical, objective data for disease diagnosis, treatment planning, and preventative health care. Cytogenetic technologists study the morphology and behavior of chromosomes and assist the physician in correlating chromosome anomalies to the individual’s medical condition, especially in the areas of inherited disorders and cancer.

Graduates of the bachelor’s degree programs may find employment opportunities in hospital laboratories as well as private, reference, research, industrial, biotechnology, veterinary, public health, and pharmaceutical laboratories. With advanced education and experience, graduates have additional career options, including research, teaching, and management. Graduates of the Master’s program are employed in toxicology laboratories in medical examiners offices and in drug enforcement administration.

The Department of Clinical Laboratory Sciences offers both undergraduate and graduate degree programs and post-baccalaureate certificate programs in two areas of study: Clinical Laboratory Science and Cytogenetics. These programs are accredited by The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018-5119; (773) 714-8880; e-mail info@naacsl.org. Web site: http://www.naacls.org.

Clinical Laboratory Sciences and Cytogenetics Programs

The Texas Common Application is required for admission to the Clinical Laboratory Sciences and Cytogenetics programs. All application materials, application fee, official transcripts, and supporting documents must be submitted to the Application Center by:

- June 1 for fall admission to CLS (baccalaureate, post-baccalaureate, and master's)
- October 1 for spring admission to CLS (baccalaureate and post-baccalaureate)
- June 1 for fall admission to Cytogenetics (baccalaureate and post-baccalaureate)

Applicants who are enrolled in college courses at the time of application should submit an official transcript showing courses in progress. An official, updated transcript must be submitted upon completion of the courses.

In addition to non-academic factors that may be considered for admission, each degree program has course requirements. Additional information about application and admission is available from the School of Health Professions Welcome Center or by calling (866) 802-6288 (toll-free) or (210) 567-8744.

### Degree and Certificate Programs in the Department of Clinical Laboratory Sciences

<table>
<thead>
<tr>
<th>Department</th>
<th>Bachelor of Science</th>
<th>Post-Baccalaureate Generalist Certificate</th>
<th>Post-Baccalaureate Categorical Certificate</th>
<th>Master of Science</th>
</tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cytogenetics</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Post-baccalaureate Categorical Certificate options include microbiology, clinical chemistry, immunohematology, and hematology.
2. Master of Science degree track includes forensic/analytical toxicology.
Bachelor of Science in Clinical Laboratory Sciences

The Bachelor of Science in Clinical Laboratory Sciences degree program is a four-year program that combines core curriculum, basic science, and basic clinical laboratory science courses throughout the first three years. The fourth year of the program comprises advanced clinical laboratory science courses and clinical practicums.

Students may choose from two options in the bachelor’s degree program: general clinical laboratory sciences and premedical. Those students who are interested in applying to medical school after completing the baccalaureate degree or post-baccalaureate certificate in clinical laboratory sciences should consider adding the courses recommended for admission to medical school.

Although the options differ in science, mathematics, and other program requirements, the professional phase CLS coursework is the same. The general option consists of a minimum of 130.5 semester credit hours and the pre-medical option consists of a minimum of 140.5 semester credit hours. Graduates of the CLS bachelor’s degree program are eligible to take the national certification examinations given by the Board of Certification (BOC) of the American Society for Clinical Pathology (ASCP), 33 West Monroe St., Suite 1600, Chicago, IL, 60603, 1-800-267-2727.

Post-Baccalaureate Certificate in Clinical Laboratory Sciences

The post-baccalaureate certificate program is designed for students who hold a bachelor’s degree from a nationally accredited college or university. The curriculum includes 63.5 semester hours of professional clinical laboratory sciences coursework completed at the Health Science Center. Science requirements not completed as part of the certificate curriculum. The curriculum requires approximately 18–24 months, depending on when the student enters the program. Certificate students may begin classes in the fall or spring semester. Individuals holding a current certification in a clinical laboratory science discipline and seeking to obtain additional certification may petition for an exemption from didactic courses taken within the last seven years and for which they can demonstrate content equivalency.

Application and Admission Requirements for the Bachelor of Science in CLS and the Post-Baccalaureate Certificate

- Completion of the Texas Core Curriculum and a minimum of 15 semester credit hours of program requirements in science and mathematics (Bachelor of Science students only) OR
- Completion of a bachelor’s degree in biology, chemistry, or other closely related field (Post-Baccalaureate Generalist or Categorical Certificate students only)
- Overall GPA of 2.5 (on a 4.0 scale)
- Science GPA of 2.5 (on a 4.0 scale) and no grade less than C in science courses

- All science and mathematics courses must be designated for science majors
- Official transcripts from each college and university attended
- Two Reference Forms completed by former instructors (preferably science instructors) or employers
- International Applicants only:
  - Submit Test of English as a Foreign Language (TOEFL) scores; minimum scores 560 (paper) or 68 (Internet)
  - Submit foreign transcripts for a course-by-course descriptive evaluation through a university-approved evaluation service.

Bachelor of Science in Clinical Laboratory Science and the Post-Baccalaureate Certificate Program Requirements

If a student first enrolled as an undergraduate at a Texas public university or college in Fall 1999 or more recently, their degree requirements include a General Education Core Curriculum. Every public institution in Texas has a Core Curriculum, which is designed to provide a solid foundation for a college education and to make transfers between and among Texas institutions of higher education as smooth and seamless as possible.

Each undergraduate institution's Core Curriculum applies to all academic undergraduate degrees. They range from 42 to 48 credit hours, depending on the college or university. Students may choose a major which has some more rigorous or more specific requirements than the Core. Most science majors have more intensive math and science requirements. In these cases, the major requirements have priority. For those and other reasons, no one should enroll in courses, Core Curriculum or otherwise, without consulting with a trained academic advisor or counselor at the appropriate institution.

Core Curriculum and the additional math and science courses for the bachelor’s degree may be taken at any regionally accredited community college or university; the upper-level science courses (including biochemistry) must be taken at a four-year university. Generally, all professional CLS courses are taken at the Health Science Center. Note that some of the Core Curriculum may also be taken/counted as CLS requirements.

Students are not required to complete all math and science requirements before being admitted to the Bachelor of Science in Clinical Laboratory Sciences program; some advanced science and math requirements may be taken concurrently with Clinical Laboratory Science courses. However, all Core Curriculum courses must be completed before admission to the CLS program. If you have questions about the Core or program requirements, contact the School of Health Professions Welcome Center at 210-567-8744 or 866-802-6288 (toll-free).
Math and Science Program Requirements for CLS:

- Biology I and laboratory, 4.0 hours
- Biology II, 3.0 hours
- Microbiology and laboratory, 4.0 hours
- Biochemistry (upper division), 3.0 hours
- General Chemistry I and laboratory, 4.0 hours
- General Chemistry II and laboratory, 4.0 hours
- Organic Chemistry I and laboratory, 5.0 hours
- General Physiology or Human Physiology (upper division), 3.0 hours
- Genetics, 3.0 hours
- Genetics laboratory (recommended), 2.0 hours
- Precalculus, 3.0 hours
- Statistics, 3.0 hours

Additional Math and Science Courses Recommended for Premedical Option:

- Calculus, 3 hours
- Physics I with laboratory, 4 hours
- Physics II with laboratory, 4 hours
- Organic Chemistry II with laboratory, 5 hours

The courses listed below constitute the professional curriculum for the bachelor's degree and post-baccalaureate certificate in Clinical Laboratory Science. Individualized degree plans are created for each student admitted to the Bachelor of Science in Clinical Laboratory Sciences and Post-Baccalaureate Certificate in Clinical Laboratory Sciences programs in consultation with the program director. Degree plans include the following courses, sequenced according to the student's needs.

Bachelor of Science in CLS and the Post-Baccalaureate Certificate Curriculum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 3000</td>
<td>Introduction to Clinical Laboratory Sciences</td>
<td>2.0</td>
</tr>
<tr>
<td>CLSC 3001</td>
<td>Phlebotomy Practicum</td>
<td>0.5</td>
</tr>
<tr>
<td>CLSC 3003</td>
<td>Parasitology and Mycology Laboratory</td>
<td>1.0</td>
</tr>
<tr>
<td>CLSC 3004</td>
<td>Parasitology and Mycology</td>
<td>2.0</td>
</tr>
<tr>
<td>CLSC 3010</td>
<td>Body Fluids</td>
<td>2.0</td>
</tr>
<tr>
<td>CLSC 3011</td>
<td>Quality Assurance in the Clinical Laboratory</td>
<td>1.0</td>
</tr>
<tr>
<td>CLSC 3033</td>
<td>Medical Microbiology</td>
<td>3.0</td>
</tr>
<tr>
<td>CLSC 3034</td>
<td>Medical Microbiology Laboratory</td>
<td>2.0</td>
</tr>
<tr>
<td>CLSC 3041</td>
<td>Seminar in Geriatrics</td>
<td>0.5</td>
</tr>
<tr>
<td>CLSC 3051</td>
<td>Hematology</td>
<td>3.0</td>
</tr>
<tr>
<td>CLSC 3052</td>
<td>Hematology Laboratory</td>
<td>2.0</td>
</tr>
</tbody>
</table>

CLS Educational Practicum Assignments

Making assignments to affiliates for practicum courses is a random process based on availability of positions at the affiliate sites. All students are expected to complete at least one practicum at an affiliate located outside of San Antonio. Refusal to go to an assigned affiliate will result in a loss of the student’s practicum position and delay of graduation. Students who have special needs and request specific considerations for practicum assignments must put the request in writing to the department chair. The chair will take the request to the faculty who will approve or disapprove the request.

In the unlikely event that there are not enough sites available for the number of students ready to enter practicums, assignments will be made in the following priority order:

- Students in the last semester of their senior year who have completed all didactic and laboratory courses.
- Students in their last semester of the senior year.
- All remaining students will be prioritized based on highest grade point average.
- Those who have practicums delayed for more than two semesters will be moved to top priority.
Students who fail a practicum may not take priority in practicum assignments over students who are in good standing. Students who fail a practicum and cannot be accommodated for remediation before completion of their didactic courses may repeat the practicum within the first seven weeks of the fall or spring semester following completion of didactic courses.

**Advanced Standing Program for CLT/MLT Professionals**

The advanced standing program is designed for the clinical laboratory technician (CLT)/Medical Laboratory Technician (MLT) who has completed a CLT/MLT program accredited by NAACLS, earned an associate’s degree, and who is certified as a CLT or MLT by the Board of Certification (BOC) of the American Society for Clinical Pathology (ASCP).

Students must apply and be accepted into the Bachelor of Science degree program at the Health Science Center. Core curriculum and all required courses must be completed before advancing to the senior year. Advanced professional clinical laboratory sciences courses may be offered by the Health Science Center via distance learning. Students who successfully complete the advanced standing program will receive a Bachelor of Science in Clinical Laboratory Sciences degree from the Health Science Center.

**Post-Baccalaureate Categorical Certificates in Clinical Laboratory Sciences**

Categorical certificate programs in a sub-discipline of clinical laboratory sciences are open to students who hold a bachelor’s degree in biology, chemistry, or other closely related field. Categorical certificates are available in microbiology, clinical chemistry, immunohematology, and hematology.

Students may enroll in one or more categorical certificate programs. Individuals holding a current certification in a clinical laboratory science discipline and seeking to obtain additional certification may petition for exemption from didactic courses taken within the last seven years for which they can demonstrate content equivalency. Curricula for these programs may be completed in 12 to 18 months, and consist of the following hours:

<table>
<thead>
<tr>
<th></th>
<th>Required Coursework</th>
<th>CLS Coursework</th>
<th>Total</th>
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<tr>
<td>Microbiology</td>
<td>39.0</td>
<td>35.5</td>
<td>74.5</td>
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<tr>
<td>Clinical Chemistry</td>
<td>35.0</td>
<td>30.0</td>
<td>65.0</td>
</tr>
<tr>
<td>Immunohematology</td>
<td>35.0</td>
<td>30.5</td>
<td>65.5</td>
</tr>
<tr>
<td>Hematology</td>
<td>38.0</td>
<td>25.0</td>
<td>63.0</td>
</tr>
</tbody>
</table>

**Application and Admission Requirements for the Post-Baccalaureate Categorical Certificate Programs**

- Bachelor’s degree in biology, chemistry, or other closely related field
- Minimum GPA of 2.5 (on a 4.0 scale)
- Science GPA of 2.5 (on a 4.0 scale) and no grade less than C in science courses
- All science and mathematics courses must be designated for science majors
- Official transcripts from each college and university attended
- Two Reference Forms completed by former instructors (preferably science instructors)
- International Applicants only:
  - Submit Test of English as a Foreign Language (TOEFL) scores; minimum scores 560 (paper) or 68 (Internet)
  - Submit foreign transcripts for a course-by-course descriptive evaluation through a university-approved evaluation service.

**Microbiology Categorical Certificate Program Requirements**

Program requirements include 39 semester credit hours of science and math courses listed below, some of which may be taken concurrently with courses from the Microbiology Categorical Certificate curricula, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- Genetics
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Microbiology with laboratory
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus
- Statistics

### Microbiology Categorical Certificate Curriculum

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
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<tr>
<td><strong>Fall Semester</strong></td>
<td>CLSC 3000 - Introduction to Clinical Laboratory Sciences</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>CLSC 3001 - Phlebotomy Practicum</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>CLSC 3003 - Parasitology and Mycology Laboratory</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>CLSC 3004 - Parasitology and Mycology Laboratory</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>CLSC 3065 - Clinical Immunology</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>CLSC 3071 - Diagnostic Immunology Laboratory</td>
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</tr>
<tr>
<td><strong>Semester Total</strong></td>
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<td>9.0</td>
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<tr>
<td><strong>Spring Semester</strong></td>
<td>CLSC 3011 - Quality Assurance in the Clinical Laboratory</td>
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</tr>
<tr>
<td></td>
<td>CLSC 3033 - Medical Microbiology</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>CLSC 3034 - Medical Microbiology Laboratory</td>
<td>2.0</td>
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<tr>
<td></td>
<td>CLSC 3041 - Seminar in Geriatrics</td>
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<tr>
<td></td>
<td>CLSC 4093 - Management II: Techniques for</td>
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Clinical Laboratory Sciences  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CLSC 4006</td>
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</tbody>
</table>
| Summer Semester  
| CLSC 4192 - Research I                           | 0.5          |
| CLSC 3010 Body Fluids                            | 2.0          |
| Semester Total                                    | 9.0          |

Fall Semester  

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<tr>
<td>CLSC 4033</td>
<td>Advanced Medical Microbiology</td>
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</tr>
<tr>
<td>CLSC 4035</td>
<td>Introduction to Molecular Diagnostics</td>
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</tr>
<tr>
<td>CLSC 4092</td>
<td>Management I</td>
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<tr>
<td>CLSC 4193</td>
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<td>CLSC 4038</td>
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</table>

Microbiology Categorical Certificate Total  

<table>
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<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>35.5</td>
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</tbody>
</table>

Clinical Chemistry Categorical Certificate Program Requirements  

Program requirements include 35 semester credit hours of science and math courses listed below, some of which may be taken concurrently with courses from the Clinical Chemistry Categorical Certificate curricula, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- 16 hours of Chemistry, including General Chemistry I with laboratory, General Chemistry II with laboratory, Organic Chemistry I with laboratory, upper division Biochemistry
- Physiology (human or general)
- Immunology (upper division or CLSC 3065)
- Precalculus
- Statistics

Clinical Chemistry Categorical Certificate Curriculum  

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Summer Semester</td>
<td>CLSC 3010</td>
<td>Body Fluids</td>
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<tr>
<td></td>
<td>CLSC 3081</td>
<td>Clinical Chemistry</td>
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<td>CLSC 3082</td>
<td>Clinical Chemistry Laboratory</td>
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<td>CLSC 3000</td>
<td>Introduction to Clinical Laboratory Sciences</td>
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</table>

Immunohematology Categorical Certificate Program Requirements  

Program requirements include 35 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Immunohematology Categorical Certificate curricula, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus
- Statistics

Immunohematology Categorical Certificate Curriculum  

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer Semester</td>
<td>CLSC 4192</td>
<td>Research I</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Semester Total</td>
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<td>0.5</td>
</tr>
<tr>
<td>Fall Semester</td>
<td>CLSC 3010</td>
<td>Body Fluids</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus

Hematology Categorical Certificate

Program Requirements

Program requirements include 38 semester credit hours of science and math courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:

- Biology I with laboratory
- Biology II
- Biochemistry (upper division)
- General Chemistry I with laboratory
- General Chemistry II with laboratory
- Genetics
- Immunology (upper division or CLSC 3065)
- Organic Chemistry I with laboratory
- Physiology (human or general)
- Precalculus
maximum of 6 semester credit hours of transfer courses that may be completed at another institution. Students in the program follow policies and procedures of the GSBS. For further information, see the Graduate School of Biomedical Sciences section of this Catalog.

Application and Admission Requirements for the Master of Science degree

- Bachelor's degree in clinical laboratory science (medical technology), biology, chemistry, or other related discipline from an accredited institution in the United States
- Minimum undergraduate GPA of 3.0 (on a 4.0 scale)
- All science courses completed with a grade of C or better
- Graduate Record Examination: scores must be competitive and not be older than 5 years
- Two Reference Forms from former or current instructors or employers
- Test of English as a Foreign Language (TOEFL) – International applicants only: minimum scores 560 (paper) or 68 (Internet)

Master's Degree in Clinical Laboratory Sciences
Forensic/Analytic Toxicology

Program Requirements:

- Biochemistry, 3.0 hours
- Biology, including Physiology, 8.0 hours
- General Chemistry I with lab, 4.0 hours
- General Chemistry II with lab, 4.0 hours
- Organic Chemistry with lab, 4 hours
- Organic Chemistry II with lab, 4 hours
- Instrumental Analysis or Clinical Chemistry, 3.0 hours
- Calculus, 3 hours

Highly Recommended:

- Immunology, 3.0 hours
- Physics I with lab, 3.0 hours
- Physics II with lab, 3.0 hours
- Statistics, 3.0 hours
- Demonstrated computer literacy

Forensic/Analytic Toxicology Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 5007 - Toxicology Practicum</td>
<td>5.0</td>
</tr>
<tr>
<td>CLSC 5014 - Principles and Applications in Analytical Toxicology</td>
<td>5.5</td>
</tr>
<tr>
<td>CLSC 5017 - Toxicology Seminar</td>
<td>1.0</td>
</tr>
<tr>
<td>CLSC 5018 - Special Topics in Medical/Forensic Toxicology</td>
<td>5.0</td>
</tr>
<tr>
<td>CLSC 5020 - Topics in Applied Toxicology</td>
<td>2.0</td>
</tr>
<tr>
<td>PHAS 5007 Pathogenesis of Human Disease</td>
<td>3.0</td>
</tr>
<tr>
<td>CLSC 6097 - Research</td>
<td>3.0</td>
</tr>
<tr>
<td>CLSC 6098 - Thesis</td>
<td>3.0</td>
</tr>
<tr>
<td>INTD 5064 - Applied Statistics for Health Care Practitioners</td>
<td>3.0</td>
</tr>
<tr>
<td>INTD 6002 - Ethics in Research</td>
<td>0.5</td>
</tr>
<tr>
<td>CLSC 5090 - Independent Study: Advanced Clinical Chemistry</td>
<td>3.0</td>
</tr>
<tr>
<td>Pharmacology and Toxicology (UTSA) or equivalent</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Forensic/Analytic Toxicology Total: 37.0

Electives are selected to complement the student's career objectives and provide requisite knowledge to complete the research project.

In addition to advanced clinical laboratory science courses, the student may enroll in specified courses offered by the Graduate School of Biomedical Sciences. Practicums are scheduled at various toxicology laboratories in San Antonio and the State of Texas.

Cytogenetics

Bachelor of Science in Cytogenetics

The Bachelor of Science in Cytogenetics program consists of a minimum of 120 semester credit hours, including of the Texas Core Curriculum and program requirements completed at an accredited college or university, and 36 semester credit hours of Cytogenetics courses completed at the Health Science Center. The Health Science Center phase of the program consists of approximately 12 months of full-time study.

Post-Baccalaureate Certificate in Cytogenetics

The post-baccalaureate certificate program in Cytogenetics is available for students who have already completed a bachelor's degree in natural science (biology, microbiology, medical technology, etc.) or a physical science (chemistry, physics, etc.). Health Science Center coursework is the same
for both the Bachelor of Science and post-baccalaureate certificate programs. The program consists of 36 semester credit hours completed at the Health Science Center. Graduates of the bachelor's degree and post-baccalaureate certificate program are eligible to take the Technologist in Cytogenetics examination given by the Board of Certification (BOC) of the American Society for Clinical Pathology (ASCP).

The programs may be completed in 12 months, based on full-time enrollment. Part-time enrollment is possible, but full-time students receive scheduling priority for clinical coursework. Most didactic courses are offered one time per year.

Application and Admission Requirements for the Bachelor of Science in Cytogenetics and Post-Baccalaureate Certificate in Cytogenetics

- Minimum of 84 semester credit hours, including the Core Curriculum, and the science and math program requirements (for bachelor’s degree program applicants) OR Completion of a bachelor’s degree in biology, chemistry, or closely related science (for post-baccalaureate certificate program applicants)
- A grade of C or better in all science and math courses
- Minimum GPA of 2.5 (on a 4.0 scale)
- Completion of Texas Core Curriculum with a grade of C or better in each course (42 semester credit hours – for bachelor’s degree program applicants only)
- Two Reference Forms completed by former instructors (preferably science instructors) or employers
- International Applicants only:
  - Submit Test of English as a Foreign Language (TOEFL) scores; minimum scores 560 (paper) or 68 (Internet)
  - Submit foreign transcripts for a course-by-course descriptive evaluation through a university-approved evaluation service.

Math and Science Program Requirements for Cytogenetics:

Mathematics:
- Statistics, 3.0 hours (for students pursuing the B.S. degree OR
- 3 hours of math, for which college algebra is a prerequisite (for students pursuing the post-baccalaureate certificate)

11 hours of Biology, including:
- Biology I and laboratory
- Genetics
- Microbiology and laboratory

12 hours of upper division courses from the following or similar courses:
- Embryology, Anatomy and Physiology, Hematology, Virology, Human Genetics, Molecular Biology, Immunology, Cell Biology

16 hours of Chemistry, including:
- General Chemistry I and laboratory
- Organic Chemistry I and laboratory
- Organic Chemistry II and laboratory OR Biochemistry (upper division)

Students are not required but are strongly encouraged to complete all math and science requirements before being admitted to the Bachelor of Science in Cytogenetics program; some advanced science and math requirements may be taken concurrently with Clinical Laboratory Science courses. However, all Core Curriculum courses must be completed before admission to the Cytogenetics program. Students may not progress to clinical courses until all program requirements and professional courses are completed. If you have questions about the Core or prerequisites, contact the School of Health Professions Welcome Center at 210-567-8744 or 866-802-6288 (toll-free).

Bachelor of Science degree in Cytogenetics and the Post-Baccalaureate Certificate in Cytogenetics Curricula

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 4035 - Introduction to Molecular Diagnostics</td>
<td>1.5</td>
</tr>
<tr>
<td>CLSC 4040 - Human Genetics</td>
<td>2.0</td>
</tr>
<tr>
<td>CLSC 4041 - Clinical Cytogenetics</td>
<td>4.0</td>
</tr>
<tr>
<td>CLSC 4042 - Hematology for the Geneticist</td>
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</tr>
<tr>
<td>CLSC 4043 - Cytogenetics Techniques</td>
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<tr>
<td>CLSC 4044 - Current Topics in Genetics</td>
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<tr>
<td>CLSC 4092 - Management I</td>
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<td><strong>Semester Total</strong></td>
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<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 4045 - Clinical Cytogenetics Laboratory I</td>
<td>5.0</td>
</tr>
<tr>
<td>CLSC 4046 - Clinical Cytogenetics Laboratory II</td>
<td>5.0</td>
</tr>
<tr>
<td>CLSC 4047 - Clinical Cytogenetics Laboratory III</td>
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</tr>
<tr>
<td><strong>Semester Total</strong></td>
<td><strong>15.0</strong></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Summer Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 4048 - Clinical Cytogenetics Laboratory IV</td>
<td>5.0</td>
</tr>
<tr>
<td>CLSC 4049 - Cytogenetics Laboratory Practices</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Semester Total</strong></td>
<td><strong>6.5</strong></td>
</tr>
<tr>
<td><strong>Program Total</strong></td>
<td><strong>36.0</strong></td>
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</table>

Educational Practicum Assignments – Cytogenetics

During the second and third semesters, students in the Cytogenetics program are required to obtain their clinical experiences in one or more clinical sites that may or may not be located in San Antonio. Each student’s clinical practicum aims to provide comprehensive exposure to a wide variety of technology. Primary site assignment is made to provide the student with a breadth of experiences that encompass all major content areas.

Assignments to affiliates for Cytogenetics practicum courses are made as fairly as possible based on availability of positions at the affiliate sites and student needs. Practicum courses typically begin in the spring semester and are completed during the summer semester. Since many of the practicum sites are in distant cities and student relocation may incur
considerable student expense, every effort is made to place students in a single city for their entire practicum experience.

During the fall semester students must submit in writing to the program director their first, second, and third city of preference for practicum assignments. If there are sufficient available sites, each student is assigned to one or more laboratories in their first choice city. If there are more first choice requests for a particular city than are available practicum positions in that city, the program director will ask each student who requested the city as their first choice to write a one-page essay on the student’s reason for requesting the assignment. The program director will take the request and essays to the department faculty for a decision on placement priorities.

Assignments are made according to prioritization until all sites in the city are filled. Students receiving low priority will be offered the opportunity of an alternate site in the city of their second or third preference if those cities still have available practicum positions. If a student declines the available assignment, they may choose to defer their clinical practice until assignment can be made to their original first choice site in a following summer semester and complete their practicum during the following fall semester.

**General Policies and Information**

For additional information, see the policies and procedures in the [School of Health Professions](#) section of this [Catalog](#).

**Advancement to the Senior Year**

A student must have no grade lower than a C in required science and clinical laboratory sciences courses to begin the senior year and begin clinical practicums. In addition, the student must file an Intent to Enroll in Clinical Practicum form, available from the department office, with the program office at least one semester before practicums begin. At this time the student’s file will be reviewed for advancement, and a letter will be sent to the student indicating results of the review.

Students who are ready for clinical practicums are randomly placed, based on availability of positions at the affiliate sites throughout South Texas. All students are expected to complete at least one practicum at an affiliate located outside of San Antonio. In the unlikely event that there are not enough sites available for the number of students ready to enter practicums, assignments will be made according to program policies. Students who must remediate a practicum will be assigned to an affiliate on a space-available basis.

**Advisement and Schedule Planning**

Applicants are encouraged to seek advisement from their college counselors or the [Health Professions Welcome Center](#) at (866) 802-6288 (toll-free) or (210) 567-8569.

Students must be advised each semester before permission is given to enroll in professional courses. For students in the Bachelor of Science in Clinical Laboratory Sciences program, sequencing and completion of specific courses are important if all lower-division coursework is to be completed during the freshman and sophomore years.

Students who complete lower-division course work at another college or university are urged to seek advisement about coursework that will fulfill program requirements well in advance of applying to the Health Science Center.

**Applicant Wait List**

In the event that all student positions in Clinical Laboratory Sciences programs are filled for a given semester (fall or spring), qualified applicants may be accepted and placed on a wait list. Applicants on the wait list will be ranked on overall grade point average and U.S. citizenship. If a position does not become available that semester, the applicant’s acceptance to a Clinical Laboratory Sciences program will be deferred to the next semester (spring or fall). These applicants will have priority standing for positions in the next entering class.

**Certification**

Students who successfully complete a certificate or degree in Clinical Laboratory Sciences or Cytogenetics are eligible to take the national certification examinations given by the Board of Certification (BOC) of the [American Society for Clinical Pathology (ASCP)](#). An award of the degree or certificate is not contingent on passing an external certification or licensing examination.

**Credit by Examination**

Students enrolled in the clinical laboratory sciences baccalaureate or post-baccalaureate certificate programs may attempt to earn credit by examination according to the policy and procedures in the [School of Health Professions](#) section of this [Catalog](#). Students who have college credit for CLT/MLT coursework are eligible to take "challenge examinations." Students who are certified CLT (NCA) or MLT (ASCP), have completed a CLT/MLT program accredited by NAACLS, and have an associate degree are not required to take challenge examinations. Challenge examinations must be passed with a grade of 70% or better for credit to be earned. For detailed information about eligible courses, fees, schedules, and procedures, contact the Department of Clinical Laboratory Sciences.

**Placement Examinations**

Individuals who have certification from NCA or ASCP as a CLT or MLT and have graduated from an accredited CLT/MLT program with an associate degree and are entering the senior year are given placement examinations to determine areas of discipline strengths and weaknesses.

**Graduation Requirements**

Degree- and certificate-seeking students must complete all courses listed as required core curriculum, program requirements, and professional courses in order to graduate. The minimum grade point average required for graduation from the Bachelor of Science and certificate programs is 2.0. Minimum grade point average for Master of Science students is 3.0 (see [Graduate School of Biomedical Sciences](#)).
Students in the Cytogenetics program must complete all Health Science Center coursework within three years from the time of entry.

Program Costs
In addition to the required tuition and fees of approximately $16,427 (in-state students), costs for other expenses such as textbooks, course manuals, equipment, scrubs/uniforms, and supplies are approximately $1,873. There is no on-campus housing at the HSC and program expenses do not reflect day-to-day living expenses. Travel and living expenses for local and out-of-town clinical practicums are not included in this estimate.

Transfer of Credits
Agreements for transferable coursework exist with some area colleges and universities. Students should contact the Department of Clinical Laboratory Sciences or the biology advisor at their institution to determine if such an agreement exists with their school.

Clinical Laboratory Sciences
Course Descriptions
CLSC 2005 Special Topics in Parasitology and Mycology
This course is designed for students who have completed a course that included parasitology and mycology at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected parasitology and mycology topics that may include theory and/or practice. The topics vary according to student’s previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered. Semester Credit Hours: 1.0–3.0
Prerequisites: proficiency exam; permission from course director

CLSC 2053 Special Topics in Hematology
This course is designed for students who have completed a hematology course at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected hematology topics which may include theory and/or practice. The topics vary according to student’s previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered. Semester Credit Hours: 1.0–5.0
Prerequisites: proficiency exam; permission from course director

CLSC 3000 Introduction to Clinical Laboratory Sciences
This Web-based course is an overview of the clinical laboratory science profession. There are three general areas of study. The first is information on the profession including history, educational requirements, job responsibilities and opportunities, as well as the structure and role of the clinical laboratory in medicine. The second is an introduction to medical terminology using an overview of the body systems. Examples of the use of laboratory tests to detect pathologies in these systems are included. The third area is quality assurance. Enrollment is open to laboratory science students at other universities both in state and out of state. Semester Credit Hours: 3.0

CLSC 3001 Phlebotomy Practicum
Under the direction and supervision of a clinical instructor in a hospital or outpatient facility, the student will be given the opportunity to gain experience and expertise in phlebotomy procedures. This practicum may be taken any time after the student has been accepted into the program. Positions will be based on the availability of sites. Students must arrange this practicum with the education coordinator before enrolling. This practicum must be completed before beginning clinical practicums in the senior year. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 0.5

CLSC 3003 Parasitology and Mycology Laboratory
This is a clinical laboratory course emphasizing the diagnostic stages of parasites of man. In the mycology portion of the course, students will have the opportunity to isolate and identify fungi pathogenic to man. Lab fee: $20. Microscope fee: $18. Semester Credit Hours: 1.0
Concurrent enrollment in CLSC 3004

CLSC 3004 Parasitology and Mycology
The parasitology portion of this course is a study of protozoa and helminthes that parasitize man. Emphasis is placed on the identification and differentiation of pathogenic organisms. The mycology portion of the course is a study of the structural characteristics, diagnostic features, and isolation methods of fungal agents pathogenic to man. Specimen collection, processing, and handling are discussed. Semester Credit Hours: 2.0

CLSC 3010 Body Fluids
This is a study of selected body fluids including urine, amniotic fluid, cerebrospinal fluid, pleural fluid, peritoneal fluid, and synovial fluid. Renal physiology and the physical and chemical properties of urine and cellular elements of the urine in healthy and diseased states are studied. The formation and function of cerebrospinal fluid and amniotic fluid will be discussed. The anatomy and physiology of pleural, peritoneal, and pericardial cavities will be presented. Attention is given to the cellular and formed elements found in these body fluids. In addition, this course includes the performance of various laboratory procedures utilized in the analysis of each of these fluids. Case studies will be used to emphasize the changes in laboratory results associated with various disease states. Principles and applications of quality control procedures are practiced. Lab fee: $30. Microscope fee $18. Semester Credit Hours: 2.0

CLSC 3011 Quality Assurance in the Clinical Laboratory
This course presents the principles, statistics, and applications of quality assurance as it pertains to the clinical laboratory. The course will emphasize the statistics that are needed to evaluate a quality control system, the rules that are necessary for interpreting the quality control results, and the role of quality assurance. Enrollment is open to laboratory science students at other universities both in state and out of state. Semester Credit Hours: 1.0
control in a quality assurance program. The impact of federal and state regulatory agencies on the clinical laboratory and its quality assurance program will be discussed. A large part of this course is via computer-assisted instruction.

Semester Credit Hours: 1.0

CLSC 3020 Special Topics in Clinical Immunology
This course is designed for students who have completed a course that included clinical immunology/serology at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected immunology/serology topics that may include theory and/or practice. The topics vary according to student’s previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered.

Semester Credit Hours: 1.0–2.0
Prerequisites: proficiency exam; permission from course director

CLSC 3022 Special Topics in Body Fluids
This course is designed for students who have completed a course that included urinalysis and other body fluids at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected body fluids topics that may include theory and/or practice. The topics vary according to student’s previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered.

Semester Credit Hours: 1.0–2.0
Prerequisites: proficiency exam; permission from course director

CLSC 3033 Medical Microbiology
This is a comprehensive study of medically important microorganisms including their composition, morphology, and growth requirements. Methods for identification including biochemical reactions of significant pathogens and their role in infectious disease will be stressed.

Semester Credit Hours: 3.0
Prerequisites: Microbiology and laboratory

CLSC 3034 Medical Microbiology Laboratory
This is a laboratory course emphasizing diagnostic clinical microbiology. Examination of samples from different body sites provides students the opportunity to recognize and identify organisms that comprise the normal flora and those that are potential pathogens. This course includes conventional and rapid biochemical methods for detection and identification of significant organisms. Principles and application of quality control procedures are practiced. Lab fee: $30. Microscope fee: $18.

Semester Credit Hours: 2.0
Prerequisites: concurrent enrollment in CLSC 3033

CLSC 3035 Special Topics in Medical Microbiology
This course is designed for students who have completed a medical microbiology course at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected medical microbiology topics that may include theory and/or practice. The topics vary according to student’s previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered.

Semester Credit Hours: 1.0–4.0
Prerequisites: proficiency exam; permission from course director

CLSC 3041 Seminar in Geriatrics
This seminar course will cover topics related to aging including the physiological, physical, psychological, and cognitive changes that occur during the aging process and the stereotypes of aging. How aging effects laboratory results will be discussed. In addition, students will have the opportunity to learn different techniques to approach and deal with the aged during patient-health care provider interactions.

Semester Credit Hours: 0.50

CLSC 3051 Hematology
This course is a study of the normal production, maturation, and function of erythrocytes, leukocytes, and platelets. Common disorders involving such cells will be discussed with emphasis on the pathogenic mechanisms. Hematologic laboratory tests and their correlations with disease states will also be examined. Normal hemostasis will be considered including pertinent laboratory tests used in diagnosis of coagulation problems.

Semester Credit Hours: 3.0
Prerequisites: CLSC 3000 or BIO 1882

CLSC 3052 Hematology Laboratory
This is a clinical laboratory course emphasizing manual and semi-automated cell counting techniques and other basic hematologic tests. Time is devoted to the examination of normal and abnormal blood smears with emphasis on identification of cells and their relationships to various disease processes. An introduction to quality control methods in the hematology laboratory will also be included. Lab fee: $30. Microscope fee: $18.

Semester Credit Hours: 2.0
Prerequisites: concurrent enrollment in CLSC 3051

CLSC 3060 Immunohematology
This is a study of the major blood groups of humans including the red cell antigen systems, alloantibodies, and non-immune stimulated antibodies. The relationship of blood group systems to compatibility testing, transfusion reactions, and hemolytic disease of the newborn will be discussed.

Semester Credit Hours: 2.0
Prerequisites: CLSC 3000 or BIO1882

CLSC 3063 Special Topics in Immunohematology
This course is designed for students who have completed an immunohematology course at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected immunohematology topics that may include theory and/or practice. The topics vary according to student’s previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered.

Semester Credit Hours: 1.0–4.0
Prerequisites: proficiency exam; permission from course director
CLSC 3064  Immunohematology Laboratory
This is a laboratory course emphasizing basic blood banking techniques including blood typing, identification of alloantibodies, and resolution of typing discrepancies. Techniques used in resolution of compatibility testing, investigation of transfusion reactions, and hemolytic disease of the newborn are practiced. Principles and applications of quality control are introduced. Lab fee: $30. Microscope fee: $18.
Semester Credit Hours: 2.0
Prerequisites: concurrent enrollment in CLSC 3060

CLSC 3065  Clinical Immunology
This course will discuss the principles of innate and acquired immunity. Emphasis will be placed on the cell-mediated immune response and humoral immune response to immunogens. The cells of either response, their development, and their role in the specific immune response will be discussed. Soluble mediators of the immune response will be covered including immunoglobulins, cytokines, and complement. Finally, disorders of impaired immune function and infectious diseases will be discussed including autoimmunity, hypersensitivity, transplantation and tumor immunology, immunodeficiency, syphilis, infectious mononucleosis, etc. Laboratory testing for these disorders will be described.
Semester Credit Hours: 3.0

CLSC 3070  Diagnostic Immunology Lecture
This didactic course presents the principles and applications of immunology as it pertains to diagnosis of disease states. The course will cover methods to detect infectious as well as autoimmune diseases using immunologic technologies such as immunofluorescence, enzyme immunoassays, and flow cytometry. Correlation of the laboratory results with the disease states will be emphasized. Clinical applications of flow cytometry, histocompatibility testing, serology, and immunochemistry assays will be presented.
Semester Credit Hours: 1.5
Prerequisites: Immunology

CLSC 3071  Diagnostic Immunology Laboratory
This laboratory course will offer the opportunity for students to perform immunologic procedures commonly used in the diagnosis of infectious and autoimmune diseases. Principles and applications of quality control procedures are practiced. Lab fee: $30. Microscope fee: $18.
Semester Credit Hours: 0.5

CLSC 3081  Clinical Chemistry
The study of carbohydrates, enzymes, proteins and other chemicals routinely analyzed in clinical chemistry laboratories. Emphasis is placed upon principles of testing, methods of analysis, data interpretation, and clinical significance of results. Laboratory mathematics, quality control, safety, and instrumentation also are topics covered.
Semester Credit Hours: 2.5
Prerequisites: Organic Chemistry I and laboratory, Biochemistry

CLSC 3082  Clinical Chemistry Laboratory
This is a laboratory course emphasizing biochemical analysis of body fluids utilizing manual procedures and semi-automated instrumentation. Students are given the opportunity to develop motor skills and organizational techniques in biochemical procedures. Principles and applications of quality control procedures are practiced. Lab fee: $30.
Semester Credit Hours: 1.5
Prerequisites: Physiology and Biochemistry and concurrent enrollment in CLSC 3081

CLSC 3083  Special Topics in Clinical Chemistry
This course is designed for students who have completed a clinical chemistry course at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected clinical chemistry topics that may include theory and/or practice. The topics vary according to student’s previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered.
Semester Credit Hours: 1.0–4.0
Prerequisites: proficiency exam; permission from course director

CLSC 3085  Principles of Biochemistry
This course is a discussion of the basic biomedical processes that occur in the human body. Topics that will be covered include the molecular basis of life, molecular structure, bioenergetics, enzymes, and metabolism.
Semester Credit Hours: 3.0
Prerequisites: Organic Chemistry I and laboratory

CLSC 4006  Professional Issues
This interdisciplinary course will provide an overview of professional and ethical issues facing allied health professionals. Topics to be discussed include responsibilities of the health care practitioner, life and death decisions, patient confidentiality, substance abuse, whistle blowing, and informed consent. Ethics in research and other critical issues related to health care problems will also be addressed. Collaborative activities and simulated cases will be used to enhance discussion among students.
Semester Credit Hours: 1.0

CLSC 4020  Issues in Health Care
This course is a study of selected topics in health care.
Semester Credit Hours: 1.0–3.5
Prerequisites: Consent of instructor

CLSC 4033  Advanced Medical Microbiology
This course will discuss etiology of infectious diseases in different body sites. Laboratory identification of suspected etiologic agents, using conventional methods, will be emphasized. Recent developments in microbiology and new rapid methods in the identification of bacterial agents of infectious disease will also be presented. One section of this course is in a distance-learning format offered via the Web. Students wanting to enroll in the Web section must receive permission from the instructor. Students in this section will pay the instructional fee for the course. Texas residents and non-residents living in Texas pay applicable tuition and fees of the Health Science Center.
CLSC 4035  Introduction to Molecular Diagnostics

This course is a study of recombinant DNA concepts and technology. Applications of this technology in diagnosis and therapy of disease is emphasized. The course is a combination of lecture and laboratory. Prerequisites include genetics and junior CLSC coursework. One section of this course is in a distance-learning format offered via the Web. Students wanting to enroll in the Web section must receive permission from the instructor. Students in this section will pay the instructional fee for the course. Texas residents and non-residents living in Texas pay applicable tuition and fees of the Health Science Center. Lab fee: $30. 
Semester Credit Hours: 2.0

CLSC 4037  Microbiology Practicum

Under the supervision and direction of a clinical instructor in the hospital setting, the student is introduced to the functional roles of the clinical microbiology laboratory. Emphasis is on the practical application of microbiological principles in the areas of bacteriology, parasitology, mycology, and mycobacteriology. Students have the opportunity to gain experience in the isolation and identification of both indigenous microflora and potential disease producing organisms of man. Concepts of Total Quality Management (TQM) are emphasized. Practicum fee: $10 per semester credit hour. 
Semester Credit Hours: 1.5

CLSC 4038  Microbiology Categorical Practicum

Under the direction and supervision of a clinical instructor in the clinical microbiology lab, the student is introduced to the functional roles of the clinical microbiology laboratory. Students will have the opportunity to develop proficiency in the areas of bacteriology, parasitology, mycology, mycobacteriology, immunology, and virology. A period of time will be devoted to allow the student to gain experience in performing microbiological studies in each of these areas. 
Semester Credit Hours: 10.0

CLSC 4039  Selected Practicum Experience in Medical Microbiology

This course is for individuals who have completed an accredited CLT/MLT medical microbiology practicum. The course emphasizes the areas in medical microbiology in which the student lacks previous experience or requires updated proficiency. Credit hours are variable. Hours will be assigned based on the topics covered. Practicum fee: $10 per semester credit hour. 
Semester Credit Hours: 3.0–5.0 
Prerequisites: permission from course director

CLSC 4040  Human Genetics

An advanced course which provides the student an opportunity to study the cell cycle, oogenesis, spermatogenesis, Mendelian inheritance, polygenic inheritance, population genetics, medical genetics, clinical cytogenetics, and basic molecular techniques. The course is self-paced requiring approximately 2 hours/week. 
Semester Credit Hours: 2.0

CLSC 4041  Clinical Cytogenetics

This is an advanced lecture course covering theories, concepts, and techniques applicable to the practice of clinical cytogenetics. Topics include mitotic and meiotic cell cycles with emphasis on errors and manipulations, chromosome structure, mechanisms of chromosome abnormality formation, cytogenetics syndromers, inheritance patterns, cancer genetics, instability syndromes, clinical correlation of chromosome abnormalities, microscopy, computer imaging, cell culture, analysis, ISCN, pedigree construction, and other current genetic issues. 
Semester Credit Hours: 4.0 
Prerequisites: CLSC 4040 or consent of instructor

CLSC 4042  Hematology for the Genetecist

This is an advanced study of the normal production, maturation, and function of erythrocytes, leukocytes, and platelets. The pathogenic mechanisms as well as the peripheral blood and bone marrow findings in relation to leukocyte disorders will be covered. Study of the correlation of cytogenetic abnormalities to specific disorders will be emphasized. 
Semester Credit Hours: 1.0 
Prerequisites: Concurrent enrollment in CLSC 4041 or consent of the instructor

CLSC 4043  Cytogenetics Techniques

This is an advanced laboratory course designed to cover all aspects of cytogenetic laboratory practice including specimen evaluation, culture initiation, culture maintenance, harvesting, slidemaking, staining and banding techniques (conventional, GTG, QFQ, CBG, AgNOR, DA/DAPI, SCE, and FISH), banding pattern recognition, microscopic analysis, computer imaging, computer-assisted karyotyping, and ISCN. Instrumentation, solution preparation, laboratory math, quality control, and regulatory issues will be emphasized. Lab fee: $30. Microscope fee: $18. 
Semester Credit Hours: 4.0 
Prerequisites: Concurrent enrollment in CLSC 4041 or consent of the instructor

CLSC 4044  Current Topics in Genetics

This is an advanced seminar course that provides the student an opportunity to acquire knowledge of the latest developments in the field of human genetics with emphasis on the structure, behavior, and function of chromosomes as related to human diseases. Discussion sessions follow seminar presentation of critical literature reviews of a specific topic, current journal articles, or of individual research. Presenters will be drawn from the cytogenetics community of the Health Science Center and surrounding area. Each student is required to make a short presentation on a topic of interest selected with the aid of the coordinator. 
Semester Credit Hours: 1.0 
Prerequisites: CLSC 4041 or concurrent enrollment

CLSC 4045  Clinical Cytogenetics Laboratory I

Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to extend their knowledge of principles and techniques of clinical cytogenetics which were presented in the
didactic portion of the curriculum. The student will have the opportunity to gain experience with a wide variety of procedures which include culturing, harvesting, slide preparation, staining, and analyzing metaphases, with emphasis on the processing of peripheral blood samples. Clinical correlations of the chromosomal findings are included. Grades are based on laboratory performance and results achieved on written and/or practical examinations conducted at the particular clinical affiliate to which the student is assigned. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 5.0 Prerequisites: CLSC 4046

CLSC 4046 Clinical Cytogenetics Laboratory II

Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to extend their knowledge of principles and techniques of clinical cytogenetics which were presented in the didactic portion of the curriculum. The student will have the opportunity to gain experience with a wide variety of procedures which include culturing, harvesting, slide preparation, staining, and analyzing metaphases, with emphasis on the processing of amniotic fluid and chorionic villi samples. Clinical correlations of the chromosomal findings are included. Grades are based on laboratory performance and results achieved on written and/or practical examinations conducted at the particular clinical affiliate to which the student is assigned. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 5.0 Prerequisites: CLSC 4047

CLSC 4047 Clinical Cytogenetics Laboratory III

Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to extend their knowledge of principles and techniques of clinical cytogenetics that were presented in the didactic portion of the curriculum. The student will have the opportunity to gain experience with a wide variety of procedures which include culturing, harvesting, slide preparation, staining, and analyzing metaphases, with emphasis on the processing of bone marrow and solid tumor samples. Clinical correlations of the chromosomal findings are included. Grades are based on laboratory performance and results achieved on written and/or practical examinations conducted at the particular clinical affiliate to which the student is assigned. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 5.0 Prerequisites: CLSC 4046

CLSC 4048 Clinical Cytogenetics Laboratory IV

Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to extend their knowledge of principles and techniques of clinical cytogenetics that were presented in the didactic portion of the curriculum. The student will have the opportunity to gain experience with a wide variety of procedures which include culturing, harvesting, slide preparation, staining, and analyzing metaphases, with emphasis on quality control, applications of FISH, molecular techniques, and computer imaging. Clinical correlations of the chromosomal findings are included. Grades are based on laboratory performance and results achieved on written and/or practical examinations conducted at the particular clinical affiliate to which the student is assigned. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 5.0 Prerequisites: CLSC 4047

CLSC 4049 Cytogenetics Laboratory Practices

An exploration of problem-solving processes and strategies for resolving difficult cases is the focus of this course. Students will be presented with the opportunity to integrate previously presented topics with experiences gained from clinical practicums. A thorough review of basic principles as applied in the clinical laboratory is included. Semester Credit Hours: 1.5 Prerequisites: CLSC 4048 or consent of instructor

CLSC 4050 Research in Cytogenetics

This is an advanced course that provides the student an opportunity to apply scientific method to a clinical laboratory research problem, demonstrate a systematic application of hypothesis formation, and decision-making through research design principles. Course evaluation is based upon performance on the term project. May be repeated for credit. Semester Credit Hours: 1.0 Prerequisites: CLSC 4047 and consent of the Program Director and Instructor

CLSC 4053 Advanced Hematology

Using problem-based learning approach, this advanced course presents the pathogenic mechanisms of disorders involving erythrocytes, leukocytes, platelets, and coagulation factors. The methodology for detection of diseases of the blood and blood forming organs is examined. The peripheral blood and bone marrow findings in relation to various hematopoietic disease processes will be emphasized. Abnormalities of hemostatic mechanisms and their correlation with laboratory tests will be presented. Semester Credit Hours: 2.0

CLSC 4054 Advanced Hematology/Web-Based

This advanced course in hematology/hemostasis presents the pathogenic mechanisms of disorders involving erythrocytes, leukocytes, platelets, and coagulation factors. The methodology for detection of diseases of the blood and blood forming organs is examined with emphasis on the interpretation of the findings and determination of appropriate reflex testing. Morphologic changes in the peripheral blood and bone marrow will be emphasized. This is a Web-based course. Enrollment is open to clinical laboratory technicians/medical laboratory technicians or military-trained laboratory personnel who have been accepted into the CLS program or by special permission from the course director. Texas residents and non-residents living in Texas pay applicable tuition and fees of the Health Science Center. Semester Credit Hours: 2.0
CLSC 4055  Advanced Immunohematology
This is a lecture course which uses case studies to emphasize theory and principles and develop problem solving skills. Major areas of focus include collection, processing and therapeutic use of blood components; investigation of autoantibodies and alloantibodies as detected in hemolytic disease of newborns, transfusion reactions, and autoimmune hemolytic anemias. The HLA system and applications in transplantation and paternity testing will also be discussed. One section of this course is in a distance-learning format offered via the Web. Students wanting to enroll in the Web section must receive permission from the instructor. Distance education fee for out-of-state students only: $250 per semester credit hour.
Semester Credit Hours: 2.0

CLSC 4056  Selected Practicum Experience in Hematology
This course is for individuals who have completed an accredited CLT/MLT clinical hematology practicum. The course emphasizes the areas in clinical hematology in which the student lacks previous experience or requires updated proficiency. Credit hours are variable. Hours will be assigned based on the topics covered. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 3.0–5.0
Prerequisites: permission from course director

CLSC 4057  Hematology Practicum
Under the direction and supervision of a clinical instructor, the student will have the opportunity to gain expertise working in the clinical hematology section of the hospital laboratory. Students will be allowed to perform hematologic tests as well as “troubleshoot” automated cell counters. An opportunity to gain proficiency in morphologic evaluation of normal and abnormal cellular morphology, including peripheral blood and bone marrow examination, will be offered. The student will be introduced to the technology of flow cytometry and the immunologic study of disease states. Knowledge of internal and external quality control methods in the hematology laboratory will be emphasized. Students will also have the opportunity to learn the principles of interfacing laboratory instrumentation with the laboratory information system as well as the role of the LIS in test ordering, specimen processing, and reporting results. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

CLSC 4058  Hematology Categorical Practicum
Under the direction and supervision of a clinical instructor, the student will have the opportunity to gain expertise working in the clinical hematology laboratory. Students will perform routine and special hematologic procedures, “troubleshoot” automated cell counters, and gain proficiency in morphologic evaluation of normal and abnormal cellular morphology, including peripheral blood and bone marrow examination. The student will be introduced to the technology of flow cytometry and immunologic study of disease states. In addition, the student will perform routine and special coagulation procedures and evaluate body fluids. Internal and external quality control methods in the hematology/coagulation laboratory will be emphasized. Phlebotomy techniques also will be practiced.
Semester Credit Hours: 6.0

CLSC 4067  Immunohematology Practicum
Under the supervision and direction of a clinical instructor in the hospital setting, the student will be given the opportunity to perform routine blood grouping and typing, compatibility testing, and donor unit processing. Experience in solving antibody problems, HLA testing, and preparing components will also be offered. Quality assurance procedures are practiced on a daily basis. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

CLSC 4068  Immunohematology Categorical Practicum
Under the supervision and direction of a clinical laboratory instructor, the student will have the opportunity to gain expertise in the various facets of clinical immunohematology. Areas emphasized include donor collection and processing, component preparation, routine grouping and typing, and compatibility testing. Students will have the opportunity to perform serologic testing for transfusion-transmitted disease. In addition, they will solve complex antibody problems and typing discrepancies using specialized techniques such as enzyme treatment, elution, and autoabsorption. Students will be required to perform HLA typing and investigate suspected cases of hemolytic disease of the newborn and transfusion reactions. Quality control procedures and records management for each area will be emphasized.
Semester Credit Hours: 6.0

CLSC 4069  Selected Practicum Experience in Immunohematology
This course is for individuals who have completed an accredited CLT/MLT immunohematology practicum. The course emphasizes the areas in immunohematology and serology in which the student lacks previous experience or requires updated proficiency. Credit hours are variable. Hours will be assigned based on the topics covered. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 3.0–5.0
Prerequisites: permission from course director

CLSC 4070  Immunology Practicum
The student will be introduced to the technology of flow cytometry and the immunologic study of disease states. In the immunology/serology laboratory, the student will be required to perform routine testing of antigen/antibody reactions to help in the diagnosis of certain disease states. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 2.0

CLSC 4083  Advanced Clinical Chemistry
This is an advanced clinical lecture course emphasizing abnormalities in liver, cardiac, renal, and endocrine systems and their effect on chemical blood constituents. The theories and use of complex biochemical methodologies including immunochemical assays, chromatography, and electrophoresis also will be discussed. One section of this course is in a distance-learning format offered via the Web. Students wanting to enroll in the Web section must receive permission from the
instructor. Students in this section will pay the instructional fee for the course. Distance education fee for out-of-state students only: $250 per semester credit hour.
Semester Credit Hours: 3.0

CLSC 4087  Chemistry Practicum
Under the supervision and direction of a clinical instructor in the hospital setting, the student is introduced to the delivery of health care as it relates to the chemistry diagnostic laboratory. The student has the opportunity to gain experience in toxicology, electrophoresis, immunochemical assays, urinalysis, and special chemistry procedures including neonatal intensive care testing. The student will be given the opportunity to operate modern, state-of-the-art clinical laboratory equipment. Motor skills as well as interpretive skills will be stressed. Knowledge of internal and external quality control methods in the clinical chemistry laboratory will be emphasized. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 4.0

CLSC 4088  Clinical Chemistry Categorical Practicum
Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to gain expertise and confidence working with automated clinical analyzers and performing esoteric clinical chemistry analyses. The student will have the opportunity to operate state-of-the-art, high-volume chemical analyzers, to observe preventative maintenance and troubleshooting procedures, and to gain firsthand experience with the recording and evaluation of quality control results. The student will perform highly specialized chemical analyses that may include serum protein electrophoresis, lipoprotein electrophoresis, toxicology screens, immunochemical assays, lecithin/sphingomyelin ratio for assessment of fetal lung maturity, blood gas analyses, and blood gas instrument troubleshooting procedures. The ability to organize work in a multitasking environment will be emphasized. The student will be encouraged to present interesting and unusual case studies in an academic environment.
Semester Credit Hours: 6.0

CLSC 4089  Selected Practicum Experience in Clinical Chemistry
This course is for individuals who have completed an accredited CLT/MLT clinical chemistry practicum. The course emphasizes the areas in clinical chemistry in which the student lacks previous experience or requires updated proficiency. Credit hours are variable. Hours will be assigned based on the topics covered. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 3.0–5.0
Prerequisites: permission from course director

CLSC 4090  Management for Clinical Laboratory Sciences
This course is designed to provide the student with the opportunity to develop entry-level management and supervisory skills. Topics include principles of communication; group dynamics; leadership styles; interviewing; planning; financial analysis; and policies, procedures, and regulations. Developing and designing presentations; learning principles, objectives, and use of audiovisual aids; and design and evaluation of research projects are discussed. Other timely topics in health care may be considered. This is a Web-based course and enrollment is open to clinical laboratory technicians or military-trained personnel who have been accepted into the CLS program, or by special permission from the course director. Semester Credit Hours: 3.0

CLSC 4091  Independent Study
A plan of study is determined by the supervising faculty. The participating student and supervising faculty develop the course requirements and forms of evaluation. Credit hours are determined by the scope of the project.
Semester Credit Hours: 1.0–12.0

CLSC 4092  Management I
This course is designed to present the principles of group dynamics, human resource management, and financial analysis to students in laboratory medicine. Topics include leadership styles, staffing, and laboratory information systems (data management, analysis, selection). Writing résumés, job performance, and laboratory procedures are included. This course includes interviewing techniques and performance evaluations.
Semester Credit Hours: 1.0

CLSC 4093  Management II
This course is designed to present current issues in managed care including outcomes assessment, evidence-based medicine, infection control, CLIA regulations, point of care testing, on-site surveys of the laboratory, and medical necessity. Communication skills and educational techniques are presented. Topics include verbal and written communication, effective listening, learning principles, objectives, and use of audiovisual aids. Development and use of evaluation tools are covered.
Semester Credit Hours: 1.5

CLSC 4101  Honors CLS Course
This is an elective course for students who want to study a CLS discipline in more depth or breadth, participate in a research project, study a professional issue, or work on a laboratory-related problem. This course is open only to students who have the permission of the Department Chair, are in good standing in the CLS Program, have a minimum GPA of 2.5, and a letter of recommendation from a CLS faculty member. The student is responsible for selecting an area of interest and securing the approval of a faculty mentor who will supervise the student's work.
Semester Credit Hours: 2.5–5.0

CLSC 4102  Honors CLS Practicum
This elective course is for students who are interested in completing clinical practicums in specialized areas not included in the required clinical practicums. This may include laboratory management, molecular diagnostics, virology, etc. Certified clinical laboratory technicians who have extensive experience in the laboratory and who have completed the objectives of required practicums may choose to enroll in this practicum. A special clinical experience in the South Texas Environmental Education and Research (STEER) Program may be available to select students. This program is open to sophomores and juniors as well as seniors. The STEER Program is five weeks long and takes place in Laredo, Texas. Housing is provided. To enroll in this course, students must have the permission of the Department Chair, a minimum 2.5 GPA, and letters of
recommendation from two faculty members. The student must be in good standing in all coursework. In addition, to enroll in the STEER Program, students must apply, be accepted, and complete a one-page statement of interest. 
Semester Credit Hours: 1.0–5.0

**CLSC 4192  Research I**
This course is an introduction to the components of medical research, the different types of clinical research trials, the purpose of the institutional review board, and the informed consent procedure. The course will also describe the characteristics of the ethical researcher. An overview of research design will focus on the literature review and development of the research question. 
Semester Credit Hours: 0.5

**CLSC 4193  Research II**
This course is a continuation of CLSC 4192 Research I, and will continue with discussion of the development of the research question and literature review. Additional topics include the choice of appropriate study design and data collection, sample size determination, and statistical evaluation of the results. Students will have the opportunity to develop individual or group research projects. 
Semester Credit Hours: 0.5

**CLSC 5007  Toxicology Practicum**
This is a one-semester rotation through different types of toxicology laboratories including medical examiners, clinical, and drug testing. Practicums will be supervised by faculty. Practicum fee: $10 per semester credit hour. 
Semester Credit Hours: 5.0

**CLSC 5014  Principles and Applications in Analytical Toxicology**
This course will concentrate on major topical areas of toxicology including: mechanisms of toxicity including mutagenicity, teratogenicity, and carcinogenicity; mechanisms of systemic toxicity and damage to specific organ systems; chemical and biochemical analytical techniques including non-instrumental methods such as microdiffusion and instrumental methods such as HPLC and GC/MS; and toxicology of toxins, toxicants, narcotics, organic solvents, and other classes of materials. Case studies will be used to develop skills in the application of concepts and principles. 
Semester Credit Hours: 5.5

**CLSC 5017  Toxicology Seminar**
This course includes formal exchange of scientific information and ideas through presentations from recent scientific literature and from faculty and student research. 
Semester Credit Hours: 1.0

**CLSC 5018  Special Topics in Medical/Forensic Toxicology**
This course includes an introduction to types and uses of evidence, investigations, and the legal requirements in dealing with physical evidence. Areas such as clinical toxicology, forensic toxicology, and forensic pathology will be included. Using a case-study format, the course will also concentrate on specific topics within toxicology including natural toxins, drugs of abuse, psychotropic agents, industrial chemical disasters, and poison management. Requirements for toxicology laboratory certification and design will be included. Selected topics may include laboratory demonstration. 
Semester Credit Hours: 5.0

**CLSC 5020  Topics in Applied Toxicology**
This course is designed to complement courses CLSC 5014, 5018, and 5097. Under supervision of the program coordinator and toxicologists from various areas of the discipline, the student will apply her/his knowledge of toxicology and forensic science to solving clinical and forensic cases. 
Semester Credit Hours: 2.0

**CLSC 5040  Laboratory Medicine**
This course is offered to students in the Physician Assistant Studies Program at the Health Science Center. The course is designed to provide the student with the opportunity to gain information on the profession of CLS including history and job characteristics. Relationships between abnormal physiology and laboratory testing will be emphasized. Basic lab and math statistics will be taught. The majority of the course is Web-based. 
Semester Credit Hours: 3.0

**CLSC 5041  Laboratory Medicine Laboratory**
This course is offered to students in the Physician Assistant Studies Program. This is a laboratory course that provides the student with hands-on experience in performing common physician office laboratory procedures. Case studies are used to help students interpret and use laboratory test results. 
Laboratory fee: $120. 
Semester Credit Hours: 1.0

**CLSC 5085  Biochemistry**
This course is designed for graduate students and will cover amino acids, proteins, enzymology, the physical structure, chemistry and metabolism of carbohydrates, the chemical and physical properties of lipids and biogenic amines. Lectures also will cover the synthesis and metabolism of phospholipids and signal transduction mechanisms in depth. 
Semester Credit Hours: 4.5

**CLSC 5090  Independent Study in Clinical Laboratory Sciences**
This course allows for in-depth study in a specific topic area. Topics and method of study are agreed upon by instructor and student. The course may be repeated for credit when topics vary. 
Semester Credit Hours: 1.0–4.0

**CLSC 6097  Research**
Supervised research under the direction of faculty. 
Semester Credit Hours: 3.0

**CLSC 6098  Thesis**
Instruction in the preparation of a thesis. Registration is required for at least one term for the MS candidate. 
Semester Credit Hours: 3.0
Prerequisites: Admission to candidacy for the Master of Science degree

**INTD 5064  Applied Statistics for Health Care Practitioners**
This online course focuses on the application of descriptive and inferential statistics in research studies. Students are expected to gain knowledge and skills that will enable them to understand, interpret, and evaluate statistical results; work with
a consultant statistician; and use software to enter, analyze, and summarize data. Course requirements include homework assignments, online discussions and/or chats, and periodic projects.

*Semester Credit Hours: 3.0*
Dental Hygiene

- Bachelor of Science in Dental Hygiene Entry-Level Program
- Bachelor of Science in Dental Hygiene (Degree-Completion Program (Online)
- Master of Science in Dental Hygiene Degree Program (Online)
- General Policies and Information
- Course Descriptions

Dental Hygiene Degree Programs

The dental hygienist works as an integral member of a professional health care delivery team, functioning under the general supervision of a dentist. The primary specialties of the practitioner are oral health promotion and disease prevention for diverse client populations. Typical duties include evaluating and charting oral disease and health conditions, planning dental hygiene treatment, removing deposits from the teeth, taking and processing dental radiographs, taking impressions, providing nutritional counseling, and applying preventive agents to the teeth.

Dental hygienists are employed by general dentists or specialists in private dental practices and clinics, hospitals, public health, research, public schools, business and industry, civil service, and the armed forces. Individuals considering a career in dental hygiene should have a strong ability to communicate effectively is essential to a successful and rewarding career in this profession.

Dental Hygiene is a licensed profession, requiring successful completion of the National Board Examination, the Western Regional Examining Board (WREB), a state Jurisprudence Exam and other Texas State Board Dental Examiners requirements. The National Board Examination, taken during the spring semester of the senior year, is a comprehensive written examination covering dental and dental hygiene sciences, theoretical aspects of patient care, and principles of dental hygiene therapy. The WREB is offered before graduation and requires a practical demonstration of clinical competence. A Texas license to practice dental hygiene is granted upon successful completion of the WREB, the National Board Examination, the Texas State Jurisprudence Exam, and payment of appropriate fees to the State Board of Dental Examiners

The Department of Dental Hygiene offers a bachelor's degree (both entry-level and degree completion program) and a master's degree program that prepare dental hygienists for a variety of career opportunities. The Bachelor of Science in Dental Hygiene program is accredited by the American Dental Association (ADA), Commission on Dental Accreditation

(CODA), 211 E. Chicago Avenue, Chicago, Illinois 60611; phone (312) 440-2719.

Bachelor of Science in Dental Hygiene Entry-Level Program (BSDH)

The Bachelor of Science entry-level program prepares graduates to become licensed registered dental hygienists and work as part of a professional health care delivery team. The program requires the completion of Texas Core Curriculum and program prerequisite courses taken, with a minimum of a 2.7 GPA (on a 4.0 scale) before entering the dental hygiene major. Courses in the dental hygiene program include basic, dental, and social sciences; clinical theory and practice; and community experience. The curriculum combines classroom and laboratory instruction with clinical experience to develop student skills in comprehensive dental hygiene care.

The entry-level bachelor’s degree program consists of a minimum of 123 semester credit hours, including 60 hours of the Texas Core Curriculum and program prerequisite courses. In addition, 63 semester credit hours of dental hygiene courses are taken over two academic years of full-time study at the Health Science Center. Core Curriculum and program prerequisite courses must be completed at a regionally accredited college or university before entry into the program.

Application and Admission Requirements for the Entry-Level Bachelor’s Degree Program

A maximum of 30 qualified students are admitted to the Bachelor of Science degree programs. In addition to the academic admission requirements, non-academic factors may be considered when selecting students for admission to the BS Entry program.

To be considered, applicants must meet all qualifications and submit the Texas Common Application, the Supplemental Application, other applicant forms, and official transcripts, and pay fees by January 15 in order to be reviewed by the Admissions Committee for final acceptance and enrollment in the upcoming academic year. Note: Up to 12 credit hours may be in progress prior to admittance but must be completed and transcripts submitted to the Application Center by June 1.

If a student first enrolled as an undergraduate at a Texas public university or college in Fall 1999 or more recently, their degree requirements include a General Education Core Curriculum. Every public institution in Texas has a Core Curriculum, which is designed to provide a solid foundation for a college education and to make transfers
between and among Texas institutions of higher education as smooth and seamless as possible.

Each undergraduate institution's Core Curriculum applies to all academic undergraduate degrees. They range from 42 to 48 credit hours, depending on the college or university. Students may choose a major which has some more rigorous or more specific requirements than the Core. Most science majors have more intensive math and science requirements. In these cases, the major requirements have priority. For those and other reasons, no one should enroll in courses, Core Curriculum or otherwise, without consulting with a trained academic advisor or counselor at the appropriate institution.

Core Curriculum and the additional math and science courses for the bachelor's degree may be taken at any regionally accredited community college or university; the upper-level science courses (including biochemistry) must be taken at a four-year university. Generally, all professional DENH courses are taken at the Health Science Center. Note that some of the Core Curriculum may also be taken/counted as DENH requirements.

Prior to admission to the Dental Hygiene program, applicants must have completed a minimum of 60 hours, including the Texas Core Curriculum and the program prerequisites listed below.

Applicants are encouraged to seek advisement from their college counselors or the Health Professions Welcome Center (866) 802-6288 (toll-free) or (210) 567-8569.

ENTRY-LEVEL BACHELOR’S DEGREE PROGRAM PREREQUISITES

- Anatomy with laboratory OR Anatomy & Physiology I with laboratory
- Introductory Chemistry with laboratory
- Microbiology with laboratory
- Physiology with laboratory OR Anatomy and Physiology II with laboratory
- Nutrition
- Statistics
- Psychology
- Sociology
- Computer Applications or equivalent

Bachelor of Science in Dental Hygiene Degree Completion Program (Online)

The Bachelor of Science Degree Completion (BSDC) Program is designed to allow a registered Dental Hygienist (RDH) the opportunity to earn a baccalaureate degree in the field. Dental hygienists with baccalaureate degrees may be employed in community college or university settings as teachers, public health departments or other health care facilities, oral health care businesses, and other similar job opportunities. Salaries vary, depending on the career choice.

A total of 123 credit hours are required to earn a Bachelor of Science Degree in Dental Hygiene, including Texas Core Curriculum courses, program prerequisites, entry-level dental hygiene courses, and advanced dental hygiene major courses.

The BSDC online program is designed to be completed by the practicing dental hygienist and may be taken on a part-time
schedule. As all didactic course work is offered electronically, applicants are encouraged to give careful consideration to computer and time management skills prior to applying for this program. Note: BSDC students who intend to become a clinical dental hygiene educator are required to participate in a clinical teaching practicum course that is located on-site at a CODA-accredited program of dental hygiene.

Application and Admission Requirements for the BS Degree Completion Program

To qualify for the BSDC program, applicants must have:

- Graduated from an ADA/CODA-accredited dental hygiene program in the U.S. or Canada. (All credits earned in the entry program will be accepted toward BS requirements).  
- An active license as a Registered Dental Hygienist
- A grade point average (GPA) of at least 2.5 for all college courses taken
- Completed a 3-credit hour computer science course and 3 credit hour statistics course (may be part of Texas Core Curriculum)
- Completed the Texas Core Curriculum requirements

In addition to the academic admission requirements, non-academic factors may be considered when selecting students to the BSDC program. A maximum of twelve students may be admitted to the bachelor's degree completion program each year.

To be considered, applicants must meet all qualifications listed above and apply by completing the Texas Common Application and the Supplemental Application, submit letters of recommendation to the Application Center, pay fees, and submit official transcripts to the Application Center by January 15. Completed applications will be reviewed by the Admissions Committee for final acceptance and enrollment for fall entry. Note: Up to 12 credit hours may be in progress prior to admittance but must be completed and transcripts submitted to the Application Center by June 1.

BS Degree Completion Program Curriculum

Students who are graduates of the School of Health Professions Dental Hygiene certificate program will take 6-9 credit hours of dental hygiene courses at the Health Science Center to complete the required 123 credit hours. The BSDC program director will evaluate the number of hours required for each returning student.

Registered Dental Hygienists who are not graduates of the Dental Hygiene certificate program are required to take a minimum of 30 semester credit hours to earn the bachelor’s degree. Students should assess career goals and choose courses from the list below:

<table>
<thead>
<tr>
<th>BSDC Elective Courses</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENH 3007 - Preclinical Teaching Practicum</td>
<td>4.0*</td>
</tr>
<tr>
<td>DENH 4111 - Current Issues in Dental Hygiene</td>
<td>3.0</td>
</tr>
</tbody>
</table>

*Practicum courses require face-to-face time in a clinic near your location. These are often at accredited dental hygiene schools or public health clinics.

**May be repeated for one to three credit hours, depending on student's course of study.

Master of Science in Dental Hygiene Degree Program (Online)

The Master of Science degree builds on a baccalaureate degree in dental hygiene or a related field to develop professionals with expertise in a specialized area of dental hygiene. Through academic courses, independent study, research, and practical experience, graduate students will have the opportunity to prepare to meet the demands of an evolving health care environment. The primary goal of graduate education in dental hygiene is to prepare professionals to assume leadership roles in clinical, educational, research, political, administrative, and other health care delivery agencies.

The Master of Science in Dental Hygiene on-line degree program is designed for registered dental hygienists with a bachelor’s degree who wish to pursue advanced education in dental hygiene teaching, administration, research, and other related areas. This program requires a minimum of 36 semester credit hours of graduate work and allows a maximum of 6 semester credit hours of transfer courses. The student will be required to conduct original research under the guidance of a faculty mentor. The student has an option to publish their research findings in a traditional thesis format, or in a condensed publish ready manuscript design. In either case, the student will describe a research question, conduct a review of the literature, describe study methods and materials, synthesize the findings and write a conclusion. Graduate students will also be required to present their study process and findings to appropriate audiences.

A part time option is available, but all work toward the degree should be completed within 3 years of initial enrollment. Students with extenuating circumstances may petition the
Committee on Graduate Studies for additional time to complete this degree. Graduate education is delivered within a multidisciplinary framework through the School of Health Professions, the Dental School, and the Graduate School of Biomedical Sciences. Graduates are expected to develop expertise in conducting research related to dental hygiene, health care delivery, health promotion, or other relevant areas. The master’s degree also forms a foundation for future doctoral study.

The Master of Science in Dental Hygiene is administered by the Graduate School of Biomedical Sciences (GSBS). Students in the program follow procedures and policies of the GSBS.

Application and Admission Requirements for the MS Degree Program

The completed Texas Common Application and the Supplemental Application, fees, letters of recommendation, and official transcripts must be submitted to the Application Center by January 15. Completed applications will be reviewed by the Admissions Committee for final acceptance and enrollment for the upcoming academic year. Admission is offered through the Graduate School of Biomedical Science’s Dental Hygiene Committee on Graduate Studies (COGS). Four to six students may be admitted each year. In addition to the academic admission requirements, non-academic factors may be considered when selecting students to the program.

Admission requirements include:

- Bachelor’s degree from a regionally accredited college or university
- Grade point average of at least 3.0 in bachelor’s degree
- Graduation from an ADA/CODA-accredited dental hygiene program in the U.S. or Canada
- Successful completion of the National Board Dental Hygiene Examination
- Current licensure as a Registered Dental Hygienist from any state in the U.S. or Canada
- Graduate Record Examination or Miller Analogies Test; tests must have been taken within 5 years of admission
- Three completed Recommendation Forms

Master of Science in Dental Hygiene Electives

(Must take a minimum 17.5 hours)  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENH 5003 - Current Issues in Dental Hygiene</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5007 - Clinical Administration Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 5010 - Teaching Internship</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5015 - Public Health Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 5017 - Clinical Teaching Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 5036 - Health Promotion</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5050 - Educational Principles and Application</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5091 - Special Topics in Dental Hygiene</td>
<td>1.0-3.0</td>
</tr>
<tr>
<td>DENH 5903 - Organizational Leadership</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5926 - Preclinical Teaching Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 6091 - Independent Study</td>
<td>1.0-3.0</td>
</tr>
</tbody>
</table>

General Policies and Information

For additional information, see the policies and procedures in the School of Health Professions section of this Catalog.

Auditing Courses

Students who have transferred courses from other accredited institutions for credit in Dental Hygiene programs or those who successfully pass course challenge examinations may elect to audit these same courses while enrolled in the curriculum, to assure retention of those concepts/skills. Students who elect to or who are required to audit any course are expected to be present and participate in all lectures/class sessions, laboratories, and/or clinics specified by the course director. Students may take examinations or evaluations while auditing a didactic course with the approval of the course director. Students auditing a course with laboratory or psychomotor skills may be required to demonstrate competency in the psychomotor aspects of the course. Professionalism standards apply to students auditing any dental hygiene course. The symbol AU will be recorded on the student’s official transcript on completion of the course provided that attendance and other requirements have been met.

Computer Requirement

Students accepted into the Dental Hygiene program are expected to have basic computer skills including the ability to use e-mail, the Internet, and word-processing software. All bachelor’s degree entry-level students are required to buy a laptop computer from the Health Science Center’s Computer Store when entering the program. This computer will be formatted with program specifications that allow access to digital radiography and patient records, as well as online learning materials. It is expected that students will use computers in class for course-specific purposes or activities directed by the instructor. The approximate cost of the computer will be $1,800, which includes all software and
memory requirements. In addition, high-speed Internet access is strongly recommended.

Graduation Requirements
The Dental Hygiene Bachelor of Science degree and the Dental Hygiene Master of Science degree are awarded on the satisfactory completion of the prescribed academic programs, recommendation of the faculty for the bachelor’s degree, or the Committee on Graduate Studies for the master’s degree, and certification of the candidate by the dean and president.

A candidate for graduation must have completed all prescribed courses at a satisfactory level (see “Grades”) and earned a cumulative grade point average of 2.0 in the bachelor’s degree program or 3.0 in the master’s degree program. Completion of all courses with satisfactory grades does not necessarily assure candidates a recommendation for graduation. The School of Health Professions Faculty Council may refuse to recommend for graduation any student who has not:

- Met all financial indebtedness to the Health Science Center,
- Independently completed all her/his work, or
- Exhibited those intellectual, ethical, and behavioral qualities necessary for a career as a dental hygiene professional.

Diplomas are awarded in formal public ceremonies held by the Health Science Center at the end of spring semester.

Honors and Awards
Students in the bachelor’s degree programs may be eligible for various honors or awards based on academic, clinical, and professional abilities.

Sigma Phi Alpha
Students who demonstrate excellence in scholarship and professional leadership potential may be selected for the national dental hygiene honor society Sigma Phi Alpha. Faculty select honorees from the top 10% of the class, determined by cumulative GPA.

Program Costs
In addition to the required tuition and fees, additional costs based on full time enrollment are estimated below:

<table>
<thead>
<tr>
<th>Program</th>
<th>Other Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level Bachelor’s Degree</td>
<td>$10,072</td>
</tr>
<tr>
<td>Bachelor’s Degree Completion –</td>
<td>$150</td>
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<tr>
<td>HSC Graduates</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s Degree Completion –</td>
<td>$250</td>
</tr>
<tr>
<td>Other Graduates</td>
<td></td>
</tr>
<tr>
<td>Master of Science Degree</td>
<td>$450</td>
</tr>
</tbody>
</table>

Dental Hygiene Course Descriptions

**DENH 3004 Oral Anatomy**
The oral anatomy course is designed to provide the dental hygiene student with instruction in dental terminology and the anatomy of the teeth. Emphasis is placed on clinical considerations of oral anatomy relevant to dental hygiene practice. Includes one (1) lecture hour and three (3) laboratory hours per week. Lab fee: $4.
Semester Credit Hours: 2.0

**DENH 3006 Preclinical Dental Hygiene**
This course is an introduction to instrumentation techniques and basic clinical procedures. The course offers an opportunity to develop competency in fundamental clinical skills necessary to engage in patient treatment. Includes eight (8) clinical hours per week. Lab fee: $10.
Semester Credit Hours: 2.0
Prerequisites: concurrent with DENH 3023

**DENH 3007 Preclinical Teaching Practicum**
This course will provide students with an introduction to concepts of preclinical instruction. Instruction will include seminar and laboratory application sessions emphasizing theories of psychomotor skill development; diagnosis of performance problems; provision of feedback; identification of cognitive, psychomotor, and affective behaviors; and faculty calibration. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**DENH 3015 Public Health Practicum**
This course is an opportunity to gain experience with oral health care delivery or promotion in a public health area. The course will include planning and execution of a project in the student’s individual area of interest. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**DENH 3017 Clinical Teaching Practicum**
This course is an introduction to clinical instruction. Students will have the opportunity to gain experience in identifying and correcting performance problems relating to direct patient care. Instruction will include seminar and a clinical application session emphasizing the instructor’s role as facilitator, role model, and evaluator. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**DENH 3018 Dental Radiography**
This course is an introduction to scientific principles of oral radiography including essential terminology, the production and absorption of radiation, X-ray unit function, imaging systems, processing, quality assurance, radiation biology, and protection. This course is designed to emphasize radiation health and protection principles and techniques of intraoral and extraoral radiography, exposing, processing, mounting, and critical evaluation of dental radiographs. Laboratory experience and clinical applications are emphasized. Includes two (2) lecture hours and three (3) clinical hours per week. Laboratory fee: $25.
Semester Credit Hours: 3.0

**DENH 3019 Preventive Dental Hygiene Theory**
This course is an introduction to concepts used in oral health instruction and patient education. Included in the course is the etiology of dental disease, plaque control, oral physiotherapy, methodology of oral health instruction, nutritional counseling, and patient motivational techniques. This course is designed to give the student an opportunity to develop skills which are
necessary for teaching patients how to achieve optimal oral health and to offer experience in communication skills for interpersonal, professional, and patient education interaction. The course will also provide an overview of current counseling recommendations to prevent dental and periodontal disease. Includes 2 lecture hours and 3 hours of lab per week. Semester Credit Hours: 3.0

DENH 3020 Clinic I Seminar
This course presents current theoretical perspectives in which to interpret and expand dental hygiene care. Topics included within the course are cultural diversity, instrument sharpening, communication skills, ultrasonic scalers, and air abrasive polishers. Other topics related to beginning clinical practice are also incorporated. Includes two (2) lecture hours per week. Semester Credit Hours: 2.0
Prerequisites: All fall DH I courses and concurrent with DENH 3021

DENH 3021 Clinic I Practicum
This course is a clinical experience in the practical application of patient education and oral prophylaxis techniques. Emphasis will be placed on comprehensive care for the simple patient classifications, including patient assessment, dental hygiene treatment planning, patient education, instrumentation, preventive therapies, and radiographic skills. Includes twelve (12) clinic hours per week. Lab fee: $30. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 3.0
Prerequisites: All fall courses and concurrent with DENH 3020

DENH 3022 Dental Materials
This course is a study of the materials and adjunct materials used in restorative dentistry and in various other specialty areas of dentistry to fabricate dental appliances and tooth restorations. This course includes lecture and laboratory components designed to help students develop an understanding of the composition, properties, structure, and manipulative variables of dental materials historically used in dentistry as well as the most current materials available. Emphasis is placed on practical, clinical applications of materials; the dental hygienist’s role in educating patients regarding these materials; and the techniques for placement of the materials in the oral cavity. Also included is a discussion of the various categories of dental specialties and the materials used by each specialty. Includes two (2) lecture hours and three (3) lab hours per week. Laboratory fee: $25. Semester Credit Hours: 3.0

DENH 3023 Introduction to Clinical Theory
This course is an introduction to the theory associated with clinical procedures and patient care. Topics include prevention of disease transmission in the dental setting and patient assessment skills such as vital signs, health history, and oral inspection. An introduction to ethics related to the dental setting is incorporated. Includes three (3) lecture hours per week. Semester Credit Hours: 3.0
Prerequisites: concurrent with DENH 3006

DENH 3033 Structures of the Head and Neck
The purpose of this course is to give dental hygiene students an appreciation of the anatomical structure of the head and neck region of the human body, which will serve as a foundation of anatomical knowledge that is essential for patient care and useful in understanding function, local pain, anesthesia, and oral pathology. Includes one (1) lecture hour and three (3) lab hours per week. Semester Credit Hours: 2.0

DENH 3034 Periodontics
This course presents an in-depth study of the basics of periodontics. This course will include, but is not limited to, the following: the tissues of the periodontium, clinical assessment of the periodontium, classifications of periodontal diseases, identification of etiologic factors, the relationship of the immune response to the inflammatory process and pathogenesis of periodontal diseases, clinical indices used in periodontics, and systemic factors involved in periodontal diseases. Emphasis is placed on the clinical application of current theory. Includes three (3) lecture hours. Semester Credit Hours: 3.0
Prerequisites: Preclinic (course should be taken in same semester as DENH 3021)

DENH 3035 Pharmacotherapeutics
This course integrates elements of dental hygiene care as they relate to the treatment planning for special patients, understanding pharmacological agents used in dentistry, and management of medical emergencies in the dental office to include: concepts and practice related to the prevention, recognition, and management of medical emergencies that occur in the dental office with specific emphasis on systemic disease processes; understanding drug groups, their mechanism of action, dosage, indication of use, adverse effects, drug interactions, oral side effects in the treatment of human disease process, and its application in the dental hygiene clinical setting. Includes three (3) lecture hours and three (3) laboratory hours per week. Laboratory fee: $10. Semester Credit Hours: 4.0

DENH 3040 Histology/Embryology
This course continues the study of the oral cavity from a histological perspective. It includes the development and microscopic organization of the four basic body tissues in the formation of the oral cavity (i.e., development of the face, oral cavity, and teeth). This information is basic to the understanding of the histological changes arising from pathological alterations in the oral cavity. Includes two (2) lecture hours per week. Semester Credit Hours: 2.0

DENH 4007 Clinical Administration Practicum
The purpose of this course is to present students with an opportunity to hone administrative skills in a clinical environment. There will be interactions with second-year dental hygiene students as well as with the second-year clinic coordinator. The course includes conference and clinical application sessions to expand and refine teaching and evaluation skills and clinic administration issues including outcomes assessment, quality assurance, and information technology. NOTE: The course instructor may waive the prerequisites course requirement based on an interview with the student. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 4.0
DENH 4012  Oral Pathology
This course introduces the principles of human disease including pathogenesis, clinical appearance, and treatment. In certain instances, microscopic features will be discussed if they enhance the understanding of the disease process. A portion of the course is devoted to basic principles of general pathology. The majority of the course is an overview of oral pathology with an emphasis on the dental hygienist’s role in the recognition of oral disease. Includes three (3) lecture hours per week.
Semester Credit Hours: 3.0
Prerequisites: DENH 3033

DENH 4015  Clinic III Practicum
A continuation of DENH 4022 Clinic II Practicum, this course provides students the opportunity to incorporate all learning in providing comprehensive dental hygiene care for patients with simple to complex needs with emphasis on more complex cases, gain experience in the practical application of dental hygiene diagnosis, utilize preventive techniques in patient education skills, practice oral prophylaxis techniques including advanced scaling, implement various management techniques for the difficult patient, and improve efficiency and effectiveness in patient care. Includes twelve (12) clinic hours per week. Laboratory fee: $30. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 3.0
Prerequisites: DENH 4012, 4022, and 4020 and concurrent DENH 4016

DENH 4016  Clinic III Seminar
This course will provide the dental hygiene student with current theoretical perspectives in which to interpret and expand dental hygiene care. Advanced and adjunctive procedures for clients of special populations are presented in seminar format and build upon the basic concepts and skills learned during Preclinic, Clinic I, and Clinic II. Knowledge gained will be applied in clinical practice through new skill acquisition and expanded client care options. Professional ethical codes and major contemporary health issues facing the dental hygienist will be presented as well as legal aspects of health care and state Dental Practice Act requirements. Includes three (3) lecture hours per week.
Semester Credit Hours: 2.0
Prerequisites: DENH 4012, 4022, and 4020, and concurrent with DENH 4016

DENH 4017  Community Oral Health Practicum II
This course is the continuation of Community Oral Health Practicum I in which students apply public health/health education principles through implementing individual community oral health education projects, and through participating in service-learning activities outside the Dental School setting. Opportunities include rotations in public schools and in public health dental clinics. Emphasis is placed on students interacting with a variety of patients, including the physically and mentally challenged, indigent populations, and geriatric groups. Students gain experience in health education, as well as additional experience in providing clinical preventive services out in the community. Includes eight (8) clinic hours per week in off-campus rotations or community projects. Practicum fee: $10 per semester credit hour.

DENH 4018  Introduction to Research
This course presents basic research principles to facilitate reading and reviewing professional and scientific literature, obtaining research information to support current oral health care treatment and preventive procedures, and providing accurate information to their patients. Topics include the role of the dental hygienist in research, basic research terminology, design and methods, sampling techniques, conducting literature reviews, understanding basic statistics, and applying this information to professional dental hygiene practice. Learners will also have the opportunity to develop team building and communication skills within the context of a team project utilizing face-to-face and virtual environments. Includes three (3) lecture hours per week.
Semester Credit Hours: 3.0

DENH 4019  Practice Management
This course presents the fundamentals of dental practice for the transition from dental hygiene student to practitioner, including basic OSHA regulations and procedures necessary to be an OSHA compliance manager in private practice, maintaining a recall system, interpersonal relationships among members of the dental health team, résumé writing and interviewing skills, and computer applications to patient records. Emphasis will be on current issues in dental hygiene practice and on practical approaches to preparing students to enter the private practice setting as a member of the oral health team. Includes two (2) lecture hours per week.
Semester Credit Hours: 2.0

DENH 4020  Clinic II Seminar
This course is designed to provide the dental hygiene student with current theoretical perspectives in which to interpret and expand dental hygiene care. Advanced and specialized adjunctive procedures are presented in seminar format and build upon the basic concepts and skills learned during Preclinic and Clinic I. Knowledge gained will be applied in clinical practice through new skill acquisition and expanded client care options. Case studies will be presented related to ethical issues encountered in clinical settings. Includes three (3) lecture hours per week.
Semester Credit Hours: 2.0
Prerequisites: DENH 3022, DENH 3035, DENH 3021, DENH 3034, and concurrent with DENH 4022

DENH 4021  Community Oral Health Practicum I
Community Oral Health Practicum I, offered in the fall semester, is the prerequisite course to Community Oral Health Practicum II offered in the spring semester. The purpose of this course is to instill in students the important role of the dental hygienist in the community, and to provide an understanding of the relationship of community oral health to public health. Students will have an opportunity to learn how to promote oral health and prevent oral disease in the community. Students will have an opportunity to learn concepts such as assessment, planning, implementation, and evaluation phases of community-based programs. During this course, the students will plan a community oral health education program that is implemented and evaluated during Community Oral Health Practicum II. Cultural differences, socioeconomic factors, and
barriers to health care are discussed in relation to developing preventive programs. In addition, students will have an opportunity to learn about federal and state public health programs and current public health issues. Community oral health programs for vulnerable populations such as indigent, geriatric, and special-needs patients are included. Also, students will have an opportunity to participate in community service learning activities that will allow them to provide clinical and educational services to underserved populations. Includes three (3) lecture hours and four (4) clinical hours per week. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

DENH 4022  Clinic II Practicum
A continuation of DENH 3021 Clinic I, this course provides further opportunity to incorporate all learning in providing comprehensive dental hygiene care for patients with simple to complex needs with an emphasis on moderate cases. In addition, this course provides an opportunity for the student to gain experience in the practical application of dental hygiene diagnosis, utilize preventive techniques in patient education skills, practice oral prophylaxis techniques including advanced scaling, and implement various management techniques for the difficult patient. Includes twelve (12) clinic hours per week. Laboratory fee: $30. Practicum fee: $10 per semester credit hour.
Prerequisites: DENH 3021, 3022, 3034, and 3035 Concurrent with DENH 4020
Semester Credit Hours: 3.0

DENH 4023  Special Topics
Students will be given an opportunity to gain an in-depth understanding of selected topics through seminars, conferences, projects, or other appropriate learning methods.
Semester Credit Hours: 1.0–3.0

DENH 4024  Concepts and Practice in Teaching
This course introduces basic principles and techniques used in health care education. Topics include: issues and trends in professional education, principles of adult education, learning styles and motivation, case-based learning, competency-based education, patient and community education, clinical and laboratory instruction, course design, development of lesson plans and learning activities, guidelines for presentation skills, evaluating student performance, and using educational media and software.
Semester Credit Hours: 3.0

DENH 4025  Advanced Periodontics
This course builds on the knowledge base presented in DENH 3034 Periodontics, and gives students the opportunity to expand their understanding of treatment, prevention, and diagnosis of periodontal disease. This course examines, but is not limited to, the following topics: the role of the hygienist in non-surgical soft-tissue management, exposure to surgical techniques, wound healing, new technology in diagnostic tools, and products used in treatment or home care. This course further emphasizes the integration of theory into the practice of clinical dental hygiene. Includes three (3) lecture hours per week.
Semester Credit Hours: 3.0
Prerequisites: completion of first-year Dental Hygiene coursework

DENH 4026  Healthcare Ethics
This interdisciplinary course will provide students with an overview of professional and ethical issues facing allied health professionals. Topics to be discussed include responsibilities of the health care practitioner, life and death decisions, patient confidentiality, substance abuse, whistle blowing, and informed consent. Ethics in research and other critical issues related to health care problems will also be addressed. Collaborative activities and simulated cases will be used to enhance discussion among students. Includes one (1) lecture hour per week.
Semester Credit Hours: 1.0

DENH 4091  Independent Study
This course includes independent reading, research, discussion, project, and/or writing under the direction of a faculty member. The course may be repeated for credit.
Semester Credit Hours: 1.0–3.0

DENH 4103  Creating Healthier Communities
This course focuses on building healthier communities to include: individual change theories, organizational change theories and models, community change models, political change models, policy change models and media advocacy models.
Semester Credit Hours: 3.0

DENH 4111  Current Issues in Dental Hygiene
This course provides students with an introduction to the various functional roles of the dental hygienist. Topics include self-interest inventories; professional and educational qualifications for various career options; résumé/curriculum vitae development; interviewing strategies; opportunities to observe professionals in their career roles; and major issues facing the dental and dental hygiene professions, such as new treatment modalities, workforce issues, quality assurance, access to care for special patient populations, and the cost of health care.
Semester Credit Hours: 3.0

DENH 4415  Advanced Public Health Practicum
This course is a continuation of the Public Health Practicum and will provide students with an opportunity to gain further experience with oral health care delivery projects, development of health promotion and prevention activities, or gain advanced skills in designing community-based and service learning programs. This course will include planning and execution of a project related to the student's individual area of interest.
Semester Credit Hours: 4.0

DENH 5003  Current Issues in Dental Hygiene
This course provides students with an introduction to the various functional roles of the dental hygienist. Topics include self-interest inventories; professional and educational qualifications for various career options; résumé/curriculum vitae development; interviewing strategies; opportunities to observe professionals in their career roles; and major issues facing the dental and dental hygiene professions, such as new treatment modalities, workforce issues, quality assurance, access to care for special patient populations, and the cost of health care.
Semester Credit Hours: 3.0
DENH 5007 Clinical Administration Practicum
The purpose of this course is to present students with an opportunity to hone administrative skills in a clinical environment. There will be interactions with second-year dental hygiene students as well as with the second-year clinic coordinator. The course includes conference and clinical application sessions to expand and refine teaching and evaluation skills and clinic administration issues including outcomes assessment, quality assurance, and information technology. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

DENH 5010 Teaching Internship
This internship will provide graduate students with the opportunity to teach in various clinics, laboratories, and didactic courses to acquire experience in instructing undergraduate students in a variety of situations. The course is arranged on a contractual basis and tailored to meet the individual goals, needs, and interests of each graduate student, while keeping in mind background experiences. Supervision and evaluation of teaching performance are provided by the graduate faculty. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 3.0

DENH 5015 Public Health Practicum
This course is an opportunity to gain experience with oral health care delivery or promotion in a public health area. The course will include planning and execution of a project in the student’s individual area of interest. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

DENH 5017 Clinical Teaching Practicum
This course is an introduction to clinical instruction. The student will have the opportunity to gain experience in identifying and correcting performance problems relating to direct patient care. Instruction will include seminar and a clinical application session emphasizing the instructor’s role as facilitator, role model, and evaluator. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

DENH 5022 Research Apprenticeship
This course allows a graduate to review the literature and to design a research project under the direction of a faculty advisor that leads toward thesis research. Students are expected to design a research proposal that prepares them to collect and analyze data for their future thesis project.
Semester Credit Hours: 3.0

DENH 5024 Professional Communication
This course is designed to help the student develop concepts of professional communication including verbal, visual, and writing skills using state-of-the-art communication resources. Within an interactive topic and computer laboratory format, the students are expected to produce a series of scientific writings, abstracts, annotated bibliographies, and a term paper/research report in the form of a review of the literature.
Semester Credit Hours: 3.0

DENH 5026 Research Principles and Applications
This course is designed to provide the student with an opportunity to expand research knowledge in two dimensions: principles and applications. The course will consist of an in-depth study of the research process, its contexts, design, data collection, and communication techniques.
Semester Credit Hours: 3.0

DENH 5036 Health Promotion
This course is a theory-based course in which oral health will be viewed holistically. Topics will include the evolving profession of dental hygiene, paradigm shifts in dental hygiene, concepts of health and wellness, behavioral foundations for the dental hygiene process, cultural diversity, approaches to health care delivery, and health needs assessment.
Semester Credit Hours: 3.0

DENH 5050 Educational Principles and Application
This course provides foundational information in educational concepts, principles, methodology, and evaluation. Through this course the student will have the opportunity to gain an understanding in learning theories and motivation, develop a personal philosophy of teaching, curriculum, and syllabus design, develop instructional goals and objectives, and design and learn the fundamental skills in providing effective written and oral feedback. Students will have the opportunity to learn how to develop and implement teaching methodologies in cognitive, psychomotor, and affective domains.
Semester Credit Hours: 3.0

DENH 5091 Special Topics in Dental Hygiene
Students will be given an opportunity to gain an in-depth understanding of selected topics through seminars, conferences, projects, or other appropriate learning methods.
Semester Credit Hours: 1.0–9.0

DENH 5903 Organizational Leadership
The purpose of this course is to present foundational principles and theory relating to organizational leadership, communication strategies and behaviors, management of change, decision-making, and other essential elements of academic leadership and administration. The course will provide general information relating to organizational theory and more specific information about how educational organizations are designed and managed within different institutional settings: community colleges, private and public colleges, and universities. Additional topics will include external and internal factors affecting education, administrative roles, leadership and management styles, program planning and implementation, budget and personnel management, faculty and staff development, outcomes assessment, accreditation, and other topics related to student interests.
Semester Credit Hours: 3.0

DENH 5924 Biostatistics
This course is an introduction to biostatistics. Emphasis is upon application of statistical methods to biological problems. Topics include descriptive statistics, probability, hypothesis testing, and estimation.
Semester Credit Hours: 3.0
DENH 5926 Preclinical Teaching Practicum
This course is an introduction to concepts of preclinical instruction. Instruction will include seminar and laboratory application sessions emphasizing theories of psychomotor skill development; diagnosis of performance problems; provision of feedback; identification of cognitive, psychomotor, and affective behaviors; and faculty calibration. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

DENH 6091 Independent Study
This course includes independent reading, research, discussion, project, and/or writing under the direction of a faculty member. The course may be repeated for credit.
Semester Credit Hours: 1.0–3.0

DENH 6098 Thesis
Completion of an acceptable thesis is required for the Master of Science Degree. Registration in this course for at least one semester is required of all degree candidates.
Semester Credit Hours: 1.0–9.0
Prerequisites: Admission to candidacy for the M.S. degree

INTD 5064 Applied Statistics for Health Care Practitioners
This online course focuses on the application of descriptive and inferential statistics in research studies. Students are expected to gain knowledge and skills that will enable them to understand, interpret, and evaluate statistical results; work with a consultant statistician; and use software to enter, analyze, and summarize data. Course requirements include homework assignments, online discussions and/or chats, and periodic projects.

INTD 6002 Ethics in Research
This course covers topics relevant to ethics in scientific research. The course is taught on a case-study basis, dealing with real and hypothetical situations relevant to the conduct of scientific research. Topics discussed will include, but will not be limited to: data management, peer review, recognizing scientific misconduct, authorship, and The University of Texas regulations relevant to human and animal research. This course is required of all doctoral graduate students.
Semester Credit Hours: 0.5
Dietetics and Nutrition

- Coordinated Program in Dietetics
- Master of Dietetic Studies
- General Policies and Information
- Program Curricula
- Course Descriptions

The Profession

Dietetics professionals are instrumental in interpreting the science of food and nutrition to promote the well-being of individuals and communities. Dietitians assess the nutritional status of individuals using anthropometric measurements, dietary histories, clinical observations, and biochemical lab data. In the community, dietitians are instrumental in conducting needs assessment to promote health and prevent chronic diseases. Dietitians develop and implement intervention programs or medical nutrition therapy based on the needs of individuals and the community. Dietitians offer nutrition education and counseling in a variety of settings. They are also involved in food product development, research, and foodservice production.

Dietitians serve diverse groups and individuals of all ages. They are employed by healthcare facilities such as hospitals, long-term care facilities, and clinics; sports, wellness, and fitness centers; food-service operations, industry, pharmaceutical and food companies; community programs; and government agencies, private practice, and professional health organizations.

Coordinated Program in Dietetics

The Coordinated Program in Dietetics (CPD) is designed to grant a dual degree consisting of a Bachelor of Science in Dietetics and Nutrition and/or a Master of Dietetics Studies (MoDS) for students without a previous degree or as transfer student from other majors. The program meets the academic and supervised practice requirements set forth by the Commission on Accreditation for Dietetics Education (CADE) of the American Dietetic Association (ADA). With its concentration in Health Promotion/Disease Prevention and Treatment, the mission of the CPD is to prepare entry-level dietitians who will positively impact the nutritional status and health of individuals and the community, particularly those living in South Texas, through education, service, and scholarship. Knowledge, skills, and competencies are gained through didactic coursework, practicum, and service-learning experiences.

The program consists of 148 semester credit hours, including 67 semester credit hours of Texas Core Curriculum requirements and program prerequisites and 81 semester credit hours of dietetics courses taken at the Health Science Center. Core curriculum and program prerequisites must be taken at a regionally accredited college or university. The dietetics coursework includes a minimum of 1200 contact hours of practicum and service-learning experiences at clinical affiliates throughout South Texas.

The professional phase focuses on the acquisition of scientific and theoretical foundation knowledge requirements and the achievement of competencies through supervised experiences at various sites throughout South Texas. The preparatory practicum includes 45 contact hours in Applied Food Sciences and 90 contact hours in Food Production Practicum. The intermediate practicum includes 45 contact hours in Community Service and 45 contact hours in Nutritional Care Process. After the successful completion of 120 semester credit hours, the Bachelor of Science with a major in Dietetics and Nutrition is awarded.

The Master’s degree level of the CPD includes 30 semester credit hours of didactic and clinical course work. The advanced Dietetics Practicum consists of supervised experience in foodservice management, community nutrition, clinical dietetics, health promotion/disease prevention and treatment, staff relief and selected professional development. All together, the CPD provides approximately 1,217 contact hours in supervised practice.

After the successful completion of 30 credit hours at the Master’s degree level, a Master of Dietetic Studies (MoDS) degree is awarded and a verification statement of completion of the Coordinated Program in Dietetics. At this point, students may apply to take the Commission on Dietetics Registration, a national examination to become a Registered Dietitian (RD).

Master of Dietetics Studies - Advanced Standing Option

Students with a Bachelor of Science degree who have fulfilled all Didactic Program in Dietetics (DPD) requirements from a CADE-accredited program may apply for the Advanced Standing option leading to a Master of Dietetics Studies, which provides supervised experiences equivalent to a dietetic internship. Students entering this option must have coursework equivalent to the Health Science Center’s bachelor’s degree program in dietetics and nutrition and a DPD verification statement from a CADE-accredited program. Other courses may be required as recommended by the program director and admission committee.

Students with a Bachelor of Science degree in Nutrition (non-DPD) or other disciplines may also apply for the MoDS option. Academic transcripts will be evaluated on a case by case for all students transferring coursework or degrees to determine if prerequisites and equivalency for didactic or practicum coursework have been met. Students successfully completing any of the CPD options will receive a verification statement that will enable them to take the Commission on Dietetics Registration examination.
The CPD has received candidacy for accreditation from the Commission on Accreditation for Dietetics Education (CADE). For further information on accreditation, contact:
CADE, American Dietetic Association
120 South Riverside Plaza, Suite 2000
Chicago, Illinois 60606-6995
Phone: (312) 899-0040, ext. 5400
Fax: (312) 899-4817

General Policies and Information
For additional information, see the policies and procedures in the School of Health Professions section of this Catalog.

Application and Admission
In Spring 2010, the University of Texas Health Science Center’s School of Health Professions was thoroughly reviewed by a broad-based committee that recommended significant reorganization of the School. Based on this review, the Coordinated Program in Dietetics and Nutrition is undergoing reorganization and will not be accepting new students for Fall 2011.

Prior to admission, applicants must have completed a minimum of 69 hours, including the Texas Core Curriculum and the program prerequisites listed below. Note that some of the Core Curriculum may also be taken/counted as CPD requirements.

Applicants are encouraged to seek advisement from their college counselors or the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8569.

Bachelor of Science in Dietetics
- Program Prerequisites: Chemistry I with laboratory
- Chemistry II with laboratory
- Organic Chemistry with laboratory
- Human Anatomy with laboratory
- Human Physiology with laboratory
- Microbiology with laboratory
- Biochemistry
- Statistics
- Introduction to Psychology, General Sociology or Anthropology
- Principles of Management
- Introduction to Nutritional Sciences

Program Costs
In addition to the required tuition and fees, costs for other expenses such as textbooks, course manuals, equipment lease, uniforms or scrubs, and supplies are approximately $2,624.

Bachelor of Science in Dietetics and Nutrition and/or Master of Dietetics Studies Program Curricula

<table>
<thead>
<tr>
<th>Coordinated Program in Dietetics Curriculum</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Bachelor's Degree Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
</tr>
<tr>
<td>Fall Semester</td>
</tr>
<tr>
<td>NTDT 3190 - Applied Food Science Practicum</td>
</tr>
<tr>
<td>NTDT 3201 - Introduction to Nutrition and Dietetics Careers</td>
</tr>
<tr>
<td>NTDT 3210 - Medical Terminology</td>
</tr>
<tr>
<td>NTDT 3310 - Applied Food Science</td>
</tr>
<tr>
<td>NTDT 3410 - Advanced Human Nutrition</td>
</tr>
<tr>
<td><strong>Semester Total</strong></td>
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<tr>
<td>Spring Semester</td>
</tr>
<tr>
<td>NTDT 3290 - Food Production Practicum</td>
</tr>
<tr>
<td>NTDT 3320 - Nutrition and Health Assessment</td>
</tr>
<tr>
<td>NTDT 3330 - Nutrition Counseling and Education</td>
</tr>
<tr>
<td>NTDT 3340 - Nutrition in the Life Span</td>
</tr>
<tr>
<td>NTDT 3350 - Production and Foodservice System Management I</td>
</tr>
<tr>
<td><strong>Semester Total</strong></td>
</tr>
</tbody>
</table>

| Second Year | |
| Fall Semester | |
| NTDT 4190 - Community Service Practicum | 1.0 |
| NTDT 4210 - Special Topics in Nutrition and Dietetics | 2.0 |
| NTDT 4310 - Production and Food Service System Management II | 3.0 |
| NTDT 4320 - Medical Nutrition Therapy I | 3.0 |
| NTDT 4330 - Community Nutrition | 3.0 |
| **Semester Total** | **12.0** |
| Spring Semester | |
| NTDT 4191 - Nutrition Care Process Practicum | 1.0 |
| NTDT 4340 - Nutrition in Disease Prevention and Health Promotion | 3.0 |
| NTDT 4350 - Medical Nutrition Therapy II | 3.0 |
| NTDT 4360 - Current Issues in Nutrition | 3.0 |
| Elective | 3.0 |
| **Semester Total** | **13.0** |

| Master's Degree Requirements | |
| Second Year Summer Through Third Year | |
| NTDT 5110 - Seminar in Dietetics | 1.0 |
| NTDT 5120 - Research Seminar | 1.0 |
| NTDT 5310 - Public Health Nutrition and Policy | 3.0 |
Dietetics and Nutrition Course Descriptions

**NTDT 3190  **Applied Food Science Practicum  
This course covers the application of concepts related to the chemical, physical, sensory, and nutritional properties of food in menu planning, food preparation, and recipe modification.  
*Materials fee: $112. Practicum fee: $10 per semester credit hour.*  
*Semester Credit Hours: 1.0*  
*Prerequisites: must be taken concurrently with NTDT 3310 or with permission of advisor*

**NTDT 3201  **Introduction to Nutrition and Dietetics Careers  
This course is a general overview of nutrition and dietetics as a profession, including career opportunities, scope of practice, credentialing, code of ethics, and collaboration with other disciplines.  
*Semester Credit Hours: 2.0*

**NTDT 3210  **Medical Terminology  
This course is an introduction to medical terminology, abbreviations, pronunciation, word roots, prefixes and suffixes; and application of word parts in the understanding of medical terms.  
*Semester Credit Hours: 2.0*

**NTDT 3290  **Food Production Practicum  
This is a practicum related to the procurement, preparation, and delivery of food in large foodservice operations.  
*Practicum fee: $10 per semester credit hour.*  
*Semester Credit Hours: 2.0*  
*Prerequisites: must be taken concurrently with NTDT 3190*

**NTDT 3310  **Applied Food Science  
This course includes concepts related to the chemical, physical, sensory, and nutritional properties of food in menu planning, food preparation, and recipe modification.  
*Semester Credit Hours: 3.0*  
*Prerequisites: must be taken concurrently with NTDT 3190*

**NTDT 3320  **Nutrition and Health Assessment  
This course includes methods, tools, and interpretation of data in assessing the nutritional status of individuals including dietary, anthropometric, biochemical, and clinical assessment, as well as other measurements of health in individuals and the community.  
*Semester Credit Hours: 3.0*

**NTDT 3330  **Nutrition Counseling and Education  
This course includes theories of learning and behavior modification, models and techniques, communication skills, evaluation methods, and cultural competence in nutrition counseling and education; and application of concepts in facilitating behavioral change.  
*Semester Credit Hours: 3.0*
NTDT 3340  Nutrition in the Life Span
This course covers nutritional needs during various stages of the lifecycle as influenced by physiologic, cultural, and environmental factors.
Semester Credit Hours: 3.0

NTDT 3350  Production and Foodservice
System Management I
This course covers the principles related to the menu planning, food sanitation and safety, procurement, production, marketing, and materials management in foodservice operations.
Semester Credit Hours: 3.0
Prerequisites: NTDT 3310 or equivalent; must be taken concurrently with NTDT 3290

NTDT 3340  Nutrition in the Life Span
This course covers nutritional needs during various stages of the lifecycle as influenced by physiologic, cultural, and environmental factors.
Semester Credit Hours: 3.0

NTDT 4310  Production and Food Service
System Management II
This course covers theories and principles related to the foodservice, systems management including leadership, decision-making, human resources, and financial management of operations.
Semester Credit Hours: 3.0
Prerequisites: NTDT 3350 and NTDT 3290 or equivalent

NTDT 4320  Medical Nutrition Therapy I
This course includes pathophysiology and the application of the nutritional care process in the treatment of simple human diseases and conditions, part 1.
Semester Credit Hours: 3.0
Prerequisites: NTDT 3320 and NTDT 3330 or equivalent

NTDT 4330  Community Nutrition
This course covers nutrition-related issues in public health, various community resources, agencies, and programs involved in health promotion and disease prevention.
Semester Credit Hours: 3.0

NTDT 4340  Nutrition in Disease Prevention
and Health Promotion
This course is an evidence-based analysis as it relates to diet/nutrition in the prevention of chronic diseases; and fundamental concepts in the promotion of health among individuals and groups.
Semester Credit Hours: 3.0
Prerequisites: NTDT 3410

NTDT 4350  Medical Nutrition Therapy II
This course is a continuation of Advanced Medical Nutrition I; and review of the pathophysiology and the application of the nutritional care process in the treatment of more complex human disease and conditions.
Semester Credit Hours: 3.0

NTDT 4360  Current Issues in Nutrition
This course is an in-depth discussion and analysis of emerging trends, concepts, and controversies in nutritional sciences, including application of evidence-based principles in the discussion.
Semester Credit Hours: 3.0
Prerequisites: must have senior or graduate standing

NTDT 5091  Independent Study
The course is comprised of independent reading, research, discussion, project, and/or writing under the guidance of a faculty member. May be repeated for credit.
Semester Credit Hours: 1.0-3.0

NTDT 5110  Seminar in Dietetics
This course is an in-depth analysis of mastery of knowledge and skills required for entry-level practice. Successful completion includes standardized testing and approval of a professional portfolio by program faculty. Materials fee:$112.Semester Credit Hours: 1.0
Prerequisites: Must be in good academic standing and take concurrently with NTDT 5891 during the last semester of the Coordinated Program.

NTDT 5120  Research Seminar
This course covers current research topics, use of databases, and evaluation of research articles.
Semester Credit Hours: 1.0

NTDT 5310  Public Health Nutrition and Policy
This course covers concepts in nutritional epidemiology and public policy; and community-based interventions, resources, and research.
Semester Credit Hours: 3.0
NTDT 5320  Nutrition Pathophysiology
This course covers concepts related to nutrigenomics, immunology, pharmacology, fluid and electrolyte balance, acid-based balance, response to injury, complex diseases, and metabolic aberrations.
Semester Credit Hours: 3.0

NTDT 5330  Nutritional Supplements and Functional Foods
This course covers the fundamentals of complementary and alternative medicines, nutritional supplement, ergogenics, herbs, and functional foods; and issues related to their use in health and physical performance.
Semester Credit Hours: 3.0

NTDT 5340  Integration of Metabolism
This course is an in-depth study of the metabolism of nutrients, energy utilization at the cellular level, and role of coenzymes and cofactors.
Semester Credit Hours: 3.0
Prerequisites: NTDT 3410 or equivalent course

NTDT 5890  Advanced Dietetics Practicum I
This course covers supervised practice in dietetics in different settings including acute and long term care facilities, rehabilitation and outpatient clinics, community programs, and foodservice operations; includes weekly seminar. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 0.5-7.0
Prerequisites: must have successfully completed all dietetics knowledge core requirements and be in good academic standing.

NTDT 5891  Advanced Dietetics Practicum II
This course is an advanced supervised practice in dietetics with culminating experiences leading to entry-level competency; includes weekly seminar. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 0.5-7.0
Prerequisites: NTDT 5890; must be in good academic standing.
Emergency Health Sciences

- Department of Emergency Health Science Programs
- Bachelor of Science in Emergency Health Sciences
- Application and Admission
- General Policies and Information
- Program Curricula
- Course Descriptions

The Profession

Paramedics and Emergency Medical Technicians (EMTs) have fulfilled prescribed requirements by a credentialing agency to practice the art and science of out-of-hospital medicine in conjunction with medical direction. Through performance of patient assessments and providing medical care, their goal is to prevent and reduce mortality and morbidity due to illness and injury. Paramedics primarily provide care to emergency patients in an out-of-hospital setting.

Paramedics are expected to possess the knowledge, skills, and attitudes consistent with the expectations of the public and the profession. Paramedics are expected to recognize that they are an essential component of the continuum of care and serve as linkages among health resources. Paramedics are expected to strive to maintain high-quality, reasonable-cost health care by delivering patients directly to appropriate facilities. As advocates for patients, paramedics are expected to seek to be proactive in affecting long-term health care by working in conjunction with other provider agencies, networks, and organizations.

The emerging roles and responsibilities of the Paramedic include public education, health promotion, and participation in injury and illness prevention programs. As the scope of service continues to expand, the Paramedic will function as a facilitator of access to care, as well as an initial emergency medical treatment provider.

Department of Emergency Health Sciences Programs

The Department of Emergency Health Sciences offers certificate programs for EMT-Basic and EMT-Paramedic that meet or exceed national curriculum standards. The department also offers a Bachelor of Science in Emergency Health Sciences degree completion program for applicants already holding Paramedic certification. The certificate programs are accredited by the Committee on Accreditation of Educational Programs for the EMS Professions (CoAEMSP), 4101 W. Green Oaks Blvd., Suite 305-599, Arlington, Texas 76016, and by the Texas Department of State Health Services, Bureau of Emergency Management, 1100 W. 49th Street, Austin, Texas 78756-3199.

EMT-Basic

The program includes classroom instruction covering Basic Life Support knowledge and skills criteria, and clinical and field internship. Successful completion of the course requirements prepares the student for the National Registry of EMT certification examination.

EMT-Paramedic

The program includes classroom instruction covering anatomy, physiology, patient assessment, advanced airway shock/trauma management, cardiovascular disease recognition and management, advanced treatment protocols for trauma, medical and special patient emergencies, and clinical and field internship. Graduates of the program are eligible to take the NREMT Paramedic certification examination.

Bachelor of Science in Emergency Health Sciences

Paramedics who have earned a certificate may choose to continue their education to earn a Bachelor of Science degree in Emergency Health Sciences (EHS) offered by the Department of Emergency Health Sciences. This degree is offered as an online program.

The baccalaureate degree offers additional opportunities in the field of pre-hospital emergency medical technology in administration, teaching, or advanced level practice.

The objective of the baccalaureate degree program is to broaden the knowledge base and professional skills of emergency medical services (EMS) professionals who wish to pursue a degree that will help enable them to fulfill a more enlightened leadership role within the community and help provide them with an enhanced capability to facilitate the delivery of EMS and emergency/ community health services. The EHS degree provides the graduate with the opportunity to gain knowledge and skills necessary to assume positions of responsibility in the Emergency Medical Services provision to political entities, educational institutions, and private enterprises. Generally, the EHS degree program provides the graduate with information on how to manage and direct EMS organizations, deliver educational and regulatory information to many and varied communities of interest and students, and they may satisfy disaster management/planning requirements for localities as emergency managers.

The purpose of the Emergency Health Sciences degree is to help the graduate assume broader positions of responsibility in a variety of health care, research, business, community and educational settings, and to adapt to new rules precipitated by a changing health care delivery environment.
Application and Admission Requirements

Application for admission to Emergency Health Sciences certificate and degree programs may be completed at https://www.applytexas.org/adappc/commonapp.WBX. Completion of the Texas Success Initiative (TSI) is not required for the EMT-Basic and EMT-Paramedic certificate programs. Requirements are listed below.

For students pursuing a bachelor’s degree in Emergency Health Sciences, if the student first enrolled as an undergraduate at a Texas public university or college in Fall 1999 or more recently, their degree requirements include a General Education Core Curriculum. Every public institution in Texas has a Core Curriculum, which is designed to provide a solid foundation for a college education and to make transfers between and among Texas institutions of higher education as smooth and seamless as possible.

Each undergraduate institution’s Core Curriculum applies to all academic undergraduate degrees. They range from 42 to 48 credit hours, depending on the college or university. Students may choose a major which has some more rigorous or more specific requirements than the Core. Most science majors have more intensive math and science requirements. In these cases, the major requirements have priority. For those and other reasons, no one should enroll in courses, Core Curriculum or otherwise, without consulting with a trained academic advisor or counselor at the appropriate institution.

Core Curriculum and the additional math and science courses for the bachelor’s degree may be taken at any regionally accredited community college or university. Note that some of the Core Curriculum may also be taken/considered as Emergency Health Sciences requirements.

Application Deadlines

The application, a copy of current state or national EMT (for application to the Paramedic program) or Paramedic certificate (for application to the bachelor’s degree program), and official, sealed transcripts from high schools and/or colleges/universities attended must be submitted to the Application Center by:

- June 1 for August enrollment (for fall semester)
- November 1 for January enrollment (for spring semester-BS and EMT Basic only)
- April 1 for May enrollment (for summer semester-.BS and BS degree only)

Applications for certificate and degree programs are reviewed as they are received. The Emergency Health Sciences Admissions Committee reviews applications and admits students based on application review. Applicants are notified by mail of their acceptance or non-acceptance.

Detailed information about application and admission is available from the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8744.EMT-Basic

- 18 years of age or older by the course completion date
- High school diploma from an accredited school, or a GED

EMT-Paramedic

- Current Texas certificate as an EMT-Basic; applicants holding national certificates must apply to the Texas Department of State Health Services for an equivalency certificate
- 18 years of age or older
- High school diploma from an accredited school, or a GED

Bachelor of Science in Emergency Health Sciences

- Current Texas or national certification as an EMT-Paramedic (minimum of 30 semester credit hours in EMT-Basic and EMT-Paramedic coursework)
- Completion of the Texas Core Curriculum with a minimum grade of C in each course
- Cumulative grade point average of at least 2.0 in all college coursework.

General Policies and Information

For additional information, see the policies and procedures in the School of Health Professions section of this Catalog.

Students are responsible for knowing and observing the university’s procedures and regulations governing student Conduct and Discipline and the Rules and Regulations of the Board of Regents of The University of Texas System. Copies of the regulations are available from the Office of Student Services or from the department chair.

A satisfactory rate of progress toward the degree or certificate is determined by the student’s advisor, preceptor (where applicable), program director, and faculty according to the standards described below and in published course syllabi and course manuals. Students may be suspended, dismissed, and/or refused readmission at any time if circumstances of an ethical, legal, moral, health, social, psychomotor skill development, or academic nature are considered to justify such action.

1. Performance Review

A student’s performance is regularly reviewed by the course director and program director. The course director determines whether the student is progressing satisfactorily or whether a warning letter from the program director is indicated. Letters specify courses in which the student is performing unsatisfactorily and require that the student meet with the course director to assist in remediation strategies. Students are responsible for arranging instructor counseling and assistance in remedying any academic deficiencies.
2. Promotion Recommendations
   At semester's end or at other designated points in the curriculum, the program director determines the student's promotion status. In making these determinations, the program director evaluates several aspects of the student's performance: (1) course grade(s), (2) attendance record, (3) professional behaviors, and (4) psychomotor skill development. The program director may assess extenuating circumstances that have affected student progress. The program director's recommendations will be forwarded to the department chair. Students may receive the following progression designations:

   Unconditional Advancement - A student may be considered for unconditional advancement if the student:
   
   A. achieves a minimum grade-point average of 2.0 for each semester;
   B. successfully completes all prescribed courses and semester requirements;
   C. earns a minimum grade of C, P (Pass), or S (Satisfactory) in all courses; and
   D. exhibits professional behavior during all phases of the program.

   Probationary Advancement - A student may be considered for advancement while on probation if the student:
   
   A. has withdrawn from a prescribed course in the curriculum, with the approval of the department chair, but meets all other conditions for Unconditional Advancement;
   B. receives an unsatisfactory grade in any course in the curriculum;
   C. receives an I grade in any course(s); or
   D. receives an unacceptable rating for Professional Behavior.

   A student performing at an unsatisfactory level will receive written notification of his/her status from the department chair. The student must earn a satisfactory grade in each course in order to remain in the program. A student who receives an unsatisfactory grade in any course may be required to repeat that course.

   Dismissal - Dismissal from the program may be recommended if a student receives an unsatisfactory grade(s) in:
   
   A. two or more courses in one semester;
   B. a course being repeated or remediated;
   C. any course taken while on probation;
   D. if the semester GPA falls below 2.0; or
   E. if the student demonstrates serious unprofessional behaviors with faculty, staff, peers, or patients.

   The program director will consider all areas listed above under Promotions Recommendations. The program director has the right to make alternate promotion recommendations deemed appropriate.

Credit by Examination

The Department of Emergency Health Sciences offers two categories of students the opportunity to obtain academic credit by examination: (1) certified/licensed EMS personnel who completed EMT-Basic through EMT-Paramedic coursework at the Health Science Center program prior to its awarding academic credit, and (2) students admitted to the EHS Bachelor of Science degree program. The credit-by-examination process allows one to enroll in the course, pay the required examination fees, and schedule the examination date(s). The examination consists of the final written examination from the corresponding course and/or a verification of skill proficiency, and/or a verification of previous professional experience to assist with granting credit for clinical courses.

Procedure for Obtaining Credit by Examination: Students who wish to obtain credit by examination should:

1. Submit an application and application fee to the Department, and indicate on the application that the applicant wishes to obtain credit by examination.

2. Select the courses and credit hours from the list below.

3. Contact the Department of Emergency Health Sciences at (210) 567-8760 to verify past enrollment and to schedule examination dates and times.

Credit by Exam Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1160</td>
<td>EMT-Basic Clinical</td>
<td>1.0</td>
</tr>
<tr>
<td>EMSP 1161</td>
<td>Paramedic Clinical I</td>
<td>1.0</td>
</tr>
<tr>
<td>EMSP 1162</td>
<td>Paramedic Clinical II</td>
<td>1.0</td>
</tr>
<tr>
<td>EMSP 1334</td>
<td>Introduction to Advanced Practice</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 1355</td>
<td>Trauma Management</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 1356</td>
<td>Airway Management and Patient Assessment</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 1401</td>
<td>EMT-Basic</td>
<td>5.0</td>
</tr>
<tr>
<td>EMSP 2160</td>
<td>Paramedic Clinical III</td>
<td>1.0</td>
</tr>
<tr>
<td>EMSP 2161</td>
<td>Paramedic Clinical IV</td>
<td>1.0</td>
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<tr>
<td>EMSP 2238</td>
<td>EMS Operations</td>
<td>3.0</td>
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<tr>
<td>EMSP 2243</td>
<td>Assessment-Based Management</td>
<td>2.0</td>
</tr>
<tr>
<td>EMSP 2248</td>
<td>Emergency Pharmacology</td>
<td>2.0</td>
</tr>
<tr>
<td>EMSP 2301</td>
<td>Anatomy &amp; Physiology for Paramedic Practice</td>
<td>3.0</td>
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<td>EMSP 2330</td>
<td>Special Populations</td>
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<td>EMSP 2334</td>
<td>Medical Emergencies</td>
<td>3.0</td>
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<tr>
<td>EMSP 2444</td>
<td>Cardiology</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Previous professional employment can potentially be accepted for EHS clinical courses. A student's work experience will be reviewed on an individual basis by the course directors and the department's academic team.

If the student fails a challenge examination/evaluation, he/she may enroll in and attend the corresponding course only during regularly scheduled course offerings in order to receive credit.

Graduation Requirements

The Certificate in EMT-Basic, Certificate in EMT-Paramedic, or Bachelor of Science in Emergency Health Sciences is awarded
upon the satisfactory completion of prescribed academic programs, recommendation of the Emergency Health Sciences faculty and certification of the candidate by the Dean and President to the Board of Regents. A candidate for graduation must have completed all courses at a satisfactory level and earned a cumulative GPA of 2.0 in the certificate or bachelors of science degree program. Completion of the total unit requirement with passing grades does not necessarily assure candidates a recommendation for graduation.

Program Costs

In addition to the required tuition and fees, estimated program costs for the certificate and degree programs are approximately:

- EMT-Basic - $484
- EMT-Paramedic - $1,174
- Bachelor of Science - $400

Program Curricula

EMT-Basic

The EMT-Basic certificate program is offered during spring and summer semesters. Classes meet for lectures and skills practice from 1:00 to 5:00 p.m., 3 days per week. In addition, 45 hours of clinical rotations are required during the semester.

EMT-Basic Curriculum

<table>
<thead>
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<th>Credit Hours</th>
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<tr>
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<tr>
<td>EMSP 1401 - EMT-Basic</td>
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<tr>
<td><strong>Program Total</strong></td>
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</table>

EMT-Paramedic

The EMT-Paramedic certificate program consists of 33 semester credit hours and is offered with full-time and part-time options.

Full-Time Option – Begins in fall semester and ends spring semester. Classes meet Tuesday, Wednesday, and Thursday from 8:00 a.m. to 5:00 p.m.; clinical rotations are scheduled 8:00 am to 4:00 p.m. or 4:00 p.m. to 12:00 a.m. on Monday and Friday (some weekends are available if needed).*

EMT-Paramedic Curriculum

<table>
<thead>
<tr>
<th>Semester One</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EMSP 1161 - Paramedic Clinical</td>
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<tr>
<td>EMSP 1162 - Paramedic Clinical II</td>
<td>1.0</td>
</tr>
<tr>
<td>EMSP 1334 - Introduction to Advanced Practice</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 1356 - Airway Management and Patient Assessment</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 2248 - Emergency Pharmacology</td>
<td>2.0</td>
</tr>
<tr>
<td>EMSP 2301 - Anatomy &amp; Physiology for Paramedic Practice</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 2444 - Cardiology</td>
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<tr>
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<table>
<thead>
<tr>
<th>Semester Two</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1355 - Trauma Management</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 2160 - Paramedic Clinical III</td>
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</tr>
<tr>
<td>EMSP 2161 - Paramedic Clinical IV</td>
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</tr>
<tr>
<td>EMSP 2238 - EMS Operations</td>
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</tr>
<tr>
<td>EMSP 2243 - Assessment-Based Management</td>
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</tr>
<tr>
<td>EMSP 2330 - Special Populations</td>
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</tr>
<tr>
<td>EMSP 2334 - Medical Emergencies</td>
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<tr>
<td><strong>Semester Total</strong></td>
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</tr>
<tr>
<td><strong>Program Total</strong></td>
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</tr>
</tbody>
</table>

Bachelor of Science in Emergency Health Sciences

The Bachelor of Science in Emergency Health Sciences curriculum consists of 124 semester credit hours, including the Texas Core Curriculum, an EMT-Paramedic certificate (minimum of 30 semester credit hours) and 52 semester credit hours of advanced courses completed at the Health Science Center. The EMT-Paramedic certificate may be completed at any regionally accredited college or university. Core Curriculum courses must be completed at another regionally accredited college or university before admission into the Health Science Center BS program.

The bachelor’s degree program is designed to meet individual students’ educational and career goals. Therefore, in consultation with the program director, the student may create an individualized curriculum of at least 52 semester credit hours from the courses listed below.

BS in Emergency Health Sciences Curriculum (online program)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>EMSP 3001 - Foundations of Emergency Health Sciences</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 3003 - Critical Care Medicine</td>
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<tr>
<td>EMSP 3004 - Pharmacology I for EMS Providers</td>
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<tr>
<td>EMSP 3006 - Electrocardiology in Emergency Medical Sciences</td>
<td>3.0</td>
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<tr>
<td>EMSP 3007 - Human Diseases</td>
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<tr>
<td>EMSP 3011 - Medical Informatics</td>
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<tr>
<td>EMSP 3012 - Behavioral Medicine and Psychopathology</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 3013 - Professional Orientation &amp; Legal Foundations</td>
<td>3.0</td>
</tr>
<tr>
<td>EMSP 3031 - Directed Study</td>
<td>1.0–4.0</td>
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<td>EMSP 3100 - Orientation to Online Learning</td>
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<td>EMSP 3041 - Current Research in Emergency Health Sciences</td>
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<td>EMSP 4001 - Physical Examination and History Taking</td>
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<tr>
<td>EMSP 4002 - Pathophysiology for EMS Providers</td>
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<td>EMSP 4003 - Flight Medicine</td>
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<td>EMSP 4004 - Management of Disasters and Hazardous Materials</td>
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<tr>
<td>EMSP 4005 - EHS Systems Management and Budgeting</td>
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EMSP 4006 - Educational Issues in Emergency Health Sciences 3.0
EMSP 4007 - Human Resource Development 3.0
EMSP 4008 - Leadership Development 3.0
EMSP 4012 - Pharmacology II for EMS Providers 3.0
EMSP 4021 - Internship 6.0

Emergency Health Sciences Course Descriptions

EMSP 1149 Pre-Hospital Trauma Life Support
This course is an intense skill development in emergency field management, systematic rapid assessment, resuscitation, packaging, and transportation of patients. It includes experiences necessary to meet initial certification requirements.
**Semester Credit Hours:** 1.0

EMSP 1160 EMT- Basic Clinical
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site.
**Semester Credit Hours:** 1.0

EMSP 1161 Paramedic Clinical I
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site.
**Semester Credit Hours:** 1.0

EMSP 1162 Paramedic Clinical II
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site.
**Semester Credit Hours:** 1.0
**Prerequisites:** EMSP 1161

EMSP 1334 Introduction to Advanced Practice
This course is an exploration of the foundations necessary for mastery of the advanced topics of clinical practice out of the hospital. Course Learning Outcomes: At the completion of this module, the student will be required to understand the roles and responsibilities of a paramedic within the EMS system, apply the basic concepts of development and pathophysiology to assessment, and management of emergency patients.
**Semester Credit Hours:** 3.0

EMSP 1355 Trauma Management
This course is a detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with traumatic injuries and to safely manage the scene of an emergency. At the completion of this module, the student will be required to integrate the pathophysiologic principles and assessment findings to formulate a field impression and implement the treatment plan for the trauma patient.
**Semester Credit Hours:** 3.0

EMSP 1356 Airway Management and Patient Assessment
This course is a detailed study of the knowledge and skills required to reach competence in performing patient assessment and airway management. Course Learning Outcomes: The student will be required to take a proper history and perform a comprehensive physical exam on any patient, develop a patient care plan, communicate with others, and establish and/or maintain a patent airway, oxygenate, and ventilate a patient. **Materials fee:** $150.
**Semester Credit Hours:** 3.0

EMSP 1401 EMT- Basic
This course is an introduction to the level of EMT Basic. It covers the skills necessary to provide emergency medical care at the basic life support level with an ambulance service or other specialized service.
**Semester Credit Hours:** 5.0

EMSP 2135 Advanced Cardiac Life Support
Instruction satisfies guidelines published by the American Heart Association for their ACLS core curriculum. The focus is on the initial management of the cardiopulmonary arrest patient, including advanced airway management techniques, cardiovascular pharmacology, defibrillation, and arrhythmia analysis. The student must review the current AHA ACLS text prior to class. Successful completion results in ACLS Provider Course Completion Card.
**Semester Credit Hours:** 1.0

EMSP 2160 Paramedic Clinical III
**Semester Credit Hours:** 1.0
**Prerequisites:** EMSP 1162

EMSP 2161 Paramedic Clinical IV
This course is a clinical internship requiring each student under close supervision to complete a stated number of objectives in both the hospital and ambulance environment. Clinical courses to be taken in the sequence are listed above. Students are evaluated on cognitive, psychomotor, and affective domains. A numerical grade is awarded based on performance levels and course objectives met. **Note:** Successful completion of clinical requirements is based on objectives met along with the required Hours. It may be necessary for a student to complete more than the scheduled 375 hours in order to meet the objectives.
**Semester Credit Hours:** 1.0

EMSP 2238 EMS Operations
This is a course of study to prepare the paramedic to safely manage medical incidents, rescue situations, hazardous materials, and crime scenes.
**Semester Credit Hours:** 3.0

EMSP 2243 Assessment-Based Management
This course is the capstone course of the EMSP program. Designed to provide for teaching and evaluating comprehensive assessment-based patient care management. At the completion of this module, the student will be required to integrate pathophysiologic principles and assessment findings to formulate a field impression and implement a treatment plan for patients with common complaints.
**Semester Credit Hours:** 2.0

EMSP 2248 Emergency Pharmacology
This course is a comprehensive course covering all aspects of the utilization of medications in treating emergencies. The course is designed to complement Cardiology, Special Populations, and Medical Emergency courses. Course Learning Objectives: The student will be required to display a
command of general pharmacological terminology, general drug mechanisms, administration routes and administration procedures, and drug dose calculations. Students will be required to demonstrate understanding of the pharmacodynamics, pharmacokinetics, indications, contraindications, possible side effects, and common drug interactions of a variety of medications used in out-of-hospital medical care.

Semester Credit Hours: 2.0

**EMSP 2301 Anatomy & Physiology for Paramedic Practice**
A study of the structure and function of the human body, emphasis will be given to the study of cells and tissues, and anatomical and physiological interrelationships of the skeletal, muscular, nervous, and endocrine systems. This course is designed primarily for Paramedic students.

Semester Credit Hours: 3.0

**EMSP 2330 Special Populations**
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of ill or injured patients in nontraditional populations.

Semester Credit Hours: 3.0

**EMSP 2334 Medical Emergencies**
This course is a detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with medical emergencies. At the completion of this module, students will be required to integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for the medical patient.

Semester Credit Hours: 3.0

**EMSP 2444 Cardiology**
This course is a detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with cardiac emergencies. At the completion of this module, the student will be required to integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for the cardiac patient.

Semester Credit Hours: 4.0
Prerequisites: EMSP 1244

**EMSP 3001 Foundations of Emergency Health Sciences**
This course is an introduction to EMSP. This course surveys the history, evolution, theoretical concepts, and clinical methods and techniques that support the practice of EMSP.

Semester Credit Hours: 3.0

**EMSP 3003 Critical Care Medicine**
This course is designed to provide advanced knowledge in critical care medicine. Topics will include monitoring technology, advanced procedures, diagnostic testing, and treatment of acutely critical patients.

Semester Credit Hours: 3.0

**EMSP 3004 Pharmacology I for EMS Providers**
This course is designed to provide the learner with a fundamental knowledge of the actions and therapeutic uses of drugs. The topics covered will include basic principles of drug action, pharmacokinetics, autonomic and cardiovascular pharmacology, neuropharmacology, toxicology, endocrine pharmacology, and respiratory tract pharmacology.

Semester Credit Hours: 3.0

**EMSP 3006 Electrocardiology in Emergency Medical Sciences**
A study of the fundamentals of electrocardiology, this course will emphasize the role of the 12-lead ECG in out-of-hospital medical care. The purpose of this course is to teach a systematic-analytical approach to rapid 12-lead interpretation. Topics begin with cardiac anatomy and physiology and progress to the level of recognizing the classic 12-lead and multi-lead ECG patterns.

Semester Credit Hours: 3.0

**EMSP 3007 Human Diseases**
This purpose of this course is to provide a foundation in basic disease conditions, pathophysiological process behind major diseases and their causes, definitions of disease, classifications of disease, and descriptions of diseases as they pertain to the emergency health sciences.

Semester Credit Hours: 3.0

**EMSP 3011 Medical Informatics**
This course is a class designed to initiate today’s EMS professional to the rapidly advancing field of information science and to acquaint the students with the concepts of electronic field data collection, database theory and its application to EMS, information driven performance improvement, and clinical education.

Semester Credit Hours: 3.0

**EMSP 3012 Behavioral Medicine and Psychopathology**
This course provides an opportunity to develop an understanding of human behavior by providing an overview of behavioral disease processes and differentiation criteria to include disease presentation, physical examination findings, laboratory testing, and therapeutic approaches. The course will focus on issues pertinent to the pre-hospital environment including common patient presentation, overview of the legal system with mental health patients, and individual and system interventions.

Semester Credit Hours: 3.0

**EMSP 3013 Professional Orientation & Legal Foundations**
This course provides the student with an overview of the legal foundations for Emergency Medical Services. Topics include concepts of malpractice, litigation, consent, and refusal of medical treatment, advanced directives, patient confidentiality, and expert and factual witness preparation.

Semester Credit Hours: 3.0

**EMSP 3031 Directed Study**
This course is available to the learner to allow for a voluntary course of independent study in a clinical/advanced provider concentration.

Semester Credit Hours: 1.0–4.0

**EMSP 3041 Current Research in Emergency Health Sciences**
This course is a seminar designed to encourage the learner to discover research and research trends in the field of EMSP.
Basic concepts in research methods will be discussed. The learner will have the opportunity to discover methods, procedures, and ways of analysis for examining research.  
Semester Credit Hours: 3.0

**EMSP 3100  Orientation to Online Learning**  
This course is designed to provide the student with necessary information, tools, and strategies to enhance and facilitate learning at a distance at the Health Science Center.  
Semester Credit Hours: 1.0

**EMSP 4001  Physical Examination and History Taking**  
This course is designed to assist students in refining history taking, psychosocial assessment, and physical assessment skills. Emphasis is placed on detailed health history taking, differentiation, interpretation, and documentation of normal and abnormal findings. Learners are given the opportunity to study methods for understanding disease processes through proper techniques for eliciting a complete patient history and performing a thorough physical examination.  
Semester Credit Hours: 3.0

**EMSP 4002  Pathophysiology for EMS Providers**  
This course is designed to introduce the student to pathophysiologic concepts related to altered biological processes affecting individuals across the lifespan. It includes basic mechanisms of disease, the immune response, and selected disorders of the following systems: neurologic, endocrine, reproductive, musculoskeletal, cardiovascular, hematologic, respiratory, urinary, and digestive.  
Semester Credit Hours: 3.0

**EMSP 4003  Flight Medicine**  
This course is designed to provide the learner with general physics of flight as well as the effect that flight has on patients and equipment utilized in patient care. Additionally, general aviation guidelines and safety protocols will be introduced as well as the regulatory structure of flight medicine.  
Semester Credit Hours: 3.0

**EMSP 4004  Management of Disasters and Hazardous Materials**  
This course discusses considerations of the theoretical and practical foundations necessary to manage multi-casualty and multi-agency incidents, including planning, response, triage, and scene control. Medical, surgical, mental health, and public health views are discussed along with the resolution phases of disaster.  
Semester Credit Hours: 3.0

**EMSP 4005  EHS Systems Management and Budgeting**  
This course is designed to identify and discuss various forms and trends of EHS Systems management. From the volunteer service to the large, urban EHS system, the learner will have the opportunity to become familiar with the various aspects of America’s EHS services. Budgeting and financial management skills and understanding necessary to manage emergency health systems will be emphasized.  
Semester Credit Hours: 3.0

**EMSP 4006  Educational Issues in Emergency Health Sciences**  
This course analyzes educational and training needs relating to EMS agencies. Principles of adult teaching and learning are presented.  
Semester Credit Hours: 3.0

**EMSP 4007  Human Resource Development**  
This course reviews the policies necessary to ensure that properly prepared and motivated personnel are available to carry out the mission and daily operations of an EMS organization and to gain a scholarly understanding of and familiarity with foundational HRD theory and research. Topics include methods of hiring staff, performance appraisal processes, legal requirements around health and safety, union matters, and sexual harassment in the workplace.  
Semester Credit Hours: 3.0

**EMSP 4008  Leadership Development**  
This course is a study and application of contemporary leadership theories and conceptual, skill-building, feedback, and personal growth approaches for the development of effective organizational leadership behaviors and practices.  
Semester Credit Hours: 3.0

**EMSP 4009  Pediatric Advanced Life Support (PALS)**  
Instruction presented satisfies guidelines published by the American Heart Association’s ECC for the PALS core curriculum. The focus is on the initial management of the cardiopulmonary arrest pediatric patient including advanced airway management techniques, cardiovascular pharmacology, defibrillation, and arrhythmia analysis. The student must review the current AHA PALS text prior to class. Successful completion results in PALS Provider Course Completion certification.  
Semester Credit Hours: 1.0

**EMSP 4012  Pharmacology II for EMS Providers**  
This course is designed to provide a fundamental knowledge of the actions and therapeutic uses of drugs. Topics covered include: fluid and electrolyte balance, bone and joint disorders, nutrition, infectious diseases, and cardiovascular and parasitic diseases. Online course. Note: EMSP 3004 Pharmacology I is NOT a prerequisite for this course.  
Semester Credit Hours: 3.0

**EMSP 4021 -- Internship**  
This course is a semester internship/capstone experience by arrangement.  
Semester Credit Hours: 6.0
Occupational therapy involves the assessment and treatment of individuals whose ability to perform tasks of living is threatened or impaired by developmental disability, physical disability, psychosocial dysfunction, sensory impairment, or the aging process. The occupational therapy process involves the prevention or correction of physical, developmental, or emotional problems that affect functional performance of the individual. The goal of occupational therapy is to assist the client in the performance of activities that provide meaning to her or his life.

Occupational therapists serve clients of all ages in a variety of settings including rehabilitation facilities, long-term care facilities, public schools, psychiatric hospitals, day care facilities, sheltered workshops, community agencies, and industrial sites.

**Master of Occupational Therapy Program (MOT)**

The Master of Occupational Therapy (MOT) is a 30-month program that begins in the summer and consists of 84.5 semester credit hours of graduate-level coursework in Occupational Therapy and 20 semester hours (6 months) of full-time clinical fieldwork. A baccalaureate degree is not required for admission to the program. However, prior to admission, applicants without a baccalaureate degree must have completed the Texas Core Curriculum and the program prerequisites listed below.

If a student first enrolled as an undergraduate at a Texas public university or college in Fall 1999 or more recently, their degree requirements include a General Education Core Curriculum. Every public institution in Texas has a Core Curriculum, which is designed to provide a solid foundation for a college education and to make transfers between and among Texas institutions of higher education as smooth and seamless as possible.

Each undergraduate institution's Core Curriculum applies to all academic undergraduate degrees. They range from 42 to 48 credit hours, depending on the college or university. Students may choose a major which has some more rigorous or more specific requirements than the Core. Most science majors have more intensive math and science requirements. In these cases, the major requirements have priority. For those and other reasons, no one should enroll in courses, Core Curriculum or otherwise, without consulting with a trained academic advisor or counselor at the appropriate institution.

Core Curriculum and the additional math and science courses for the bachelor's degree may be taken at any regionally accredited community college or university. Note that some of the Core Curriculum may also be taken/counted as Occupational Therapy program requirements.

Applicants are encouraged to seek advisement from their college counselors or the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8569.

**Bachelor of Science in Health Care Sciences**

Students entering the Master of Occupational Therapy program may receive a Bachelor of Science in Health Care Sciences (BS HCS) after successful completion of all program prerequisites, completion of the Texas Core Curriculum, and successful completion of the required program curriculum.

Students in these programs who do not wish to receive the BS HCS must submit a “Request for Waiver of State Required Prerequisites” to the Application Center upon entry to the program, and no later than the census day of their first term in the program.

The BS HCS will be awarded with the Master’s degree at the completion of the program.

A student who withdraws from the Master’s degree program may be awarded the BS HCS on the first published graduation date following withdrawal if (1) the student successfully completed the required curriculum for the bachelor’s degree program, and (2) the faculty certify the student to receive the degree.

**Certification and Accreditation**

Graduates of the MOT program are eligible to take the national certification examination administered by the National Board for Certification in Occupational Therapy (NBCOT) and to apply for licensure that is required for practice in most states. After successful completion of this examination, the individual will be a Registered Occupational Therapist (OTR). A felony conviction may affect a graduate’s ability to sit for the NBCOT certification examination or to attain state licensure.

The MOT program is accredited through the Accreditation Council for Occupational Therapy Education (ACOTE). For further information about the accreditation process contact:

American Occupational Therapy Association
4720 Montgomery Lane/PO Box 31220
Bethesda, MD 20824-1220
Telephone: (301) 652-2682
Application and Admission

The Texas Common Application, the application fee, official transcripts, and supporting documents must be submitted to the Application Center between August 15 and November 1 for summer semester admission into the Master of Occupational Therapy program. All Core Curriculum and program prerequisites must be completed by the end of the fall semester preceding summer admission.

In addition to non-academic factors, application requirements for the MOT program include the following:

- Grade point average (GPA) of at least 3.0
- Knowledge and understanding of occupational therapy gained through a minimum of 20 hours volunteer and/or observation under the general supervision of a licensed occupational therapist
- Two Letters of Reference, preferably from licensed occupational therapists
- Completion of Texas Core Curriculum coursework with a grade of C or better
- Completion of a minimum of 60 hours, including completion of program prerequisites with a grade of C or better
- Interviews with Occupational Therapy faculty

MOT Program Prerequisites

- Human Anatomy with lab OR Anatomy & Physiology
- Human Physiology with lab OR Anatomy & Physiology II
- General Biology with lab
- General Chemistry with lab
- Physics or Kinesiology (Dynamics of Human Movement)
- Psychology (introduction)
- Abnormal Psychology
- Developmental Psychology
- Sociology and/or Anthropology
- Statistics
- Medical Terminology
- English (technical writing)

*Recommended elective courses include: Leadership Skills, Public Health, Human Sexuality, Economics, Humanities, Fine Arts, Foreign Language, and Philosophy. Specifically excluded are remediation course work, work from technical institutions, or programs, and other course work deemed inappropriate by the department.

Applicants may submit transcripts for an unofficial evaluation of core curriculum and program prerequisite coursework to the Health Professions Welcome Center. Additional information about application and admission is available by calling (866) 802-6288 (toll-free) or (210) 567-8744.

General Policies and Information

Occupational Therapy Fieldwork

Fieldwork is an important part of the educational process for becoming an occupational therapist and represents that part of the program during which students have the opportunity to learn clinical skills through observation or experiential learning (Level I Fieldwork); or to apply understanding of theory and techniques through extended, supervised, and evaluated performance (Level II Fieldwork). In either case, these experiences occur away from the Health Science Center at affiliated clinical institutions/sites.

The Academic Fieldwork Coordinator maintains contact with the fieldwork facilities to support links between the didactic and fieldwork aspects of the curriculum. The coordinator assigns Satisfactory/Unsatisfactory grades for Level II experiences based on the student’s performance, judgment, and attitude as measured by the on-site supervisor using the Fieldwork Performance Evaluation.

The majority of Level I and Level II Fieldwork sites are located within the State of Texas. Notebooks on each fieldwork facility are maintained by the department and can be reviewed by contacting the Academic Fieldwork Coordinator. These notebooks describe the setting, objectives, philosophies, and types of patients seen in each facility.

Student placements are reserved many months (and in some cases, up to two years) in advance of a scheduled fieldwork experience. The Academic Fieldwork Coordinator assigns eligible students to specific facilities for Level II fieldwork experiences.

During Level I Fieldwork, students are responsible for observing therapy for the treatment of conditions relating to the concurrent semester’s theory and skills courses and to fulfill assignments of the theory or lab course. All assigned work including observational/participatory times, written and oral assignments, and class discussion participation must be satisfactorily completed in order for the student to receive a passing grade.

Level II Fieldwork experiences, which follow the completion of required academic coursework, are completed at sites assigned by the Academic Fieldwork Coordinator.

The student is responsible for making any required living arrangements, obeying policies and procedures of the facility providing the fieldwork experience, submitting required assignments and evaluations, etc. Specific details are available from the Academic Fieldwork Coordinator.

Students may complete fieldwork only at assigned facilities. The Department maintains agreements with approved fieldwork sites, and these have been carefully selected to assure compatibility with the department philosophy, objectives, and curriculum design. While students are given an opportunity to express their preferences for location of placements, the program cannot grant assurances that student will be placed in their setting of choice. Students should be prepared to incur expenses for transportation, food, and lodging during required fieldwork assignments.
The Accreditation Council for Occupational Therapy Education (ACOTE) requires completion of all fieldwork within 24 months following completion of academic preparation. This requirement assures continuity of academic concepts.

Grades in Fieldwork Courses

Some Level I Fieldwork courses and both of the Level II Fieldwork courses are graded S (Satisfactory) or U (Unsatisfactory). Clinical grades are not used in calculating the grade point average. Level II fieldwork experiences are graded on a satisfactory/unsatisfactory basis according to the student’s performance, judgment, and attitude as measured by the onsite supervisor using the Fieldwork Performance Evaluation for the Occupational Therapy Student. Criterion scores, as suggested by the American Occupational Therapy Association, are used to determine satisfactory performance.

If a student on Level II fieldwork receives a score below the criterion score on the Fieldwork Performance Evaluation for the Occupational Therapy Student, the student will receive an unsatisfactory grade. The student who fails any Level II affiliation may be subject to dismissal from the program.

Principles of Ethics

Ethical principles reflect the values of a profession and thereby serve as action-oriented guidelines that are designed to be preventative rather than disciplinary. Occupational therapists are expected to abide by the ethics adopted by the profession (AOTA Code of Ethics, 2010). The Occupational Therapy Department subscribes to this ethical code and expects the behaviors of matriculating students to be consistent with these principles.

Program Costs

In addition to required tuition and fees, there are costs of approximately $5,123 for textbooks, scrubs, and equipment. The full-time clinical fieldwork experiences included in the curriculum may require that students locate outside of San Antonio for the duration of the two three-month rotations. Fieldwork expenses will vary according to individual arrangements depending on the cost of travel, temporary housing, maintenance of local accommodations, etc. Students are encouraged to budget for major expenditures that could be associated with these assignments.

Standards of Practice

The American Occupational Therapy Association (AOTA) publishes minimum standards of practice. These standards are viewed as minimum expectations for therapists as they conduct their professional activities on a daily basis. Please note that standards promulgated by other agencies, whether voluntary, regulatory, or institutional, may be more specific or rigorous than those published by AOTA.

Master of Occupational Therapy Curriculum

The professional phase of the Master of Occupational Therapy curriculum consists of 104.5 semester credit hours taken over 9 semesters.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
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<tr>
<td>Summer Semester</td>
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<tr>
<td>OCCT 5001 - Theoretical Foundations in Occupational Therapy</td>
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<tr>
<td>CSBL 5013 - Gross Anatomy</td>
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<td>Elective (may be taken any semester)</td>
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<td>Fall Semester</td>
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<td>OCCT 5007 - Occupational Justice and Participation</td>
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<tr>
<td>OCCT 5010 - Human Occupation Across the Life Span</td>
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<tr>
<td>OCCT 5012 - Application of Neural Systems to Occupation</td>
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<td>OCCT 5013 - Applied Biomechanics of Movement</td>
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<td>OCCT 5014 - Professional Communication in Occupational Therapy</td>
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<td>OCCT 5023 - Research I: Assessment and Research Statistics</td>
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<td>OCCT 5070 - Level I Fieldwork: Life Span</td>
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<td>OCCT 5011 - Research II: Intro. to Research &amp; Design</td>
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<td>OCCT 5020 - Occupational Therapy Process: Neonate - Preschool</td>
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<td>OCCT 5021 - Service Delivery Systems I</td>
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<td>OCCT 5022 - Environmental Technologies I</td>
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<td>OCCT 5024 - Clinical Medicine I</td>
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<td>OCCT 5071 - Level I Fieldwork: Neonatal—Preschool</td>
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<td>OCCT 6026 - Psychosocial Components of Occupational Therapy</td>
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<td>OCCT 5025 - Pathology for Occupational Therapy</td>
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<td>OCCT 6027 - Health Care Management</td>
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<td>Fall Semester</td>
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<td>OCCT 6020 - Occupational Therapy Process: School Age</td>
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<td>OCCT 6021 - Service Delivery Systems II</td>
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<td>OCCT 6022 - Environmental Technologies II</td>
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<td>OCCT 6037 - Occupational Therapy Process: Adult Neuromuscular Dysfunctions</td>
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Preprofessional Requirements

- 80.0 hours

Professional Requirements

- 104.5 hours

Total

- 184.5 hours
Spring Semester

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Program Total

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**Occupational Therapy Course Descriptions**

CSBL 5013  Gross Anatomy
This course will cover dissection and regional study of human gross anatomy with emphasis on anthropology, osteology, gross neuromuscular and vascular anatomy, regional and general relationships between structures, and applied anatomy relevant to the practice of occupational therapy. Human materials fee: $600. Laboratory fee: $30.

Semester Credit Hours: 6.0

OCCT 5001  Theoretical Foundations in Occupational Therapy
This course is an overview of the critical issues of occupational therapy. This course includes the history, frames of references, current trends, and legislative concerns that impact practice.

Semester Credit Hours: 2.0

OCCT 5005  The Role of Occupational Therapy in Low Vision Rehabilitation
An introductory Web-based course in the field of low-vision rehabilitation designed to help occupational therapy practitioners develop a comprehensive understanding of how low vision can impact an individual’s occupational performance and the therapy process. Evaluation and treatment interventions utilizing a multidisciplinary approach are presented. A one-day practicum (8 hours) at the Lions Low Vision Center of Texas is required.

Semester Credit Hours: 2.0

OCCT 5007  Occupational Justice and Participation
This course traces the development of an occupational justice approach to health and well-being from an international perspective. The student will have the opportunity to explore ways to enable participation in occupation, within a sociopolitical context.

Semester Credit Hours: 1.0

OCCT 5010  Human Occupation Across the Life Span
This course is a study of the character and purpose of human activity throughout the life span. Areas of occupation, performance skills, performance patterns, client factors, and contexts are examined for each stage of life.

Semester Credit Hours: 3.0

OCCT 5011  Research II: Intro. to Research & Design
The purpose of this lecture course is to introduce the student to the purpose of research and designs appropriate for answering research questions in practice settings. Topics include quantitative and qualitative designs.

Semester Credit Hours: 3.0

OCCT 5012  Application of Neural Systems to Occupation
This course is a study of how human neural systems support occupation. Clinical cases are used to discuss how neuroscientific principles can be applied to the practice of occupational therapy.

Semester Credit Hours: 4.0

OCCT 5013  Applied Biomechanics of Movement
This course is a study of kinesiology and biomechanical principles related to human motion with application to occupational therapy assessment techniques of the musculoskeletal system. This course will provide the student with the opportunity to learn a basic knowledge of kinesiology and biomechanics of human movement in preparation for the study of the biomechanical approach to evaluation and treatment of physical dysfunction as occupational therapists. Materials fee: $45.

Semester Credit Hours: 3.0

OCCT 5014  Professional Communication in Occupational Therapy
This course is the study of effective communication skills for occupational therapists in health care relationships. The course will focus on an understanding of self-communication behaviors and development of skills to interact non-verbally and verbally with patients, health teams, supervisors, families, and groups. Lecture, videotapes, and experiential activities will be used.

Semester Credit Hours: 2.0

OCCT 5020  Occupational Therapy Process: Neonate - Preschool
This course is a study of occupational therapy practice with neonates up to preschool age children and their families. Early interventions, to promote the engagement of young children and their families in occupation to support participation in a
variety of contexts, are examined. Emphasis is placed on family-centered theories and practice.
Semester Credit Hours: 4.0

**OCCT 5021 Service Delivery Systems I**
This course explores service delivery systems that exist for infants and young children with medical conditions and developmental disabilities. Topics include the organizational culture, administrative structure, missions, documentation procedures, and team interactions associated with occupational therapy in pediatric hospitals and early intervention programs.
*Semester Credit Hours: 2.0*

**OCCT 5022 Environmental Technologies I**
This course provides the philosophical and therapeutic basis for occupational therapy utilization of adaptive, technological, and therapeutic equipment and materials. Activity analysis and problem-solving principles are developed. Included will be environmental adaptations and adaptive equipment for personal care, leisure, and home management.
*Semester Credit Hours: 2.0*

**OCCT 5023 Research I: Assessment and Research Statistics**
This course focuses on principles of assessment and the psychometric properties of tests. The concepts of accurate evaluation, evaluation methods, purposes of evaluation, levels of measurement, standardization, validity, reliability, and test administration are examined. Students will have the opportunity to develop skill in selecting and using the most appropriate standardized assessment for a given purpose.
*Semester Credit Hours: 3.0*

**OCCT 5024 Clinical Medicine I**
This course is an overview of the manifestations of developmental disabilities in pediatric patients and their medical and surgical management.
*Semester Credit Hours: 1.0*

**OCCT 5025 Pathology for Occupational Therapy**
Included in this course are general concepts and diseases specific to organ systems of the body with emphasis placed on those pathologies encountered in clinical occupational therapy practice.
*Semester Credit Hours: 3.0*

**OCCT 5070 Level I Fieldwork: Life Span**
This course is an opportunity for the student to observe, identify, and associate areas of occupation, performance skills, performance patterns, client factors, activity demands, and contexts with age-specific populations through visits to community settings. *Practicum fee: $10 per semester credit hour.*
*Semester Credit Hours: 1.0*

**OCCT 5071 Level I Fieldwork: Neonatal—Preschool**
This course is an opportunity for the student to observe and begin participation in the assessment and treatment of infants and preschool children and their families. Students will be exposed to clinical and community facilities that serve this population. *Practicum fee: $10 per semester credit hour.*
*Semester Credit Hours: 1.0*

**OCCT 5073 Community Project**
The student will be required to develop a proposal for the provision of occupational therapy services. This proposal may include a needs assessment, description of service(s), role of OT and others, funding sources, and program evaluation plan.
*Semester Credit Hours: 6.5*

**OCCT 6020 Occupational Therapy Process: School Age**
This course is a study of occupational therapy practice with school-aged children. Occupational therapy assessment and intervention are examined in relationship to the child’s engagement in occupation to support participation in the home, school, and community contexts. Performance skills and patterns, activity demands and client factors are discussed, with the following highlighted: sensory integration, motor skills, behavior management, comprehension and handwriting, activities of daily living, school tasks, and transitional skills. *Materials fee: $45.*
*Semester Credit Hours: 4.0*

**OCCT 6021 Service Delivery Systems II**
This course examines service delivery systems for school-aged children and adolescents with developmental disabilities. Topics include the organizational culture, administrative structure, missions, documentation procedures, and team interactions associated with occupational therapy in public schools; transitional living programs; and prevocational and supported employment settings.
*Semester Credit Hours: 2.0*

**OCCT 6022 Environmental Technologies II**
This course explores the assistive technologies available for use by individuals with disabilities so they may pursue educational, vocational, and recreational occupations. Included are computer input/output technologies, augmentative and alternative communication systems, seating and mobility systems, electronic aids to daily living, and driving rehabilitation.
*Semester Credit Hours: 3.0*

**OCCT 6024 Clinical Medicine II**
Clinical manifestations of adult biomechanical disorders will be presented. The medical and surgical management for these conditions will be described.
*Semester Credit Hours: 1.0*

**OCCT 6026 Psychosocial Components of Occupational Therapy**
The goals of this course are to provide an understanding of psychiatric disease classification and the diagnosis and medical management of psychosocial conditions. Students will have the opportunity to compare and contrast the contemporary bodies of knowledge in common use throughout
the mental health arena and learn the specific occupational therapy evaluation and intervention procedures as they relate to each theoretical frame of reference.

**OCCT 6027  Health Care Management**

This course is intended to provide the graduate student with an opportunity to assume supervisory, administrative, or management functions related to the delivery of occupational therapy services in the contemporary health care systems. The course is a study of the political, economic, legal, and ethical factors that impact occupational therapy practices. Special emphasis will be given to the occupational therapy management functions of planning, organizing, directing, coordinating, controlling, and communicating.

*Semester Credit Hours: 4.0*

**OCCT 6030  Occupational Therapy Process: Adult Biomechanical Dysfunction**

This course is a study of the theories and approaches of occupational therapy assessment and intervention for adults with musculoskeletal disorders. Areas of occupation, performance skills, performance patterns, client factors, and contexts are examined. *Materials fee: $45.*

*Semester Credit Hours: 4.0*

**OCCT 6031  Service Delivery Systems III**

This course examines service delivery systems that exist for adults and the elderly with physical dysfunctions. Topics include the organizational culture, administrative structure, missions, documentation procedures, and team interactions associated with occupational therapy in rehabilitation hospitals, outpatient clinics, vocational settings, nursing homes, home health settings, assisted living settings, and hospice programs. This is the third in a series of courses addressing occupational therapy systems across the lifespan.

*Semester Credit Hours: 3.0*

**OCCT 6034  Professional Issues**

This interdisciplinary course is an overview of professional and ethical issues facing allied health professionals. Topics to be discussed include responsibilities of the health care practitioner, life and death decisions, patient confidentiality, substance abuse, whistle blowing, and informed consent. Ethics in research and other critical issues related to health care problems will also be addressed. Collaborative activities and simulated cases will be used to enhance discussion among students.

*Semester Credit Hours: 1.0*

**OCCT 6037  Occupational Therapy Process: Adult Neuromuscular Dysfunctions**

This course is a study of the theories and approaches of occupational therapy assessment and intervention for adults with sensorimotor and neuromuscular dysfunction. Areas of occupation, performance skills, performance patterns, client factors, and contexts are examined. *Materials fee: $45.*

*Semester Credit Hours: 4.0*

**OCCT 6045  Clinical Medicine III**

Clinical manifestations of adult neuromuscular disorders will be presented. The medical and surgical management for these conditions will be described.

*Semester Credit Hours: 1.0*

**OCCT 6069  Level II Fieldwork: Seminar**

This course will focus on the transition from classroom to Level II Fieldwork experiences. Students will have the opportunity to identify Level II fieldwork expectations, explore professional behaviors and ethics, review AOTA, NBCOT, and the State of Texas licensure requirements, and begin preparation for job searches.

*Semester Credit Hours: 1.0*

**OCCT 6070  Level I Fieldwork: School Age**

Students will have the opportunity to observe the occupational therapy process in public school, community, and supported employment settings with children and adolescents with developmental disabilities. This course is the third in a series of fieldwork courses that allow students to experience community and public school programs and observe occupational therapy for children with disabilities ages 4–21 years. It is taught in the second year of the program, concurrent with the OT Process: School Age, & Service Delivery II. *Practicum fee: $10 per semester credit hour.*

*Semester Credit Hours: 10.0*

**OCCT 6073  Level II Fieldwork: Developmental Dysfunction**

This course is a three-month fieldwork placement in an occupational therapy setting where the student will have the opportunity to gain competence in providing occupational therapy services to individuals with developmental disabilities. *Practicum fee: $10 per semester credit hour.*

*Semester Credit Hours: 10.0*

**OCCT 6074  Level II Fieldwork: Adult Disabilities**

This course is a three-month fieldwork placement in an occupational therapy setting where the student will have the opportunity to gain competence in providing occupational therapy services to adults with disabilities. *Practicum fee: $10 per semester credit hour.*

*Semester Credit Hours: 10.0*

**OCCT 6076  Level I Fieldwork: Adult Neuromuscular Dysfunction**

Students are required to observe, participate in, and critique the occupational therapy process with adults and older adults with neuromuscular dysfunctions within community and rehabilitation settings. *Practicum fee: $10 per semester credit hour.*

*Semester Credit Hours: 1.0*

**OCCT 6077  Level I Fieldwork: Adult Biomechanical Dysfunction**

Students are required to observe, participate in, and critique the occupational therapy process with adults and older adults with biomechanical dysfunctions within community and rehabilitation settings. *Practicum fee: $10 per semester credit hour.*

*Semester Credit Hours: 1.0*
Elective Courses

INTD 5066  Laughter is the Best Medicine: An Interdisciplinary Elective About Humor, Healing, and Healthcare
This class is a serious look at humor! The physiological and psychological benefits of humor, as well as its therapeutic use with patient interactions, will be explored. Students will learn how to develop and improve their personal use of humor to combat burnout through techniques to enhance coping skills and stress reduction. Student participation and interaction is integral to the content delivery.
Semester Credit Hours: 1.0

OCCT 5091  Special Topics
This course will be arranged through departmental faculty. The course topics vary according to student interests. Semester hours are variable and credit hours will be assessed per topic.

May be offered in fall, spring, or summer sessions.
Semester Credit Hours: 1.0–6.0

OCCT 6035  Concepts and Practices in Teaching
The purpose of this course is to explore adult learner teaching methodologies and techniques that are applicable to classroom, clinical, or community settings. Students will define objectives, and plan and prepare instructional materials and practice skills.
Semester Credit Hours: 2.0

OCCT 6075  Level I Fieldwork: Elective
Students are required to observe, participate in, and critique the occupational therapy process in a setting of their choice in collaboration with the Academic Fieldwork Coordinator.
Semester Credit Hours: 1.0
Physical Therapy

- Doctor of Physical Therapy (DPT) Program
- Application and Admission
- General Policies and Information
- Program Curriculum
- Course Descriptions

Doctor of Physical Therapy Program

The Doctor of Physical Therapy program (DPT) begins in the fall semester and consists of 100 semester credit hours of professional-level courses taken over 7 semesters (30 months). The program includes 30 weeks of full-time clinical affiliations and a 4-week specialty clinical internship. Graduates are eligible to take the National Physical Therapy Examination, given by The Federation of State Boards of Physical Therapy, and the Jurisprudence Exam, given by the Texas Board of Physical Therapy Examiners. A license to practice physical therapy in Texas is contingent on successful completion of these examinations. The program is accredited by the Commission on Accreditation in Physical Therapy (CAPTE), 1111 N. Fairfax Street, Alexandria, Virginia 22314.

Application and Admission

The Texas Common Application is required for admission. Applications for fall entry are accepted between August 15 and November 1. A completed application, the application fee, official transcripts from each college or university attended, test scores, and other supporting documents must be submitted to the Application Center by November 1. The completed application, official transcripts, and all supporting materials must be on file before the application can be processed. It is the applicant’s responsibility to verify that all documents have been received by the Application Center before the application deadline.

If a student first enrolled as an undergraduate at a Texas public university or college in Fall 1999 or more recently, their degree requirements include a General Education Core Curriculum. Every public institution in Texas has a Core Curriculum, which is designed to provide a solid foundation for a college education and to make transfers between and among Texas institutions of higher education as smooth and seamless as possible.

Each undergraduate institution's Core Curriculum applies to all academic undergraduate degrees. They range from 42 to 48 credit hours, depending on the college or university. Students may choose a major which has some more rigorous or more specific requirements than the Core. Most science majors have more intensive math and science requirements. In these cases, the major requirements have priority. For those and other reasons, no one should enroll in courses, Core Curriculum or otherwise, without consulting with a trained academic advisor or counselor at the appropriate institution.

Core Curriculum and the additional math and science courses for the bachelor's degree may be taken at any regionally accredited community college or university. Generally, all professional PHYT courses are taken at the Health Science Center. Note that some of the Core Curriculum may also be taken/counted as PHYT requirements.

Admission Factors

The following factors are considered when selecting students for the DPT program:

- academic achievement
- extracurricular activities, and/or community service activities
- work experience
- personal written statement
- health care field preparation
- knowledge of health care environment
- preparation for a career in physical therapy
- analytical and problem-solving skills
- personal traits (i.e.: maturity, leadership potential, time-management skills)
- broad life experiences, e.g.: international travel, exposure to other cultures, lived or worked outside the U.S.
- Texas resident or permanent resident alien
- race/ethnicity

Admission Requirements and Prerequisites

A baccalaureate degree is not required for admission. Note that program prerequisites can be in progress at the time of application but must be completed by the end of the spring term prior to fall enrollment. Application and admission requirements include:

- Completion of Texas Core Curriculum for applicants who have not completed a bachelor's degree
- Completion of all program prerequisites with overall grade point average (GPA) of at least 3.0 (on a 4.0 scale)
- Science/math GPA of at least 3.0
- Completion of a medical terminology course (online or at a college/university)
- Knowledge and understanding of physical therapy gained through a minimum of 50 hours observation, volunteering, or employment in a physical therapy setting documented using the Documentation of Experience form
• Two letters of reference (at least one letter from a licensed physical therapist using the Reference Form), available at the Web site above
• Personal written statement addressing the applicant’s goal of becoming a physical therapist (one page typed, single space)
• Personal résumé including previous work experience, honors and awards, extracurricular activities, and community service experience
• Graduate Record Examination (GRE) scores must be submitted; used only for program development purposes, but not for making admissions decisions
• Students who have enrolled in foreign colleges or universities must have those transcripts evaluated by an approved credentialing organization. TOEFL (Test of English as a Foreign Language) scores required for applicants from countries where English is not the native language; minimum score of 560 (paper test), 220 (computer), or 68 (Internet)

Applicants without a baccalaureate degree must complete at least 90 semester credit hours of Core Curriculum, program prerequisites, and electives. At least 30 of these credit hours must be from a regionally accredited four-year university. In addition, students without a baccalaureate degree must have a minimum of 6 of these credit hours of junior or senior level courses in a subject area (e.g.: biology, chemistry, history). Some courses that satisfy core curriculum requirements may also be used to satisfy program prerequisites.

Bachelor of Science in Health Care Sciences

Students admitted to the DPT program may receive a Bachelor of Science in Health Care Sciences (BS HCS) after successful completion of Texas Core Curriculum requirements, program prerequisites, and professional program requirements. The BS HCS will be awarded with the doctoral degree at the completion of the DPT program.

A student who withdraws from the DPT program may be awarded the BS HCS on the first published commencement date following withdrawal if (1) the student successfully completed program requirements in the first two semesters and (2) the faculty certify the student to receive the degree.

Program Prerequisites*

- General Biology I with labs (for science majors), 4 hours
- General Biology II with labs (for science majors), 4 hours
- Human Anatomy with lab (for science majors), 4 hours
- Human Physiology with lab (for science majors), 4 hours
- General Chemistry I with lab (for science majors), 4 hours
- General Chemistry II with lab (for science majors), 4 hours
- General Physics I with labs (for science majors), 4 hours
- General Physics II with labs (for science majors), 4 hours
- General Psychology, 3 hours
- Developmental Psychology (Lifespan), 3 hours
- General Sociology, 3 hours
- Speech, 3 hours
- Statistics (Math or Psychology based), 3 hours

*aBotany, ecology, or environment exclusively are NOT acceptable
*bSeparate Human Anatomy & Human Physiology are recommended, but combined A&P I and II courses totaling 8 credit hours are acceptable. An additional upper-level Human Physiology course is recommended if combined A&P is taken.

Individuals are advised to seek counseling about coursework from the Health Profession’s Welcome Center to meet department requirements well in advance of applying to the program. Contact information is SHPwelcome@uthscsa.edu, 1-866-802-6288 or 210-567-8744.

General Policies and Information

Advancement, Probation, and Dismissal

Continuation as a Physical Therapy student is dependent on maintenance of a minimum cumulative grade point average of 3.0 (B) while enrolled in the program. A student whose cumulative grade point average falls below 3.0 will be subject to academic probation. While on probation, a student must maintain a B average in those courses for which he or she is registered or be considered for dismissal. A student who receives a grade of D or F in any semester may also be subject to dismissal. The Department of Physical Therapy Student Progress Committee (SPC) may recommend dismissal, probation, repetition of the course when next offered, repetition of the year, or other actions as deemed appropriate. If repetition of a course when next offered is recommended, the student may not continue taking subsequent courses in the curriculum until that course is successfully completed. The student who has been dismissed may be readmitted for further study by petition from the SPC. The request will be approved or disapproved by the Dean. Under no circumstances will a student on probation be awarded a degree.

Attendance for Academic Courses

Attendance at all scheduled classes, laboratories, and clinical sessions is required. Excused absences may be granted in such cases as illness or personal emergency. Verification of the reason for the absence is required. It is the responsibility of the student to notify the department if any absence occurs and to arrange with the faculty to make up work that is missed.

Dropping Courses

It is mandatory that the students adhere to the sequence of courses in the curriculum. Each course in the curriculum is built upon and is dependent upon a foundation established in a prior course. To drop a course, a student must seek permission from the course instructor and the Department Chair.

Grades in Clinical Courses

All clinical courses (i.e.: Clinical I, Clinical II, Clinical III, and clinical selectives) are graded S (Satisfactory) or U (Unsatisfactory). Clinical grades are not used in calculating the grade point average.
A grade of S is assigned if the student successfully satisfies the criteria for clinical courses. Failure to successfully satisfy the course criteria may result in one of the following grades:

I (Incomplete) – Student performance is satisfactory on completed skills but below the minimum number required due to exceptional circumstances beyond student and/or clinic control.

U (Unsatisfactory) – Student performance is below minimum requirement due to skill deficiency not related to exceptional circumstances or if the clinical is discontinued. A grade of U may also be assigned if the student demonstrates inappropriate behavior in the areas of professionalism or interpersonal skills. A grade of U may result in dismissal from the program.

Criteria and time frame for removal of I or U grades in clinical courses are determined based on clinical documentation and consultation with the clinical supervisor/clinical instructor. An I or U grade may require that the student complete an additional clinical affiliation or other remediation that could extend the professional curriculum beyond the expected graduation date. More than one U grade is not allowed within the total clinical course sequence.

Program Costs

Total costs for in-state tuition and fees, books, parking permits, health and liability insurance, laptop computer, textbooks, supplies, etc. are approximately $31,000. Travel and living expenses for local and out-of-town clinical experiences are not included in this estimate. All students are required to have a laptop upon matriculation. Approximate cost of an appropriate computer is $1,300.

Non-resident students are subject to additional tuition costs, which may be found under Financial Information in this Catalog.

Doctor of Physical Therapy Curriculum

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<td>Semester Total</td>
<td>18.5</td>
</tr>
<tr>
<td>Curriculum Total</td>
<td>100.0</td>
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Physical Therapy Course Descriptions

CSBL 7014 Anatomy I

This course provides the basic principles of human anatomy. Students have the opportunity to learn human anatomy as it relates to function through the study of bones, cadaver dissections, models, atlas drawings and photographs, and their own bodies. Concentration is on osteology, radiology, arthrology, neuromuscular, vascular, and basic systems anatomy as they apply to physical therapy. Laboratory fee:
This course reinforces principles of human anatomy studied in CSBL 7014. Students study human anatomy as it relates to function through cadaver dissection. Concentration is on osteology, radiology, arthrology, neuromuscular, vascular, and basic systems anatomy as they apply to physical therapy.

**CSBL 8010  Anatomy II**

*Semester Credit Hours: 5.0*

This course addresses the fundamental concepts of physical therapy practice including basic clinical screening for disease to include systems review, diagnostic procedures, and introductory physical therapy skills. Students are exposed to the components of documentation, basic examination, therapist-to-patient interaction, the disablement process, interdisciplinary management of the patient, and the use of the Guide to Physical Therapy as a management tool. Students also study functional screening techniques, body mechanics, surface anatomy, postural assessment, patient positioning and transfers, locomotion, and the use of assistive devices. The course adds to the foundation for clinical reasoning and clinical decision making. Students have the opportunity to practice fundamental skills involved in patient management.

**PHYT 7001  Clinical Foundations I**

*Semester Credit Hours: 4.0*

This course continues to introduce the fundamental concepts of physical therapy practice including basic clinical screening, systems review, and introductory physical therapy skills. The course takes a regional approach to surface anatomy and its radiologic correlates, detailed muscle function with specific muscle testing. Functional outcome measures, palpation, and principles of selected interventions to include soft tissue massage and proprioceptive neuromuscular facilitation (PNF). The course will continue to lay the foundation for clinical reasoning and clinical decision making. The student will be given the opportunity to practice fundamental skills involved in patient management.

**PHYT 7005  Therapeutic Exercise Science**

*Semester Credit Hours: 4.0*

The goal of this course is to introduce the student to the basic principles of therapeutic exercise to different populations. This will be achieved by examining the physiology of exercise and applying the principles of therapeutic exercise to each population. Students are also exposed to the components of clinical examination, patient positioning and transfers, locomotion, and the use of assistive devices. The course adds to the foundation for clinical reasoning and clinical decision making. Students have the opportunity to practice fundamental skills involved in patient management.

**PHYT 7009  Neuroscience I**

*Semester Credit Hours: 3.0*

This course in neuroscience provides the foundation to understand the structure and functions of the developing, mature, and aging nervous system. It covers basic neuroanatomy, neurophysiology, and neuropharmacology. It also applies neuroscience to clinical applications regarding pathology and patient care. Since cultural organization is central to most functional concepts, neuroanatomy is emphasized to facilitate an overall understanding of the nervous system. Morphology is covered first at the cellular level, then regionally. Neurophysiology of cellular processes of nerve cell transmission as well as regional connectivity of pathways devoted to specific neural modalities is covered. Neuropharmacology encompasses the chemical aspects of synaptic transmission at the cellular level, and the regional differences of transmitter pharmacology. Neuropathology is introduced when appropriate to the systems being discussed.

**PHYT 7011  Clinical Foundations II**

*Semester Credit Hours: 3.0*

This course continues to introduce the fundamental concepts of physical therapy practice including basic clinical screening, systems review, and introductory physical therapy skills. The course takes a regional approach to surface anatomy and its radiologic correlates, detailed muscle function with specific muscle testing. Functional outcome measures, palpation, and principles of selected interventions to include soft tissue massage and proprioceptive neuromuscular facilitation (PNF). The course will continue to lay the foundation for clinical reasoning and clinical decision making. The student will be given the opportunity to practice fundamental skills involved in patient management.

**PHYT 7012  Movement Science I**

*Semester Credit Hours: 4.0*

This course is a study of joint structure and function, and the mechanical principles underlying the kinematics and kinetics of human motion. Emphasis is placed on the interaction between biomechanical and physiological factors in musculoskeletal function and the implications of kinesiology principles in physical therapy practice.

**PHYT 7014  Systematic Reasoning and Scientific Investigation I**

*Semester Credit Hours: 4.0*

This course is designed to develop critical thinking regarding interpretation of research literature. It provides a general introduction to research design, statistical reasoning, and interpretations of the literature. Topics include scientific methodology, research design, statistical reasoning, development of research questions, issues of measurement, and an overview of parametric and non-parametric statistical techniques. All topics are presented to facilitate understanding of research literature and utilizing evidence for clinical decision-making. The learner will have the opportunity to be able to critically analyze rehabilitation research and begin the process of formulating a critically relevant research question.

**PHYT 7017  Cells, Systems, and Disease**

*Semester Credit Hours: 3.0*

This course characterizes what happens to the human body during different disease processes. It begins at the cellular and tissue levels and advances to a progressive study of diseases and disorders within different organ systems. It examines the pathological changes of both histological and gross anatomical specimens, as well as the biochemical and physiological changes that occur during different diseases and disorders. It also discusses some aspects of diagnosis and treatment of these disorders. There is an extensive medical vocabulary associated with this course.

**PHYT 7018  Pharmacological Principles in Physical Therapy**

*Semester Credit Hours: 3.0*

This course provides the foundation for understanding the impact of drugs on patients with conditions encountered in the practice of physical therapy. Basic pharmacological principles are addressed, as well as important precautions and
PHYT 7019  **Neuroscience II**
This course in neuroscience provides further foundation to understand the structures and functions of the developing, mature, and aging nervous system. It covers basic neuroanatomy, neurophysiology, and neuropharmacology. It also applies neuroscience to clinical applications regarding pathology and patient care. Since structural organization is central to most functional concepts, neuroanatomy is emphasized to facilitate an overall understanding of the nervous system. Special emphasis is given to the structures involved in motor control, their functions, and pathologies.

Semester Credit Hours: 3.0

PHYT 7021  **Clinical Experience I**
Clinical Experience I is designed for the student to apply knowledge gained in the basic and clinical sciences courses completed in the first 2 years to clinical practice. The student will become proficient in examination, evaluation, and intervention of patients in a variety of physical therapy settings. Students will complete rotations in 3 settings: acute, neurological, and outpatient orthopedic. However, they may complete these in any order depending on availability of clinical sites. Practicum fee: $10 per semester credit hour.

Semester Credit Hours: 5.0

PHYT 8002  **Management of the Patient with Musculoskeletal Dysfunction I**
Students in this course integrate previously learned skills and knowledge and apply new skills in the examination, evaluation, and intervention of patients across the lifespan with musculoskeletal conditions of the upper quarter, which will include the cervical and thoracic spine and the upper extremity. The course reviews musculoskeletal tissues, the effects of systematic disease on musculoskeletal tissues, the physical therapy exam, and the principles of evidence-based practice. The course then follows a regional approach with attention to the examination and intervention of the cervical/thoracic spine and each joint area in the upper extremity. Students are expected to be knowledgeable and proficient in material from the first-year courses in the areas of patient care skills, anatomy, kinesiology, and therapeutic exercise. The course emphasizes 1) using the best available evidence to examine and treat patients with musculoskeletal complaints in the extremities, 2) critically analyzing the patient’s history and tests and measures to formulate a physical therapy diagnosis and determine the need for further referral, 3) recognizing non-musculoskeletal causes of extremity pain and identifying patients needing further diagnostic studies and referral to a specialty physician, and 4) the interdisciplinary approach to patient management through guest speakers from different medical specialties. Laboratory assistance fee: $10 per semester credit hour.

Semester Credit Hours: 5.0

PHYT 8007  **Orthotics in Rehabilitation**
The goal of this course is for the student to become proficient in the basic principles and clinical application of orthotic interventions used in the interdisciplinary management of the patient with extremity or spinal disorders across the lifespan. The course addresses the examination of the patient in need of an orthotic device, analyzing the results of the exam, and use of the best available evidence to identify the most efficacious orthotic device to manage or prevent impairment, functional limitation, or disability. Students will have the opportunity to use their critical thinking skills to problem solve case situations and prescribe or fabricate an orthosis most efficacious according to the best available evidence and with consultation from other disciplines. Laboratory assistance fee: $10 per semester credit hour.

Semester Credit Hours: 1.5

PHYT 8011  **Electrophysical Agents in Rehabilitation**
This course examines the theory and practical evidence-based application of: (1) massage and soft tissue mobilization, as well as tissue integrity, inflammation and repair; (2) evidence-based application of electrophysical agents in clinical PT, including: cold, heat, phonophoresis, iontophoresis, TENS, interferential, NMES, Russian, high volt (HV) and microcurrent; and iontophoresis; and (3) wound management. The course consists of lectures, labs, case analyses, Three “passport” self-selected site visits to experience clinical application of STM and EPA, midterm written and lab exams, and noncumulative final written and lab exams. Laboratory assistance fee: $10 per semester credit hour.

Semester Credit Hours: 3.0

PHYT 8012  **Prosthetics in Rehabilitation**
This course is designed to enable the student to become proficient in the principles of examination and intervention for the patient who experiences limb amputation or has congenital limb absence. The course includes the management of wounds and discussion of co-morbidities that put one at risk for limb amputation and strategies to identify these patients and prevent limb loss. The student learns the care and prosthetic management of patients in the pre and post-operative stages with limb amputation at different levels. Instructors present strategies to solve when presented with patients with other conditions or factors that complicate the patient’s course of rehabilitation. The interdisciplinary management of patients with limb amputation is emphasized through clinical experience with a prosthetist. Laboratory assistance fee: $10 per semester credit hour.

Semester Credit Hours: 1.5

PHYT 8013  **Management of the Patient with Cardiopulmonary Dysfunction**
This course provides instruction in the basic science and clinical foundation required for the examination and treatment of disorders of the cardiovascular and pulmonary systems. Emphasis is on interpretation of evaluative results involving cardiovascular and pulmonary pathology and application of specific treatment interventions in developing comprehensive PT management of these classes of pathology. This course includes interdisciplinary presentations and opportunities relevant to evidence-based wellness and fitness programs for the physical therapist functioning as part of the cardiovascular and pulmonary rehabilitation team.

Semester Credit Hours: 3.0

PHYT 8021  **Clinical Experience II**
Clinical Experience II is designed for the student to apply knowledge gained in the basic and clinical sciences courses completed in the first 2 years to clinical practice. The student
will become proficient in examination, evaluation, and intervention of patients in a variety of physical therapy settings. Students will complete 10 week rotations in each of 3 settings: acute, inpatient neurological, and outpatient orthopedic. However, they may complete these in any order depending on availability of clinical sites. **Practicum fee: $10 per semester credit hour.**

**Semester Credit Hours:** 5.0

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PHYT 8022</td>
<td>Professional Issues and Clinical Decision Making I</td>
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<tr>
<td></td>
<td>This course is designed for the student to assimilate major theories about</td>
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<td>learning across the lifespan, learning style, teaching techniques,</td>
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<td></td>
<td>communication in the clinical setting, and communication as a means to</td>
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<td></td>
<td>develop cultural competence. Emphasis will be on instruction related to</td>
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<td>clinical practice and critical thinking as well as application to motor</td>
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<td>learning. A major theme of this course is the development of</td>
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<td>communication skills to enhance therapist-patient interactions, promote</td>
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<td>an understanding of learning across the lifespan, and develop cultural</td>
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<td>competence.</td>
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<td><strong>Semester Credit Hours:</strong> 2.0</td>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>PHYT 8075</td>
<td>Human Development across the Lifespan</td>
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<tr>
<td></td>
<td>The purpose of this course is to provide the student with the opportunity</td>
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<td>to learn about typical human lifespan development with the emphasis on</td>
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<td>health and wellness with application to the practice of PT. The course</td>
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<td>focuses on the embryonic development, early infancy, childhood,</td>
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<td>adolescence, adulthood, older adults, and the oldest old. Opportunities for</td>
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<td>didactic, clinical, and community are integrated into the course to</td>
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<td>facilitate active learning opportunities. Topics may include</td>
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<td>interdisciplinary management, cultural sensitivity, psychological factors,</td>
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<tr>
<td></td>
<td>socioeconomic concerns, community-based resources, and patient/family</td>
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<td></td>
<td>education regarding health and wellness/fitness.</td>
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<td><strong>Semester Credit Hours:</strong> 3.0</td>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>PHYT 8102</td>
<td>Systematic Reasoning and Scientific Investigation II</td>
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<tr>
<td></td>
<td>The emphasis of this course is continued development of critical thinking</td>
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<td>skills to promote evidence-based practice in the clinical setting. This</td>
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<tr>
<td></td>
<td>course is a continuation of Systematic Reasoning and Scientific Investigation I, and gives the student the support to experience and complete and extensive Critically Appraised Topic or a written research investigation. The student will also practice in small group format the skill of research articles analysis and presentation for public health and education. Students will either submit one article to the APTA Hooked on Evidence website or practice applying for a speaking position for a TPTA conference. The student will also produce either a written research investigation relevant to the practice of PT or a written Critically Appraised Topic with an extensive review of literature. Students also generate an oral presentation of their project to complete the requirements for this course.</td>
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<td><strong>Semester Credit Hours:</strong> 2.0</td>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>PHYT 8106</td>
<td>Principles of Administration in Physical Therapy</td>
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<tr>
<td></td>
<td>This course examines current issues and trends in law, ethics, and practical</td>
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<td></td>
<td>aspects of physical therapy clinical management.</td>
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Specific topics include: (1) health care malpractice and business, contract, criminal, education, and workers’ compensation legal concepts and cases; (2) informed consent; (3) organizational theory, behavior, and culture; (4) leadership and management principles; (5) human resource management issues, including recruitment, selection, and retention of staff and managerial human resources; leadership; supervision, and delegation of PTAs, aides, and other extenders; performance appraisal; training and development activities; compensation issues; management labor relations; grievance and discipline; work place safety; and employment law and regulations; (6) health care finance, including clinical budgeting, billing, and reimbursement issues; (7) starting and marketing a PT business; (8) quality, risk, and information management; and (9) comparing and contrasting business, organizational, and professional (ATPA) ethics. **Laboratory assistance fee: $10 per semester credit hour.**

**Semester Credit Hours:** 2.0

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PHYT 8108</td>
<td>Management of the Patient with Neuromuscular Dysfunction I</td>
</tr>
<tr>
<td></td>
<td>This course is designed to allow the student to develop the skills necessary</td>
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<tr>
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<td>to perform examination, evaluation, diagnosis, prognosis, and the development</td>
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<tr>
<td></td>
<td>of comprehensive treatment plan of care for patients with neuromuscular</td>
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<tr>
<td></td>
<td>dysfunction. Emphasis will be on differential diagnosis, screening,</td>
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<td></td>
<td>examination, and evaluation of function, and on development of intervention</td>
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<td>programs that lead to improvement in function. Movement dysfunction will be</td>
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<td>covered across the lifespan for acute and chronic conditions. The topics</td>
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<td>will be presented from a problem-solving approach that integrates case</td>
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<td>studies. Current evidence-based research related to the management of the</td>
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<td>patient with neuromuscular dysfunction will be critically assessed.</td>
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<td></td>
<td><strong>Laboratory assistance fee: $10 per semester credit hour.</strong></td>
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<td><strong>Semester Credit Hours:</strong> 5.0</td>
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<th>Course Code</th>
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<tr>
<td>PHYT 8112</td>
<td>Management of the Complex Patient</td>
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<td></td>
<td>This course gives the student the opportunity to practice examination</td>
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<td>techniques with a systems approach. Screening for conditions requiring</td>
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<td>referral are practiced with diagnosis and prognosis to include plan of care</td>
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<td>using the PT Guide to Physical Therapy Practice. The student will generate</td>
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<td>a case study to be presented to the class.</td>
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<td><strong>Semester Credit Hours:</strong> 3.0</td>
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<th>Course Code</th>
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<tbody>
<tr>
<td>PHYT 8114</td>
<td>Management of the Patient with Musculoskeletal Dysfunction II</td>
</tr>
<tr>
<td></td>
<td>Students in this course integrate previously learned skills and knowledge</td>
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<td>and apply new skills in the examination, evaluation, and intervention of</td>
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<td>patients across the lifespan with musculoskeletal conditions of the</td>
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<td>lumbosacral spine and the lower quarter. The course follows a regional</td>
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<td>approach with attention to the examination and intervention of the</td>
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<td>lumbosacral spine, the sacroiliac joint, and each joint of the lower</td>
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<td>extremity. Students are expected to be knowledgeable and proficient in</td>
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<td>material from the first-year courses of patient-care skills, kinesiology,</td>
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<td>and therapeutic exercise. This course emphasizes 1) using the best available</td>
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<td>evidence to examine and treat patients with spine and lower quarter</td>
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<td>complaints, and 2) recognizing non-musculoskeletal causes of spinal and</td>
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<tr>
<td></td>
<td>lower quarter pain and identifying patients needing further diagnostic</td>
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<tr>
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<td>studies and referral to a specialty</td>
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**Laboratory assistance fee: $10 per semester credit hour.**

**Semester Credit Hours:** 5.0
physician. Laboratory assistance fee: $10 per semester credit hour.

Semester Credit Hours: 5.0

**PHYT 8116 Management of the Patient with Neuromuscular Dysfunction II**

This course is a continuation of Management of the Patient with Neuromuscular Dysfunction I, and is to allow the student to continue to develop skills necessary to perform examination, evaluation, diagnosis, prognosis, and the development of a comprehensive intervention plan of care for patients with neuromuscular dysfunction. Emphasis is on differential diagnosis, screening, examination and evaluation of function and on development of intervention programs that lead to improvements in function. Movement dysfunction is covered across the life span for acute and chronic conditions. Current evidence-based research related to the management of the patient with neuromuscular dysfunction is critically assessed. Management strategies and skills are reinforced by encouraging the students to participate in hands-on pre-clinical experiences, work with area clinicians related to specific diagnoses, and design treatment plans based on case studies with a focus on interdisciplinary practice. Laboratory assistance fee: $10 per semester credit hour.

Semester Credit Hours: 5.0

**PHYT 8121 Clinical Experience III**

Clinical Experience III is designed for the student to apply knowledge gained in the basic and clinical sciences courses completed in the first 2 years to clinical practice. The student will become proficient in examination, evaluation, and intervention of patients in a variety of physical therapy settings. Students will complete 10-week rotations in each of 3 settings: acute, inpatient neurological, and outpatient orthopedic. However, they may complete these in any order depending on availability of clinical sites. Practicum fee: $10 per semester credit hour.

Semester Credit Hours: 5.0

**PHYT 8122 Professional Issues & Clinical Decision Making II**

This course explores professional issues in physical therapy practice. Topics of emphasis include Vision 2020, professional behaviors, APTA Code of Ethics and Guide to Professional Conduct, and legal standards of behavior for physical therapists. Particular emphasis will be placed on communication and conflict resolution, personality and cultural diversity, stress management, and entry-level physical therapy skill performance. There will also be an interdisciplinary component to the course that will provide students with an overview of ethical issues facing allied health professionals. Topics to be discussed include responsibilities of the health care professional, life and death decisions, patient confidentiality, substance abuse, whistle blowing, and informed consent. Ethics in research and other critical issues related to health care problems also will be addressed. Collaborative activities and simulated cases will be used to enhance discussion among students. Laboratory assistance fee: $10 per semester credit hour.

Semester Credit Hours: 2.0

**PHYT 8130 Movement Science II**

The course will examine how humans learn and acquire skills, as well as the mechanisms that are used to control skillful movement utilizing integration of concepts from neuroscience and kinesiology. Content will include critical discussion of the various schools of thought on how movement is controlled and learned. Students will have the opportunity to apply the concepts of motor control and motor learning for patients with movement dysfunction. Emphasis will be placed on movement control and motor learning in normal and special populations. Laboratory assistance fee: $10 per semester credit hour.

Semester Credit Hours: 2.0

**PHYT 8221 Clinical Internship**

This course is a four-week clinical internship that allows the student to choose an area of interest and refine their physical therapy examination, evaluation, and intervention skills in that setting. Students may choose to gain more experience in one of the three required clinical areas (acute, inpatient neurological, outpatient orthopedic) or pursue a specialty area of interest. Practicum fee: $10 per semester credit hour.

Semester Credit Hours: 2.0

**PHYT 8222 Professional Issues & Clinical Decision Making III**

This course prepares students for their clinical experiences. Students will complete all required certifications and learn to use the clinical evaluation tool (PT MACS). Particular emphasis will be placed on satisfactory passing criteria for skills outlined in the PT MACS, and expected entry-level physical therapy skill performance.

Semester Credit Hours: 1.0
Physician Assistant Studies

- Master of Physician Assistant Studies Program
- Application and Admission
- General Policies and Information
- Program Curriculum
- Course Descriptions

Philosophy and Rationale

The mission of the Department of Physician Assistant Studies is to prepare primary health care providers who will contribute to the improvement of the mental, social, and physical well-being of the underserved and vulnerable people of South Texas. This mission will be accomplished through culturally appropriate, socially relevant education, service, and scholarship.

The vision of the Department of Physician Assistant Studies is to be a recognized leader in primary health care education, scholarship, and service. This vision includes the education and training of competent and caring primary health care providers who will meet the needs of society, faculty, staff, and student service to the community and region; and scholarship that will impact, advance, and add to the knowledge of humanity and health.

The American Academy of Physician Assistants defines physician assistants as health professionals who practice medicine as members of a team with their supervising physicians. Physician Assistants (PAs) deliver a broad range of medical and surgical services to diverse populations in rural and urban settings. Physician Assistants are qualified by graduation from an accredited physician assistant educational program and certification by the National Commission on Certification of Physician Assistants.

Within the physician/PA relationship, physician assistants exercise autonomy in medical decisions and provide a broad range of diagnostic and therapeutic services. The clinical role of physician assistants includes primary and specialty care in medical and surgical practice in rural and urban areas. Physician assistant practice centers on patient care and may include educational, research, and administrative activities.

Master of Physician Assistant Studies Program

The Physician Assistant Studies program is an intense didactic and clinical program that consists of 119.5 semester credit hours and is designed to prepare primary care physician assistants to meet the needs of the people of South Texas. The program begins in the fall semester and runs continuously for 33 months. The didactic component of the curriculum is 21 months long and consists of classroom, laboratory, and clinical preparation. This professional phase includes coursework at the Health Science Center’s Main Campus in San Antonio, the Regional Campus in Laredo and other academic facilities.

The instruction is designed to prepare the student to successfully complete the final year of supervised clinical practice and, ultimately, for practice as a physician assistant.

The final 12 months of supervised clinical practice is oriented to primary care and occurs in sites throughout South Texas. All students must complete a minimum of two rotations in rural or medically underserved locations and must be prepared to assume the expense for this activity.

With the approval of the faculty, students who successfully complete the full 33-month program receive a Master of Physician Assistant Studies (MPAS) degree. Graduates are eligible to sit for the Physician Assistant National Certifying Exam (PANCE) given by the National Commission for Certification of Physician Assistants. Passing the PANCE is required for licensure in all states.

The Master of Physician Assistant Studies program is accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA), 12000 Findley Road, Suite 150, Johns Creek, GA, 30097; phone (770) 476-1224, fax (770) 476-1738.

Application and Admission

Applications for the MPAS program are accepted between early April to August 31 for enrollment in the fall semester through the Centralized Application Service for Physician Assistants (CASA). All required application information and documents must be submitted to the CASPA by August 31. Official transcripts should be sent directly to CASPA. Applicants may obtain further information and submit applications through CASPA at https://portal.caspaonline.org.

In addition to the CASPA application, a Supplemental Application must be submitted directly to the Health Science Center Application Center by August 31.

Prior-year applicants must submit a new application. Questions about re-application should be directed to the Application Center and/or CASPA.

In addition to non-academic admission factors that may be considered, requirements for the Master of Physician Assistant Studies program include:

- Bachelor’s degree from a regionally accredited college or university
• Overall GPA of 3.0 on a 4.0 scale
• Science GPA of 3.0 on a 4.0 scale
• Proof of current Basic Life Support certification (if admitted)
• A grade of C or better in prerequisite coursework

Prerequisite Coursework

• Biology with lab (no Botany, Ecology or Environmental Science), 8 hours
• Human Anatomy with lab, 4 hours
• Human Physiology, 3 hours
• General Chemistry I & II with lab, 8 hours
• Organic Chemistry with lab, 4 hours
• Microbiology with lab, 3 hours
• Genetics, 3 hours
• Statistics, 3 hours
• Developmental Psychology, 3 hours

Note: All prerequisites and course requirements must be completed by the application deadline of August 31. No prerequisites can be in progress after the deadline date.

Bachelor of Science in Health Care Sciences

Students entering the Master of Physician Assistant Studies program may receive a Bachelor of Science in Health Care Sciences (BS HCS) after successful completion of all program prerequisites, completion of the Texas Core Curriculum, and successful completion of the required program curriculum.

The BS HCS will be awarded with the Master’s degree at the completion of the program.

A student who withdraws from the Master’s degree program may be awarded the BS HCS on the first published graduation date following withdrawal if (1) the student successfully completed the required curriculum for the bachelor’s degree program, and (2) the faculty certifies the student to receive the degree.

General Polices and Information

For additional information, see the policies and procedures in the School of Health Professions section of this Catalog.

Applicant Orientations

Applicant orientations are offered monthly between April and August. Additional information is available on the department Web site (http://www.uthscsa.edu/shp/pa). Reservations to attend an orientation may be made by contacting the department by phone at (210) 567-8810 or by e-mail at pastudies@uthscsa.edu. Applicants are encouraged to seek advisement from their college counselors or the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8569.

Auditing Courses

Students may be required to audit previously attempted courses as a requirement of remediation. Standards of performance are set by course instructors, academic or clinical coordinators, department committee, or the department chair.

Computer Requirement

Students are required to purchase a laptop computer from the Health Science Center Computer Store at matriculation. The cost of the purchase is calculated as a cost of attendance and is included in determination of financial aid eligibility.

Credit for Experiential Learning

Credit for experiential learning for a course in the curriculum requires exacting and well-documented experiences that demonstrate mastery of the learning objectives and skills in the course to be credited. Documentation is required from individuals who have knowledge of the student and who can attest to mastery. Student documentation alone is not adequate for credit to be awarded.

Program Costs

In addition to the required tuition and fees, costs for other expenses such as textbooks, laptop, laboratory jackets, equipment lease, etc., are approximately $7,628. These estimates do not include living expenses.

Students are also responsible for personal expenses incurred in traveling to clinical rotation sites outside of San Antonio throughout South Texas. Such rotations are scheduled periodically throughout the third year. Expenses may include lodging and bus fare and/or automobile mileage. It is estimated that approximately $2,500 should be budgeted toward these costs.

Technical Standards

Applicants should review the Student Technical Standards available at http://www.uthscsa.edu/shp/pa.

MPAS Program Curriculum

The MPAS curriculum consists of five semesters of didactic, laboratory, and clinical instruction. During the final three semesters, students complete 12 four-week supervised clinical practice rotations throughout South Texas. Rotations are full-time clinical experiences (40+ hours per week) and earn 4.0 semester credit hours each. A pass-fail summative evaluation is administered during the final semester; students must pass the summative examination to qualify for graduation.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
<td></td>
</tr>
<tr>
<td>CLSC 5040 - Laboratory Medicine</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 5000 - Physician Assistant Policy &amp; Practice</td>
<td>2.0</td>
</tr>
<tr>
<td>PHAS 5001 - Patient Evaluation I</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 5002 - Ethical Considerations in Health Care</td>
<td>1.0</td>
</tr>
<tr>
<td>PHAS 5003 – Behavioral Medicine</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 5006 - Clinical Applications in Physiology for the Health Professional</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Semester Total</strong></td>
<td><strong>16.0</strong></td>
</tr>
</tbody>
</table>
### Spring Semester
- **CLSC 5041 - Laboratory Medicine - Laboratory**: 1.0
- **CSBL 7014 - Anatomy**: 5.0
- **PHAS 5004 - Clinical Applications**: 4.0
- **PHAS 5007 - Pathogenesis of Human Diseases**: 3.0
- **PHAS 6001 - Cultural Issues in Health**: 3.0

**Semester Total**: 16.0

### Summer Semester
- **PHAS 5005 - Clinical Application in Nutrition**: 2.0
- **PHAS 6002 - Problem-Based Learning I**: 1.0
- **PHAS 6013 - Scientific Inquiry**: 3.0

**Semester Total**: 6.0

### Fall Semester
- **INTD 2001 - Introduction to the Clinical Sciences (ICS) I**: 9.5
- **EMSP 3010 - Basic Cardiac Life Support**: 0.0
- **PHAS 6003 - Patient Evaluation II**: 1.0
- **PHAS 6004 - Preventive Medicine/Community Health**: 3.0
- **PHAS 6010 - Pharmacology I**: 3.0
- **PHAS 6011 - Problem-Based Learning II**: 1.0
- **PHAS 6012 - Clinical Skills I**: 2.0

**Semester Total**: 19.5

### Second Year

#### Summer Semester through Third Year Spring
- **PHAS 6101 - Supervised Clinical Practice I**: 4.0
- **PHAS 6102 - Supervised Clinical Practice II**: 4.0
- **PHAS 6103 - Supervised Clinical Practice II**: 4.0
- **PHAS 6104 - Supervised Clinical Practice IV**: 4.0
- **PHAS 6105 - Supervised Clinical Practice V**: 4.0
- **PHAS 6106 - Supervised Clinical Practice VI**: 4.0
- **PHAS 6107 - Supervised Clinical Practice VII**: 4.0
- **PHAS 6108 - Supervised Clinical Practice VIII**: 4.0
- **PHAS 6109 - Supervised Clinical Practice IX**: 4.0
- **PHAS 6110 - Supervised Clinical Practice X**: 4.0
- **PHAS 6111 - Supervised Clinical Practice XI**: 4.0
- **PHAS 6112 - Supervised Clinical Practice XII**: 4.0

**Supervised Clinical Practice Total**: 48.0

**Program Total**: 119.5

### Physician Assistant Studies

#### Course Descriptions

**CLSC 5040 - Laboratory Medicine**
This course is offered to students in the Physician Assistant Studies Program at the Health Science Center. The course is designed to provide the student with the opportunity to gain information on the profession of CLS including history and job characteristics. Relationships between abnormal physiology and laboratory testing will be emphasized. Basic lab and math statistics will be taught. The majority of the course is Web-based.

*Semester Credit Hours: 3.0*

**CLSC 5041 - Laboratory Medicine - Laboratory**
This course is offered to students in the Physician Assistant Studies Program. This is a laboratory course that provides the student with hands-on experience in performing common physician office laboratory procedures. Case studies are used to help students interpret and use laboratory test results.

*Laboratory fee: $120.*

*Semester Credit Hours: 1.0*

**CSBL 7014 - Anatomy I**
This course provides the basic principles of human anatomy. Students have the opportunity to learn human anatomy as it relates to function through the study of bones, cadaver prospections, models, atlas drawings and photographs, and their own bodies. Concentration is on osteology, radiology, arthrology, neuromuscular, vascular, and basic systems anatomy as they apply to physical therapy.

*Laboratory fee: $30.*

*Semester Credit Hours: 5.0*

**EMSP 2135 - Advanced Cardiac Life Support**
Instruction satisfies guidelines published by the American Heart Association for their ACLS core curriculum. The focus is on the initial management of the cardiopulmonary arrest patient, including advanced airway management techniques, cardiovascular pharmacology, defibrillation, and arrhythmia analysis. The student must review the current AHA ACLS text prior to class. Successful completion results in ACLS Provider Course Completion Card.

*Semester Credit Hours: 1.0*

**EMSP 3010 - Basic Cardiac Life Support**
Course instruction satisfies AHA guidelines for Basic Cardiac Life Support (BCLS). Successful completion merits AHS BLS Course Completion Card. Topics include basic airway and ventilatory management of the choking and/or unconscious infant, child, and adult; cardiac chest compressions; and automated external defibrillation (AED). AHA Standard written and skills exams administered.

*Semester Credit Hours: 0.0*

**INTD 2001 - Introduction to the Clinical Sciences (ICS) I**
This course encompasses the major clinical fields of internal medicine, obstetrics/gynecology, pediatrics, surgery, and surgical subspecialties. It is designed to cover all aspects of human disease states including vocabulary, data collection skills, problem solving, surgical principles, surgical...
pathophysiology, concepts unique and common to pediatri-
aged patients, and sexual, and reproductive
pathophysiology. The course will be organized into organ
system modules and integrated with pathology and
pharmacology. Teaching format will include lectures and
small-group sessions. The first semester, ICS I, will include
general concepts, renal, cardiovascular,
respiratory/infectious diseases, and
hematology/dermatology organ system modules. ICS II,
second semester, will include gastrointestinal,
musculoskeletal, neuroscience, special senses,
reproductive and endocrine systems, plus trauma and

toxicology.
Semester Credit Hours: 7.0

INTD 2002 Introduction to the Clinical
Sciences (ICS) II
This course encompasses the major clinical fields of internal
medicine, obstetrics/gynecology, pediatrics, surgery, and
surgical subspecialties. It is designed to cover all aspects
of human disease states including vocabulary, data collection
skills, problem solving, surgical principles, surgical
pathophysiology, concepts unique and common to pediatri-
aged patients, and sexual and reproductive
pathophysiology. The course will be organized into organ
system modules and integrated with pathology and
pharmacology. Teaching format will include lectures and
small-group sessions. The first semester, ICS I, will include
general concepts, renal, cardiovascular,
respiratory/infectious diseases, and
hematology/dermatology organ system modules. ICS II,
second semester, will include gastrointestinal,
musculoskeletal, neuroscience, special senses,
reproductive and endocrine systems, plus trauma and

toxicology.
Semester Credit Hours: 7.0

PHAS 5000 Physician Assistant Policy &
Practice
This course is an overview of the physician assistant
profession. The course will provide students with an
opportunity to develop an understanding of the profession to
include history, social issues, liability, educational
philosophy, certification/licensure requirement, and
professional concepts/issues. Preclinical experiences will
include clinical observations, clinical activity, and exposure
to the wide range of physician assistant practices.
Semester Credit Hour: 2.0

PHAS 5001 Patient Evaluation I
This course provides the student with an opportunity to
develop a theoretical and clinical basis for assessment of the
patient. The process, in which a physician assistant
utilizes a comprehensive physical, psychosocial, and
cultural assessment across the lifespan to gather specific
data relevant to common health problems, is demonstrated.
Faculty will facilitate laboratory and clinical experiences that
will focus on assessment of patients and presentation of
findings in a variety of settings. Clinical fee: $300.
Semester Credit Hours: 3.0

PHAS 5002 Ethical Considerations in Health
Care
This interdisciplinary course will provide students with an
opportunity to develop an understanding of the ethical
issues facing allied health professionals. Topics include
responsibilities of the health care practitioner, life and death
decisions, patient confidentiality, substance abuse, whistle
blowing, and informed consent. Ethics in research and other
critical issues related to health care problems also will be
addressed. Collaborative activities and simulated cases will
be used to enhance discussion among students.
Semester Credit Hours: 1.0

PHAS 5003 Behavioral Medicine
This course provides the student with an opportunity to
develop an understanding of human behavior by providing
an overview of major behavioral disease processes and
differentiation criteria to include disease presentation,
physical examination findings, laboratory testing, and
therapeutic approaches.
Semester Credit Hours: 3.0

PHAS 5004 Clinical Applications
This course provides the student with an opportunity to
experience clinical practice and further develop an
appreciation for the art and science of medicine as it relates
to physician assistant practice. The student will have an
opportunity to apply those skills taught in Patient Evaluation
I including physical examination, medical history, patient
education, documentation, and medical record keeping.
Faculty will facilitate laboratory and clinical experience that
will focus on assessment of patients and presentation of
findings in a variety of settings. Activities will range from
observation to participation in patient care. Basic problem
solving, group discussion, and literature review will be
included. Clinical fee: $300.
Semester Credit Hours: 4.0

PHAS 5005 Clinical Applications in
Nutrition
The student will have the opportunity to develop knowledge
of the role of nutrition in healthy and disease states.
Emphasis will be on nutrition as a component of patient care
and treatment
Semester Credit Hours: 2.0

PHAS 5006 Clinical Applications in
Physiology for the Health
Professional
This course is designed to provide students in health
professions discipline with the fundamentals of normal
human physiology. The course includes concepts from
cellular to system level. Topics include cellular, respiratory,
cardiovascular, digestive, renal, male and female
reproductive, musculoskeletal, nervous, and endocrine
systems with integration of these physiologic concepts to
pathologic disease processes. The course includes
classroom lecture, case studies, and student presentations.
Semester Credit Hours: 4.0

PHAS 5007 Pathogenesis of Human Diseases
This course covers the basic principles of pathology
providing the opportunity for the understanding of human
disease processes. Course content includes discussion of general disease processes such as cellular degeneration, inflammation, tissue repair, chemical and physical injury, developmental disorders and neoplasia, and a thorough examination of the principal diseases of the major tissues and organs systems. Upon completion of the course the student will have had the opportunity to acquire foundation knowledge of the concepts of pathophysiology applicable and required for clinical diagnosis of human diseases.

Semester Credit Hours: 3.0

PHAS 5091 Special Topics
This special topics or directed study course is a faculty-directed, didactic opportunity for students. Specific course objectives and study plans will be developed based on student needs and faculty decisions. The course may be used for special projects, additional coursework, or remedial education. It may be repeated for credit.

Semester Credit Hours: 1.0–10.0

PHAS 6001 Cultural Issues in Health
The student will have an opportunity to develop knowledge and understanding of the topics and issues influencing the health of culturally diverse people with a particular emphasis on the South Texas region. Alternative and complementary health beliefs will be discussed. Medical Spanish will be introduced.

Semester Credit Hours: 3.0

PHAS 6002 Problem-Based Learning I
This course will introduce the student to problem-based learning. The student will have an opportunity to learn and develop problem-based learning skills as they apply to patient problems and health care issues. Types of learning events will include small-group activity, individual study, literature review, and medical problem solving based on student knowledge and comprehension through application, analysis, synthesis, and evaluation.

Semester Credit Hours: 1.0

PHAS 6003 Patient Evaluation II
This course provides the student with an opportunity to experience clinical practice and further develop an appreciation for the art and science of medicine as it relates to physician assistant practice. Students will have the opportunity and will be required to see patients in the hospital setting and become more proficient at performing and reporting the complete medical history and physical examination.

Semester Credit Hours: 1.0

PHAS 6004 Preventive Medicine/Community Health
The student will have an opportunity to develop an understanding and knowledge of epidemiology and preventive medicine across a number of topics. An introduction to community health, with an emphasis on needs assessment and project development, will be done.

Semester Credit Hours: 3.0

PHAS 6010 Pharmacology I
The student will have an opportunity to develop an understanding and knowledge of the pharmacological basis of therapeutics with special emphasis on the biochemical and physiological functions in disease. Majors areas covered include drugs active in the cardiovascular, autonomic, and central nervous systems. General principles of drug action and specific coverage of drugs used in the treatment of bacterial, viral, and parasitic diseases are provided.

Semester Credit Hours: 3.0

PHAS 6011 Problem-Based Learning II
This course is a continuation of Problem-Based Learning I.

Semester Credit Hours: 1.0

PHAS 6012 Clinical Skills I
The student will have the opportunity to develop skill and expertise in the clinical techniques generally used by physician assistants. Practical instruction on patient care skills will be provided with direct experiential practice on models. Clinical fee: $300.

Semester Credit Hours: 2.0

PHAS 6013 Scientific Inquiry
This course is a general introduction to research design, statistical reasoning, and interpretation of medical/scientific literature. Topics include scientific method, theory, development of research questions, issues of measurement, models of experimental and non-experimental designs, and an overview of parametric and non-parametric statistical techniques. All topics will be in reference to understanding the literature and to evidence for practice decisions. The learner will have an opportunity to critically analyze medical and scientific literature/ research.

Semester Credit Hours: 3.0

PHAS 6014 Pharmacology II
A continuation of Pharmacology I, the student will have an opportunity to develop an understanding and knowledge of the actions and therapeutic uses of drugs. The topics include principles of pharmacology and pharmacokinetics. Topics will center on drug action, autonomic and cardiovascular pharmacology, neuropharmacology, endocrine pharmacology, GI and respiratory pharmacology, and an introduction to chemotherapy and toxicology. Special topics will include basics in prescription writing.

Semester Credit Hours: 3.0

PHAS 6015 Clinical Skills II
This course is a continuation of Clinical Skills I.

Clinical fee: $300.

Semester Credit Hours: 2.0

PHAS 6016 Problem-Based Learning III
This course is a continuation of Problem-Based Learning I & II.

Semester Credit Hours: 1.0

PHAS 6101–6112 Supervised Clinical Practice
Supervised Clinical Practice rotations are accomplished at sites throughout South Texas during the final 12 months of the program. All students are required to complete at least 2 rural/remote rotations and should be prepared for additional living expenses during this time. Rotations are all four weeks in length, are primary care-based, and require long, irregular hours. Students are expected to take call and be available for hospital or nursing home rounds before and after a regular work day. Rotations are both physically and mentally demanding. All students complete a Community Medicine
Project as the Capstone event for the master’s degree. Students return to campus periodically for testing, presentations, and other activities as appropriate. Courses are numbered PHAS 6101-6112 for ease in scheduling, but rotations listed may be accomplished in any order.

**Emergency Medicine**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in emergency and life-threatening conditions and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in emergency medicine but may be required to take call and participate in hospital rounds. This practicum is usually accomplished in a hospital emergency room. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**Medical Inpatient Service**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an inpatient setting as part of the medical team and are required to take call and participate in hospital care plans. This practicum is accomplished in an inpatient internal medicine setting. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**Pediatrics**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in the pediatric population and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and participate in hospital rounds. This practicum is usually accomplished in a pediatric department or clinic but may be held in a rural, inner-city, or family medicine setting. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**Primary Care I**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in primary care and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and participate in hospital rounds. This practicum is usually accomplished in a rural or inner-city facility, but may be in an internal medicine or family medicine department. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**Primary Care II**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in primary care and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and participate in hospital rounds. This practicum is usually accomplished in a rural or inner-city facility, but may be in an internal medicine or family medicine department. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**Primary Care III**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in primary care and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and participate in hospital rounds. This practicum is usually accomplished in a rural or inner-city facility, but may be in an internal medicine or family medicine department. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**OB/GYN**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in obstetrics and gynecology and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and to participate in hospital rounds. This practicum is usually accomplished in a pediatric department or clinic but may be held in a rural, inner-city, or family medicine setting. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**Surgery**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in pre- and post-operative care and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work both in inpatient and outpatient settings and are expected to take call and to participate in surgical procedures. This practicum is usually accomplished in a surgical department and focuses on general surgical procedures. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**General Elective II**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and participate in hospital rounds. This practicum may be in any general medicine or medical subspecialty, including primary care, or may be in any general surgery or surgical subspecialty. Location depends on the focus the student selects. Practicum fee: $10 per semester credit hour.
Semester Credit Hours: 4.0

**Medical Elective**
This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience and assume patient-care responsibility under
the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and participate in hospital rounds. This practicum may be in any general medicine or medical subspecialty, including primary care. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 4.0

Community Medicine Project
The implementation of the community medicine project developed during didactic course of study, the project should be designed to improve the overall health or well-being of a population or community. Students will have the opportunity to go into the community and put their project into action. The project is a group undertaking and requires the group to conduct a needs analysis, prepare and submit a grant proposal, create a Web site in support of the project, create a scientific poster that summarizes the project, present the project to junior PA students, and create a project summary notebook. Students are graded on both an individual and group level based in part on participation, accomplishments, and group dynamics. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 4.0

Selective
Selective: A four-week course of instruction selected by faculty (with input from the student) to best meet the needs of the student. Practicum fee: $10 per semester credit hour. Semester Credit Hours: 4.0

Students are considered for one of the following:

A. Clinical Research: This course is an expansion of the Scientific Inquiry course taken in the first summer session. It introduces the student to the Clinical Research environment. Students will be involved in the selection and care of patients in Phase II–Phase IV Clinical Studies. Students may review ethical considerations for patient selection, screen patients for study protocol participation, and review and compile clinical results. Students may also be required to analyze clinical research articles and/or clinical data.

B. Geriatrics: This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in geriatrics and assume patient care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and participate in hospital and/or nursing home rounds. This practicum may be accomplished in either an inpatient or outpatient setting; may also be selected as an elective rotation.

C. Psychiatry: This is a four-week clinical practicum during which the student will have the opportunity to gain practical experience in behavioral medicine and assume patient-care responsibility under the direct supervision of a licensed practitioner. Students will work primarily in an outpatient setting but may be required to take call and participate in hospital rounds. This practicum may be accomplished in either an inpatient or outpatient setting; may also be selected as an elective rotation.

D. Skills Enhancement: This is a four-week rotation based on the improvement of clinical and study skills. Students receive individualized assistance with development of study skills to aid them in the completion of the PA National Certification Examination. The goal is for general problem solving and organizational skills to be enhanced. Clinical skills are polished and test-taking skills are emphasized. Students who fail more than one end of rotation examination during the clinical year may be required to take this selective.

E. South Texas Environmental Education and Research (STEER): This is a four-week practicum in which the student lives and works in the Laredo Community under the direction of STEER faculty and staff. Students are exposed to medical and environmental issues ranging from disparate health care and living conditions, to air and water quality and purification. Students may also receive training with customs officials on the Texas/Mexico border, wildlife specialists, and complementary and alternative medicine specialists; may also be selected as an elective rotation.

F. Specialty Training: Four-week rotation in a specialty area not normally considered by other students. This rotation may be a one-time offering based on the needs of the student and may occur outside of the usual clinical rotation site area.

G. Teaching: Designed to provide the student with the opportunity to develop an understanding and appreciation for professional and higher education. The student will be given the opportunity to participate in teaching, service, and scholarly activity under the mentorship of the faculty. The opportunity for the level of participation will depend on the timing of the rotation assignment, availability of faculty, and program activity. Directed readings and assignments will allow the student to have the opportunity to develop an understanding of curriculum, course, lecture development, and evaluation. Students will teach selected topics to first- and second-year students; may also be selected as an elective rotation.
Respiratory Care

- Application and Admission
- General Policies and Information
- Program Curriculum
- Course Descriptions

Respiratory care, also known as respiratory therapy, is an exciting and challenging health profession responsible for providing care for patients with cardiopulmonary system deficiencies. There are a variety of opportunities to practice respiratory care in such areas as critical care, neonatal and pediatric intensive care units, cardiopulmonary diagnostics, alternate site care such as nursing homes, long term acute care hospitals, home care, pulmonary rehabilitation, polysomnography (sleep studies), and disease management.

The respiratory therapist works with diverse patients ranging from newborn and pediatric patients to adults and the elderly. Disease states or conditions often requiring respiratory care include asthma, emphysema, chronic obstructive lung disease, pneumonia, cystic fibrosis, shock, trauma, and postoperative surgical care.

Bachelor of Science in Respiratory Care Program

The Bachelor of Science in Respiratory Care degree requires a minimum of 123 semester credit hours, including the Texas Core Curriculum requirements, program prerequisites, respiratory care coursework, and clinical practice.

The professional phase of the program, which consists of respiratory care coursework and clinical practice, is completed at the Health Science Center and affiliated clinical sites. The professional phase is approximately 19 months long and is dedicated to clinical and academic excellence. This includes more than 1,000 hours of in-hospital clinical experiences. As a leadership program in respiratory care, the program is designed to provide graduates with the opportunity to gain the foundation needed to assume professional leadership roles in clinical practice, clinical specialty areas, research, education, and management.

Graduates are awarded a Bachelor of Science in Respiratory Care degree and are eligible to take the Certification Examination for Entry Level Respiratory Therapists (CRT), which is the entry-level to practice respiratory therapy, and the Registry Examination for Advanced Respiratory Therapists (RRT), required for advanced-level respiratory therapy practice given by the National Board for Respiratory Care. Students are also eligible to take any specialty examinations such as the perinatal/pediatrics and pulmonary function technology examinations.

The Bachelor of Science in Respiratory Care program is accredited by the Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Rd., Bedford, Texas 76021-4244, phone (817) 283-2835, fax (817) 354-8519.

Advanced Standing Program in Respiratory Care

Individuals that hold the Registered Respiratory Therapist (RRT) credential awarded by the National Board for Respiratory Care (NBRC) and are graduates of a regionally accredited and CoARC-accredited program are eligible to apply for advanced standing in the Respiratory Care Program, or are eligible to sit for the RRT credential within one semester of entering the program.

Individuals holding the RRT credential may be eligible to receive 41.5 semester credit hours based on the RRT credential. Such individuals must enroll in and complete a minimum of 30 semester hours of coursework at the Health Science Center and must complete all Texas Core Curriculum courses before beginning the Advanced Standing Program.

Individuals holding the RRT credential must apply for admission to the program at least 60 days before the first day of the semester in which they wish to begin coursework at the Health Science Center. The deadlines for application to the Advanced Standing Program are March 15 for summer admission, May 15 for fall admission, and November 15 for spring admission.

Application and Admission

Application for admission to the Bachelor of Science in Respiratory Care program may be completed at via the Texas Common Application. Additional information about application and admission is available from the Health Professions Welcome Center (866) 802-6288 (toll-free) or (210) 567-8744. Completed application, application fee, official transcripts, and supporting documents must be submitted to the Application Center by May 15 for fall semester admission.

If a student first enrolled as an undergraduate at a Texas public university or college in Fall 1999 or more recently, their degree requirements include a General Education Core Curriculum. Every public institution in Texas has a Core Curriculum, which is designed to provide a solid foundation for a college education and to make transfers between and among Texas institutions of higher education as smooth and seamless as possible.

Each undergraduate institution’s Core Curriculum applies to all academic undergraduate degrees. They range from 42 to 48 credit hours, depending on the college or university. Students may choose a major which has some more rigorous or more specific requirements than
Most science majors have more intensive math and science requirements. In these cases, the major requirements have priority. For those and other reasons, no one should enroll in courses, Core Curriculum or otherwise, without consulting with a trained academic advisor or counselor at the appropriate institution.

Core Curriculum and the additional math and science courses for the bachelor’s degree may be taken at any regionally accredited community college or university. Note that some of the Core Curriculum may also be taken/counted as RESC program requirements.

### Admission Factors
A maximum of 30 full-time students are admitted to the Respiratory Care program each year. Admission is on a competitive basis. In addition to non-academic factors that may be considered, the basis for inviting an applicant for an interview includes the applicant's academic performance represented by coursework grades, load, trends, and degree of difficulty.

### Admission Requirements
- Completion of the Texas Core Curriculum requirements with a grade of at least C in all courses
- Completion of program prerequisites with a grade of at least C in all courses
- Overall grade point average of 2.5 or higher in college/university coursework
- Sophomore standing or higher at the time of application
- **Junior standing at the time of admission (60+ semester credit hours completed)**
- Personal interview with program faculty

**Note:** All Texas Core Curriculum and program prerequisites must be completed before the semester of enrollment in the program. The application deadline for the Bachelor of Science in Respiratory Care program is May 15.

### Program Prerequisites
All applicants must complete **60 hours of coursework, including** the program prerequisites below, before admission into the program. All science courses must include the associated laboratory section.

- Anatomy and Physiology I with laboratory
- Anatomy and Physiology II with laboratory
- Chemistry I with laboratory
- Microbiology with laboratory
- Physics I with laboratory
- Statistics
- Medical Terminology
- General Psychology

### General Policies and Information

#### Computer Requirement
Respiratory care students are required to purchase a laptop computer from the Health Science Center Computer Store on matriculation. The cost of the computer is calculated into program costs, and eligible students may receive financial aid to purchase the computer. Students are expected to have high-speed Internet access.

#### Graduation Requirements
To graduate from the program, a student must:
- Complete all required respiratory care pre-professional and professional courses with a grade of C or better
- Successfully complete the Entry Level CRT and RRT Examinations given by the National Board for Respiratory Care, or an equivalent departmental examination
- Successfully complete a comprehensive end-of-program competency assessment
- Hold current certification in Basic Life Support for the Healthcare Provider (BLS), Advanced Cardiac Life Support (ACLS), and Pediatric Advanced Life Support (PALS) and Neonatal Resuscitation Provider (NRP).

#### Program Costs
In addition to the required tuition and fees, costs for other expenses such as the required laptop, textbooks, course manuals, equipment, uniforms or scrubs, examination fees, and supplies are approximately $4,500. Travel and living expenses for local and out-of-town clinical experiences are not included in this estimate.

### Bachelor of Science in Respiratory Care Curriculum

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
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</tr>
<tr>
<td>RESC 3002 - Fundamentals of Respiratory Care</td>
<td>4.5</td>
</tr>
<tr>
<td>RESC 3005 - Respiratory Care Pharmacology</td>
<td>4.0</td>
</tr>
<tr>
<td>RESC 3007 - Cardiopulmonary Physiology</td>
<td>5.0</td>
</tr>
<tr>
<td>RESC 3011 - Patient Assessment</td>
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</tr>
<tr>
<td><strong>Semester Total</strong></td>
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<tr>
<td><strong>Spring Semester</strong></td>
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<tr>
<td>RESC 3012 - Patient Care Monitoring</td>
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</tr>
<tr>
<td>RESC 3018 - Diseases Affecting the Respiratory System</td>
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</tr>
<tr>
<td>RESC 3019 - Clinical Practice I</td>
<td>4.0</td>
</tr>
<tr>
<td>RESC 3021 - Mechanical Ventilation</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Semester Total</strong></td>
<td><strong>16.0</strong></td>
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</table>
### Respiratory Care Course Descriptions

**RESC 3002  Fundamentals of Respiratory Care**

The course will present the principles of chemistry and physics as they apply to respiratory care. Students will have the opportunity to gain hands-on experience with basic respiratory care equipment. Specific modes of therapy are examined to understand the principles of application to patients, indications, hazards, contraindications, and efficacy. Equipment will include oxygen delivery services, humidifiers, aerosol generators, pressure ventilators, gas delivery, metering and analyzing devices, percussor, environmental devices, manometers, gauges, and vacuum systems. *Materials Fee: $165.*

*Semester Credit Hours: 4.5*

**RESC 3005  Respiratory Care Pharmacology**

This course introduces the physiologic and pharmacologic basis of pulmonary and cardiac medications. Students will study several aspects of the formulation and preparation of the most commonly prescribed respiratory drugs. Indications, contraindications, and side effects of groups of drugs related to the cardiopulmonary system such as bronchoactive agents, neuromuscular blocking agents, drugs affecting the central nervous system, cardiovascular agents, and diuretics will be included.

*Semester Credit Hours: 4.0*

**RESC 3007  Cardiopulmonary Physiology**

This course provides an in-depth study of cardiac and pulmonary anatomy and physiology, as well as the diagnostic procedures commonly used in the hospital to evaluate these systems. Topics include the function of the respiratory system, ventilatory mechanics, gas transport in the blood, natural and chemical regulation of breathing, circulation, blood flow and pressure, and cardiac output. The heart-lung relationship and clinical applications of these phenomena in the cardiopulmonary system will be emphasized.

*Semester Credit Hours: 5.0*

**RESC 3008  Diseases Affecting the Respiratory System**

The course provides a comprehensive approach to etiology, pathophysiology, clinical manifestations, diagnosis, treatment, and prognosis of common pulmonary diseases and syndromes. Main topics include obstructive and restrictive pulmonary and cardiovascular disorders. Non-respiratory disorders impacting cardiopulmonary function commonly encountered in the critical care unit will be discussed.

*Semester Credit Hours: 5.0*

**RESC 3009  Clinical Practice I**

This course introduces students to clinical practice in basic respiratory care procedures. Topics include: introduction to the clinical affiliate, medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, and patient assessment. In addition, intermittent positive pressure breathing, and chest physiotherapy and airway care using nasal, endotracheal, and tracheal tubes is introduced in basic care situations. Case presentations are required to integrate clinical and classroom theory. *Materials Fee: $165. Practicum fee: $10 per credit hour.*

*Semester Credit Hours: 4.0*

**Prerequisites: RESC 3005, RESC 3003, and RESC 3001**

**RESC 3011  Patient Assessment**

Fundamentals of respiratory assessment will be covered to include review of existing data in the patient record, patient history, physical examination, oximetry, blood gases, respiratory monitoring, pulmonary function assessment, laboratory studies, chest and upper airway radiographs, ventilation/perfusion scans, bedside EKG interpretation, cardiovascular monitoring, and nutritional assessment.

*Semester Credit Hours: 3.0*

**RESC 3012  Patient Care Monitoring**

This course provides a study of invasive and non-invasive patient monitoring techniques and equipment. Invasive topics include hemodynamic monitoring, arterial pressure monitoring, central venous and pulmonary artery catheters, as well as cardiac output measurement. Non-invasive monitoring topics include pulse oximetry, transcutaneous monitoring, inductance plethysmography, capnography, and electrocardiogram. This course will also include the recognition and treatment of arrhythmias and cardiovascular pharmacology.

*Semester Credit Hours: 3.5*

**RESC 3018  Diseases Affecting the Respiratory System**

The course provides a comprehensive approach to etiology, pathophysiology, clinical manifestations, diagnosis, treatment, and prognosis of common pulmonary diseases and syndromes. Main topics include obstructive and restrictive pulmonary and cardiovascular disorders. Non-respiratory disorders impacting cardiopulmonary function commonly encountered in the critical care unit will be discussed.

*Semester Credit Hours: 5.0*

**RESC 3019  Clinical Practice II**

This course introduces students to clinical practice in basic respiratory care procedures. Topics include: introduction to the clinical affiliate, medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, and patient assessment. In addition, intermittent positive pressure breathing, and chest physiotherapy and airway care using nasal, endotracheal, and tracheal tubes is introduced in basic care situations. Case presentations are required to integrate clinical and classroom theory. *Materials Fee: $165. Practicum fee: $10 per credit hour.*

*Semester Credit Hours: 4.0*

**Prerequisites: RESC 3005, RESC 3003, and RESC 3001**

**RESC 3021  Mechanical Ventilation**

This course provides instruction in the theory, setup, operation, and maintenance of mechanical ventilators and related equipment. Topics include mechanical ventilator theory, ventilator operation, ventilator maintenance, and

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<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Spring Semester</td>
<td>RESC 3002</td>
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<td>RESC 4002</td>
<td>Geriatric Respiratory Care</td>
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<td>RESC 4013</td>
<td>Management</td>
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<td>RESC 4015</td>
<td>Education in Respiratory Care</td>
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<td>RESC 4017</td>
<td>Introduction to Research</td>
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<td>RESC 4019</td>
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<td>RESC 4029</td>
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<td>RESC 4003</td>
<td>Pediatric and Neonatal Respiratory Care</td>
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<td>RESC 4009</td>
<td>Clinical Practice III</td>
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<tr>
<td></td>
<td>RESC 4012</td>
<td>Disease Management, Rehabilitation, and Extended Care</td>
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<tr>
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<td><strong>Semester Total</strong></td>
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<td>Year 2</td>
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troubleshooting. Laboratory fee: $15.
Semester Credit Hours: 3.5

RESC 3023 Pulmonary Function Testing
This course is a comprehensive study of normal and abnormal pulmonary functions. The student will have the opportunity to learn how to perform, interpret, and evaluate various pulmonary function studies. Also, students will be given the opportunity to learn the operation, calibration, and maintenance of pulmonary function and gas analysis equipment. Laboratory fee: $10. Materials Fee: $165.
Semester Credit Hours: 2.5

RESC 3025 Critical Respiratory Care
This course covers instruction on the phases of adult critical care and continuous mechanical ventilation. The history of mechanical ventilation, modes of mechanical ventilatory support, implementation, patient stabilization, monitoring, hemodynamics, ventilator weaning, and discontinuance will be covered.
Semester Credit Hours: 4.0

RESC 3029 Clinical Practice II
Critical respiratory care is introduced to include all tasks presented in Clinical Practice I as applied to the intensive care unit. In addition, tracheostomy care, ventilator monitoring, arterial puncture and blood gas analysis, endotracheal intubation, EKG services, and bronchoscopy observation are introduced. Case presentations are required to integrate clinical and classroom theory.
Materials Fee: $165. Practicum fee: $10 per credit hour.
Semester Credit Hours: 2.5
Prerequisites: RESC 3019

RESC 4001 Cardiopulmonary Technology
An overview of the various areas comprising cardiopulmonary diagnostics and related technology will be provided. Topics include sleep laboratory, stress and exercise testing, metabolic testing, ventilation/perfusion scanning, cardiac catheterization laboratory, and noninvasive cardiology. In addition, extracorporeal membrane oxygenation, mechanical circulatory assistance, hyperbaric medicine, and perfusion technology will be introduced.
Semester Credit Hours: 3.0

RESC 4002 Geriatric Respiratory Care
The course introduces students to aging issues along with expected psychological changes in older adults and how they relate to patient care. Topics include: demographics of aging, age associated pulmonary and cardiac changes, geriatric patient assessment, atypical disease presentation, surgery in older adults, pulmonary disease after age 65, geriatric pharmacotherapy, communicating with the elderly, health aging strategies, and health care economics.
Semester Credit Hours: 2.0

RESC 4003 Pediatric and Neonatal Respiratory Care
This course provides an overview of the most important concepts to understand the neonatal and pediatric patient. From fetal growth to infant’s development, students will learn how to assess, identify, and treat the most common respiratory diseases that affect the neonatal and pediatric patient. An overview of common congenital diseases, including the respiratory, cardiac, gastrointestinal, and neurologic systems will be included. This course also has 20 hours of laboratory time to work with respiratory care equipment used to care for neonates and pediatric patients to include isolettes, ventilators, specialty gases, intubation, manual resuscitators, airway clearance devices, and airway maintenance. Materials Fee: $165.
Semester Credit Hours: 4.0

RESC 4009 Clinical Practice III
Students will have an opportunity to further develop skills required in the intensive care of the respiratory patient. Topics include comprehensive ventilator management, measurement and evaluation of hemodynamic variables, noninvasive monitoring, and pulmonary function laboratory. Specialty rotations include: intubation, hyperbaric oxygen therapy units, cardiac catheterization, echocardiography, pulmonary rehabilitation, and home care. This course also introduces the student to neonatal and pediatric care. Case presentations are required to integrate clinical and classroom theory. This clinic also includes a review of respiratory care as it pertains to the national credentialing examinations administered by the National Board for Respiratory Care (NBRC). Materials Fee: $165. Practicum fee: $10 per credit hour.
Semester Credit Hours: 5.0
Prerequisites: RESC 3021, 3023, 3025, and 3029

RESC 4012 Disease Management, Rehabilitation, and Extended Care
This course provides an overview of the concepts, procedures, and equipment utilized in the delivery of long-term care to persons with a chronic cardiopulmonary disorder. The development and implementation of disease management programs for the care of patients with asthma, COPD, and other chronic conditions is presented. Pulmonary rehabilitation, patient education, and smoking cessation programs are reviewed. Provision of health care services in the home and other nonacute settings is examined, along with technological and procedural aspects of cardiopulmonary equipment.
Semester Credit Hours: 3.0

RESC 4013 Management
This course is an introduction to management principles and problems and their relation to health care organizations. The primary focus is on hospital-based respiratory care departments and alternative settings.
Semester Credit Hours: 2.0
Prerequisite: senior status

RESC 4015 Education in Respiratory Care
This course is an introduction to basic principles and techniques used in respiratory care education. Topics include: course design, objectives, lesson-plan development, learning strategies, evaluation, use of media, and development of a community education presentation.
Semester Credit Hours: 2.0
Prerequisite: senior status

RESC 4017 Introduction to Research
This course is an introduction to the methods of scientific research to include research design and statistical analysis.
Critical review of the components of research reports will be performed to include definition of the problem, review of the literature, research design, data analysis, and results.

**Semester Credit Hours:** 2.0
**Prerequisite:** senior status

**RESC 4019 Clinical Practice IV**
The course focuses on perinatal and pediatric respiratory care. Topics include: medical gas therapy, oxygen delivery devices, aerosol therapy, hyperinflation therapy, airway clearance devices, patient assessment, monitoring (invasive and noninvasive), airway care, and labor and delivery assistance. Specialty rotations include the burn unit. Case presentations are required to integrate clinical and classroom theory and review the national credentialing examinations.

**Materials Fee:** $165. Practicum fee: $10 per credit hour.
**Semester Credit Hours:** 4.0
**Prerequisites:** RESC 4003 and 4009

**RESC 4021 Issues and Trends**
Current issues relevant to the cardiopulmonary sciences and respiratory care will be explored. Health care delivery systems, new trends in organization and management, new treatments and technologies, ethical issues in health care, as well as issues related to professional development and practice will be discussed in this capstone course for advanced standing students.

**Semester Credit Hours:** 3.0
**Prerequisite:** Advanced Standing Student Status

**RESC 4029 Clinical Specialization**
Students will have an opportunity for in-depth application and reinforcement of adult intensive care. In addition, students are provided with the opportunity to develop an area of specialization. Specialization areas may include neonatal/pediatrics, adult critical care, pulmonary function laboratory, advanced diagnostics, pulmonary rehabilitation, home care, management, research, or education.

**Practicum fee:** $10 per credit hour.
**Semester Credit Hours:** 3.0
**Prerequisite:** RESC 4019

**RESC 4091 Independent Study**
This course includes independent reading, research, discussion, and/or writing under the direction of a faculty member. The course may be repeated.

**Semester Credit Hours:** 1.0–6.0
Mission

The mission of the Health Science Center’s School of Medicine is to serve the needs of the citizens of Texas by providing medical education and training to medical students and physicians at all career levels in an environment that is flexible and emphasizes the following: professionalism with special commitment to the preparation of physicians in both the art and science of medical practice; conducting biomedical and other health-related research paying particular attention to translational research; delivering exemplary quality health care; and providing a responsive resource in health-related affairs for the nation and the state, with particular emphasis on South Texas.

Accreditation

The School of Medicine is fully accredited by the Liaison Committee on Medical Education, the body recognized by the U.S. Department of Education for accreditation of programs of medical education leading to the M.D. degree in the United States.

Application and Admission

Information about specific admission requirements is detailed online. Applicants must have at least 90 semester hour credits from a United States or Canadian college or university with no grade lower than a C in required course work. Applicants must take the Medical College Admissions Test (MCAT) no later than the first week of September the year preceding anticipated matriculation. Web-based applications forms are available through the Texas Medical and Dental Schools Application Service in Austin (http://www.utsystem.edu/tmdsas). MCAT scores should be forwarded no later than October 15 of the year preceding matriculation. Scores from later administrations of the MCAT may be considered for purposes of selecting students from the alternate pool.

Acceptance Considerations

The Admissions Committee evaluates each candidate’s application to make an assessment of the individual's academic background, performance on the Medical College Admissions Test (MCAT), the recommendation of the premedical advisor, and the nonacademic achievements. Preparation for medical school as reflected in clinical experiences along with integrity, maturity, motivation, judgment, and resourcefulness are also evaluated. Further evaluation of the most promising candidates is made by means of personal interviews, invitations for which are issued by the Admissions Committee.

The same criteria for evaluation are applied to all candidates. Applicants are encouraged to read the “Factors Considered for Applicant Interview and Final Scoring” at http://som.uthscsa.edu/admissions/index.asp. Although certain disabilities or combination of disabilities might prevent a candidate from meeting required technical standards, this institution is committed to avoiding discrimination against an otherwise qualified individual with disabilities (see http://som.uthscsa.edu/Admissions/essentialabilities.asp). The School of Medicine will announce its initial acceptances on November 15. Acceptances will continue on a rolling basis until December 31. Those interviewed applicants not accepted may be offered positions in the entering class through the TMDSAS medical school match, the results of which are available on February 1. Candidates whose applications are rejected by the Admissions Committee with or without personal interviews shall be notified as soon as possible after the committee’s action. An applicant receiving an acceptance of admission will be requested to file a letter of intent to enroll within two weeks of receipt of acceptance. The acceptance is contingent upon clearance through a criminal background check.

Because some of the medical schools in Texas begin their academic year earlier than September, all LCME-accredited medical schools in Texas have agreed not to offer acceptances to candidates already enrolled at another medical school in the state after July 1.
Essential Abilities for Completion of the Medical Curriculum

Essential abilities are academic performance requirements that refer to those physical, cognitive, and behavioral abilities required for satisfactory completion of all aspects of the medical curriculum and the development of personal attributes required by the student at graduation.

The essential abilities required by the curriculum are in the following areas: intellectual (conceptual, integrative, and quantitative abilities for problem solving and diagnosis), behavioral and social, communication, motor, and sensory.

In addition, the medical student must demonstrate ethical standards and a professional demeanor in dealing with peers, faculty, staff, and patients.

**Intellectual Abilities**

The medical student must be able to comprehend and learn factual knowledge from readings and didactic presentations, gather information independently, analyze and synthesize learned material, and apply information to clinical situations.

**Behavioral, Social, and Professional Abilities**

The medical student must possess the emotional maturity and stability to function effectively under the stress that is inherent in medicine and to adapt to circumstances that are unpredictable or that change rapidly. He or she must exhibit compassion, empathy, altruism, integrity, responsibility, and tolerance, as well as demonstrate the ability to exercise the requisite judgment in the practice of medicine.

**Communication Skills**

The medical student must be able to communicate effectively with patients orally and in writing, including gathering information appropriately; explaining medical information in a patient-centered manner; listening effectively; recognizing, acknowledging, and responding to emotions; and exhibiting sensitivity to social and cultural differences. He or she must be able to communicate effectively and work cooperatively with all other health care team members.

**Motor Skills**

The medical student must have sufficient physical dexterity to master technical and procedural aspects of patient care. He or she must have sufficient strength to perform the essential duties and must have adequate physical stamina and energy to carry out taxing duties over long hours.

**Sensory Abilities**

The medical student should have sufficient sensory abilities of sight, hearing, smell, and touch in order to obtain a medical history, perform a physical examination, and to diagnose and deliver patient care.

**Advanced Standing**

The acceptance of students with advanced standing is dependent upon the availability of clinical and academic facilities. Each year the School of Medicine considers class size and the imperative of maintaining high quality training in deciding whether additional students with advanced standing will be admitted. In such rare cases, only students currently enrolled in an LCME-accredited medical school in good academic standing can be considered. Given the scarcity of spaces, preference is given to those who must move to San Antonio for reasons of personal hardship and who have not only the consent but also the active support of their schools for the proposed move. The School of Medicine in San Antonio will determine in each case the viability of the proposed transfer from an academic viewpoint and establish the necessary courses and other requirements and level at which the transfer would take place.

No nonresident of the state of Texas may be enrolled with advanced standing if the result of that enrollment would cause the percentage of nonresidents enrolled in the class of interest to rise above ten percent.

Application forms and inquiries concerning advanced standing admission should be obtained from and addressed to the Office of the Associate Dean for Academic Affairs of the School of Medicine.

**Scholarships**

Scholarship assistance is available within the School of Medicine. Scholarships selection is based on established criteria. For scholarships that are donor-gifts, selection is based on criteria established by the donor. Scholarships may be renewable depending upon academic performance and/or stated scholarship conditions.

**Academic Advising**

Six major resource areas provide academic and personal advising for medical students. These are the Associate Dean for Academic Affairs, the Associate Dean for Student Affairs, Course and/or Clerkship Directors, Veritas Career Advising Groups, Office of Academic Enhancement, and the Health Science Center Counseling Service.

Each entering student is assigned to a Veritas Group. Veritas Groups provide continuity of faculty advising throughout the School of Medicine experience. For students who encounter academic difficulty, the course director or clerkship director is the first line of consultation. Both the Associate Dean for Academic Affairs and the Associate Dean for Student Affairs monitor students’ progress through interaction with faculty in an effort to identify problems early and intervene if necessary.

The Office of Academic Enhancement’s mission is to promote the retention and advancement of medical students throughout the four-year curriculum. It does this by providing group and individual tutoring, large-group review sessions for pre-clinical courses, a pre-matriculation program for incoming medical students, a tutoring elective for those interested in academic medicine, a USMLE preparation course, and consultation services for study skills, time management issues, and test-taking assistance. The Health Science Center Counseling Service provides academic and personal counseling and assists students in the development of effective study strategies. Academic and personal counseling is provided in an effort to help students achieve their educational goals. For purposes of counseling, students may be referred to the Counseling Service by the Office of Academic Enhancement, the Office of the Associate Dean for Academic Affairs, the Academic Advising office, the Clerks Office, the Associate Dean for Student Affairs, and the Associate Dean for Academic Affairs.

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services may be helpful to some students encountering academic difficulties, especially in helping the student to review study skills and learning style. This office and the other resources listed above may also be helpful if students encounter issues of personal concern. The Office of Student Life may also be helpful in this latter regard.

Student Background Check Policy

I. Applicability

This policy applies to applicants who have received an offer of admission to or students enrolled in an educational program that includes, or may include at a future date, assignment to a clinical health care facility. Visiting students who enroll in courses with such an assignment are also subject to the policy.

II. Policy

Applicants who have received an offer of admission must submit to and satisfactorily complete a background check review as a condition to matriculation to the School of Medicine. An offer of admission will not be final until the completion of the criminal background check(s) with results deemed as satisfactory. Admission may be denied or rescinded based on a review of the criminal background check.

Additionally, students who are currently enrolled and who do not have a valid criminal background check must submit to, and satisfactorily complete, a background check review as a condition to enrolling or participating in education experiences at affiliated sites as required.

Students who refuse to submit to a criminal background check or do not pass the criminal background check review may be dismissed from the program.

Applicants who have received an offer of admission or students who are dismissed may seek admission into another educational program that does not have a clinical component requirement in its curriculum.

III. Rationale

A. Health care providers are entrusted with the health, safety, and welfare of patients, have access to controlled substances and confidential information, and operate in settings that require the exercise of good judgment and ethical behavior. Thus, an assessment of a student’s or applicant’s suitability to function in such a setting is imperative to promote the highest level of integrity in health care services.

B. Clinical facilities are increasingly required by accreditation agencies, such as Joint Commission of Healthcare Organization (JCAHO), to conduct background checks for security purposes on individuals who provide services within the facility and especially those who supervise care and render treatment. To facilitate this requirement, educational institutions have agreed to conduct these background checks for students and faculty.

C. Clinical rotations are an essential element in medical school curriculum. Students who cannot participate in clinical rotations due to criminal or other adverse activities that are revealed in a criminal background check are unable to fulfill the requirements of medical school. Additionally, many health-care licensing agencies require individuals to pass a criminal background check as a condition of licensure or employment. Therefore, it is in everyone’s interest to resolve these issues prior to a commitment of resources by the School of Medicine, the student, or applicant.

D. The School of Medicine is obligated to meet the contractual requirements contained in affiliation agreements between the university and the various health-care facilities.

IV. Background Check Report

A. Obtaining a Background Check Report. The School of Medicine will designate approved company (ies) to conduct the criminal background checks and issue reports directly to the School of Medicine. Results from a company other than those designated will not be accepted. Students and applicants who have received an offer of admission must contact a designated company and comply with its instructions in authorizing and obtaining a criminal background check. Students and applicants who have received an offer of admission are responsible for payment of any fees charged by a designated company to provide the criminal background check service.

B. Scope. Criminal background checks include the following and cover at least the past seven years:

1. Criminal history search, including convictions, deferred adjudications or judgments, and pending criminal charges involving felonies, Class A, Class B, and Class C violations
2. Social Security Number verification
3. Violent Sexual Offender and Predator Registry search
5. General Services Administration (GSA) List of Parties Excluded from Federal Programs
6. U.S. Treasury Office of Foreign Assets Control (OFAC), List of Specially Designated Nationals (SDN)
7. Applicable State Exclusion List

C. Rights. Students and applicants who have received an offer of admission have the right to review the information reported by the designated company for
accuracy and completeness and to request that the designated company verify that the background information provided is correct. Prior to making a final determination that will adversely affect the applicant or student, the School of Medicine will provide applicants or students a copy of or access to the background check report issued by the designated company, and inform them of their rights, how to contact the designated company to challenge the accuracy of the report, and that the designated company was not involved in any decisions made by the School of Medicine.

V. Procedure

A. Applicants

1. Applicants must complete the required criminal background check screening following the offer of admission but prior to matriculation.

2. The criminal background check report will be submitted to the Background Check Review Committee for its review. If the report contains negative findings, the committee may request that the applicant submit additional information relating to the negative finding, such as a written explanation, court documents, and/or police reports. The committee will review all information available to it and determine appropriate action.

3. Admissions decisions are final and may not be appealed.

B. Current Students

1. For students who did not have a criminal background check review at the time of their admission into the educational program, students must complete the criminal background check review prior to commencement of an assignment at a health care facility as required.

2. Criminal background check reports will be submitted to the Background Check Review Committee for its review. If the report does not contain any negative findings as determined by the committee, the student will be allowed to participate in clinical rotations. If the report contains negative findings, the Background Check Review Committee may request that the student submit additional information relating to the negative finding, such as a written explanation, court documents and police reports. The Background Check Review Committee will review all information available to it and determine whether the student should be permitted to participate in clinical rotations or be dismissed from the program.

3. If the Background Check Review Committee determines that dismissal from the program is warranted, a student may appeal that decision in accordance with the university’s grievance procedure for academic matters found in this Catalog.

C. Committee Review Standards

1. In reviewing the background check reports and any information submitted, the Background Check Review Committee may consider the following factors in making its determinations: the nature and seriousness of the offense or event, the circumstances surrounding the offense or event, the relationship between the duties to be performed as part of the educational program and the offense committed, the age of the person when the offense or event occurred, whether the offense or event was an isolated or repeated incident, the length of time that has passed since the offense or event, past employment and history of academic or disciplinary misconduct, evidence of successful rehabilitation, and the accuracy of the information provided by the applicant who has received an offer of admission or student in the application materials, disclosure forms, or other materials. The committee should bear in mind both the safety interests of the patient and the workplace, as well as the educational interest of the student. In reviewing background checks and supplementary information, advice may be obtained from university counsel, university police, or other appropriate advisors.

VI. Confidentiality and Record Keeping

A. Criminal background check reports and other submitted information are confidential and may only be reviewed by university officials and affiliated clinical facilities in accordance with the Family Educational Records and Privacy Act (FERPA).

B. Students: Criminal background check reports and other submitted information of students will be maintained in the Office of Student Affairs in accordance with the university’s record retention policy for student records.

C. Applicants Denied Matriculation: Criminal background check reports and other submitted information of applicants denied matriculation into the program will be maintained in accordance with the university’s record retention policy.

VII. Other Provisions

A. The School of Medicine shall inform students who have negative findings in their criminal background check report and are nonetheless permitted to enroll that the School of Medicine’s decision is not a guarantee that every clinical facility will permit the student to participate in the educational program at its facility, or that any state will accept the individual as a candidate for registration, permit, or licensure.
B. A background check will be honored for the duration of enrollment if the student is continuously enrolled. An assigned clinical health care facility may require a repeat criminal background check. A student who has a break in enrollment is required to complete a new criminal background check. A break in enrollment is defined as non-enrollment of at least one semester in the approved curriculum of the certificate or degree program. However, a student whose attendance has been suspended due to a licensing agency’s eligibility certification process will not be considered as having a break in enrollment. An officially approved leave of absence is not considered a break in enrollment.

C. Falsification of information, including omission of relevant information, may result in denial of admission or dismissal from the educational program.

D. Criminal activity that occurs while a student is in attendance at the university may result in disciplinary action, including dismissal, and will be addressed through the university’s academic or disciplinary policies.

Policy for Sharing Student Background Checks

1. Authorization to share information: Student background check reports results maintained by educational institutions are records subject to the Family Educational Records and Privacy Act (FERPA). FERPA prohibits the release of educational records without a student’s written authorization unless there is a specific FERPA exception authorizing a release without a student’s written authorization. Given that an affiliated health-care facility is offering educational services that would otherwise be provided by the educational institution, FERPA can be reasonably interpreted to permit institutions to release the information to the clinical facility without the student’s authorization. NOTE: HIPAA is not applicable to this scenario.

   a. A general notice will be provided to students (i.e., Catalog) that background check reports may be provided to affiliated health-care facilities that the student will be attending as part of their required course of study.

   b. A general release will be obtained from students at the time of the criminal background check that authorizes the release of reports or results to any affiliated clinical facility to which the student may be assigned (Attachment A).

   c. Information will be released to the affiliated healthcare facility upon its request.

2. Requests for Information: Request for criminal background check reports must be submitted in writing by the affiliated healthcare facility and state the reason why the information is needed. All requests will be handled by the Student Affairs Office. Requests for information records will be maintained for as long as the background check reports are maintained.

3. Transmission of Information: Educational records will be sent to third-parties in a confidential manner. This can be achieved either by mailing the information and marking the outside of the envelope confidential, or scanning and e-mailing the records directly to the secure e-mail address for receipt of confidential information as identified by the clinical facility, preferably in the affiliation agreement. Transmission via facsimile is not recommended since often times the receiving fax machine is a public area of an office.

4. Confidentiality of Information: In releasing educational records to other entities, FERPA requires that the third-party maintain the confidentiality of the educational records while the records are in its possession. The affiliated healthcare facility will be informed in writing that:

   a. the information is confidential and subject to FERPA;

   b. the information may only be viewed by individuals who have a legitimate need to view the information to verify or audit the qualifications of the student to participate in the educational program at the facility;

   c. the information may not be disclosed to other entities without the student’s written authorization;

   d. the information must be destroyed when it is no longer needed for the purposes for which the information was provided to the entity; and

   e. improper disclosure of personally identifiable information contained within the report may result in the university being prohibited from providing the facility access to this information for at least five years (Attachment B).

5. Affiliation or Program Agreements: Affiliation agreements may include a reference of continuing students’ criminal background checks. If criminal background check information is shared with a healthcare facility, the clinical facility is subject to the requirements of FERPA as to any documents received by the clinical facility from the School of Medicine related to one of its students.

Absence, Dismissal, and Readmission

Absences of short duration may be granted by the Associate Dean for Student Affairs in the case of illness or personal emergency with the understanding that the student arrange with the faculty to make up all work which is missed.

Absence for any cause shall, however, be reported by the student within one week of the student’s return. It should be reported to the Associate Dean for Student Affairs, who will
determine if the absence was “excused.” If requested in writing by the student, a leave of absence for an extended period of time may be granted by the Associate Dean if such absence is considered to be in the best interests of the student. To reach this decision, the Associate Dean will often rely not only on the student’s expressed wishes, but also on the opinion of her or his faculty advisor, faculty promotions committees, or other individuals familiar with the circumstances of the case. While the exact length of the leave of absence will vary in each case, it shall, under no circumstances, exceed one year.

It will be assumed that students who fail to register and pay tuition and fees within the specified dates will have terminated their connection with the School of Medicine, unless permission to register and pay tuition at a later date has been expressly granted by the Registrar.

Students who have ceased to be enrolled in the School of Medicine for any reason (withdrawal, dismissal, failure to register, failure to return from leave of absence at the specified time, or leaving school without authorization) and who wish to be considered for readmission either as freshmen or with advanced standing must apply to the Dean of the School of Medicine. Only students returning on schedule from authorized leaves of absence will be re-enrolled without having to be readmitted.

Attendance Policy

It is the practice of the School of Medicine that each course director establishes an attendance policy that must be explained during the first meeting of the class. Absences from any and all examinations are not acceptable without prior notification and approval from authorized officials of the School.

Students who are absent from a class, laboratory session, or conference requiring attendance, or students who miss an examination should attempt to notify the Associate Dean or Assistant Dean for Student Affairs in advance of her/his absence if possible. Absences must be explained to the Associate Dean or Assistant Dean for Student Affairs who, by memorandum to the course director, indicates whether an absence is excused.

Any question about a student’s absence (reason or number of absences) may require the student to come and defend the absences before the Pre-Clinical Promotions Committee in the first two years of medical school, or the Clinical Promotions Committee in the 3rd and 4th years of the student’s training.

Junior and senior students in clinical training are required to notify the clerkship director and the rotation site prior to their anticipated absences.

Leave of Absence

A leave of absence may be granted by the Dean or his designee if such absence is considered to be in the best interests of the student. The Dean’s designee to monitor this activity area is the Associate Dean for Student Affairs. Requests for leaves of absence must be made in writing by the student to the Associate Dean for Student Affairs. If approved, the student must complete a Student Clearance Form, available from the Registrar’s Office (319L MED).

The Dean relies not only on the student’s expressed wishes, but also on the opinion of the student’s faculty advisor, the student promotions committee, or other individuals familiar with the circumstances of the case. While the exact length of the leave of absence will vary from case to case, it shall, under normal circumstances, not exceed one year.

Code of Professional Conduct - School of Medicine

Preamble

Because practicing medicine is an honor earned every day, we—the faculty and students of the School of Medicine of The University of Texas Health Science Center at San Antonio—subscribe to the highest standards of conduct. Our aim is professional behavior beyond reproach. In particular, we subscribe to the following points of conduct:

Code

A. I will promote and maintain an honest and effective learning environment. I will:
   • do my part to ensure that the environment promotes acquisition of knowledge and mastery of skills;
   • not tolerate harassment, flagrant disruption of the learning process, demeaning language or visual aids, disrespectful behavior, or lack of respect for life and living things;
   • exhibit the highest standards of conduct, honesty, and professionalism;
   • identify and report those who exhibit academic or professional misconduct; and
   • appreciate each individual as a person of value and help maintain dignity during the learning process.

B. I will place primary emphasis on the health and welfare of patients. I will:
   • attain and maintain the most current knowledge in the healing arts and the skill to apply that knowledge, display respect and compassion for each patient, foster and preserve the trust that exists between professional and patient, respect and maintain the confidentiality of the patient, and
   • let no patient in whose care I participate suffer physically or emotionally as a consequence of unprofessional behavior by myself or others.

C. I will conduct myself at all times in a professional manner. I will:
   • exhibit honesty, openness, and evenhandedness in dealing with others;
   • maintain my personal hygiene and appearance in such a way that it does not interfere with my ability to communicate with patients, colleagues, or community;
   • not engage in language or behavior which is disrespectful, abusive, or insulting;
• take responsibility for my actions, acknowledge my limitations, and ask for assistance when needed;
• assure the welfare of others is not compromised as a result of my inadequacy or impairment;
• not be deceitful or self-serving;
• achieve satisfactory balance in personal, community, and professional activities;
• not allow personal conflicts to interfere with objectivity in relationships with colleagues or patients;
• accommodate a fellow professional’s request for my knowledge and expertise;
• refrain from the manifestation of bias, including sexual, marital, racial, ethnic, or cultural harassment;
• support my fellow professionals if they should falter; and
• identify colleagues whose ability to provide care is impaired, support them as they seek rehabilitation, and help them to reintegrate into the medical community.

Administration of the Code of Professional Conduct for Students

Section I: Introduction

Medical students are expected to maintain the highest standards of professional and ethical conduct at the School of Medicine of the Health Science Center. (See above for the Code of Professional Conduct which applies to all students)

Section II: Grading

Each course or clerkship director may develop written expectations of professional conduct specific to her/his discipline. These expectations are to be distributed to students at the beginning of the course. The Associate Dean for Student Affairs will be furnished copies of departmental expectations on a yearly basis. These departmental expectations may, on request, be made available to other departments.

Section III: Procedures

When a potential violation of the Code of Professional Conduct is reported, the course or clerkship director will: 1) require appropriate and timely documentation, 2) determine whether there is a basis for the complaint, and 3) inform the student of the allegation before any action is taken. If the unprofessional conduct is of a minor nature, the course or clerkship director may elect to counsel the student as the first intervention. If the conduct is of a serious nature, the course or clerkship director shall counsel the student, shall document the infraction, and may assign a “failing” grade for the course or clerkship. In those instances in which a failing grade is assigned based primarily on professionalism issues, such failure will indicate a pattern of unprofessional behavior at the student’s state of development.

When a failing grade is assigned, the course or clerkship director must provide written documentation to the Associate Dean for Student Affairs concerning the nature of the infraction. The Associate Dean will then present the documentation to the appropriate Promotions Committee for review.

In those instances in which the course or clerkship director would wish further review prior to the imposition of a penalty, the Promotions Committee will provide that review function.

When a student observes a breach of the professional code, the principles of professional conduct compel that prompt notification be rendered to the applicable course or clerkship director or the Associate/Assistant Dean for Student Affairs. The Promotions Committee will recommend that the grade be sustained or modified based on the review.

The Promotions Committee may recommend a penalty as described in Section IV. This recommendation is subject to the usual dismissal, appeal, and review processes as stated in the “Grades, Promotions, and Graduation” section of this Catalog (School of Medicine section).

Section IV: Penalties

The Promotions Committee may recommend the imposition of one or more of the following penalties for violation of the Code of Professional Conduct. With some exceptions, these penalties outlined in this Catalog under Section IV, parallel the “Procedures and Regulations Governing Student Conduct and Discipline” of the Health Science Center (HOP Chapter 14, section 4.1, policy 14.1.1).

• Warning
• Probation
• Suspension of rights and privileges deriving in whole or in part from the School of Medicine
• Suspension of eligibility for any student office or honor
• Cancellation of credit for scholastic work done
• Reduction of the grade assigned in a course
• Failing grade in the course
• Suspension from the School of Medicine
• Dismissal
• Formal letter of reprimand in academic file

Section V: Nature of Penalties

With some exceptions, these penalties outlined in this Catalog under Section IV, parallel the “Procedures and Regulations Governing Student Conduct and Discipline” of the Health Science Center (HOP Chapter 14, section 4.1, policy 14.1.1).

1. Probation for unprofessional conduct is for a definite period but no longer than one calendar year and indicates that further violations may result in suspension or dismissal.
2. Cancellation of credit for scholastic work done and reduction of a grade assigned in a course are imposed only for courses in which the student was found to exhibit unprofessional conduct.
3. Suspension from the School of Medicine means that a suspended student may not receive credit at the School of Medicine for work done by correspondence or in residence at either this or any other education institution.
during the period of suspension except as allowed by the hearing officer.

4. Dismissal from the School of Medicine means permanent severance from the School of Medicine.

Guidelines for Professional Conduct

Candidates for the Doctor of Medicine degree are expected to conduct themselves in a professional manner in interaction with patients, and also with peers, faculty, and staff of the Health Science Center and the community in general. Students are subject to the "Procedures and Regulations Governing Student Conduct and Discipline" (http://www.uthscsa.edu/hop2000/14.1.1.pdf) of the Health Science Center. Throughout the medical curriculum, medical students are governed by the Code of Professional Conduct of this School of Medicine.

Scholastic Dishonesty

Any student who commits an act of scholastic dishonesty is subject to discipline, after thorough investigation by the Office of Student Affairs. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Any such act may also constitute a violation of professionalism by the student.

Students should report such acts to the Associate/Assistant Dean for Student Affairs, the clerkship/course director, or other faculty. If the reporting is not made to the Associate/Assistant Dean for Student Affairs, then it will be the clerkship/course director or faculty’s responsibility to report to the Office of Student Affairs.

The conduct of the investigation of a report of Scholastic Dishonesty is in accordance with previously established policies and procedures, both within the Health Science Center and within the School of Medicine.

1. The investigator should first meet with the complainant to determine the charge and to explain the investigation process. If the charge is not in writing, the investigator should prepare a statement of what he or she understands the charge to be and obtain verification of the charge from the complainant.

2. The investigator should interview the accused and other witnesses. It is an obligation of all Health Science Center and School of Medicine personnel to cooperate with the investigator.

3. All investigations will be conducted in a timely manner. At the conclusion of the investigation, a written report will be prepared detailing the charge, the investigation process, and the results of the investigation. All reports and recommendations will be submitted to the Dean of the School of Medicine.

4. The Dean of the School of Medicine shall be responsible for ensuring that no retaliation is made against the complainant as a result of the charge.

5. Any disciplinary action shall be in accordance with applicable School of Medicine and Health Science Center policies.

6. The Associate Dean for Student Affairs will meet with the student to explain all findings and recommendations.

7. If the student disagrees with any aspect of the investigation, findings, or results, the student may file, in writing, an appeal to the Dean of the School of Medicine. A final written appeal to President of the Health Science Center is available, but only for procedural irregularity.

Confidentiality

The Health Science Center will, to the extent possible, maintain the confidentiality of student information as per the Handbook of Operating Procedures (http://www.uthscsa.edu/hop2000/2.2.6.pdf).

Standards of Conduct for the Teacher–Learner Relationship

The University of Texas Health Science Center at San Antonio School of Medicine is committed to creating an environment that promotes academic and professional success in learners and teachers at all levels. The institution strives to create an environment free of behaviors that can adversely affect the Teacher-Learner Relationship. Both teachers and learners share the responsibility in creating and maintaining this environment of respect, fairness, and trust.

Responsibilities in the Teacher-Learner Relationship

A. Responsibilities of teachers

Treat all learners with respect, fairness, and equality regardless of age, gender, race, ethnicity, national origin, religion, disability, or sexual orientation.

B. Responsibilities of learners

Treat all fellow learners and teachers with respect, fairness, and equality regardless of age, gender, race, ethnicity, national origin, religion, disability, or sexual orientation.

Behaviors Inappropriate to the Teacher-Learner Relationship

Those behaviors that demonstrate disrespect for others or lack of professionalism in interpersonal conduct are inappropriate. These behaviors are seen as clearly inappropriate and will not be tolerated by the institution. These include, but are not limited to, the following:

- unwanted physical contact (e.g. hitting, slapping, kicking, pushing) or the threat of the same;
Student Mistreatment

Within the School of Medicine, mistreatment of students will not be tolerated. Student mistreatment may take many forms ranging from overt harassment to the benign neglect that at times impact specific populations. Regardless of the behavioral manifestation of such, it is the student’s perception which is of critical importance. Therefore, it is important that any student who feels they have been mistreated in any manner have access to the potential relief provided under these procedures. Sexual Harassment, which is defined by policy within the structure of The University of Texas Health Science Center at San Antonio (Health Science Center), is included in this section as a form of student mistreatment. Also included are those concerns which students may have about possible bias and/or unfairness in the assignment of a grade.

Examples of behavior unacceptable to the Health Science Center include:

- Physical or sexual harassment/abuse
- Discrimination or harassment based on race, gender, age, ethnicity, religious beliefs, sexual orientation, or disability
- Disparaging comments about an individual or group that is demeaning
- Loss of personal civility including shouting, displays of temper, public or private abuse, belittling, or humiliation
- Use of grading or other forms of evaluation in a punitive or retaliatory manner
- Sending students on inappropriate errands

Medical students who feel they have been mistreated may report such perceptions to any of the following:

1. Associate/Assistant Dean for Student Affairs
2. Director, Equal Employment Opportunity/Affirmative Action Office
3. Counseling Service
4. Office of Student Services
5. Course/Clerkship Director

Each of these offices is empowered to discuss on an informal basis those perceptions on the part of any student which caused (or causes) that person to feel mistreated. Each of the offices described can provide guidance in the following areas:

1. Help the person understand the definition of mistreatment,
2. Determine the certainty of the person that the behavior did occur,
3. Explain the process of a Formal Complaint and the associated investigative process,
4. Provide guidance as to alternative approaches other than the filing of a formal complaint.

In any set of circumstances, the first of those three offices above which is contacted by the student becomes the advocate for that student. It is also the role of that advocate to ensure due process for the student throughout the period of inquiry and thereafter.
If a student decides to request a formal review, and if he/she has not already done so, the student would meet with the Associate Dean for Student Affairs of the School of Medicine. If the allegation is one of Sexual Harassment, the Associate Dean will meet with the Director of Equal Employment Opportunity/Affirmative Action Office. These two persons will determine who will be the primary investigator. In all other situations of alleged mistreatment, the investigator will be the Associate Dean for Student Affairs. In instances where a potential conflict of interest exists, the Dean of the School of Medicine may appoint an alternate investigator.

The conduct of the investigation is in accordance with previously established policies and procedures, both within the Health Science Center and within the School of Medicine.

1. The investigator should first meet with the complainant to determine the charge and to explain the investigation process. If the charge is not in writing, the investigator should prepare a statement of what he or she understands the charge to be and obtain verification of the charge from the complainant.

2. The investigator should interview the accused and other witnesses. It is an obligation of all Health Science Center and School of Medicine personnel to cooperate with the investigator.

3. All investigations will be conducted in a timely manner. At the conclusion of the investigation, a written report will be prepared detailing the charge, the investigation process, and the results of the investigation. All reports and recommendations will be submitted to the Dean of the School of Medicine.

4. The Dean of the School of Medicine shall be responsible for ensuring that no retaliation is made against the complainant as a result of the charge.

5. Any disciplinary action shall be in accordance with applicable School of Medicine and Health Science Center policies.

6. The Associate Dean for Student Affairs will meet with the student to explain all findings and recommendations.

7. If the student disagrees with any aspect of the investigation, findings or results, the student may file, in writing, an appeal to the Dean of the School of Medicine. A final written appeal to President of the Health Science Center is available, but only for procedural irregularity.

### Grades, Promotion, and Graduation

The School of Medicine faculty is responsible for determining a student’s fitness to be a doctor of medicine. Committees on promotion for the preclinical and clinical years of the curriculum assess the achievements and progress of each student and make recommendations for promotion, graduation, academic warning, probation, dismissal, or implementation of special academic programs. These recommendations are submitted to the Dean.

The academic standards for successful completion of each course are determined by the department or task force under which the course is administered.

#### Grades

Grading of courses will be based on an A, B, C, F system. Grades of A, B, and C will be considered passing. A grade of A is given for an outstanding performance; B for a very good performance; and C for a satisfactory performance. A grade of F indicates a failing performance. The grade of Incomplete (I) is reserved for those circumstances in which academic work is not attempted or completed due to illness, family emergency, or other non-academic extenuating circumstance. A grade of Incomplete (I) is not acceptable as a temporizing measure in situations of substandard academic performance.

For purposes of Class Rank, each letter grade will also be assigned a point value as follows:

- A = 4 points
- B = 3 points
- C = 2 points
- F = 0 points

No grade of D will be issued.

In those circumstances in which a student will be allowed remediation (as described below), the maximum grade they can receive is a C. The C is the score that will be used for purposes of class rank.

#### Promotion

The standard for receiving either a passing or a failing grade for work done in any course is the prerogative of the Course Director, operating under the auspices of the Department Chairperson, or in the case of interdisciplinary courses, the Task Force Chairperson. Each Course Director will make her/his assessment of student performance independent of considerations of the student’s performance in other courses.

Students must satisfactorily complete all courses in each academic year in order to be promoted to the next year of the curriculum. The Pre-Clinical Promotions Committee will monitor the performance of students in the first and second years of the curriculum. The Clinical Promotions Committee will monitor the performance of those students in the third and fourth years of the curriculum.

Throughout the academic year promotions committees will review grade deficiencies as they are reported. This evaluation will be characterized by a review of a student’s performance in the course in which a deficiency was incurred, from the perspective of the final grade in the course and from review of written assessments of the student’s learning activities throughout the duration of the course. Also, brief written reports from directors of other courses in which the student was (or is) involved may be requested for review by committee members during their assessment of student performance.
Deficiencies

Promotion committees will consider a variety of approaches to deficiency removal. These approaches may include Remediation, Repetition, and/or Dismissal.

Remediation is an academic activity that occurs at the end of an academic year, but before the beginning of the next academic year, for courses in which a deficiency has been received. In those instances where remediation is approved, the nature of the remediation activity will be determined by the committee, taking into consideration recommendations of course directors, an assessment of the student’s overall academic performance, the student’s written request, and other factors as deemed appropriate by the respective promotions committee.

Students who are successful in remediation activities are able to continue with their class into the next curricular year. The highest grade that can be achieved through remediation is a C. Also, students who are remediating deficiencies may not receive concurrent credit for any other curricular activity. Students who are not successful in their attempt to remediate a deficiency will be required to repeat the course in which the deficiency occurred during the next academic year. The promotion committee may also require repetition of other courses that have already been passed.

Repetition refers to a student repeating all or part of a curricular year in which one has incurred deficiencies. The promotion committees, following their review of a student’s academic status, will determine the most appropriate approach to facilitate a student’s acquisition of necessary knowledge. And while a student will repeat the course in which the failing grade has been incurred, the promotion committee may require that a student repeat courses that have already been passed.

Dismissal from the School of Medicine will be warranted in some instances, as outlined below.

Procedure

A student may ask the Promotions Committee to grant him/her an opportunity to remediate grade deficiencies or repeat the academic year. This request must be in writing and it should delineate those factors, both academic and personal that, in the student’s view would justify such action by the promotion committee. The appropriate Promotions Committee may grant such a request if, from their review, such consideration is appropriate to facilitate student learning and progress.

The criteria, as stated below, apply to each year of the School of Medicine curriculum. In addition, no more than two (2) years may be taken to complete any one year of the curriculum. No more than six (6) years may be taken to complete the medical curriculum without permission from the appropriate promotions committee.

1. PRE-CLINICAL PROMOTIONS COMMITTEE PROCEDURES (MS1 and MS2 academic years)
   a. Policy on failure of concurrent courses:
      i. 1 course failed: Remediate at the end of the academic year
      ii. 2 courses failed: Repeat entire academic year
      iii. 3 or more courses failed: Dismissal from the School of Medicine
   b. Policy on failure of a remediation exam:
      i. If a student fails a remediation exam, he/she must repeat the entire academic year.
   c. Policy on failure across academic years:
      i. If a student fails three or more courses in years one and two of medical school, he/she will be dismissed from the School of Medicine. This includes failures for any reason.
   d. The Pre-Clinical Promotions Committee can mandate a Leave of Absence for a student in difficulty, if the committee determines that this is in the student's best interest.
   e. Currently the School of Medicine does not place students on a Probationary Status for academic reasons, but does for professionalism issues only. Student may be placed on a Probationary Status as determined by a majority vote of the Pre-Clinical Promotions Committee.
   f. Process for appeals:
      i. Appeals for grades, or any other reason, will be submitted to the Pre-Clinical Promotions Committee first. If the appeal is not granted then the next course of action is sending the appeal to the Faculty Council for its review. A final review can be made by the President of the Health Science Center, but only for procedural irregularities.
   g. Mandatory meetings with Pre-Clinical Promotions Committee:
      i. The Committee can mandate that a student in difficulty have mandatory meetings with committee members and also with the Office of Academic Enhancement.
   h. Restrictions on activities for students in academic difficulty:
      i. If a student has one or more failures, the Committee can restrict his/her Health Science Center extracurricular activities. Activities include holding a class office, participating in research, participating in intramural sports, becoming a Peer Advisor, and receiving international/service/conference funding until a full academic year of satisfactory performance is completed.
      ii. The range of responses for a professionalism violation is in the Handbook of Operating Procedures (HOP) and in sections IV and V under “Administration of the Code of Professional Conduct for Students” above.

2. CLINICAL PROMOTIONS COMMITTEE PROCEDURES (MS3 and MS4 academic years)
   a. Policy on failure of clerkship exams:
      i. 1 or 2 exams failed: Remediate at the end of the academic year (if no previous courses failed for any reason).
ii. 3 exams failed: Dismissal from the School of Medicine.

b. Policy on failure of clinical portion of clerkship:
   i. Remove student from clerkships and remediate skills. Clinical portion of rotation must be repeated.

c. Policy on Failure across academic years:
   i. If a student fails 3 or more clerkships/courses in years three or four, or a total of four courses/clinical clerkships over all four years of medical school, he/she will be dismissed from the School of Medicine. This includes failures for any reason.

d. Students failing MS3 or MS4 years due to professionalism:
   i. A student may be removed from the current clerkship and may remediate the failed rotation at the discretion of the Clinical Promotions Committee. The student may be placed on a Probationary Status as determined by a majority vote of the Clinical Promotions Committee. The range of responses for a professionalism violation is in the HOP and in sections IV and V under "Administration of the Code of Professional Conduct for Students" above.

e. The Clinical Promotions Committee can mandate a Leave of Absence for a student in difficulty, if the committee determines that this is in the student’s best interest.

f. Currently the School of Medicine does not place students on a Probationary Status for academic reasons, only professionalism issues. A student may be placed on a Probationary Status as determined by a majority vote of the Pre-Clinical Promotions Committee.

g. Process for appeals:
   i. Appeals for grades, or any other reason, will be submitted to the Clinical Promotions Committee first. If the appeal is not granted, then the next course of action is sending the appeal to the Faculty Council for their review. A final review can be made by the President of the Health Science Center, but only for procedural irregularities.

h. Mandatory meetings with Clinical Promotions Committee:
   i. The Committee can mandate that a student in difficulty have mandatory meetings with committee members and also with the Office of Academic Enhancement.

i. Restrictions on Activities for Students in Academic Difficulty:
   i. If a student has one or more failures the Committee can restrict her/his Health Science Center extracurricular activities. Activities include holding a class office, participating in research, participating in intramural sports, and receiving international/service/conference funding until a full academic year of satisfactory performance is completed.

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**Academic Dismissal**

Dismissal from the School of Medicine for academic reasons will be considered for:

1. Students who are unable to meet the standards for promotion to a given academic year or the standards for eligibility for graduation after one additional year during which courses were repeated in an effort to meet those standards;

2. Students who would require repetition of courses or rotations after they have previously used a total of two additional years in order to meet the standards for promotion in previous academic years;

3. Students who receive a grade of F in a course or rotation being repeated.

Students who are unable to achieve a passing score on Step I of the USMLE examination within three attempts.

Dismissal for academic reasons will be subject to review by the appropriate promotions committee. The recommendations of the promotions committees are to the Dean. The students may appeal the recommendations of the promotions committee and the decision of the Dean to the Faculty Council. The decision of the Faculty Council is final with regard to academic matters. The student may further appeal to the President of the Health Science Center, but only on issues of procedural irregularity.

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**Guidelines for Clinical Activities by Medical Students**

Medical students rotate in the clinical setting to learn all aspects of patient care to include the following: obtaining patient histories, performing thorough physical examinations, formulating differential diagnoses, learning to make decisions based on appropriate laboratory and radiological studies and procedures, interpreting results of special studies and treatment, communicating with patients on all aspects of disease and prognosis and communicating with members of the health care team.

To this end, the medical student may participate in activities which include the following:

- Access to patients for obtaining a medical history, performing a physical exam, and following the inpatient and/or outpatient course.
- Access to the patient’s entire medical record, including laboratory reports, x-ray reports, etc.
- Performance of appropriately supervised procedures as authorized by the patient’s attending physician. For procedures such as venipuncture that the student has been trained for and declared competent in, the student may perform independent of direct supervision.
- Performance of basic laboratory studies such as urinalysis, under appropriate supervision and review.
• When the student is clinically prepared, writing orders for specified patients. All of the orders written by a medical student must be reviewed and countersigned by the responsible resident or attending physician before forwarding to the nursing service.

• Writing patient progress notes in the medical chart; these must be reviewed and countersigned by the responsible resident or attending physician.
  1. Medical students CANNOT write orders independently, without review and counter-signature by the responsible resident.
  2. Medical students CANNOT give verbal orders.
  3. Medical students CANNOT be in the primary line of communications in the critical value reporting process.
  4. Medical students CANNOT have primary responsibility for communication of vital patient-related information to the patient or family members.

Medical Student Duty Hours Policy

Duty Hours Policy for MS 3 and MS 4 Students
1. Students will have a limit of 80 duty hours per week, with in-hospital hours during call from home counted.
2. In recognition that many rotations end on a Friday and there is a weekend off between rotations, the following are minimum days off on rotations, with the distribution of the scheduled days off at the discretion of the clerkship director:
   • 1 day off on a 2-week rotation
   • 2 days off on a 3-week rotation
   • 3 days off on a 4-week rotation
   • 5 days off on a 6-week rotation
   • 11 days off on a 12-week rotation
   • a day off is one full (24-hour) day
   • a day absent counts as a day off
3. Call will be scheduled no more than every third night.
4. There is a limit of 30 hours on continuous duty.
5. There must be a 10-hour minimum rest between duty periods (this does not apply to night or weekend call).
6. Students will be educated about fatigue and fatigue management.
7. Students may report duty hour violations to the 24/7/365 hour hotline: 1-800-500-0333. (You will not be required to identify yourself; all calls are treated confidentially.)
8. Clerkship directors and departmental fourth-year rotation directors are responsible for the enforcement of this policy.

This policy was adopted by the Curriculum Committee August 2007.

United States Medical Licensing Examination (USMLE)

Medical students must pass the Step I examination of the [United States Medical Licensing Examination (USMLE)](http://www.vespa.edu) in order to be promoted into the Senior year. All students must have taken the Step I examination in order to begin the clinical clerkships of the Junior year. Those who are unsuccessful will be allowed to complete the Junior Clerkships. Those students will not be allowed, however, to begin either Senior Electives or Senior Selectives until they have again sat for that examination. Three (3) failures of the Step I examination of USMLE will result in dismissal from the [School of Medicine](http://www.vespa.edu). Medical students must take the Step II CK and Step II CS examinations of the [USMLE](http://www.vespa.edu), both clinical knowledge and clinical skills, in order to qualify for graduation from the School of Medicine. The Step III examination will be taken following medical school graduation at a time determined by a state board of medical examiners.

Policy on Failure of USMLE Step Exams

a. **Step 1 Failure**
   i. A student may have a maximum of 3 attempts to pass this exam. If he/she does not pass in 3 attempts then it is an automatic dismissal from the School of Medicine.
   ii. Student must meet with the Associate Deans of Academic Affairs and Student Affairs.

b. **Step 2 CK Failure**
   i. A student may have a maximum of 3 attempts to pass this exam. If he/she does not pass in 3 attempts then it is an automatic dismissal from the School of Medicine.
   ii. Student must meet with the Associate Deans of Academic Affairs and Student Affairs.
   iii. Student must also meet with the Clinical Promotions Committee and the Office of Academic Enhancement.

c. **Step 2 CS Failure**
   i. Student must meet with the Associate Deans of Academic Affairs and Student Affairs.
   ii. Student must also meet with the Clinical Promotions Committee and the Clinical Skills Center.

Graduation

The degree of Doctor of Medicine is awarded by the [Board of Regents](http://www.vespa.edu) upon the student’s successful completion of the prescribed curriculum, recommendation of the Faculty of Medicine to the Dean, and certification by the Dean to the President. Candidates must:

1. be at least 18 years of age at the time the degree is awarded,
2. present evidence of good moral character,
3. offer evidence of having satisfactorily fulfilled all academic requirements of the medical curriculum, and
4. comply with all necessary legal and financial requirements.
Degrees will be conferred once a year on Commencement Day in the spring. Students who complete requirements for a degree earlier in the year will be conferred the degree on the following Commencement Day, but may request the Registrar to provide a Certification of Completion on the date of graduation.

**Dual Degree Programs**

Dual degree programs of study provide a mechanism for a medical student to obtain an MPH or Ph.D. degree in addition to an M.D. degree at the UT Health Science Center at San Antonio. The purpose of these programs is to offer students the opportunity to become trained as clinical scientists who have not only depth of knowledge in clinical medicine but also experience in research planning and execution.

**MD/PhD**

The MD/PhD program expects students who are pursuing the dual degrees to maintain standards of academic excellence, to progress in a timely fashion toward both the MD and PhD degrees, and to maintain professionalism. The MD/PhD Program Advisory Committee therefore stipulates the following academic requirements. Failure to meet these requirements will result in dismissal from the dual degree program. The student's standing with respect to either the School of Medicine or the Graduate School of Biomedical Sciences is a separate matter to be pursued through the appropriate dean's office.

1. While enrolled for the MD degree, students are required to maintain a minimum yearly grade point average (GPA) of 3.25 and successfully complete two research rotations. In addition, dual degree students are required to pass the USMLE step 1 exam on the first attempt.

2. While enrolled as PhD students, dual degree students are required to maintain a GPA of 3.25 for each semester they are enrolled in graduate school. MD/PhD students must have a cumulative GPA of 3.25 to be eligible to take the advancement to candidacy examination, prior to establishing the formal dissertation supervising committee.

3. Attendance at the monthly Bench-to-Bedside series and the annual retreat is required of all students throughout both the MD and PhD components of the program.

4. During the graduate phase of their training, MD/PhD students are required to demonstrate adequate progress toward completion of their dissertation research projects. This documentation must be provided every six months, in the form of written evaluations by their dissertation research supervising committees, as well as any other written evaluative material that the respective track and program COGS may wish to provide.

5. The MD/PhD Program Promotions Board provides a mechanism for review of student progress and enforcement of these policies. The Promotions Board is empowered to review academic and research performance in accordance with the minimum requirements stipulated above and to make recommendations regarding MD/PhD program retention or dismissal of students based upon its evaluation of their academic progress and status.

6. MD/PhD students shall have the right to appeal a decision of dismissal from the program. The appeal will be heard by the MD/PhD Program Advisory Committee. The student may further appeal to the President of the Health Science Center, but only on issues of procedural irregularity.

**MD/MPH**

This program allows for students to accomplish the Doctor of Medicine (MD) and Masters of Public Health (MPH) in four years; however, students may decide to take 5 years to complete both degrees. Candidates must first be accepted to the School of Medicine in San Antonio and then apply to the School of Public Health at the UT Health Science Center Houston. If accepted into the dual degree program, students will begin coursework for the MPH with online courses in the summer before starting medical school. The MPH requires completion of 46 credit hours, some of which will be shared with the School of Medicine credit hours.

**M.D. with Distinction Degrees**

**M.D. with Distinction in Research**

The MD with Distinction in Research Program provides medical students with an opportunity to spend part of their medical school career doing sustained work in basic, clinical, translational, or social sciences. This program will be very helpful to students in shaping their career goals and building an academic track record that will be viewed favorably by residency selection committees. Students apply for acceptance into the MD with Distinction in Research Program in the spring of their first year of medical school. The application includes a description of the research project, a timeline for completing the project, and a mentoring plan written by the faculty mentor. Students must commit a minimum of four months during medical school to the program, beginning with eight weeks in the summer between first and second year. The additional time will be completed in the third and fourth years in research elective blocks or depending on the research project, during free time (holidays, evenings, and weekends) in addition to other academic activities.

**M.D. Degree with Distinction in Medical Education**

The MD with Distinction in Medical Education Program provides medical students with an opportunity to spend part of their medical school career participating in activities focused on different components of teaching and educational research. The application for the MD with Distinction in Medical Education Program will have a final due date at the start of the student's second year spring semester (third Friday in January). In order to be accepted to the MD with Distinction in Medical Education Program, students must have minimum 3.25 GPA, and will have to maintain a minimum GPA of 3.25 to remain in the program. With the assistance of the mentor and advisory committee, the students will be asked to complete a
project designed to increase the teaching effectiveness of a particular area within a course. It will be the responsibility of the student and their mentor and advisory committee to develop an educational research project (e.g.: new syllabus, online instruction, curriculum development, etc.) and evaluate the effectiveness of the program.

**Student Governance**

Class officers are responsible for the management of class activities and are the official representatives of their class in interaction with the administration of the School of Medicine and the Health Science Center. In addition to the usual slate of officers, two students from each class are elected as representatives to the Student Government Association.

Some classes choose to elect a social secretary, and both the first- and second-year classes select liaison persons for interaction with the various course directors.

Elections are held in the spring to choose officers and representatives for the next academic year. In the case of the freshman class, elections occur in October. Elections are supervised by the Office of the Associate Dean for Student Affairs.

Committees of the Health Science Center and the School of Medicine (both standing and ad hoc) have student representation. Appointments to School of Medicine committees are made by the Associate Deans and those to Health Science Center committees by the Vice President for Academic Administration upon recommendation of the Associate Dean for Student Affairs. The following committees have student representation:

**Committees**

**School of Medicine Committees**

- Admissions
- Curriculum
- Student Affairs Advisory Committee

**Health Science Center Committees**

- Arts and Exhibitions
- Educational Media Resources and Instrumentation Advisory
- Infection Policy and Education
- Library
- Parking & Traffic Safety
- Student Health Advisory
- Student Governance Association
- Recreational Facilities

**Organization of Student Representatives**

The Organization of Student Representatives (OSR) is the organizational entity of the Association of American Medical Colleges (AAMC) which deals specifically with medical student issues. This is a national organization that addresses issues common to students from all medical schools. Individual input from each school is through the class representative to the OSR. That representative is selected through the Office of the Associate Dean for Student Affairs. The selection of each class representative will occur during the second semester of the freshman year. Each representative serves through the senior year.

**Honors**

Fifteen percent of the total number of candidates for the degree Doctor of Medicine may be elected to Alpha Omega Alpha (AOA) per year, the national honor society for medical students. AOA is a national society organized for the promotion of scholarship and research in medical schools, the encouragement of high standards of character and conduct among medical students and graduates, and the recognition of high attainment in medical science practice and related fields by alumni and faculty. Election is based upon academic excellence as well as activities and achievements that promote the values of AOA. Students may be chosen in the junior or senior year.

The Gold Humanism Honor Society (GHHS) is a national recognition activity which is sponsored by the Arnold P. Gold Foundation. The aim of the Society is to identify those students who best illustrate and manifest humanism in their interaction with patients, peers, faculty, and community. Elected students participate in a community service project that is formulated by the group. Election is limited to no more than twenty-five (25) students from the graduating class.

**Medical Student Organizations**

Medical Student Organizations are managed by the Office of Student Affairs and the Office of Student Life. Contact the Office of Student Life for more information on the organizations below.

**School of Medicine Special Interest Groups**

- American Geriatrics Interest Group
- Dermatology Interest Group
- Emergency Medicine Student Association
- Family Medicine Interest Group
- Internal Medicine Student Interest Group
- Ob/Gyn Interest Group
- Pediatric Interest Group
- Preventive Medicine Interest Group
- Radiology Interest Group
- Rockwood Orthopaedic Society
- Student Anesthesiology Club
- Student Ophthalmology Group
- Student Otolaryngology Society
- Student Surgical Society
- Psychiatry Interest Group

**Other Clubs and Organizations**

- American Medical Association
- American Medical Student Organization
- American Medical Women’s Association
- Armed Forces Student Medical Group
Because of the intensity of the medical curriculum, students are encouraged not to seek outside employment during the academic year. Students who feel employment is essential are advised to consult with the Associate Dean for Student Affairs before accepting employment offers. Some opportunities for employment are available in the School of Medicine for students. This is for students in good academic standing and consists of tutoring through the Office of Academic Enhancement.

### Required Attire

During the first two years of medical school, students spend most of their time in lectures, laboratories, or other activities that do not involve contact with patients. At such times, students are expected to dress comfortably, but in such a way that does not detract from attentiveness and learning. When patient contact is part of the curriculum, either through direct contact or with patients being brought to a lecture room, students are expected to make a professional appearance and to wear the white clinic jacket with school logo and the required student I.D. Course directors should be consulted about proper attire in specific circumstances.

In the clinical years (junior and senior), students are expected to dress as health care professionals and to wear both the white jacket with school logo and the required student I.D. Again, clerkship directors or supervisors of electives/selectives should be consulted if there is a question about appropriate attire.

### Qualifying Examinations

Students may be exempted from participation in one or more preclinical curricular subjects if they are able to demonstrate proficiency on pre-course qualifying examinations. These examinations are offered at the discretion of the departmental chairmen and are given soon before the beginning of each course.

### Advanced Education Programs

A degree with distinction is available to students who accomplish specific requirements and sustained work in basic, clinical, translational, or social sciences, in addition to the required medical school curriculum. Detailed information is available at [http://som.uthscsa.edu/research/students.asp](http://som.uthscsa.edu/research/students.asp). Students apply for this program in the spring semester of their first year of medical school.

### Course Numbering System

The four-letter prefix denotes the department presenting the course; the INTD prefix is used for interdisciplinary courses. The first digit of the number indicates the academic level at which the course is usually taken (1=freshman, 2=sophomore, 3=junior, 4=senior). Other digits indicate the semester credit hour values and identify the course.

### School of Medicine Curricular Design

#### Course Descriptions

#### First Year

The curriculum of the first year of medical school concentrates on the normal function and structure of the human body. Courses are organized into organ system modules so that material is coordinated and integrated. Application of material to the practice of medicine is illustrated by a series of clinical cases. Students also must learn the basics of patient communication, physical examination skills, and ethical principles of becoming a physician. The following is a list of the required courses:

- Biochemistry
- Gross Anatomy & Embryology
- Microbiology
- Microscopic Anatomy
- Neuroscience
- On Becoming a Doctor—Foundations
- Physiology

**First Year – Required Courses**

- BIOC 1005 - Medical Biochemistry
Third Year – Courses

Preclinical Didactics

The first two weeks of the Third Year are devoted to the Clinical Foundations Course.

- INTD 3030 - Clinical Foundations

Clerkships

- FAPR 3005 - Family Medicine Clerkship
- MEDI 3105 - Medicine Clerkship
- OBGY 3005 - Obstetrics and Gynecology Clerkship
- PEDI 3005 - Pediatric Clerkship
- PSYC 3005 - Psychiatry Clerkship
- SURG 3005 - Surgery Clerkship

Fourth Year

The fourth year is composed of four-week periods (rotations) which are devoted to required selectives and electives, and a five-week period of required didactic courses. Remaining time may be used for optional travel/vacation periods.

- Electives - 18 weeks
- Required Didactic Period
  - Mandatory Didactic Courses:
    - Advanced Cardiac Life Support
    - Clinical Pathology
    - Medical Jurisprudence
    - On Becoming a Doctor
    - Palliative Care
  - Elective Didactic Courses (students must choose three)
- Required Selectives - 8 weeks
- Vacation/Travel Periods - 10 weeks

Fourth Year – Courses

The fourth year of medical school is devoted to required didactics, required selectives, and electives. Didactics require 5 weeks; required selectives are 8 weeks; electives require 18 weeks. Ten weeks (optional) may be used for vacation or travel, making the senior year 41 weeks in length.

Required Didactic Courses

All of the courses below are included in the required didactic periods.

Mandatory Didactic Courses

- EMST 4100 - Advanced Cardiac Life Support
- PATH 4290 - Clinically Applied Laboratory Medicine (CALM)
- INTD 4105 - Medical Jurisprudence
- INTD 4106 - On Becoming a Doctor
- MEDI 4115 - Palliative Care

Fourth Year – Selectives

Students are required to take a four-week selective in ambulatory care and a four-week selective in patient care.
Rotations that satisfy the selective requirement can be found in the Senior Academic Year Catalog at http://som.uthscsa.edu under “Education, Academic Affairs.”

Senior Electives

Eighteen weeks of the senior year are devoted to course work chosen by the student. Electives may be chosen from those approved by the Curriculum Review Committee and published each year in “Enrichment Electives.” The courses offered vary according to student demand, faculty capabilities, and time availability.

Some courses are full-time rotations while others are part-time. Students must register for at least 35 hours per week of course work. Each four-week period of elective work earns 4 semester hours of academic credit.

As an illustration of the kinds of courses that may be offered, titles of electives available in 2011–2012 are listed below.

Senior Electives

Academic Enhancement
ELEC 5006 - Beginning Medical Spanish
ELEC 5106 - Intermediate Medical Spanish
ELEC 5206 - Advanced Medical Spanish

Anesthesiology
ANES 4001 - Clinical Anesthesia – UH
ANES 4002 - Critical Care Anesthesia* 
ANES 4003 - Anesthesiology Research
ANES 4004 - Obstetrical Anesthesiology
ANES 4005 - Pain Management*
*Selective

Biochemistry
BIOC 4001 - Biochemistry Research
(See current Electives brochure for areas of research.)

Cardio Thoracic Surgery
CTSR 4008
CTSR 4050

Cellular and Structural Biology
CSBL 4023 - Advanced Anatomy of the Head & Neck (with Dental course)
CSBL 4015 - Advanced Anatomy of the Trunk (with Dental course)
CSBL 4017 - Advanced Neuroanatomy
CSBL 4001 - Anatomy of the Newborn
CSBL 4024 - History of Anatomy In Situ: The Reawakening and Development of Anatomy in 14th–18th Century Italy
CSBL 4002 - Regional Anatomy
CSBL 4004 - Selected Research Project

CSBL 4005 - Advanced Anatomy

Electives

ELEC 5048 - Enrichment Elective in Art

Emergency Medicine

EMST 4010 - Introduction to Emergency Medical Services – Ambulance

Family and Community Medicine

FAPR 4000 - Special Topics
FAPR 4008 - Research in Family Medicine
FAPR 4011 - Community Geriatrics*
FAPR 4012 - Subinternship in Family Medicine In-Patient Services (San Antonio or RAHC)*
FAPR 4018 - Office Procedures
FAPR 4020 - Family Medicine Preceptorship with Clinical Faculty*
FAPR 4022 - Spanish-Speaking Preceptorship with Clinical Faculty
FAPR 4074 - Rural Clinic Experience in Family Medicine (AHEC)
FAPR 4205 - Medicine and the Environment-Longitudinal Elective
FAPR 7000 - Off-Campus Rotation in Family Medicine
FAPR 7004 - Family Medicine Preceptorship – External (in Texas)
FAPR 7005 - Preceptorship in International Health
FAPR 7008 - Environmental/Border Health: South Texas Environmental Education and Research (Steer) Program
FAPR 7010 - Public Health at the U.S.-Mexico Border: South Texas Environmental Education & Research (Steer) Program
*Selective

Humanities & Ethics

ELEC 5038 - Literature and Medicine I
ELEC 5039 - Literature and Medicine II

Interdisciplinary

INTD 4007 - Interprofessional Community Service Learning
INTD 4015 - Humanism in Medicine Fellowship
INTD 4048 - Art Rounds
INTD 4103 - Communication Skills

Medicine

MEDI 4074 - AHEC Clinic Experience*
MEDI 4062 - Allergy-Immunology Clinic and Consultation Service – WHMC
MEDI 4082 - Cardiology Consultation – WHMC
MEDI 4007 - Cardiology Care Unit - Subinternship – BAMC
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MEDI 4005</td>
<td>Cardiology Intensive Care Unit/Ward Subinternship – WHMC</td>
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<td>MEDI 4004</td>
<td>Cardiovascular Research</td>
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<td>MEDI 4002</td>
<td>Clinical Cardiology</td>
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<td>MEDI 4043</td>
<td>Clinical Chest Disease Consultation Service</td>
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<td>Clinical Dermatology</td>
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<td>Clinical Infectious Disease</td>
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<td>MEDI 4025</td>
<td>Clinical Nephrology</td>
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<td>MEDI 4079</td>
<td>Clinical Preceptorship in General Internal Medicine*</td>
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<td>MEDI 4042</td>
<td>Coronary Intensive Care Unit-Subinternship – UH</td>
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<td>MEDI 4006</td>
<td>Coronary Care Unit-Subinternship – ALMVAH</td>
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<td>MEDI 4077</td>
<td>EKG Interpretation</td>
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<td>MEDI 7003</td>
<td>Elective in International Medicine</td>
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<td>MEDI 4201</td>
<td>Electrocardiogram Interpretation – RAHC</td>
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<td>MEDI 4202</td>
<td>Emergency Department – RAHC</td>
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<td>MEDI 4016</td>
<td>Gastroenterology – WHMC</td>
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<td>MEDI 4017</td>
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<td>MEDI 4014</td>
<td>Gastrointestinal Research</td>
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<td>MEDI 4061</td>
<td>General Internal Medicine Ward Subinternship – WHMC</td>
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<td>MEDI 4046</td>
<td>General Medicine Ward Subinternship – UH/VA*</td>
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<td>MEDI 4047</td>
<td>General Medicine Ward Subinternship – BAMC*</td>
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<td>MEDI 4024</td>
<td>Geriatrics/End-of-Life Rotation – RAHC</td>
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<td>MEDI 4068</td>
<td>Geriatric Medicine</td>
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<td>MEDI 4078</td>
<td>HIV/AIDS Inpatient Service</td>
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<td>MEDI 4170</td>
<td>Internal Medicine Internship Readiness Elective</td>
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<td>MEDI 7004</td>
<td>Literature and Medicine</td>
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<td>MEDI 4065</td>
<td>Medical Ethics for the Clinician</td>
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<td>MEDI 4066</td>
<td>Medical ICU Subinternship – UH/VA*</td>
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<td>MEDI 4048</td>
<td>Medical ICU Subinternship – BAMC*</td>
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<td>MEDI 4060</td>
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<td>MEDI 4026</td>
<td>Nephrology Service – BAMC</td>
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<td>MEDI 4029</td>
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<td>Neurology Subinternship – UH/VA</td>
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<td>Office Cardiology – RAHC</td>
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<td>Office Endocrinology – RAHC</td>
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<td>MEDI 4208</td>
<td>Office Gastroenterology – RAHC</td>
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<td>MEDI 4210</td>
<td>Office General Medicine – RAHC</td>
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<td>MEDI 4216</td>
<td>Office Hematology-Oncology – RAHC</td>
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<td>MEDI 4211</td>
<td>Office Nephrology – RAHC</td>
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<td>MEDI 4213</td>
<td>Office Pulmonary Medicine – RAHC</td>
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<td>MEDI 4214</td>
<td>Office Rheumatology – RAHC</td>
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<td>MEDI 4034</td>
<td>Oncology Consultation Service</td>
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<td>MEDI 7002</td>
<td>Selective Preceptorship in Indian Health Care</td>
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<td>MEDI 4044</td>
<td>Pulmonary Disease – WHMC</td>
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<td>MEDI 4028</td>
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<td>MEDI 4069</td>
<td>Research in Aging</td>
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<td>Research in Calcium and Bone Metabolism</td>
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<td>MEDI 4032</td>
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<td>Rheumatology – WHMC</td>
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<td>MEDI 4215</td>
<td>Valley Aids Council – RAHC*</td>
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<td>MEDI 4063</td>
<td>Hematology/Oncology Consultation – Wilford Hall</td>
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**Microbiology**

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<tr>
<td>MICR 4001</td>
<td>Basic Aspects of Immunology and Microbial Infections</td>
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<td>MICR 4002</td>
<td>Advanced Medical Microbiology</td>
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**Obstetrics and Gynecology**

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<td>OBGY 4011</td>
<td>Clinical Obstetrics &amp; Gynecology – RAHC*</td>
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<td>OBGY 4001</td>
<td>Obstetrical Externship</td>
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<td>OBGY 4007</td>
<td>Obstetrics and Gynecologic Research</td>
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<td>OBGY 4008</td>
<td>Women’s Reproductive Health and Gynecologic Surgery</td>
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<td>OBGY 4012</td>
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**Ophthalmology**

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<tr>
<td>OPHT 4001</td>
<td>Clinical Ophthalmology</td>
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<tr>
<td>OPHT 4201</td>
<td>Clinical Ophthalmology-RAHC</td>
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<tr>
<td>OPHT 4003</td>
<td>Research In Clinical Ophthalmology</td>
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<tr>
<td>OPHT 4006</td>
<td>Ophthalmic Research’</td>
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<tr>
<td>OPHT 4024</td>
<td>MSIV Tutoring Elective – Longitudinal Rotation</td>
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</tbody>
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**Orthopaedics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ORTO 4006</td>
<td>Adult Reconstruction Surgery*</td>
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<tr>
<td>ORTO 4003</td>
<td>Hand Surgery</td>
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<tr>
<td>ORTO 4012</td>
<td>Musculoskeletal Oncology</td>
</tr>
<tr>
<td>ORTO 4008</td>
<td>Pediatric Surgery – SRCH/UH</td>
</tr>
</tbody>
</table>
ORTO 7001 - Preceptorship
ORTO 4014 - Primary Care (Outpatient Orthopaedics)*
ORTO 4009 - Research
ORTO 4002 - Selective In Orthopaedics – WHMC
ORTO 4011 - Sports Medicine
ORTO 4005 - Trauma, Fracture and Clinical Care*

Selective

Otolaryngology

OTOL 7000 - Off Campus
OTOL 4001 - Otolaryngology-Head and Neck Surgery*
OTOL 4002 - Otorhinolaryngology Research
OTOL 4000 - Special Topics

*Selective

Pathology

PATH 4004 - Anatomic Pathology
PATH 4012 - Anatomic Pathology: Fine Needle Aspiration
PATH 4002 - Blood Banking
PATH 4001 - Hematology – UH
PATH 4003 - Hematology/Blood Banking
PATH 4007 - Research In Pathology
PATH 4015 - Forensic Pathology

Pediatrics

PEDI 4074 - AHEC Clinic Experience
PEDI 4003 - Clinical Preceptorship in Ambulatory Pediatrics*
PEDI 4425 - Community for Children – At the Border and Beyond
PEDI 4201 - Community Pediatrics – RAHC*
PEDI 4205 - Evidence-Based Pediatrics – RAHC
PEDI 4207 - Neonatology – RAHC*
PEDI 4022 - Neonatal Research
PEDI 4023 - Neonatal Intensive Care Externship – UH/NICU*
PEDI 4006 - Pediatric Cardiology*
PEDI 4206 - Pediatric Cardiology – RAHC*
PEDI 4036 - Pediatric Critical Care Externship – UH*
PEDI 4037 - Pediatric Critical Care Externship – CSRCH*
PEDI 7002 - Pediatric Developmental Disabilities
PEDI 4020 - Pediatric Endocrinology*
PEDI 4209 - Pediatric Gastroenterology – RAHC*
PEDI 4009 - Pediatric Gastroenterology/Nutrition*
PEDI 4027 - Pediatric Genetics*
PEDI 4013 - Pediatric Hematology/Oncology #1
PEDI 4015 - Pediatric Hematology/Oncology #2
PEDI 4016 - Pediatric Allergy, Immunology, and Infectious Diseases
PEDI 4210 - Pediatric Inpatient Service – RAHC (Valley Baptist Medical Center-Harlingen)*

Selective

Pharmacology

PHAR 4003 - Clinical Pharmacology

Physiology

PHYL 4016 - Ion Channel Research in Excitable and Non-Excitable Cells
PHYL 4012 - Research in the Endocrinology of Aging

Psychiatry

PSYC 4023 - Child and Adolescent Psychiatry
PSYC 4008 - Clinical Biological Psychiatric Research
PSYC 4001 - Clinical Psychiatry – HSC and RAHC*
PSYC 4020 - Consultation-Liaison Service
PSYC 4015 - Neuropsychiatry – VA Hospital
PSYC 4019 - Psychiatric Emergency Service (PES)*

*Selective

Radiation Oncology

RADO 4003 - Radiation Oncology

Radiology

RADI 4004 - Diagnostic Radiology Clerkship – WHMC
RADI 4001 - General Diagnostic Radiology
RADI 4202 - General Diagnostic Radiology – RAHC
RADI 4006 - Pediatric Radiology
RADI 4005 - Diagnostic Radiology – BAMC
RADI 4007 - Review of Radiology for the Intern

Rehabilitation Medicine

REHB 4001 - Clinical Rehabilitation Medicine (Outpatient and Consultative)
REHB 4005 - Combined Rehabilitation: Clinical Rehabilitation Medicine, Introduction to Inpatient Rehabilitation, Introduction to Pediatric Rehabilitation, and Introduction to Spinal Cord Injury Rehabilitation
REHB 4007 - Hyperbaric Medicine and Wound Care
REHB 4002 - Introduction to Inpatient Rehabilitation
REHB 4003 - Introduction to Pediatric Rehabilitation
REHB 4008 - Rehabilitation Engineering
REHB 4006 - Introduction to Spinal Cord Injury
Surgery

SURG 4201 - General Surgery – Harlingen*
SURG 4202 - Clinical Anesthesiology – Harlingen*
SURG 4005 - Emergency Medicine*
SURG 4042 - General Surgery A*
SURG 4043 - General Surgery B*
SURG 4044 - General Surgery – VA*
SURG 4007 - General Surgery – BAMC/Burn Unit*
SURG 4010 - Neurosurgery*
SURG 4012 - Oral Maxillofacial Surgery*
SURG 4037 - Pediatric Surgery*
SURG 4026 - Plastic Surgery*
SURG 4038 - Rural Surgery*
SURG 4044 - Supervised Basic Science Research*
SURG 4006 - Supervised Clinical Science Research*
SURG 4040 - Surgical Critical Care*
SURG 4049 - Surgical Internship Readiness Elective*
SURG 4002 - Surgical Oncology*
SURG 4031 - Transplant Surgery*
SURG 4047 - Trauma/Emergency Surgery*
SURG 4048 - Vascular Surgery – UH/VA*

Urology

UROL 4027 - Urology*
UROL 7000 - Urology Off Campus
*Selective

School of Medicine Course Descriptions

Anesthesiology

ANES 4001  Clinical Anesthesia – UH
Students are required to participate in Anesthesiology at one of the general hospitals affiliated with the Health Science Center with supervised, graded responsibility for anesthetic management during all phases of the peri-operative period. Objectives are to develop skills for physical assessment, choice of anesthetic management, administration of anesthesia, airway maintenance, and basic life support of the anesthetized patient.
Semester Credit Hours: 4.0

ANES 4002  Critical Care Anesthesia*
Students are required to participate in the adult surgical intensive care unit at Audie Murphy VA Hospital. Emphasis will be placed on the diagnosis and treatment of all aspects of acute respiratory failure, especially that occurring in the postoperative state, including post-cardiac surgery. The principles of pulmonary, renal, cardiac, and nutritional support will be discussed. The ethics of life support are also discussed.
Semester Credit Hours: 4.0

ANES 4003  Anesthesiology Research
Research experiences are in either the clinical or basic sciences. Clinical research includes developing an understanding of clinical study design, procedures involved in the clinical study and data analysis. Studies are carried out largely in the operating room environment. Basic research can include studies of vascular control, studies on anesthetic agent interactions with the central nervous and cardiovascular systems, CNS ischemic or traumatic injury, and electrophysiologic monitoring and drug kinetics across the human maternal/fetal placental barrier.
Semester Credit Hours: 4.0

ANES 4004  Obstetrical Anesthesiology
Participation in Obstetric Anesthesiology at University Hospital, teaching will emphasize practical care with the student taking an active part in the monitoring of and assisting in the anesthetic care of healthy or complicated women in labor, as well as those undergoing cesarean section. Students will have the opportunity to perform intubations, epidurals, and spinals. Management of GYN outpatient anesthesia will also be included. Emergency resuscitation for hypotension, convulsions, aspiration, and respiratory cardiac arrest may be reviewed as well as prophylactic measures for the prevention of these conditions.
Semester Credit Hours: 4.0

ANES 4005  Pain Management
Students participate in the University Center for Pain Medicine at University Hospital. Students participate in the management of chronic pain patients using a multi-disciplinary approach. Students will be exposed to areas of pain management that include operative vs. non-operative options for chronic pain patients and physical therapy and mobilization techniques. Student’s responsibilities include evaluating new patient with a focused and detailed physical exam, seeing follow up patients for medication management, and managing patient pre-, during, and post procedures. The student is required to become proficient in accurately evaluating back pain, neuropathies, radiculopathies, and pain diseases including regional complex pain syndromes. This rotation is designed for any student; especially those interested in primary care, anesthesiology, orthopedics, neurology, neurosurgery, or has in interest in learning how to deal with patients with chronic pain.
Semester Credit Hours: 4.0

Biochemistry

BIOC 1005  Medical Biochemistry
This course is designed for medical students and may be taken for Graduate School student credit only under unusual circumstances. Topics included are the chemistry and metabolism of carbohydrates, lipids, amino acids, proteins and nucleic acids.
Semester Credit Hours: 5.0
Prerequisites: general chemistry, organic chemistry, and physics
Cellular and Structural Biology

CSBL 1005  Histology
Medical Histology is a required, lecture-based course for first-year medical students. The course consists of lectures and teaching laboratories that cover the microscopic anatomy of the human body from cell biology to histology at the light microscopic level. Histology topics are correlated with their concurrent study of human embryology, human gross anatomy, and human physiology. Teaching laboratories follow each of the major lectures and consist of staff-supervised sessions utilizing Virtual Microscopy for Health Professionals (VMHP) as well as supplemental audiovisual materials. VMHP is a set of digitized color images of normal and pathological human tissue specimens. The images are constructed as a near-seamless montage of images encompassing a complete tissue or organ specimen. VMHP is provided on an external hard drive in both PC- and Mac-compatible formats and can be used on any computer both on and off campus. Students will be able to explore the tissue specimen within x-y (across the tissue section) as well as x-y-z (across the tissue section + through 2-3 different magnifications) planes exactly as they would utilize a traditional light microscope and glass specimen slides. Using the capture-screen image feature of VMHP, students are required to complete an images portfolio by the end of the semester. Medical Histology is designed to develop in students a solid foundation of knowledge of normal microscopic structure and function in preparation for their subsequent study of abnormal structure and function related to human disease during the second year of the medical curriculum. The $48 microscope fee for the Freshman year includes this course. The $32 laboratory fee for the Freshman year includes this course. Semester Credit Hours: 4.5
Offered By: Department of Cellular & Structural Biology

CSBL 1010  Gross Anatomy and Embryology
Lectures, conferences, and laboratory work cover normal human developmental and gross anatomy. Lectures on the development of the systems are correlated with the presentation and dissection of the gross structure of the adult. Groups of four students dissect a cadaver under the supervision of the departmental staff. Prosections, demonstration specimens, X-rays, films, and other learning aids supplement the laboratory work. Applied anatomy and malformations are discussed by clinical specialists. Human materials fee: $500. Laboratory fee: $30
Semester Credit Hours: 7.5
Offered By: Department of Cellular & Structural Biology

Emergency Medical Technology

EMST 4100  Advanced Cardiac Life Support
The focus of this course is the initial management of the cardiopulmonary-arrest patient including advanced airway management techniques, cardiovascular pharmacology, defibrillation, and arrhythmia analysis. The student must review the current AHA ACLS text prior to class. Successful completion results in an ACLS Provider Course Completion Card. Instruction presented satisfies guidelines published by the American Heart Association’s ECC for their ACLS core curriculum.
Semester Credit Hours: 1.0
Offered By: Department of Emergency Medical Technology

Enrichment Elective

ELEC 5006  Beginning Medical Spanish
This is not a Spanish language course, per se, but is designed to teach medical students how to perform specific tasks in Spanish. As such, there is no specific Spanish prerequisite to enroll in this course. Students who are interested in acquiring Spanish language in general are invited to enroll in a traditional Spanish course.
Semester Credit Hours: 0.0

ELEC 5038  Literature and Medicine I
An elective for second- and fourth-year students, the purpose of the course is for students to use their readings as a tool to prepare for and process their clinical experiences, and to approach their development as people and as physicians. The course also will allow students to interact with other second- and fourth-year students and faculty in a venue that is open and informal. Most of the course will take place on the Web via Blackboard. After each reading block, there will an evening meeting to discuss the story and/or poem. Students will be expected to read the assignments and attend as many of the evening meetings as possible.
Semester Credit Hours: 0.0

ELEC 5039  Literature and Medicine II
An elective for second- and fourth-year students, the purpose of the course is for students to use their readings as a tool to prepare for and process their clinical experiences, and to approach their development as people and as physicians. The course also will allow students to interact with other second- and fourth-year students and faculty in a venue that is open and informal. Most of the course will take place on the Web via Blackboard. After each reading block, there will an evening meeting to discuss the novel and/or poem. Students will be expected to read the assignments and attend as many of the evening meetings as possible.
Semester Credit Hours: 0.0
Prerequisites: Literature and Medicine I

ELEC 5042  Enrichment Elective in Ethics
In this longitudinal course, students will be required to undertake an independent study into a specific issue in medical ethics or medical humanities. Students will be required to read on research methods in medical ethics as well as literature in their issue of interest, and then to propose and conduct an original study project, a literature review, a position paper, or an ethical analysis of a particular topic or case. Students will be expected to write an academically rigorous final research report of 10 to 15 pages. Students will be encouraged to produce a final paper that can be submitted for publication in a peer-reviewed bioethics or medical humanities journal. Students will be required to meet with the instructor and/or chosen faculty advisor over the course for assistance, guidance, and discussion.
Semester Credit Hours: 0.0
ELEC 5044  Enrichment Elective in Interprofessional Community Service Learning
This innovative inter-professional community service learning (CSL) course, offered in partnership with the UT School of Pharmacy, PHR 270S, to allow medical students to integrate meaningful community service with instruction, preparation, and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities. Students will have the opportunity to examine social justice and social determinant of health issues and apply these principles in a structured service learning practicum. The student-led service learning project will address the social and health needs of a community partner and will be conducted with a partner agency in a culturally competent manner. Through online learning modules, readings and discussion; monthly class sessions; a group service learning project; and a structured service learning practicum, this course combines community service with preparation and reflection to help foster civic responsibility in the health professions.
Semester Credit Hours: 0.0

ELEC 5045  Clinical Knowledge and Surgical Skills
This elective is for second-year medical students who wish to gain extra insight and experience with the basic skills required for third-year clerkships. The goals of this course are to ease the student's "fear of the unknown" when they first start their surgery clerkship and to improve the educational experience by giving students the framework on which to learn, allowing them to hit the ground running on day one of the surgery clerkship. The course consists of all lectures (case presentations, didactic sessions, student/resident panel) in ELEC 5046 and in addition will include the technical skills sessions.
Semester Credit Hours: 0.0

ELEC 5046  Clinical Knowledge for the Surgical Clerkships
This elective is for second-year medical students who wish to gain extra insight to the third-year clerkships. The goals of this course are to ease the student's "fear of the unknown" when they first start their surgery clerkship and to improve the educational experience by giving students the framework on which to learn, allowing them to hit the ground running on day one of the surgery clerkship. The course consists of surgery case presentations, didactic sessions, and a student and resident panel. The course is similar to ELEC 5045 but does NOT include the technical skills sessions.
Semester Credit Hours: 0.0

ELEC 5047  Global Health Enrichment Elective
The course is a longitudinal enrichment elective for first- and second-year medical students who are planning to pursue global health experiences during winter, spring, or summer breaks. This elective will utilize a community-service learning module, in which preparation, mentorship, evaluation, reflection, and reporting are essential in meeting the expressed need of a particular community. The elective will provide an opportunity to learn a foundation of practical knowledge in global health and to optimize the students' overseas experiences, maximize the safety of their travel, facilitate their adaptation to working in different cultural settings, and maximize their impact in communities where they serve. Course material will be presented through a variety of approaches, including lectures, small-group case discussions, laboratory sessions, practical workshops, and online learning modules.
Semester Credit Hours: 0.0

ELEC 5048  Enrichment Elective in Art
This is an interactive, interprofessional course that takes students to the McNay Art Museum to learn physical observation skills. Studies demonstrate that increased observational skills translate to improved physical examination skills. Using artwork as patients, students will have the opportunity to learn how to observe details and how to interpret images based on available evidence. Taught jointly by Health Science Center faculty and McNay museum educators, students will have the opportunity to develop and hone their observation, problem solving, and assessment skills. They will also observe, interpret, and give case reports on the original works of art to teach them the skill of verbalizing descriptions of what is seen, and not to accept assumptions made with a first impression.
Semester Credit Hours: 0.0

ELEC 5049  Health, Human Rights and the Physician
This is a survey course in which each hour covers a different Health and Human Rights topic. The course is designed to present an understanding of what are human rights and what human rights issues are relevant to the practice of medicine and delivery of appropriate healthcare. Students will have the opportunity to gain a better understanding of the ever increasingly apparent global problems that exist. This course aims to better equip students to address these relevant health and human rights issues as future physicians.
Semester Credit Hours: 0.0

ELEC 5106  Intermediate Medical Spanish
This course is designed to offer first- and second-year medical students the opportunity to acquire important skills to communicate with Spanish-speaking only patients in a culturally sensitive environment. This class is restricted to students who have an intermediate level of written and conversational Spanish and/or have reached at least a Beginner level.
Semester Credit Hours: 0.0

ELEC 5206  Advanced Medical Spanish
This course is designed to provide students with the specific medical vocabulary and terminology necessary to communicate with and help treat Latino patients with limited English proficiency. This class is restricted to students who have a previous knowledge of the Spanish language and have reached at least a conversational level. The course will include specific vocabulary groups relating to assessment and care of patients, vocabulary to establish rapport, and discussions leading to cultural competencies. Students will have the opportunity to ask questions and provide answers in common
medical situations in Spanish, conduct patient interviews, write medical histories, learn how to conduct physical exams in Spanish, and discuss readings related to the field.

**Semester Credit Hours: 0.0**

**INTD 4058 Hospice and Palliative Medicine**

This rotation offers clinical experience in Hospice and Palliative Medicine (HPM). Palliative care provides treatment for seriously ill hospitalized and ambulatory patients and focuses on symptom management, enhancement of function, physical comfort, quality of life, psychosocial support, and communication about the goals of medical care for the patients as well as their families.

**Semester Credit Hours: 4.0**

### Family and Community Medicine

**FAPR 3005 Family Medicine Clerkship**

The family practice clerkship introduces students to the principles, philosophy, and practice of family medicine, including fundamental concepts of comprehensive, continuous, cost-effective, family-oriented medical care. Students participate in the care of patients in various outpatient and inpatient settings. Students will have the opportunity to practice clinical problem solving in the undifferentiated patient and to improve their basic clinical skills. Students are expected to gain basic knowledge in the diagnosis and management of common family medicine problems, health promotion/disease prevention, and geriatrics.

**Semester Credit Hours: 6.0**

**Prerequisites:** Successful completion of all required preclinical courses is prerequisite to enrollment in any of the clinical clerkships.

**Offered By:** Department of Family and Community Medicine

**FAPR 4000 Special Topics in Family Medicine**

This is a self-designed course created by both the student and the preceptor to cover a specific topic within Family Medicine. The student is required to work closely with the preceptor in a clinical and/or non-clinical setting. A Course Approval Form must be completed along with documentation of the designed course description and confirmation of appointment with preceptor. Objectives are to be designed by student and preceptor. Student must submit a prepared outline of course activities that is signed by their preceptor prior to the beginning of the course.

**Semester Credit Hours: 4.0**

**Prerequisites:** Designed course description, objectives, and curriculum must be approved by the Predoctoral Faculty Director before the course can begin.

**FAPR 4008 Research in Family Medicine**

The objective of this course is to provide the opportunity for students to learn to be able to critically evaluate a research article; design, complete, and analyze a simple research study; and conduct a proper statistical analysis.

**Semester Credit Hours: 4.0**

**Prerequisites:** Students must submit a prepared outline of course activities that is signed by their instructor prior to the beginning of the course, select a research topic at least 8 weeks prior to the start of the elective, and design the project with guidance.

**FAPR 4011 Community Geriatrics**

The objectives of the course are for the student to be able to have the opportunity to learn to:

1. Evaluate an elderly patient to include history and physical examination, and problem list.
2. Administer geriatric assessments for dementia, depression, and function.
3. Interpret assessment findings in the context of a patient’s functional level.
4. Make a comprehensive geriatric treatment plan.
5. Target and prevent functional decline.
6. Determine capacity for decision making.
7. Identify and describe the geriatric syndromes.
8. Utilize home health services appropriately.
9. Make referrals for outpatient rehab and for consultants.
10. Utilize geriatric principles in all specialty areas.

**Semester Credit Hours: 4.0**

**FAPR 4012 Subinternship in Family Medicine In-Patient Services**

The objectives of this course are for the student to have the opportunity to learn be able to:

1. Perform initial patient history and physical, and develop comprehensive assessment and management plan of patients admitted to the hospital.
2. Efficiently conduct the initial evaluation of a patient for admission, including documenting the history and physical, writing admission orders, and initiating the appropriate paperwork and calls needed for indicated diagnostic studies.
3. Participate in all aspects of inpatient care including daily visits, writing progress notes, attending patient and family discussions, and planning patient discharge.
4. Under the supervision of the faculty and upper level residents, maintain daily responsibility for care of a panel of hospitalized patients.

**Semester Credit Hours: 4.0**

**FAPR 4015 Medical Informatics**

The objectives of this course are for the student to have the opportunity to learn to be able to:

1. Discuss informatics topics such as vocabulary issues and decision support theory.
2. Contribute to informatics projects such as creation of Web Pages or development of portions of electronic medical records.
Semester Credit Hours: 4.04.0  
Prerequisites: Contact course instructor before signing up for the course.

**FAPR 4018 Office Procedures**
The objectives of this course are for the student to have the opportunity to learn to be able to:
1. Conduct an informed consent for common ambulatory procedures.
2. Perform with assistance and supervision laceration repairs, skin lesion removal, wedge ingrown toenail removal, and cast/splint placement.
3. Assist with circumcisions, colposcopies, vasectomies, and flex sigmoidoscopies.

**Semester Credit Hours: 4.0**

**FAPR 4020 Family Medicine Preceptorship with Clinical Faculty**
The objectives of this course are for the student to have the opportunity to learn to be able to:
1. Evaluate known patients of all ages presenting in an ambulatory setting and develop management plans for chronic as well as acute illnesses.
2. Evaluate new patients of all ages presenting in an ambulatory setting and develop differential diagnoses and management plans for chronic as well as acute illnesses.
3. Incorporate appropriate prevention and anticipatory guidance into chronic and acute patient visits.
4. Optimize management plans for minority and uninsured patients by collaborating with members of the health care team, identifying community resources, developing management plans that consider the costs of medications and interventions.
5. Understand how physicians contribute to improving the quality of patient care, access to care, and navigation through the health care system for traditionally underserved populations.

**Semester Credit Hours: 4.0**

Prerequisites: Students must contact Rachel Halvaksz (RM 613L) for the list of available clinical faculty members before selecting a preceptor.

**FAPR 4022 Spanish-Speaking Patient Clinic**
Duration: 4 weeks  
Maximum students during period: 1  
Objectives:
At the end of this selective, the student will have had the opportunity to learn to and be required to:
1) Evaluate and develop management plans with primarily Hispanic, Spanish-speaking patients under the supervision of family physicians at the Barrio Comprehensive Health Clinic.
2) Develop and present culturally appropriate patient education materials for Hispanic, Spanish-speaking patients.

(3) Discuss public health initiatives including Healthy People 2010, HHS Hispanic Health Initiative, and the President’s Initiative on Ethnic Health Disparities.

(4) Discuss Institute of Medicine reports such as “Unequal Treatment” and “Health Literacy” concerning health care disparities for Hispanic and other minority patients.

(5) Increase proficiency in Spanish in particular Medical Terminology.

**Curriculum:**
1) Direct patient care under the supervision of the medical director of the Barrio Comprehensive Clinic. (7 half-days per week)
2) Development and presentation of patient education session. (1 half day per week)
3) Self-directed study. (2 half days per week)

**Semester Credit Hours: 4.0**

**FAPR 4024 MS4 Tutor Elective**
The Tutoring Elective consists of activities that will provide the student the opportunity to participate in the Office of Academic Enhancement Tutoring Program as tutors. Each tutor will receive training, tutor over an entire academic year, participate in weekly online activities, and receive a formal observation with a follow-up conference.

**Semester Credit Hours: 2.0**

**FAPR 4025 Family Medicine Ambulatory Children’s Health Elective**
Course content requires students to care for children in two ambulatory settings:
1) Family Health Center: See 15 patients/session in Well Child Clinic; 3 sessions/wk with one session school-aged children in the early evenings and 3–15 walk-in pediatric patients with acute or urgent care complaints 3 half-days/wk under the supervision of a Family Medicine attending. Students must participate in PGY-1 pediatric case conference on Friday mornings before walk-in clinic starts and attend Wednesday afternoon FM Residency Conference.

2) Bexar County Juvenile Detention Center (JDC): See detained adolescents for intake physical exams and for evaluation of acute complaints two half-days/week under the supervision of a Family Medicine attending.

**Semester Credit Hours: 4.0**

**FAPR 4074 Rural Clinical Experience in Family Medicine (AHEC Program)**
Under the auspices of the Health Science Center AHEC Program, this experience exposes students to primary care of ambulatory patients at various AHEC clinical training sites in South Texas. Under the direct supervision of a Board Certified Family Physician, the student serves as the initial physician in the evaluation and management of a wide array of outpatient problems. In addition, the student gains experience in preventive services applicable to infectious diseases, tuberculosis, diabetes, etc., and works with health professionals to gain a broader understanding of health care needs and services. This clinic experience may include
associated inpatient experience.
Semester Credit Hours: 4.04.0

**FAPR 4103**  Interprofessional Women’s Health Course
Semester Credit Hours: 0.5

**FAPR 4202**  Dermatology: A Short Review Course
This 8-hour dermatology course will follow the American Academy of Family Practice (AAFP) board dermatology curriculum and will include the following topics: basic components of dermatology and common dermatomic problems, as well as common skin cancers. This is a Family Medicine MS4 didactic elective for Harlingen.
Semester Credit Hours: 0.5

**FAPR 4203**  Review of Evidence-Based Medicine (short course)
This course aims to provide medical students with a set of evidence-based exercises relating to diagnosis, prognosis, therapy, and harm. Students will be asked to formulate clinical questions so that they can be answered, to search for information, to critically appraise the evidence for validity and clinical importance, and apply the evidence in clinical practice. This is an MS4 didactic elective for Harlingen.
Semester Credit Hours: 0.5

**FAPR 4205**  Medicine and the Environment
This is an online longitudinal elective for fourth-year medical students that meets September-February. Students are required to read and view assigned and selected materials on environmental health and discuss the role of environmental factors in the diagnosis and treatment of patients.
Semester Credit Hours: 2.0

**FAPR 7000**  Off-Campus Rotation in Family Medicine
In this course, the student is required to work closely with the preceptor in a clinical setting that can be either inpatient/outpatient or both. The physician can work either in private practice or a residency program setting. The preceptor must be board-certified in family medicine and have a clinical faculty appointment with a LCME-Accredited Medical School. The student must not be a relative of the preceptor. Students must arrange the preceptorship directly with the family physician.
Semester Credit Hours: 4.04.0
Prerequisites: Course Approval Form must be completed along with documentation of the designed course description and confirmation of appointment with preceptor.

**FAPR 7004**  Family Medicine Preceptorship – External (in Texas)
This is a full-time outpatient family medicine clinical experience with a board-certified family physician in either a private practice or residency program setting. Only a board certified family physician is acceptable for this course. The physician supervisor does not have to have a Health Science Center faculty appointment but must have an affiliation with a LCME-accredited Texas Medical School. This elective can be arranged directly between the student and the family physician.
Student must not be a relative of the preceptor.
Semester Credit Hours: 4.04.0

**FAPR 7005**  Preceptorship in International Health
The objectives of this course are for the student to have the opportunity to learn to be able to:
1. Describe inpatient, outpatient, and community health activities in a setting outside the United States.
2. Diagnose and provide management for illnesses seldom seen in the United States under the supervision of a physician.
3. Make appropriate medical decisions, supervised by a local physician in that country, in a setting in which cultural norms, socio-economic factors, and religious beliefs differ from those commonly found in the United States influence patient care.
Semester Credit Hours: 4.04.0

**FAPR 7008**  Environmental/Border Health: South Texas Environmental Education and Research (Steer) Program
The objectives of this course are for the student to have the opportunity to learn to be able to:
1. Discuss contemporary environmental and public health concerns, as well as cultural influences, that affect the health of U.S.-Mexico border residents and other underserved populations.
2. Identify credible sources of public health information and assistance, and explain how to use these to help patients and communities.
3. Describe clinical manifestations of common environmental contaminants, such as lead, mold, allergens, and water pollutants, and tell how these exposures are measured.
4. Explain when and how to take an exposure history and the role of “environmental house calls” in addressing chronic health conditions such as asthma.
Prerequisites: To enroll in this elective, contact course director at least 6 weeks prior to rotation start date.
Semester Credit Hours: 4.04.0

**FAPR 7010**  Public Health at the U.S.-Mexico Border: South Texas Environmental Education & Research (Steer) Program
This elective is a unique hands-on and community-based rotation focusing on public health concerns on both sides of the U.S.-Mexico border. Students spend 4 weeks in residence at the RAHC (Regional Academic Health Center) campus (housing provided for non-RAHC students) in Harlingen, Texas. Approximately three-quarters of the time, students are in the field, learning about environmental, international, and public health issues and diseases such as tuberculosis, dengue fever, diabetes, West Nile virus, and rabies that pose major risks to residents of the U.S.-Mexico border. Experienced public health practitioners teach participants while they visit clinics, health departments, and hospitals on both sides of the border, and spend time with families in colonias.
Participating students learn first-hand about major public health concerns in the region that have the potential to affect citizens throughout Texas and the U.S. This elective is highly sought after by CDC Interns. At the end of the course, students are required to report on their experiences in writing and orally to a group of public health practitioners and faculty. Students will be transported to and from Mexico and accompanied to the teaching sites. 

Prerequisites: Knowledge of Spanish is helpful but not necessary. 

Offered By: 4.04.0

**Interdisciplinary**

**ELEC 5043 Public Health and the Physician**

The purpose of this course is to provide a basic understanding of some of the important health issues faced by modern physicians. Each hour of this survey course covers a different public health topic. Half of the class hours will be discussion and education on reading assignments of public health topics. Guest speakers from the university and San Antonio will complement lecture and discussion. 

*Semester Credit Hours: 0.0*

**INTD 1005 On Becoming a Doctor—Foundations**

This course encompasses three primary aspects of learning to care for patients — health care ethics, patient communication, and physical examination skills. This year-long course will include several pedagogical styles including lecture, small group activities, case-based learning, writing exercises, oral presentations, community activity, and standardized patient encounters. Students will have the opportunity to participate in the three major sections of the course throughout the year. The section on medical ethics will introduce foundational knowledge and skills in responsible professional behavior providing the opportunity for students to identify, reflect upon, and resolve competently the ethical issues they will confront during their professional training, scientific research, and clinical practice. In addition, students will be introduced to the rudimentary knowledge and skills in ethical theory and professional ethics. Human behavior and communication skills will provide an overview of the psychological, biological, social, and cultural aspects of human behavior as it relates to both patients and physicians. The physical examination section will introduce students to physical diagnosis with an introduction to the art and technique of the medical history, physical examination, and medical documentation. 

*Semester Credit Hours: 7.5*  

*Offered: Interdisciplinary*

**INTD 1041 Neuroscience**

Neuroscience introduces the study of the nervous system using a multidisciplinary approach. The course is presented by a Task Force with representation from basic science and clinical departments. In this way correlations between fundamental principles and their clinical application are demonstrated. The course considers the anatomy and physiology of the nervous system, introducing clinical discussions and patient demonstrations to highlight basic principles. Beginning with a consideration of fundamental cellular mechanisms, the student is introduced to successive levels of complexity of nervous functions. Basic anatomic concepts are developed in the laboratory using microscopic and gross specimens. Demonstrations and audiovisual teaching techniques are widely used. Neurophysiology and functional anatomy are emphasized in lectures and clinical presentations. The course is jointly presented by the departments of Cellular & Structural Biology, Physiology, Pharmacology, and Medicine (Division of Neuroscience) with the assistance of the Department of Surgery and the Imaging Center. 

*Microscope fee: $48. Laboratory fee: $30.*  

*Semester Credit Hours: 5.0*  

*Offered By: Interdisciplinary*

**INTD 2001 Introduction to the Clinical Sciences (ICS) I**

This course encompasses the major clinical fields of internal medicine, obstetrics/gynecology, pediatrics, surgery, and surgical subspecialties. It is designed to cover all aspects of human disease states including vocabulary, data collection skills, problem solving, surgical principles, surgical pathophysiology, concepts unique and common to pediatric-aged patients, and sexual and reproductive pathophysiology. The course will be organized into organ system modules and integrated with pathology and pharmacology. Teaching format will include lectures and small-group sessions. The first semester, ICS I, will include general concepts, renal, cardiovascular, respiratory/infectious diseases, and hematology/dermatology organ system modules. 

*Microscope fee for the Sophomore year. $32 laboratory fee for the Sophomore year.*  

*Semester Credit Hours: 9.5*

**INTD 2002 Introduction to the Clinical Sciences (ICS) II**

This course encompasses the major clinical fields of internal medicine, obstetrics/gynecology, pediatrics, surgery, and surgical subspecialties. It is designed to cover all aspects of human disease states including vocabulary, data collection skills, problem solving, surgical principles, surgical pathophysiology, concepts unique and common to pediatric-aged patients, and sexual and reproductive pathophysiology. The course will be organized into organ system modules and integrated with pathology and pharmacology. Teaching format will include lectures and small-group sessions. ICS II, second semester, will include gastrointestinal, musculoskeletal, neuroscience, special senses, reproductive and endocrine systems, plus trauma and toxicology. 

*Semester Credit Hours: 7.0*  

*Offered By: Interdisciplinary*

**INTD 2006 Advanced Clinical Evaluation Skills (ACES)**

The ACES course is designed to build on the clinical skills learned in the first year and to integrate knowledge gained in the basic science courses for direct application to patient care. During the organ system modules, students will be paired with a preceptor to concentrate on examination skills of a particular organ site and will learn details and interpretation of abnormal findings. The course will cover important aspects of evidence-based medicine and students
INTD 3030  Clinical Foundations
The purposes of this course are to:

1. Prepare students to excel as learners in clinical settings by providing foundations for clinical skills including finding information, presenting cases, charting, writing orders, completing other paperwork, and clinical reasoning including basic EKG and radiograph interpretation.

2. Assist students in developing new skills expected of third-year clerks including lab skills (phlebotomy, ABG, blood cultures, hemoccult cards), IV insertion, PPD placement, sterile gowning/gloving, basic suturing, nasogastric tube placement, O2 management, and Basic Cardiac Life Support.

3. Prepare students for their new roles in clinical settings, where they encounter patient care responsibilities along with patient privacy and ethical issues.

Semester Credit Hours: 3.0
Prerequisites: Successful completion of the first two years of Medical School. Approval of the director of the MD/PhD program

INTD 4007  Interprofessional Community Service Learning
This is an innovative interdisciplinary service learning (CSL) course offered in partnership with the UT School of Pharmacy, PHR 270S, to allow medical students to integrate meaningful community service with instruction, preparation, and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities. This course will provide the opportunity for students to examine social justice and social determinant of health issues and apply these principles in a structured serviced learning practicum. The student-led service learning project will address the social and health needs of a community partner and will be conducted with the partner agency in a culturally competent manner. Through online learning modules, readings, and discussion; monthly class sessions; a group service learning project; and a structured service learning practicum, this course combines community service with preparation and reflection to foster civic responsibility in the health professions.

Semester Credit Hours: 2.0

INTD 4008  Interprofessional Care in HIV
Students will have the opportunity to learn how to function as a member of an interprofessional team in HIV case management. The objective is for students to become familiar with issues of patient safety, health literacy, medication reconciliation, and interprofessional teamwork in HIV care. This is an elective didactic course.

Semester Credit Hours: 0.5

INTD 4009  Interprofessional Care in HIV
Students will have the opportunity to learn how to function as a member of an interprofessional team in HIV case management, and become familiar with issues of: patient safety, health literacy, medication reconciliation, treatment guidelines, and interprofessional teamwork in HIV care.

Semester Credit Hours: 2.0

INTD 4015  Humanism in Medicine Fellowship
This is a longitudinal 4th-year elective to support and nourish the inherent altruism of our students. This elective will bring together like-minded students and faculty who have a passion for caring for the medically underserved in their communities. The students will take a leadership role in managing and directing the student-run clinics at the Alpha Home and SAMM Transitional Living and Learning Center under faculty supervision. Clinical experiences will be at these clinics and on trips with Frontera de Salud to the Colonias of South Texas.

Semester Credit Hours: 2.0

INTD 4018  Independent Elective in Ethics
In this longitudinal course, students will be required to undertake an independent study into a specific issue in medical ethics or medical humanities. Students will be required to read on research methods in medical ethics as well as literature in their issue of interest, and then to propose and conduct an original study project, a literature review, a position paper, or an ethical analysis of a particular topic or case. Students will be expected to write an academically rigorous final research report of 10 to 15 pages. Students will be encouraged to produce a final paper that can be submitted for publication in a peer-reviewed bioethics or medical humanities journal. Students will be required to meet with the instructor and/or chosen faculty advisor over the course for assistance, guidance, and discussion. (Center for Medical Humanities and Ethics)

Semester Credit Hours: 2.0

INTD 4019  Clinical Ethics
Students in this two-week course will have the opportunity to focus on work in clinical ethics consultation. The student will be required to participate in rounds as an ethicist, do in-depth reading on clinical ethics consultation, observe clinical ethics consults, attend ethics committee meetings, and provide an educational seminar to hospital staff on an issue of ethical significance.

Semester Credit Hours: 2.0

INTD 4030  Preparing for Global Health Work
This is a 2-week multidisciplinary course for 4th-year medical students who are planning future global health experiences, arising in response to enormous interest in international medicine, with increasing numbers of students choosing to spend time overseas during medical school. This preparatory course aims to provide a foundation of practical knowledge in global health to optimize the students’ overseas experiences, facilitate their adaptation to working in different cultural settings, and maximize their impact in the communities where they serve. Topics include chronic and infectious disease, parasite infection, prioritizing community resources, health disparities, ethical dilemmas, cultural awareness, and
professionalism. Course material is presented through a variety of approaches, including lectures, small-group case discussions, laboratory sessions, and online learning modules.

**INTD 4048  Art Rounds**
This is an interactive, interprofessional course that takes students to the McNay Art Museum to learn physical observation skills. Studies demonstrate that increased observational skills translate to improved physical examination skills. Using artwork as patients, students will have the opportunity to learn how to observe details and how to interpret images based on available evidence. Taught jointly by Health Science Center faculty and McNay museum educators, students will have the opportunity to develop and hone their observation, problem solving, and assessment skills. They will also observe, interpret, and give case reports on the original works of art to teach them the skill of verbalizing descriptions of what is seen, and not to accept assumptions made with a first impression.

*Semester Credit Hours: 2.0*

**INTD 4103  Communication Skills**

*Semester Credit Hours: 0.5*

**INTD 4104  Improving Patient Outcomes**

*Semester Credit Hours: 0.5*

**INTD 4105  Medical Jurisprudence**
The course will center on the Texas Medical Practice Act and applicable federal laws.

*Semester Credit Hours: 0.5*

**INTD 4106  On Becoming a Doctor**
The course is the capstone of the four-year longitudinal curriculum in humanities and ethics. The goals are to reflect upon:

a) physician’s values, attitudes, and their intersection with cultural values and attitudes;

b) the historical and moral traditions of medicine in the context of society, politics, spirituality, and the health care system; and

c) the personal identity of a doctor.

*Semester Credit Hours: 0.5*

**INTD 5081  Topics in Cardiovascular Research**
This course is designed to familiarize students with the current literature related to cardiovascular disease. Each week a different research topic selected from the recent literature is presented and discussed. Students are expected to attend and participate in the discussions. In addition, students are required to prepare and present once during the semester. A list of previous and current course presentations will be available online.

*Semester Credit Hours: 1.0*

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**Medicine**

**MEDI 3105  Medicine Clerkship**
The objectives of this clinical experience are to provide opportunities for students to develop patient evaluation skills, productive self-learning techniques, a sound pathophysiological approach to medical disease, a concern and awareness for the patient’s needs, and personal professional behavior. The student spends eight weeks, divided into two 4-week blocks, assigned to the inpatient General Medicine Service. An additional four weeks are spent in outpatient services. Bedside clinical teaching is emphasized by asking the student to perform patient evaluations, to contribute to the care of selected patients, and to participate in the clinical rounds of the services. During this clerkship the student receives intensive instruction from the Internal Medicine house staff and faculty. In addition, the student is expected to undertake independent patient-oriented reading and to systematically review pertinent information introduced during the preclinical years. Finally, students attend a series of clinical conferences including medical grand rounds, morbidity and mortality conferences, clinical subspecialty conferences, and organized courses in electrocardiography and nutrition.

*Semester Credit Hours: 14.0—12 weeks*

Prerequisites: Successful completion of all required preclinical courses is prerequisite to enrollment in any of the clinical clerkships.

*Offered By: Department of Medicine*

**MEDI 4002  Clinical Cardiology**
Students are required to participate in inpatient consultations and outpatient clinics evaluating patients with cardiovascular disease. Students are required to perform inpatient consultations at University Hospital and Audie L. Murphy V. A. Hospital. Students are required to perform appropriately focused history and physical exam, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plan on each assigned patient. Students are required to also have learning opportunities for students to develop patient evaluation skills, productive self-learning techniques, a sound pathophysiological approach to medical disease, a concern and awareness for the patient’s needs, and personal professional behavior. The student spends eight weeks, divided into two 4-week blocks, assigned to the inpatient General Medicine Service. An additional four weeks are spent in outpatient services. Bedside clinical teaching is emphasized by asking the student to perform patient evaluations, to contribute to the care of selected patients, and to participate in the clinical rounds of the services. During this clerkship the student receives intensive instruction from the Internal Medicine house staff and faculty. In addition, the student is expected to undertake independent patient-oriented reading and to systematically review pertinent information introduced during the preclinical years. Finally, students attend a series of clinical conferences including medical grand rounds, morbidity and mortality conferences, clinical subspecialty conferences, and organized courses in electrocardiography and nutrition.

*Semester Credit Hours: 4.0*

**MEDI 4004  Cardiovascular Research**
Students can participate in original research, basic or clinical, in collaboration with a faculty member of the Division of Cardiology.

*Semester Credit Hours: 4.0*

**MEDI 4005  Cardiology Intensive Care Unit/Ward Subinternship – WHMC**
The goal of this subinternship is to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for his/her patients, under the supervision of the Internal Medicine resident, Cardiology fellow, and Cardiology attending. Students are required to care for patients in the CCU and Telemetry ward.

*Semester Credit Hours: 4.0*
MEDI 4006  Coronary Care Unit-Subinternship – ALMVAH
This subinternship is designed to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for his/her patients, under the supervision of the Internal Medicine resident, Cardiology fellow, and Cardiology attending. Students are required to care for patients in the CCU and Telemetry ward. The student will be involved in the inpatient care of patients with cardiac disease, including critically ill patients needing hemodynamic and respiratory monitoring and ventilation support.
Semester Credit Hours: 4.0

MEDI 4007  Cardiology Care Unit - Subinternship – BAMC
This subinternship is designed to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for his/her patients, under the supervision of the Internal Medicine resident, Cardiology fellow, and Cardiology attending. Students are required to care for patients in the CCU and Telemetry ward. The student’s clinical performance will be evaluated by the supervising attending. Students are required to participate in the care of patients with a wide spectrum of acute and chronic cardiovascular problems. Emphasis is placed on mastering basic physical assessment through history and detailed cardiovascular physical examination and the interpretation of non-invasive and invasive cardiac testing. Students will have exposure to the catheterization laboratory, M-mode, 2-D, and Doppler echocardiography, color flow imaging, exercise testing, and 24-hour dynamic ECG rhythm monitoring and analysis. No late drops will be accepted.
Semester Credit Hours: 4.0

MEDI 4008  Clinical Endocrinology
Students are required to participate in inpatient consultations and outpatient clinics evaluating patients with pituitary and hypothalamic disease, adrenal disease, diabetes mellitus, thyroid disorders, and lipid disorders. Students are required to perform inpatient consultations at Audie Murphy VA Hospital and University Hospital. Outpatients will be evaluated in weekly endocrine clinics at the VA Hospital and Texas Diabetes Institute. Students will be responsible for the initial evaluation of assigned patients, presentation of findings from the history and physical exam, interpretation of endocrine testing, and formation of differential diagnosis. If rotation is done as the Ambulatory selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.
Semester Credit Hours: 4.0

MEDI 4009  Research in Calcium and Bone Metabolism
This research elective is recommended for students with serious research interests. It offers the opportunity to participate in ongoing projects under the supervision of division faculty.
Semester Credit Hours: 4.0

MEDI 4010  Clinical Dermatology
This elective is recommended for students with a serious interest in Dermatology, and for those intent upon further training in Internal Medicine, Family Medicine, and Pediatrics. It offers considerable clinical experience in both outpatient clinics and supervised inpatient consultations. Students rotating at the Health Science Center are required to attend teaching conferences every Wednesday (all day) and Friday afternoons. This didactic time for students and residents includes lectures, journal reviews, text reviews, and clinical Kodachrome sessions. Didactic sessions will be held separately at WHMC and BAMC. Each student is required to do a 10-minute PowerPoint presentation on a topic of choice that is both dermatology related and fits in with choice of residency.
Semester Credit Hours: 4.0

MEDI 4012  Clinical Endocrinology – WHMC
Students will have exposure to a very active clinical endocrinology consultation service, outpatient endocrine clinic, and the performance and interpretation of diagnostic procedures in endocrinology. Students must perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plan on all assigned patients. Clinical performance will be evaluated by supervising attending. No late drops will be accepted.
Semester Credit Hours: 4.0

MEDI 4013  Research In Clinical Epidemiology
Students will have the opportunity to participate in ongoing epidemiological surveys in diverse populations. Topics covered include population and genetic epidemiologic studies sampling, family studies (including studies of candidate genes and systematic genome searches), design of epidemiological instruments, quality control of field operations, documentation of health outcomes, management of large data bases, and data analysis including complex segregation and linkage analysis.
Semester Credit Hours: 4.0

MEDI 4014  Gastrointestinal Research
Students are required to participate in ongoing research projects under the supervision of division faculty. Supervising faculty will complete evaluations at end of the project.
Semester Credit Hours: 4.0

MEDI 4015  Clinical Gastroenterology
Students are required to participate in inpatient consultations at Audie L. Murphy V. A. Hospital (ALMVAH) and University Hospital, outpatient clinics at ALMVAH and University Health System, and special gastrointestinal diagnostic testing under the supervision of Internal Medicine residents, GI fellows, and GI Faculty. Students are required to participate in the independent evaluation of patients with disorders of the gastrointestinal tract, pancreas, and liver. Students are required to become familiar with the application, indications, contraindications, and complications of gastroenterological procedures, as well as the proper preparation of the patient for
the procedure. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients.  
Semester Credit Hours: 4.0

MEDI 4016  Gastroenterology – WHMC  
This rotation will acquaint the student with the broad field of clinical gastroenterology and provide direct observation of the many procedures utilized in gastroenterology. It will also acquaint the student with various aspects of in-patient medical medicine. The student is expected to acquire techniques necessary in the evaluation of gastroenterology consult patients, including detailed appropriate history and physical examination, pertinence of appropriate laboratory and other diagnostic studies, and basic management of a variety of clinical conditions. The student is required to learn indications and contraindications of various endoscopic, diagnostic, and therapeutic procedures.  
No late drops will be accepted.  
Semester Credit Hours: 4.0

MEDI 4017  Gastroenterology Service – BAMC  
Students will be exposed to clinical gastroenterology with didactic instruction, and will work in conjunction with house staff as part of the primary care team. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plan on all assigned patients. Students will have exposure to the full range of special diagnostic procedures including observation of upper endoscopy, endoscopic ultrasound, colonoscopy, flexible sigmoidoscopy, endoscopic retrograde cholangiopancreatography (ERCP), percutaneous liver biopsy, laparoscopy, and related techniques.  
No late drops will be accepted.  
Semester Credit Hours: 4.0

MEDI 4018  Clinical Hematology/Oncology  
The consultation service includes clinical exposure to inpatient consultations, conferences, and outpatient clinics. There is opportunity for training in blood and marrow morphology, observation, and performance of special clinical and laboratory procedures. Students are responsible for the following on all assigned patients: history and physical examination, admission/progress notes, doctor’s orders, interpretation of laboratory data, formation of differential diagnosis, assessment, and management plan. Students on both services are required to attend conferences including Hematology Clinical Conference, Hematology/Pathology Conference, Bone Marrow Transplant Conference, and Coagulation Conference.  
Semester Credit Hours: 4.0

MEDI 4019  Research In Hematology/Oncology  
Students are required to participate in ongoing clinical or basic research; individual projects encouraged with written report or results required. Opportunity may be provided for combined clinical and research experience in individual cases by special arrangement.  
Semester Credit Hours: 4.0

MEDI 4021  Infectious Disease – WHMC  
The intent of this rotation is to acquaint the student with the field of infectious diseases as it pertains to the problems of general internal medicine and surgery and provide clinical expertise in the use of antibiotics for medical and surgical infections. Special emphasis will be placed on understanding patterns of infection in immunocompromised patients (cancer patients, solid organ and bone marrow transplant recipients, and AIDS). Students are expected to acquire techniques in the evaluation and management of medical and surgical infections, in both the in-patient and outpatient sphere. These techniques include detailed history and physical examination with presentation of available data, pertinent epidemiological factors associated with infections, and appropriate laboratory and other diagnostic studies. Students are required to participate in daily infectious diseases consult rounds, which include rounds in the Microbiology laboratory.  
No late drops will be accepted.  
Semester Credit Hours: 4.0

MEDI 4022  Research in Infectious Disease  
For the students who wish to learn research techniques in Infectious Disease, an individual project will be designed that may involve studies of antimicrobial activity, animal models of infection, host defense mechanisms, immunologic aspects of infectious diseases, or application of molecular biology to studies of pathogens. We are prepared to teach research methodology pertinent to measurement of antigens and antibodies; and the molecular biology and immunobiology of fungal, bacterial, and chlamydia infections. Research may be directed toward in vitro work, work with laboratory animals, or direct clinical investigation. In addition, students may review local clinical experience with a given infectious disease process (e.g.: tuberculosis, meningitis, amebiasis, endocarditis, etc.) with the goal of preparing a paper for publication.  
Semester Credit Hours: 4.0

MEDI 4023  Clinical Infectious Disease  
Infectious diseases cross all subspecialty lines, especially because antibiotics and antifungal and antiviral agents are employed widely throughout medical practice. This elective will provide practical experience in the diagnosis and management of patients with infectious diseases. There will be particular emphasis upon the pharmacology and pharmacodynamics of antimicrobial agents, selection of appropriate diagnostic tests and therapeutic agents, and the appropriate orientation of the clinician to hospital microbiology laboratories. Students are required to participate in outpatient clinics and inpatient consultations at University Hospital and Audie L Murphy V. A. Hospital and the associated clinics. Students will be responsible for the following in all assigned patients: history and physical examination, written and verbal patient presentations, interpretation of laboratory testing, participation in applicable procedures, development of differential diagnosis, assessment, and management plans.  
Semester Credit Hours: 4.0

MEDI 4024  Infectious Disease – BAMC  
The course will provide students the opportunity to obtain a broad experience in the management of infectious diseases.
The spectrum of illness ranges from HIV infection to chronic osteomyelitis. Students are required to care for patients with primary infectious disease problems, or patients with major illnesses in whom an infectious complication has arisen, under the direction of the consultation resident, with supervision from the fellow and staff on the Infectious Disease Service. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. Basic bacteriological techniques and specific techniques of bacteriological identification and sensitivity testing are reviewed. No late drops will be accepted.

Semester Credit Hours: 4.0

**MEDI 4025  Clinical Nephrology**

Students are required to participate in the consultation service, outpatient clinics, conferences, acute dialysis unit, and renal biopsy program. A variety of acid-base fluid and electrolyte disorders are seen in addition to the entire spectrum of renal diseases. Student exposure to chronic dialysis and renal transplantation programs is also possible. Students perform appropriately focused history and physical exam, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. If rotation is done as the Ambulatory Selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

Semester Credit Hours: 4.0

**MEDI 4026  Nephrology Service – BAMC**

The Nephrology Service offers students training and experience in the broad field of clinical nephrology. This consult rotation provides exposure to ambulatory and hospitalized patients with a variety of renal diseases including hypertension, glomerulonephritis, acute and chronic renal failure; exposure to problems of fluid, electrolyte, and acid-base disturbance. While on the service, students will be able to observe acute and chronic hemodialysis. Students are required to perform initial evaluations, including history and physicals, and will, under appropriate supervision, perform selected diagnostic procedures. A didactic lecture series, covering the broader topics of nephrology, is repeated on a monthly basis and the students are expected to attend. No late drops will be accepted.

Semester Credit Hours: 4.0

**MEDI 4027  Nephrology Service – WHMC**

Students are required to work with the residents and fellows on the Nephrology Service consult team under the direction of a staff nephrologist. Patients with hypertension, fluid and electrolyte disorders, acid-base disorders, kidney stones, acute renal failure, chronic renal failure, and the full range of primary and secondary glomerular diseases including pregnancy-related syndromes will be seen and followed. Experience in the treatment of renal failure including hemodialysis, peritoneal dialysis, and transplantation will be available for those interested. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. No late drops will be accepted.

Semester Credit Hours: 4.0

**MEDI 4028  Renal Research**

Students are required to participate in ongoing research with the opportunity to learn some of the fundamental techniques of renal physiology and cell biology. Major focus of research is the role of peptide growth factors in mediating hemodynamic and metabolic events in the kidney. Independent research encouraged if student spends two or more selective periods in the laboratory.

Semester Credit Hours: 4.0

**MEDI 4029  Neurology Consultation Service**

Students are required to perform neurological consultations both at the University Hospital and Audie L. Murphy V. A. Hospital. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. If rotation is done as the Ambulatory Selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

Semester Credit Hours: 4.0

**MEDI 4030  Neurology Subinternship – UH/VA**

The objective of this subinternship is to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for her/his patients, under the supervision of the Neurology resident and attending. Considerable responsibility in the management of neurologic patients is provided on the inpatient ward services at the University Hospital and Audie L. Murphy V. A. Hospital. Attendance at daily rounds, consultation rounds, and formal conferences is expected.

Semester Credit Hours: 4.0

**MEDI 4032  Research In Neurology**

Several clinical and basic research projects, especially in the area of cerebral vascular disease, are being conducted in the Department of Neurology. Students may elect to work with the neurology faculty on one of these projects. This elective can be repeated depending upon the duration required for the research project.

Semester Credit Hours: 4.0

**MEDI 4034  Oncology Consultation Service**

The students are required to participate in the clinical activities of the Medical Oncology Section of the Division of Hematology/Oncology, with experience on the consultation service at both University Hospital and the VA Hospital, plus extensive outpatient experience in the Oncology Clinics. The inpatient consultation experience provides exposure to management of complex oncology problems. The clinic experience provides exposure to a variety of clinical medical oncology problems and their management in the outpatient setting. Students are required to become familiar with all
aspects of supportive care for the oncology patient. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients.  

Semester Credit Hours: 4.0

**MEDI 4042  Coronary Intensive Care Unit-Subinternship – UH**

The objective of this subinternship is to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and are required to participate in all team activities and participate in all medical care for his/her patients, under the supervision of the Internal Medicine resident, Cardiology fellow, and Cardiology attending. The student is required to become proficient in the work-up, diagnosis, and management of patients with acute myocardial infarction, acute respiratory failure, and other commonly encountered acute crises; develop expertise at arrhythmia recognition/therapy, principles involved with airways management/mechanical ventilation.  

Semester Credit Hours: 4.0

**MEDI 4043  Clinical Chest Disease Consultation Service**

Students are required to work in the inpatient and outpatient settings, participating in clinics, inpatient consultations, and division conferences. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. Students are required to actively participate in the work-up and management of patients with acute and chronic lung diseases seen by the Consultation Service and attend Pulmonary clinics at the VA Hospital and UHC-D. Students will be exposed to various diagnostic methods including radiographic, radionucleotide, bronchoscopy, and pleural biopsy techniques. Through active participation, the student should become proficient in interpreting commonly used pulmonary function tests and chest x-rays. Principles and methods involving respiratory therapy, antimicrobial therapy, and evaluation of common pulmonary disorders will be emphasized.  

Semester Credit Hours: 4.0

**MEDI 4044  Pulmonary Disease – WHMC**

Students are required to become acquainted with the field of pulmonary disease, including preoperative evaluation, evaluation of abnormal chest x-rays, pulmonary function testing, pulmonary infectious diseases, and intensive care medicine. Students are required to observe (and occasionally participate in) pulmonary procedures: bronchoscopy, pleural biopsy, thoracentesis, and fine needle aspiration of lung lesions. Students are expected to acquire basic knowledge in the broad fields of pulmonary disease and intensive care medicine, with emphasis on the workup of routine problems such as abnormal chest x-ray, tuberculosis, interpretation of pulmonary function tests and arterial blood gases, and preoperative evaluation for cardiopulmonary risk.  

No late drops will be accepted.  

Semester Credit Hours: 4.0

**MEDI 4045  Pulmonary Medicine – BAMC**

Students are required to learn the recognition and treatment of acute and chronic pulmonary problems on a consult service with selection and implementation of appropriate treatment modalities. Students also are required to become familiar with pulmonary function testing to include interpretation and application of pulmonary physiology to a clinical setting. Principles of respiratory therapy will be emphasized to include the utilization of respirators and oxygen delivery systems. Clinical projects may be assigned to stress key teaching points. An active pulmonary clinic and complete pulmonary function laboratory will be available for students to gain clinical experience.  

No late drops will be accepted.  

Semester Credit Hours: 4.0

**MEDI 4046  General Medicine Ward Subinternship – UH/VA**

The goal of this subinternship is to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for his/her patients, under the supervision of the Internal Medicine resident and attending.  

No late drops are accepted.  

Semester Credit Hours: 4.0

**MEDI 4047  General Medicine Ward Subinternship – BAMC**

This subinternship is designed to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for her/his patients, under the supervision of the Internal Medicine resident and attending.  

No late drops will be accepted.  

Semester Credit Hours: 4.0

**MEDI 4048  Medical ICU Subinternship – BAMC**

The goal of this subinternship is to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for her/his patients, under the supervision of the Internal Medicine resident, Critical care fellow and attending. Familiarization with pulmonary and hemodynamic physiology, as it applies to intensive care medicine, as well as the use and interpretation of data obtained from monitoring instruments, will be covered.  

No late drops will be accepted.  

Semester Credit Hours: 4.0

**MEDI 4049  Clinical Rheumatology**

The differential diagnosis and treatment of rheumatic and autoimmune diseases are taught through active student participation in outpatient clinics, consultation rounds, journal clubs, and division conferences. Students are required to evaluate patients at University Hospital, Audie Murphy VA Hospital, and UHC-D. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. Students will also have exposure to community resources for the special problems encountered by
the patients in this clinic and be able to identify different types of medical delivery systems. If rotation is done as the Ambulatory Selective, students are required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

Semester Credit Hours: 4.0

MEDI 4051 Rheumatology – WHMC

Student will receive a comprehensive initial exposure to the field of rheumatology. Students will be involved in the care of conditions ranging from common regional musculoskeletal disorders to severe systemic rheumatic diseases such as systemic lupus erythematosus. The student will function at the subintern level both in the outpatient clinic and on the inpatient consult service. Participation in research and exposure to data interpretation in the Clinical Immunology Laboratory are potential opportunities arranged on an individual basis. No late drops will be accepted.

Semester Credit Hours: 4.0

MEDI 4056 Neurology Service – BAMC

The Neurology Service consists of four staff neurologists. Students are required to rotate on the consultation service and act as interns on the service (i.e., initially see and evaluate inpatients who have been referred to the service and present the patients during daily rounds with the attending neurologist). The Neurology Service also operates a large outpatient clinic and an outpatient clinical experience can be tailored to the student’s needs and desires. No late drops will be accepted.

Semester Credit Hours: 4.0

MEDI 4060 Medical ICU Subinternship – WHMC

The goal of this subinternship is to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for her/his patients, under the supervision of the Internal Medicine resident, Critical care fellow and attending. This subinternship is required to teach the fundamentals of Critical Care Medicine. Daily bedside teaching by the ICU staff is provided in addition to “hands-on” experience in managing the critically ill patient with close resident and staff supervision.

Semester Credit Hours: 4.0

MEDI 4061 General Internal Medicine Ward Subinternship – WHMC

This subinternship is designed to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the general medicine ward team and is required to participate in all team activities and medical care for his/her patients, under the supervision of the Internal Medicine resident and attending. The broad range of medical conditions admitted to WHMC affords the student exposure to the full spectrum of inpatient general internal medicine. No late drops will be accepted.

Semester Credit Hours: 4.0

MEDI 4062 Allergy-Immunology Clinic and Consultation Service – WHMC

The student will be a member of the Allergy-Immunology Ward Consult Team, along with a staff member, first-year fellow, and usually a resident. The student is required to assist in the evaluation of the inpatient consultations, and in addition see outpatients and attend all Allergy-Immunology Service educational activities. The student is required to perform appropriately focused history and physical exam, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plan on all assigned patients. No late drops will be accepted.

Semester Credit Hours: 4.0

MEDI 4063 Hematology/Oncology Consultation – WHMC

The student is required to participate on the Medical Oncology/Hematology Consultation Service. Students are required to evaluate inpatients on the other medicine and surgical services, as well as new patients with classic hematology problems seen in the outpatient clinic. The student is expected to acquire an evaluation and treatment approach to patients whether presenting with malignant or hematologic problems. The appropriate selection of diagnostic studies will be emphasized as well as the basics of selecting appropriate therapy. Experience in the evaluation of peripheral blood smears and the obtaining and interpretation of marrow samples will be stressed. No late drops will be accepted.

Semester Credit Hours: 4.0

MEDI 4065 Medical Ethics for the Clinician

At the end of this seminar, students are required to be able to:

1. Describe the purposes and methods of ethics consultations.
2. Describe and critique four approaches to solving ethical issues in medicine: principle-based (including consequence-oriented and duty-oriented), relational, virtue-oriented, and casuistic;
3. Use each of these four approaches to analyze a clinical case presenting ethical issues;
4. Use each of these approaches to analyze major ethical issues in health care; and
5. Analyze the sources, methods, and outcomes of other people’s deliberations over ethical issues in health care.

This course requires approximately 3–4 hours reading outside of class each day. Students are required to meet daily with the instructor to discuss the assigned readings during a 90-minute seminar.

Semester Credit Hours: 4.0

MEDI 4066 Medical ICU Subinternship – UH/VA

This subinternship is designed to prepare students for the intense and responsible role of the intern. The subintern is an integral member of the team and is required to participate in all team activities and participate in all medical care for his/her patients, under the supervision of the Internal Medicine resident, Pulmonary fellow, and Pulmonary/Critical care attending. Students are expected to participate in daily hospital rounds, morning report, Grand Rounds, Morbidity and Mortality
conference, IM Housestaff conferences. The students are required to actively participate in the work-up and management of patients with critical illnesses under close supervision of the housestaff, fellows, and faculty. During this rotation, the student will be exposed to the fundamentals of ventilation support, airway management, respiratory and hemodynamic monitoring, stabilization and support of the critically ill patient. Emphasis is placed upon a system approach to patient evaluation and will include didactic sessions with critical care faculty in addition to daily rounds.

**MEDI 4068 Geriatric Medicine**
This rotation offers clinical experience in geriatric internal medicine. Students are required to participate in the Section’s outpatient clinic, academic nursing home, and didactic educational activities. Students are also has the opportunity for exposure to other multidisciplinary programs in geriatric medicine, including hospital-based home care. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. Students will also have exposure to community resources for the special problems encountered by geriatric patients and have the opportunity to learn to be able to identify different types of medical delivery systems. If the rotation is done as the Ambulatory selective, the student will be required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

**Semester Credit Hours: 4.0**

**MEDI 4069 Research in Aging**
This research elective offers the opportunity to participate in ongoing basic and clinical research on aging, including basic mechanisms of aging, nutritional modification of the aging process, gerontologic aspects of hormone action and hepatic glucose metabolism, clinical geriatric issues of long-term care interventions, ethics, and health services for the elderly under the supervision of faculty in the Department of Medicine (Division of Geriatrics) and the Department of Physiology.

**Semester Credit Hours: 4.0**

**MEDI 4074 AHEC Clinic Experience**
Under the auspices of the UT Health Science Center’s South Texas Program, this experience exposes students to primary care of ambulatory patients at various clinical training sites in South, East, West, and the Coastal area of Texas. The goals are to expose you to 1) primary care, 2) community-based practice, and 3) delivery of medical care to underserved/rural populations and health disparities. Please reference the link [http://southtexas.uthscsa.edu](http://southtexas.uthscsa.edu) for more information. The student must spend time working in the office practice of a physician who is board certified in Internal Medicine and/or one of its specialties. In addition, the student can gain experience in preventive services applicable to infectious diseases, tuberculosis, diabetes, etc., and work with health professionals to gain a broader understanding of health care needs and services depending upon the area in which he/she is working. The student will be required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course. Student housing expenses may be covered by the AHEC, but there will be no reimbursement for travel costs. **No late drops will be accepted.**

**Semester Credit Hours: 4.0**

**MEDI 4075 AHEC Preceptorship**
Students will work closely with board certified interns in private practice in other communities throughout South Texas, San Antonio, and surrounding counties. Students are required to actively participate in office outpatient care and inpatient care under the direct supervision of the preceptor. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. Students will be required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course. Student travel and/or housing expenses may be covered by the AHEC/STBI. **No late drops will be accepted.**

**Semester Credit Hours: 4.0**

**MEDI 4077 EKG Interpretation**
This rotation is designed for students whom have basic to intermediate expertise in reading ECG’s and who are motivated to enhance this expertise through independent study. Students have the opportunity to become proficient in the interpretation of ECG’s through daily self-study of electrocardiograms.

**Semester Credit Hours: 2.0**

**MEDI 4078 HIV/AIDS Inpatient Service**
This elective on the HIV/AIDS Medicine Team 6 at University Hospital offers the opportunity to assume direct patient responsibility under the supervision of a resident, Infectious Disease fellow, and attending faculty. This subinternship is for persons interested in obtaining extensive teaching in HIV disease. It provides practical experience in the diagnosis and treatment of HIV complications such as PCP, CMV, toxoplasmosis, invasive fungal infections, mycobacterial disease, and oncological and neurological complications of this disease. These objectives will be obtained through a team approach to patients with HIV infection involving nurses, physicians, and other staff, and also will include a formal didactic teaching series.

**Semester Credit Hours: 4.0**

**MEDI 4079 Clinical Preceptorship in General Internal Medicine**
Students will join the practice of a clinical faculty member practicing general internal medicine in an internal medicine subspecialty in the local community. Activities include hospital rounds, office visits, hospital committee meetings, and an introduction to practice management. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory
data, and develop differential diagnosis and management plans on all assigned patients. Students will also have exposure to community resources for the special problems encountered by patients in the ambulatory setting, and be able to identify different types of medical delivery systems. If rotation is done as the Ambulatory Selective, the student will be required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.  
*Semester Credit Hours: 4.0*

**MEDI 4082  Cardiology Consultation – WHMC**  
Students are required to participate in evaluation of patients through the Cardiology consult service. Students are required to participate in daily rounds on inpatient consultations and patients in the Cardiology Clinic. Students are to learn the pathophysiological approach to the diagnosis and treatment of disease of the cardiovascular system. Students are expected to learn a detailed approach to the history, physical examination, and the ordering and interpretation of non-invasive and invasive cardiac diagnostic tests. *No late drops will be accepted.*  
*Semester Credit Hours: 4.0*

**MEDI 4115  Palliative Care**  
This MS4 didactic elective will focus on the main beliefs of palliative care, which include symptom control and end-of-life care in general and in specific populations, fulfilling the following educational principles, applicable to many other areas in medicine:  
- Communication skills instruction for medical students  
- Exposure to interdisciplinarity teams (IDT)  
- Instruction in the multicultural practice of medicine  
*Semester Credit Hours: 0.5*

**MEDI 4155  Clinical Epidemiology for the Intern**  
*Semester Credit Hours: 0.5*

**MEDI 4170  Internal Medicine Internship Readiness Elective**  
This rotation ("Internal Medicine Boot Camp") is a 4-week elective restricted to students who will begin a categorical internal medicine residency in July of that same academic year. The purpose of the course is to present the diagnosis and management of common medicine topics that an IM intern can expect to encounter during residency, enhance differential diagnosis skills of common chief complaints seen on a medicine service, and develop procedural skills and patient evaluation skills. Students are expected to attend all scheduled conferences and interactive laboratory and clinical sessions focused on procedural skills and clinical assessment of standardized patients. Clinical skills labs will include heart sounds using Harvey manikin, intubation, mechanical ventilation, PFT, joint aspiration and placement of central lines. Students will receive training in BLS and ACLS and can receive certification if all classes are attended and performance is satisfactory. Students are required to give an oral presentation on a medicine topic/clinical question.  
*Semester Credit Hours: 4.0*

**MEDI 4201  Electrocardiogram Interpretation – RAHC**  
This rotation is designed for students who have basic to intermediate expertise in reading ECG’s and who are motivated to enhance this expertise through independent study. Students have the opportunity to become proficient in the interpretation of ECG’s through daily self-study of electrocardiograms. The ECG’s are referenced from the textbook: *Clinical Electrocardiology – Review and Study Guide*, Franklin H. Zimmerman, McGraw-Hill, 2nd ed, 2004, ISBN 0-07-142302-8.  
*Semester Credit Hours: 2.0*

**MEDI 4202  Emergency Department – RAHC**  
Students will work at Valley Baptist Medical Center with the supervision of the emergency medicine physicians. Students are required to work in all areas of the ER to experience both severely ill patients and patients with nonemergent problems, and are required to observe and participate in procedures. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients.  
*Semester Credit Hours: 1.0–4.0*

**MEDI 4204  Geriatrics/End-of-Life Rotation – RAHC**  
This rotation offers clinical experience in both geriatric medicine and palliative medicine. For the geriatric portion, the student is required to participate in the care of patients in a clinic, a nursing home, with home health agencies, and will have didactic educational activities. For the end-of-life portion, the student is required to work with professionals from different disciplines involved in a hospice-affiliated with the Harlingen teaching hospital (VBMC).  
*Semester Credit Hours: 1.0–4.0*

**MEDI 4206  Office Cardiology – RAHC**  
The student will work with a cardiologist in solo or group practice and will participate in the evaluation of patients with cardiac symptoms and disease. The student will have full-time participation in clinics, consultations, ECG interpretation, non-invasive cardiac test interpretation, and possible observation in the cardiac catheterization laboratory. The student is expected to learn the pathophysiological approach to the diagnosis and management of disease of the cardiovascular system, a detailed assessment through history and detailed cardiovascular physical exam, and interpretation of diagnostic tests. If rotation is done as the Ambulatory Selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.  
*Semester Credit Hours: 1.0–4.0*

**MEDI 4207  Office Endocrinology – RAHC**  
The student will work with an endocrinologist in solo or group practice and is required to participate in the evaluation of patients with endocrine disease. The student will have full-time
participation in clinics, consultations, and endocrine test interpretation. The student is expected to learn the diagnosis and management of disease of the endocrine system, patient assessment through a detailed history and physical exam, and interpretation of tests. Exposure to patients with pituitary and hypothalamic disease, thyroid disease, abnormalities in calcium metabolism, adrenal disease, diabetes, and lipid disorders may be seen. If rotation is done as the Ambulatory Selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

Semester Credit Hours: 1.0–4.0

MEDI 4208 Office Gastroenterology – RAHC
The student will work with a gastroenterologist in solo or group practice in Harlingen or in McAllen. The student is required to participate in the evaluation of patients with gastrointestinal diseases, liver disease, and diseases of the pancreas. The student will have full-time participation in clinics, consultations, and special gastrointestinal diagnostic techniques. The student is required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. If rotation is done as the Ambulatory Selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

Semester Credit Hours: 1.0–4.0

MEDI 4210 Office General Medicine – RAHC
The student will work with general internists at Su Clinica. Familiar clinic and is required to participate in the evaluation of patients with common internal medicine problems. The student is required to participate full-time with a mixture of day and evening clinics. The student is required to independently evaluate patients, present findings to the attending physician, document notes in the medical record, and participate in the management discussion and any procedures related to the patient. The student will have exposure to community resources for special problems encountered by the patients in obtaining health care and be able to identify different types of medical delivery systems. The student will be required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

Semester Credit Hours: 1.0–4.0

MEDI 4211 Office Nephrology – RAHC
The student will work with a nephrologist in a solo or group practice and are required to participate in the evaluation of patients with a variety of renal diseases including hypertension, acute and chronic renal failure, acid-base disturbances, fluid and electrolyte disturbances, and glomerular disease. The student will have full-time participation in clinics, consultations, special diagnostic procedures, and the dialysis unit. The student is required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. If rotation is done as the Ambulatory Selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

Semester Credit Hours: 1.0–4.0

MEDI 4213 Office Pulmonary Medicine – RAHC
The student will work with a pulmonologist in solo or group practice, and is required to participate in the evaluation of patients with acute and chronic lung diseases. The student will have full-time participation in clinics, inpatient hospital consultations, and various diagnostic methods. The student is required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. The student will be expected to become proficient in the interpretation of chest x-rays, pulmonary function tests, the evaluation of common pulmonary disorders, and the principles and methods of respiratory therapy, antimicrobial therapy, and arterial blood gases. The student may also have exposure to bronchoscopy, thoracentesis, pleural biopsy, and radionuclide testing.

Semester Credit Hours: 1.0–4.0

MEDI 4214 Office Rheumatology – RAHC
The student will have the opportunity to work with a rheumatologist in solo or group practice and is required to participate in the evaluation of patients with rheumatologic disease. The student will have full-time participation in clinics, consultations, and special diagnostic techniques. The student is required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. The student is expected to become proficient in the differential diagnosis and treatment of rheumatic and autoimmune diseases. If rotation is done as the Ambulatory Selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

Semester Credit Hours: 1.0–4.0

MEDI 4215 Valley Aids Council – RAHC
The student will have the opportunity to work in the AIDS clinic with an internal medicine physician who specialized in the care of patients with HIV disease. This rotation will provide experience in the diagnosis and treatment of HIV disease and complications such as PCP, CMV, toxoplasmosis, invasive fungal infections, mycobacterial disease, and oncological and neurological complications of HIV disease. The student will have full-time participation in clinics and consultations. Students are required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. Students will also have exposure to community resources for the special
problems encountered by the patients in this clinic and be able to identify different types of medical delivery systems. If the rotation is done as the Ambulatory Selective, the student will be required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

**Semester Credit Hours: 1.0–4.0**

**MEDI 4216  Office Hematology-Oncology – RAHC**

The student will have the opportunity to work with a hematologist/oncologist in solo or group practice in Harlingen or in McAllen. The student is required to participate in the evaluation of patients with hematologic disease and malignancies through daily clinics, consultations, interpretation of special clinical, and laboratory procedures. The student is required to perform appropriately focused history and physical exams, prepare written and verbal presentations, interpret laboratory data, and develop differential diagnosis and management plans on all assigned patients. If rotation is done as the Ambulatory Selective, the student is required to prepare a written essay based upon specific course objectives concerning systems of care. Essays must be submitted on the last day of the rotation and are required to receive a passing grade in the course.

**Semester Credit Hours: 1.0–4.0**

**MEDI 7002  Selective Preceptorship in Indian Health Care**

This elective offers the opportunity for an experience in the health care of Native American’s, coordinated through the Indian Health Service. Most experiences involve both inpatient and outpatient care under direct supervision of board certified family physicians or internists. Educational activities such as conferences, teaching rounds, etc., may vary from site to site. All clinical sites are located outside the State of Texas, including sites in New Mexico, Arizona and Alaska. Early application is recommended. Students completing appropriate application forms may be reimbursed for transportation costs and provided room and board by the Indian Health Service.

**Semester Credit Hours: 4.0**

**MEDI 7003  Elective in International Medicine**

This elective serves as a vehicle for students to participate in international medicine rotations. Students will work with a faculty sponsor to identify a program, either a pre-established site or a site discovered by the student which requires faculty approval. This elective includes: 1) The Center for Medical Humanities and Ethics International Scholars Program in India, a competitive program requiring a separate application through Dr. Ruth Berggren, 2) Shoulder to Shoulder program in Latin America, which requires a separate application process and some cost (airfare and small project fee), and is available October, January, and April, 3) Programs in Nicaragua, Mexico, Panama, and Guatemala (contact Dr. Lapey for details), and 4) Other sites available through online directory [http://globalhealtheducation.org/PublicDocs/GHEC%20Residency%20Guidebook.pdf](http://globalhealtheducation.org/PublicDocs/GHEC%20Residency%20Guidebook.pdf). All rotations share a commitment to service learning - medical education and self-reflection that arises out of service to needy populations. Students spend up to 4 weeks (or possibly longer) living in an international site and participating in the care of patients, under the supervision of local and visiting health care providers. The clinical settings and caseload will vary based on the location. There may be opportunities for patient education and emphasis on efforts of local empowerment, aiming to build up the communities in a sustainable way. Students will be expected to integrate themselves into the health care delivery system, and when possible, to strive to make an impact through community education and home visits. For certain Latin American sites, fluency in Spanish is a prerequisite. Students are encouraged to seek similar service learning experiences with underprivileged populations in San Antonio and Border communities prior to or after the rotation. End of rotation “reflection essays” are required and will serve to process student experiences.

**Semester Credit Hours: 1.0–4.0**

**MEDI 7004  Literature and Medicine**

In this course you are required to read short stories, poems, and a book of nonfiction. While many of the stories or poems directly address medical or ethical issues, the primary purpose is not to enhance your store of knowledge in these areas, but to promote your appreciation of these works—through discussions with other students (online via Blackboard and in class) and with authors and lecturers. Your own contributions to the course—not just the insights you’ve gained as medical students but the wisdom you bring to the class as human beings—will be critical to its success. We hope that the readings will help you prepare for and process your clinical experiences, furthering your development as a person as well as physician. There will be no “right” or “wrong” answers in this course; rather, our goal is to encourage thoughtful and serious responses to the readings and a lively and fulfilling conversation about them and the issues they raise. Students from Christian Medical College in Vellore, India, will join in our discussion online. MSIV students will receive two credits for completion of this longitudinal elective. All students are expected to participate in class discussions. Grades are earned by reading assignments, attendance at class meetings, and posting primary and secondary responses to posted discussion questions.

**Semester Credit Hours: 2.0**

**OBGY 4010  Advanced Sonography**

This elective offers training and experience in Obstetric Sonography. It is designed as an advanced course for students who have completed the core clerkship in Obstetrics and Gynecology and who are interested and anticipate a residency in Obstetrics and Gynecology. The student is required to work with the faculty in the Division of Obstetrics participating in patient consultations and observe ongoing management of patients. In addition, the student will have the opportunity to obtain hands-on experience in sonography. The student is required to attend weekly Gyn Rounds and Cesarean Section Conferences.

**Semester Credit Hours: 4.0**
**Microbiology and Immunology**

**MICR 1005  Microbiology**
The medical microbiology course is designed to provide a foundation in pathogenic microbiology and to prepare the medical student for subsequent offerings in infectious diseases, pathology, pharmacology, and epidemiology. The scope of the course includes the biology of microorganism; the concepts of host-parasite interrelationships for pathogenic bacteria, viruses, fungi, and parasites; and the fundamentals of immunology. Laboratory sessions are an integral part of the course and provide the opportunity to understand the principles of diagnostic microbiology. The medical student is provided an opportunity to develop proficiency in the basic technical skills required of clinical clerks, house officers, and physicians treating patients with infectious diseases. The course is taught by full-time members of the Department of Microbiology. $48 microscope fee for the Freshman year includes this course. $32 laboratory fee for the Freshman year includes this course.6

Semester Credit Hours: 7.5
Offered By: Department of Microbiology

**Obstetrics and Gynecology**

**OBGY 3005  Obstetrics and Gynecology Clerkship**
A clerkship consisting of gynecology and obstetrics is provided for medical students who have successfully completed the course in reproductive physiology and pathophysiology. The goal of the clerkship is to provide students with opportunities to prepare to function as a house officer capable of providing preventive care and treatment or competent to identify the patient's need for direction into an appropriate care environment. Supervised direct patient experience occurs in the obstetrical wards, operating room, labor and delivery suite, emergency room, and the obstetrical, gynecologic, family planning, and cancer detection clinics. A guide identifying instructional goals and the mechanisms to reach them is provided. Twenty-five seminars provide the opportunity for integration of clinical experience and didactic learning.

Semester Credit Hours: 6 weeks—7.0
Prerequisites: Successful completion of all required preclinical courses is prerequisite to enrollment in any of the clinical clerkships.

Offered By: Department of Obstetrics and Gynecology

**OBGY 4001  Obstetrical Externship**
This selective offers training and experience in the care of complicated and normal pregnancies and exposure to advanced obstetric techniques. It is designed primarily as a preparatory subinternship for students anticipating residency in Obstetrics and Gynecology. The student will have the opportunity to be an integral member of the obstetric service and function at the junior intern level under the supervision of the Obstetric Faculty and Chief Resident. Opportunity for direct participation in labor and delivery, outpatient clinics (high risk and routine), operative obstetrics, and obstetric sonography is provided. The student is required to attend patient-care conferences and didactic teaching rounds directed by the Obstetric Faculty, and will be required to give one seminar presentation.

Semester Credit Hours: 4.0
Prerequisites: Successful completion of all required preclinical courses is prerequisite for non-Health Science Center students is rank in the upper half of one’s medical school class.

**OBGY 4007  Obstetrics and Gynecologic Research**
This selective is designed to provide the opportunity to participate in either clinical or basic research currently conducted by the faculty in the Department of Obstetrics and Gynecology. Depending on the student's interest, an appropriate faculty member will be assigned as preceptor and will integrate the student into her or his ongoing research. The student is expected to be actively involved in the research and to prepare a formal oral or written presentation relative to their area of investigation.

Semester Credit Hours: 4.0

**OBGY 4008  Women’s Reproductive Health and Gynecologic Surgery**
This selective gives broad experience in gynecologic surgery and primary women’s healthcare. It offers a direct, hands-on opportunity to develop surgical and microsurgical skills. The student is required to be an active member of the gynecology service at the subintern level under the supervision of the Faculty Preceptor and the Chief Resident. Responsibilities will include participation in: 1) inpatient gynecologic, oncologic, and urologic surgeries and medical therapies; 2) outpatient procedures such as diagnostic laparoscopy, tubal sterilization, vaginal sonography, and hysteroscopy; 3) clinic-based care including annual gynecologic and breast examination, cancer screening, contraception, and treatment of sexually transmitted diseases; 4) treatment of acute gynecologic emergencies; and 5) rounds, patient care conferences, and didactic lectures. Additionally, the student will be given 16 hours of instruction in microsurgery using an animal model.

Semester Credit Hours: 4.0

**OBGY 4009  Endo-Infertility**
This elective offers training and experience in Reproductive and Infertility. It is designed as an advanced course for students who have completed the core clerkship in Obstetrics and Gynecology, are interested in reproductive medicine, and anticipate a residency in Obstetrics and Gynecology. The student is required to work with faculty in the Division of Reproductive Endocrinology participating in patient consultations for infertility and is required to observe ongoing management of infertility. In addition, the students are required to learn laboratory techniques associated with andrology as well as in vitro fertilization. Hands-on microsurgery laboratory experience will be available. The student is required to attend the weekly Combined Reproductive Endocrinology and Infertility Conference, be present for surgeries on the faculty service as well as on the resident service, and participate twice weekly in the infertility clinic at the Downtown University Outpatient Center.

Semester Credit Hours: 4.0
OBGY 4011 Clinical Obstetrics & Gynecology – RAHC
This is a four-week preceptorship in General Obstetrics and Gynecology in Harlingen, Texas. Staff are all clinical faculty of the RAHC. The clinical experience will be in both obstetrics and gynecology and involve more responsibility for patient care than is provided for third-year students; it is designed to be a subinternship. Patients are low- and high-risk obstetrical patients, general gynecology patients, GYN oncology patients, and infertility patients. Students considering a career in Obstetrics and Gynecology, Family Practice or other primary care or surgical should consider this rotation. It is a high volume, “hands-on” rotation and students have the opportunity to fulfill the required selective for ambulatory care. Housing is furnished through the Area Health Education Center/South Texas Border Initiative.
Semester Credit Hours: 4.0

OBGY 4012 Gynecology/Oncology
This selective gives focused experience in surgical techniques as well as the critical care of gynecologic oncology patients. The goal of this rotation is to provide students with the opportunities to prepare to function as a house officer capable of diagnosing and managing patients with gynecologic malignancies. Students will also have the opportunity to prepare to become competent to identify a patient’s need for direction into an appropriate care environment with a gynecologic/oncologist. The student is required to be a team member of gynecologic oncology service. It is a 7-term level under the supervision of gynecology/oncology faculty preceptors and the chief resident of that service. Responsibilities include inpatient gynecologic/oncology surgeries, inpatient gynecologic/oncologic critical care, outpatient gynecologic/oncologic clinic care, gynecology-radiation/oncology conference(s), and gynecologic/oncology rounds.
Semester Credit Hours: 4.0

Ophthalmology

OPHT 4001 Clinical Ophthalmology
The goal of the senior selective experience is to help the student learn how to perform an ophthalmological examination using external examination techniques, Schiotz, and applanation tonometry, the direct and indirect ophthalmoscope, gonioscopy, and refraction and to become familiar with the common systemic disorders that have ocular manifestations. The student is required to learn to recognize and understand the treatment of the most frequently encountered ocular diseases.
Semester Credit Hours: 4.0

OPHT 4003 Research In Clinical Ophthalmology
The student is required to design and carry out a clinical project, review of literature, chart review, etc., with approval and guidance by instructor. The student also is required to participate with faculty instructors in seeing private patients, observing surgery, scheduled teaching conferences and Journal Club.

Semester Credit Hours: 4.0
Prerequisites: third-year Ophthalmology Clerkship required; arrangement with instructor on individual basis

OPHT 4006 Ophthalmic Research
The student is required to actively participate in research activities within the Department of Ophthalmology. The student is expected to carry out a research project, which may be clinical or involve laboratory research. A logical and step-wise approach to research will be emphasized, from literature review and collection of data to analysis and reporting of the results. Some time may also be available for exposure to clinic patients and performance of ophthalmological examinations.
Semester Credit Hours: 4.0

OPHT 4024 MS4 Tutor Elective
The Tutoring Elective consists of activities that will provide the student the opportunity to participate in the Office of Academic Enhancement Tutoring Program as tutors. Each tutor will receive training, tutor over an entire academic year, participate in weekly online activities, and receive a formal observation with a follow-up conference.
Semester Credit Hours: 2.0
Prerequisites: status of a senior medical student

OPHT 4201 Clinical Ophthalmology-RAHC
The goal of the senior selective experience is to help the student learn how to perform an ophthalmological examination using external examination techniques, Schiotz, and applanation tonometry, the direct and indirect ophthalmoscope, gonioscopy, and refraction and to become familiar with the common systemic disorders which have ocular manifestations. The student will learn to recognize and understand the treatment of the most frequently encountered ocular diseases. The student will observe ophthalmologists and fellows perform specialized examinations and treatment, including surgery. The course is ambulatory based and is available all year.
Students will receive a clinical performance evaluation by the supervising attending physician.
Semester Credit Hours: 4.0

Orthopedics

ORTO 4002 Selective In Orthopaedics – WHMC
Semester Credit Hours: 4.0

ORTO 4003 Hand Surgery
The student participates as a team member on the Orthopaedic Hand Surgery Service of University Hospital. The student participates in the care of acute, traumatic, and elective reconstructive problems of the hand. Principles of examination of the hand and upper extremity, as well as patient management, are taught through clinical experience and gross dissection of the upper extremity. The student is required to attend core lectures on basic orthopaedics by orthopaedic faculty. No late drops.
Semester Credit Hours: 4.0
Prerequisites: ORTO 4005
ORTO 4005  Trauma, Fracture and Clinical Care
Participate as a member of an orthopaedic elective service team (including VA) for two weeks and two weeks as a member of the orthopaedic trauma service. On the elective service, the student will be assigned to a specific resident and faculty member to work in the outpatient clinics, onwards, and in surgery. Experience will emphasize both operative and nonoperative treatment. On the trauma service, the student will be assigned to a specific resident to work in the emergency room, trauma clinics, and operating room. Broad experience in assessment and care of extremity trauma will include fracture reduction and application of plaster casts. The student is required to also attend core lectures in basic orthopaedics by faculty. Reading material includes excerpts from Essentials of Musculoskeletal Care, as well as reading material required by a particular service. No late drops.
Semester Credit Hours: 4.0

ORTO 4006  Adult Reconstruction Surgery
Assigned to the total joint service under the director of Dr. Amanda Marshall. Clinic exposure includes two half days of adult reconstruction clinic: one at UT Medicine and the second at University Clinic Downtown. Students are required to learn to conduct a thorough orthopaedic examination including preoperative and post-operative evaluations. Operative experience includes two or three days per week at University Hospital, Audie L. Murphy V. A. Hospital, and Santa Rosa Northwest. Students will scrub with and assist Dr. Marshall and/or Dr. Trick in the operating room. Procedures primarily include total hip and total knee replacement and revision as well as hip and knee arthroscopy. Learning objectives will focus on basic biomechanics, anatomy, and perioperative care. Must attend core lectures on basic orthopaedics by orthopaedic faculty. Reading material includes excerpts from Essentials of Musculoskeletal Care. No late drops.
Semester Credit Hours: 4.0

ORTO 4008  Pediatric Surgery – SRCH/UH
Students are assigned to work with one of the pediatric orthopaedic faculty for broad exposure in the essentials in pediatric orthopaedics. Students are required to attend outpatient clinics at Christus Santa Rosa Children’s Hospital, University Clinic Downtown, and University Clinic. Students are required to perform preoperative workups, attend surgery, and attend conferences at Christus Santa Rose Children’s Hospital. Both assessment and treatment of pediatric trauma, congenital conditions such as clubfoot and dislocated hip, spinal disease, and neurologic conditions such as cerebral palsy will be emphasized. Students are required to attend core lectures on basic orthopaedics by orthopaedic faculty. Reading material includes excerpts from Essentials of Musculoskeletal Care, as well as reading material required by a particular service. No late drops.
Semester Credit Hours: 4.0

ORTO 4009  Research
The student will be assigned to the supervision of one member of the orthopaedic faculty to carry out either a basic or clinical research project. The content and scope of the project will be determined by the student and faculty member prior to the start of the rotation. Either basic or clinical studies may be undertaken. Students are required to attend core lectures in basic orthopaedics by faculty. Reading material includes excerpts from Essentials of Musculoskeletal Care, as well as reading material required by a particular service. No late drops.
Semester Credit Hours: 4.0

ORTO 4011  Sports Medicine
Students are assigned to the Sports Medicine Service. Students are required to participate in the knee rehabilitation clinic, weekly training-room visits, and attend surgeries. Introduction to the diagnosis and treatment of joint instability as well as care of the athlete will be made. Students are required to attend core lectures in basic orthopaedics by faculty. A brief review paper on a sports subject related to the student’s chosen field of study, researched and submitted in rough draft, is required. Reading material includes excerpts from Essentials of Musculoskeletal Care. No late drops.
Semester Credit Hours: 4.0

ORTO 4012  Musculoskeletal Oncology
Students are required to participate as a member of Orthopaedic Oncology Service. Students are required to participate in initial evaluations, staging, biopsy and definitive treatment of patients with primary musculoskeletal tumors and cancer metastatic to bone. Regional anatomy, pathology, and initial patient evaluation are emphasized. Each student is required to prepare a case presentation and discussion. Clinical experience and surgical exposure will be included. Students are required to attend core lectures in basic orthopaedics by faculty. Reading material includes excerpts from Essentials of Musculoskeletal Care, as well as reading material required by this service. No late drops.
Semester Credit Hours: 4.0

ORTO 4014  Primary Care (Outpatient Orthopaedics)
A thorough outpatient orthopaedic primary care experience working under direct faculty supervision in Outpatient Clinics, this rotation is ideal for the student who wishes to pursue a career in Primary Care Medicine. The focus will be on common outpatient orthopaedic disease of the upper extremity, spine, and lower extremity. In addition, students will be given the opportunity to learn to assess and treat sports injuries, orthopaedic disorders of children, and in the treatment of musculoskeletal tumors. No attendance in the operating room is required. Students are required to attend core lectures in basic orthopaedics by faculty. Reading material includes excerpts from Essentials of Musculoskeletal Care. No late drops.
Semester Credit Hours: 4.0

ORTO 7001  Preceptorship
Students are assigned to a practicing orthopaedic surgeon or group from the Clinical Orthopaedic Faculty, either in San Antonio or out-of-town. The student is required to see patients in the surgeon’s private office, participate in the care of patients in the emergency room, and be involved in surgical cases. Rotations available include (but are not limited to) preceptorships in hand surgery, sports medicine, spinal
surgery, total joint replacement, pediatric orthopaedics, and general orthopaedics. A rotation description from the selected site must be turned in to the Orthopaedic Student Administrator.
Semester Credit Hours: 4.0

Otolaryngology - Head and Neck Surgery

OTOL 4000 Special Topics
Special topics in Otolaryngology-Head and Neck Surgery.
Semester Credit Hours: 4.0

OTOL 4001 Otolaryngology-Head and Neck Surgery
The course is a clinical experience in the outpatient, in-patient, and operative environments. The course is normally offered for those senior medical students who are interested in pursuing a career in the field, although the clinical experience is also valuable for students interested in primary care, ophthalmology, and applicable internal medicine subspecialties. The student clerk is a full participatory member of the clinical team and will gain valuable knowledge and experience in the diagnosis, medical, and surgical care of the patient with upper aerodigestive tract and related disorders. The student will have the opportunity to enhance her/his surgical technical skills, including emergency patient care. Clinical activities are available at both the University Hospital System and the VA Hospital. Clerkships at BAMC or WHAFMC are arranged through the institution’s education office.
Exposure to the breadth and depth of the field includes general and pediatric otolaryngology, rhinosinusology, head and neck oncologic surgery, otology, laryngology and bronchoesophagology, maxillofacial trauma, and facial plastic and reconstructive surgery.
Semester Credit Hours: 4.0

OTOL 4002 Otorhinolaryngology Research
The department offers students research opportunities in a diverse and wide range of clinical and basic science topics. Areas of on-going research include voice disorder, head and neck oncology, animal models in laryngo-tracheal stenosis, and clinical outcomes studies. New opportunities for research are present in the functional areas of otolaryngology and hearing science, head and neck surgery, laryngology, general otolaryngology, and facial plastic and reconstructive surgery.
Semester Credit Hours: 4.0

OTOL 7000 Off Campus
This is an off-campus externship.
Semester Credit Hours: 4.0

Pathology

PATH 2005 Pathology
This course provides an introduction to the fundamentals of human disease (general pathology) followed by a review of the principal diseases of major organ systems (systemic pathology). Teaching methods include lectures, laboratory exercises, case conferences, and reviews. The interpretation of gross and microscopic pathologic specimens is emphasized as a means of illustrating the application of principles to actual clinical diseases. The course also includes the application of clinical laboratory tests in disease diagnosis. This will be taught in an integrated fashion with ICS, ACES, and Pharmacology in the organ system modules.
Semester Credit Hours: 10.5

PATH 4001 Hematology – UH
During this selective, through daily experience, consultations, and conferences, students will have the opportunity to learn to use CBCs, blood films, bone marrow studies, and other hematologic laboratory data in the diagnosis of basic hematologic, lymphoid, and coagulation disorders. This selective can be tailored according to the needs of individual students. The student interested in primary care can become involved in the performance of common laboratory tests done in the office. Daily contact with the pathologist will provide guidance in selection and proper utilization of laboratory testing for a specific patient’s problem. For the student interested in pathology and laboratory medicine, the organization, management, maintenance of quality control, and consultative role of the Hematology Laboratory will be emphasized. During the selective period, a student may be assigned to spend one week in flow cytometry, molecular genetics, or cytogenetics.
Semester Credit Hours: 4.0

PATH 4002 Blood Banking
This selective is to acquaint the student with transfusion practices including the indications, dosage, expected benefits and risks of the different blood components, and the performance of therapeutic apheresis. The student will also be exposed to basic immuno-hematology and blood-banking techniques of acquiring, processing, testing, and transusing blood components. Under the direction of the pathologist, a transfusion medicine fellow, a pathology resident, and a technical specialist in blood banking, the student will be required to perform basic techniques, participate in resolving the problems of patients having difficulties in transfusion, and evaluate the appropriateness of transfusion episodes. The selective can be tailored to offer more experience in transfusion practices for patient care or in organization, management, quality control, and other factors important to the student who may consider laboratory medicine as a chosen field. Students are required to participate in consultations and education programs offered by the blood bank.
Semester Credit Hours: 4.0

PATH 4003 Hematology/Blood Banking
Combination selective between the Hematology Laboratory and the Blood Bank may be arranged if student so desires.
Semester Credit Hours: 4.0

PATH 4004 Anatomic Pathology
Emphasis may center on one aspect of anatomic pathology (surgical pathology or autopsy pathology), or on the pathology of a specific organ system, such as gynecologic pathology, hematopathology, neuropathology, dermatopathology, pulmonary etc. Students are required to assist in handling of tissues received from surgical procedures and may participate in autopsy dissections. Students will study microscopic slides and assigned reading, and will be expected to do a brief case
presentation at Anatomic Pathology Grand Rounds.

Semester Credit Hours: 4.0

PATH 4007  Research In Pathology
The course involves participation in a selected facet of ongoing research projects being conducted by a faculty member with assigned responsibilities for technical performance, reading, and interpretation of results.

Semester Credit Hours: 4.0

PATH 4012  Anatomic Pathology: Fine Needle Aspiration
Students will be given the opportunity to learn the technique of fine needle aspiration (FNA) biopsy. Direct supervision by faculty, cytology fellow and/or pathology resident in the method of specimen procurement and preparation of the FNA specimen occurs after initial instruction by the course director or their designee for palpable lesions. Participation at radiologically guided or endoscopically guided FNAs is also observed. Students are required to learn basic Modified-Giemsa staining with preliminary evaluation for adequacy of aspirate. There will be exposure to basic interpretation of FNA material from smears and cell blocks with emphasis on selection of ancillary testing along with clinical correlation. A separate clinic time is NO longer available and FNAs are done on an “on-call” basis from UHS cytopathology. Exposure to other areas of anatomic pathology that pertain to quality improvement of clinical medicine skills will also be made available. The experience may be customized depending on the student's future interests (pathology as a future vocation versus students planning on other fields of medicine).

Semester Credit Hours: 1.0–4.0

PATH 4015  Forensic Pathology
Daily responsibilities include the observation of forensic autopsies. Other responsibilities will include crime scene investigation, courtroom, and/or deposition exposure. During the rotation period, the student is expected to spend some time within the toxicology laboratory and must arrange this with the chief toxicologist. Near the end of the rotation, the student is expected to present a talk on a topic of current forensic interest to the staff during weekly case review. The student will be assessed by attendance, type and frequency of activities performed, and subjective evaluations by the medical examiner staff.

Semester Credit Hours: 2.0–4.0

Prerequisites: This forensic pathology rotation must be pre-approved by the course director for both time period and length of rotation; recommended during the fourth year of medical school following core rotation in general autopsy and surgical pathology, though these rotations are not required.

PATH 4104  Naturopathic Medicine; Evidence-Based Critique
This course strives to overcome the animosity between conventional and unconventional medicine by openly discussing and evaluating some of the naturopathic methods using the tools of evidence-based medicine. The objective of this course is to build basic knowledge about the mainstreams of naturopathic medicine such as fito-therapy, acupuncture and other reflexologies, Asian and European dietary systems, as well as stimulatory methods such as fasting and homeopathy. For each of these systems, diagnosis and treatment will be discussed from the evidence-based perspective.

Semester Credit Hours: 0.5

PATH 4105  Evidence-Based Medicine in Everyday Practice
This course includes theory and methodological foundation, definitions and overview of evidence-based medicine, practical considerations, and reporting in evidence-based medicine.

Semester Credit Hours: 0.5

PATH 4290  Clinically Applied Laboratory Medicine (CALM)
This course is an eleven-contact-hour mandatory course in laboratory medicine for MSIV students. Offered during the spring semester, the course is taught by members of the Pathology Department using patient case scenarios to illustrate laboratory medicine aspects of patient care management. An introductory one-hour lecture is presented to the entire class as a whole to provide course format information and small-group assignments. Groups of twenty-five to thirty students are formed based upon medical/surgical specialties; a student is assigned to a group according to chosen specialty. Patient cases are selected to emphasize important laboratory medicine points pertinent to a particular specialty.

Semester Credit Hours: 0.5

Offered By: Department of Pathology

Pediatrics

PEDI 3005  Pediatric Clerkship
This third-year pediatric clerkship addresses issues unique to childhood and adolescence by focusing on human developmental biology, and by emphasizing the impact of family, community, and society on child health and well-being. Additionally, the clerkship focuses on the impact of disease and its treatment on the developing human, and emphasizes growth and development, principles of health supervision, and recognition of common health problems. The role of the pediatrician in prevention of disease and injury and the importance of collaboration between the pediatrician and other health professionals in stressed. During this clerkship, students spend time working in outpatient and inpatient settings.

Semester Credit Hours: 7.0

PEDI 4003  Clinical Preceptorship in Ambulatory Pediatrics
This selective is based in the Children's Health Center, a teaching clinic in an urban setting. Students are required to obtain history and perform physical exams, prepare written and verbal presentations, interpret laboratory and radiographic data, and develop differential diagnosis and management plans under faculty supervision. Opportunities will be given to provide well-child care. The student is required to develop a presentation based on curriculum objectives with a focus on healthcare delivery.

Semester Credit Hours: 4.0
PEDI 4006  Pediatric Cardiology
This rotation is geared to improve student's understanding of the pathophysiology and management of pediatric and congenital heart diseases. The student will be offered didactic instruction, as well as slide and computerized material, to improve his/her skills. Clinical skills in cardiac auscultation, EKG interpretation, and chest x-ray interpretation will be emphasized primarily in the outpatient setting. The students will receive exposure to noninvasive techniques in diagnosis such as echocardiography, and invasive procedures in the cardiac catheterization laboratory. Student learning will be further enhanced by attendance and participation at weekly patient management conferences.
*Semester Credit Hours: 4.0*

PEDI 4009  Pediatric Gastroenterology/Nutrition
This rotation offers an opportunity to participate in the diagnosis and management of gastrointestinal, liver and nutritional disorders of children. Sites include inpatient facilities at CHRISTUS Santa Rosa Children's Hospital and outpatient clinic at the CHRISTUS Santa Rosa Clinic. The student will participate actively in seeing patients, in the diagnostic process, including procedures if necessary. Required reading and discussion of the study material covered is expected. Didactic sessions separate from clinical teaching sessions are done to cover the study material.
*Semester Credit Hours: 4.0*

PEDI 4013  Pediatric Hematology/Oncology #1
The student is required to participate in the diagnostic evaluation, therapy, and follow-up of hematology/oncology patients at Christus Santa Rosa Children's Hospital. This is an opportunity for experience in blood and bone marrow morphological diagnosis, techniques for bone marrow aspiration, and intravenous and intrathecal chemotherapy.
*Semester Credit Hours: 4.0*

PEDI 4015  Pediatric Hematology/Oncology #2
The student is required to participate in a clinical or basic investigation project on a topic of interest to the student, under the supervision of the medical staff. The research might utilize retrospective information on specific groups of patients treated at the Greehey Children’s Cancer Research Institute, the Hematology Clinic, or the Bone Marrow Transplant Unit; or it may investigate in-depth a particular clinical or basic facet of a disease process.
*Semester Credit Hours: 4.0*

Prerequisites: previous experience with introductory adult or pediatric hematology/oncology courses preferred

PEDI 4016  Pediatric Allergy, Immunology, and Infectious Diseases
Students are required to actively participate in all clinical activities of the Division, including outpatient clinics and inpatient consultations. Emphasis is placed on clinical and laboratory evaluation of hypersensitivity, infection, immunity, and inflammation, and the management of allergic disease, infectious diseases, primary and secondary immune deficiencies, rheumatologic conditions, and associated complications. The scope of infectious diseases typically encountered includes community- and hospital-acquired infections, including post-surgical infections, infections in cancer and transplant patients, and HIV-infected children.

PEDI 4020  Pediatric Endocrinology
Disorders of thyroid/parathyroid, adrenal/gonad, growth (including hypopituitarism) and carbohydrate metabolism (including diabetes mellitus), respectively, are covered during each of the 4 weeks of the rotation. Outpatient clinics meet 8 or more half-days each week (4 or more half-days at CHRISTUS Santa Rosa and 4 or more half-days at the Children’s Center at the Texas Diabetes Institute). Clinics are focused on either diabetes (type 1, type 2, medical diabetes) or endocrine issues. Directed reading is provided, and the patients are reviewed and the pertinent literature discussed at conferences held two to three times weekly. Informal lectures occur during clinic time as well. There is a weekly case management conference at which students present interesting cases, and laboratory results obtained during the week are discussed. Students are also encouraged to attend Pediatric and Endocrine Grand Rounds.
*Semester Credit Hours: 4.0*

PEDI 4022  Neonatal Research
This rotation is designed for students interested in laboratory or clinical research experience in Perinatal Medicine. Students work directly under the guidance of a faculty member and are required to be involved in data gathering, chart review, or lab work in the area of research in which the faculty is involved and commensurate with the student’s experience and interests. The selective will provide opportunities for protocol development, literature review, data analysis, and learning through reading and student-faculty interaction. Students must arrange to work with a neonatal faculty member before contacting the department for permission.
*Semester Credit Hours: 4.0*

PEDI 4023  Neonatal Intensive Care Externship—UH/NICU
This rotation includes all of the duties of a pediatric first-year resident under the supervision of a senior pediatric resident and the pediatric full-time faculty. Weekend and night call schedules are integrated with those of the pediatric housestaff. Students work 6 days/week with 1 day off. As the 4th weekend is off, this translates to 3 days off during the rotation. These 3 days may be used for interviews; additional days off for interviewing should not be expected. The objectives for this course are two-fold:

1. To prepare for postgraduate training by functioning in an inpatient clinical setting with the maximal responsibility a student can be allowed.

2. To extend the skills and knowledge acquired as a third-year clerk in a specific clinical pediatric setting. The student will have the opportunity to increase her/his:
   a. skills in pediatric physical diagnosis;
   b. skills in clinical decision making;
   c. knowledge of pediatric differential diagnosis;
   d. knowledge of pediatric therapeutics.

*Semester Credit Hours: 4.0*
PEDI 4027  Pediatric Genetics
Students are required to participate in CHRISTUS Santa Rosa clinics for experience with single gene disorders, chromosome abnormalities, multiple congenital anomalies, and teratogenic exposures. Students are required to participate in inpatient consultations. Students are required to participate in scheduled multidisciplinary clinics including craniofacial anomalies clinic. Opportunities with inpatient consultations at other local hospitals and prenatal genetic clinic are also available. Students will have the opportunity to gain skills in genetic physical exam, pedigree analysis, genetic counseling, dysmorphology, as well as ordering and interpreting DNA, chromosomal, FISH, and metabolic testing. Training in differential diagnosis includes use of genetics databases and Internet resources. Students will present a case/review of a disorder or management issues during the last week of their rotation in conference. Patient encounters range from 45 minutes to 3 hours depending on the patient and the chief concerns. Weekend and evening experiences are subject to variation in clinical request made to the Division. Students should let the course instructor know their (voluntary) availability if this situation arises.  
Semester Credit Hours: 4.0

PEDI 4029  Pediatric Pulmonology
The main objective of this rotation is to acquaint students with the diagnosis and treatment of the most common pediatric pulmonary disorders. The emphasis will be on how to obtain pertinent history, the recognition of physical signs of pulmonary diseases, CXR and blood gas evaluation, and the critical assessment of the data gathered. The practice of evidence-based medicine will be emphasized. Whenever possible, didactic material will be linked to patient care. Students are required to participate in all available outpatient pulmonary clinics and will follow pediatric inpatients with pulmonary disorders.  
Semester Credit Hours: 4.0

PEDI 4031  Pediatric Nephrology
This course offers the student the opportunity to learn the essential concepts in the pathophysiology and the management of fluid and electrolytes and acid base disturbances. It also offers ample involvement in the diagnosis and management of common renal disorders in children as well as significant participation in the management of dialysis and kidney transplant patients. The student is required to attend the renal clinics at Children’s Kidney Center and participates in the management of in-patients. There will be an opportunity to learn histopathology of renal diseases through reviewing biopsies with pathologists.  
Semester Credit Hours: 4.0

PEDI 4036  Pediatric Critical Care Externship–UH
This rotation offers in-depth exposure to the science and care of the critically ill infant and child with particular emphasis on surgical intervention. The University Hospital Pediatric ICU provides comprehensive critical care services but focuses on trauma care, neurointensive care, and transplantation services. This opportunity provides exposure to multidisciplinary care of the child with neuro or general trauma, and will provide the opportunity to enhance knowledge and skills in invasive procedures, principles of mechanical ventilation, principles of resuscitation, pharmacology of critical care, and the pathophysiology of these diseases. The student is required to participate in daily rounds with the attending pediatric faculty and radiology rounds with pediatric radiologists. Directed reading will be provided.  
Semester Credit Hours: 4.0

PEDI 4037  Pediatric Critical Care Externship–CSRCH
This rotation offers in-depth exposure to the pathophysiology and care of the critically ill infant and child. This opportunity will provide experience with care of children in a multidisciplinary PICU. Knowledge and skills in invasive procedures, principles of mechanical ventilation, pharmacology of critical care, interpretation of blood gases, and pathophysiology of critical illness will be available. The student is required to participate in daily work, attending, and x-ray rounds. Directed reading and didactic lectures are provided. The CHRISTUS Santa Rosa Children’s Hospital Pediatric ICU has 1,500 admissions per year of which 65% are medical. Surgical patients are predominantly neurosurgical, orthopedic, and general pediatric surgery.  
Semester Credit Hours: 4.0

PEDI 4038  Pediatric Dermatology
The pediatric dermatology 4-week on-campus selective is specifically designed to increase the student’s recognition of pediatric skin disease and its effect on the child’s well-being and family dynamics. The student is required to participate in conferences, didactic sessions, and patient care.  
Semester Credit Hours: 4.0

PEDI 4039  Child Abuse Pediatrics
The goals of the course are for students to see child maltreatment as a common cause of many acute, delayed, and chronic physical and mental health conditions. Students will have the opportunity to recognize demographic risk factors, but see child abuse as a medical diagnosis made by the history and physical examination, not by the family’s profile. Students will have the opportunity to learn the reporting mandate, and know how to report to the appropriate agency(ies). Training is directed primarily at an attitudinal shift in awareness and comfort with considering child abuse in a broad range of clinical settings. After training, the student should have learned to understand the following statements, and will have had an opportunity to ask questions about any of the objectives for which they desire more information.

1. Abuse and neglect are common.
2. Abuse and neglect strike all social groups, but affect certain groups disproportionately.
3. Abuse and neglect are medical diagnoses made by history, physical examination, and ancillary studies on a case-by-case basis.
4. Abuse and neglect have immediate, short-term, intermediate-term, and long-term effects that extend into adulthood.

5. All medical providers are legally required to report on a “reasonable basis to suspect child abuse” and certain levels of neglect to appropriate agencies in every state in the U.S.

Semester Credit Hours: 4.0

PEDI 4040 Inpatient Pediatrics

The fourth-year medical student will have the opportunity to enhance her/his knowledge of basic inpatient pediatric diseases as well as improve her/his clinical skills such as case presentation, physical examination, hands-off, and assessing quality of evidence-based medicine. Opportunities to reach these goals will be available through direct clinical practice, didactics, and various educational activities set up for the student.

Semester Credit Hours: 4.0

PEDI 4074 AHEC Clinic Experience

Under the auspices of the Health Science Center’s AHEC Program, this experience exposes students to the primary care of ambulatory patients at various AHEC clinical training sites in South Texas. Under the direct supervision of a Board Certified General Pediatrician, the student serves as the initial physician in the evaluation and management of a wide array of outpatient problems. This clinic experience may include associated inpatient experience, depending on the patient responsibilities of the physician.

Semester Credit Hours: 4.0

PEDI 4080 Pediatric Emergency Medicine Clerkship

This four-week clinical clerkship will be conducted at the Children's Emergency Services Department, CHRISTUS Santa Rosa Children's Hospital. Up to four students per block may take this course. These senior medical students will be exposed to Pediatric Emergency Medicine both in the Children's Hospital Emergency Department and during Core Case Discussion Conferences. Topics to be discussed both in the clinical and conference settings include: Child with Shock; Child with Seizure (Febrile and non-Febrile); Child with Elbow Injury; Child with Rash; Child with Vomiting and Diarrhea; Child with Wheezing - Asthma and Bronchiolitis; Child with Fever and AMS (meningitis); Child with Limp (knee and hip); Child with Abdominal Pain – Appendicitis; Child with Abdominal Pain – Intussusception; Child with Breathing Difficulty - Pneumonia, Child with Infection; Child with Hemophilia; Child with Head Injury; Child with a Laceration; Child with a “Spider Bite” - Abscess; Child with DKA; Child with Near-Drowning; Child with Bee Sting – Anaphylaxis; and Child with Cyanosis. Students will work 8-hour shifts (7 a.m.-3 p.m., 3-11 p.m., and 11 p.m.-7 a.m.) which will vary throughout the rotation.

Semester Credit Hours: 4.0

PEDI 4201 Community Pediatrics – RAHC

The Department of Pediatrics offers this 4-week rotation at the RAHC for students interested in the contextual and systemic dimensions of general pediatrics. Goals for this rotation are:

- To experience and gain an understanding of the social, cultural, economic, and family forces which impact on the health status of children in the Lower Rio Grande Valley;
- To experience and gain an understanding of how the financing and organization of the health care system succeeds or fails to deliver optimal care to children and families;
- To experience and gain an understanding of the community roles of the pediatrician – as a member of the health care team, and as an advocate for children.

Students are required to work with pediatricians in community practices. In addition to clinical work with patients, students are required to participate in business meetings of the practices, work with other members of the health care team (such as nurse practitioners, physician assistants, and social workers), and participate with physicians in their hospital and other agency committee duties.

Semester Credit Hours: 1.0–4.0

PEDI 4204 Pediatric Neurology – RAHC

Students will work with a pediatric neurologist in his private practice in Brownsville and Harlingen. The student will see patients with the neurologist in his office and visit local hospitals with him as he responds to requests for consultation. The neurologist’s practice includes a broad array of children with neurological problems, including seizure disorders, behavior disorders, congenital anomalies, malignancies, and cerebral palsy. The student will have the opportunity to gain clinical skills in interviewing, physical and neurological assessment, EEG interpretation, and the use and interpretation of imaging studies. In addition, the student will have the opportunity to learn how the neurologist, as a specialist-consultant, interacts with referring physicians and agencies. The preceptor will guide the student in selecting appropriate reading to enhance the experiential component of the elective. Facility in Spanish is desirable but not essential.

Semester Credit Hours: 1.0–4.0

PEDI 4205 Evidence-Based Pediatrics – RAHC

The student will have the opportunity to explore the ways in which the EBM process is used in clinical practice through assigned readings and clinical experience. Students will spend mornings in an ambulatory care practice. From each morning’s clinical experience, the student will identify one or two clinical questions. In the afternoons, students will work in the medical library to formulate an answerable question, develop a search strategy, locate relevant literature, select a journal article, evaluate the article using EBM formulas, and reach a conclusion about the clinical questions. The preceptor will review the findings with the students in clinic the following morning. Culmination of the experience will be a case presentation in an appropriate forum such as a journal club or rounds.

Semester Credit Hours: 2.0

PEDI 4206 Pediatric Cardiology – RAHC

Students will work with pediatric cardiologists in their private practice in Brownsville and Harlingen. Both cardiologists are
members of the RAHC pediatric faculty. The student will see patients with the cardiologists in their office, and visit local hospitals with them as they respond to requests for consultation. The student will have the opportunity to gain clinical skills in interviewing, physical assessment, EKG, and echocardiogram interpretation. Since many of the cardiac disorders managed in this practice are chronic in nature, students will have the opportunity to learn how children and their families cope with these conditions at home, in school, and in the community at large. Preceptors will guide the student in selecting appropriate reading to enhance the experiential component of the elective. Semester Credit Hours: 1.0–4.0

PEDI 4207 Neonatology – RAHC

The student will work with neonatologists and their staff in the Neonatal Intensive Care Unit at Valley Baptist Medical Center, Brownsville. The student will participate as a member of the neonatal response team in attending high-risk deliveries and admitting babies to the NICU. All aspects of the medical and nursing care of the high-risk or fragile newborn will be open to the student for study. The student will also be encouraged to participate in the support and instruction of families and gain understanding of “life beyond the NICU” for these special babies. The preceptor will guide the student in selecting appropriate reading to enhance the experiential component of the elective. Semester Credit Hours: 4.0

PEDI 4208 Pediatric ICU – RAHC (Valley Baptist Medical Center)

This selective offers in-depth exposure to the pathophysiology and care of the critically ill infant and child. Knowledge and skills in invasive procedures, principles of mechanical ventilation, pharmacology of critical care, interpretation of laboratory studies, and working collaboratively and effectively with other critical care team members as well as families will be developed. The student is required to participate in daily work and attending rounds. Semester Credit Hours: 1.0–4.0

PEDI 4209 Pediatric Gastroenterology – RAHC

Students will work with a pediatric gastroenterologist in her practice in Harlingen. The student will see patients with the gastroenterologist in her office, and visit local hospitals with her as she responds to requests for consultation. The gastroenterologist’s practice includes a broad array of children with gastrointestinal problems, including digestive and malabsorptive disorders, short-gut syndrome, congenital anomalies, cystic fibrosis, recurrent infections, inflammatory bowel disease, and failure to thrive. The student will gain clinical skills in interviewing, physical assessment, the use and interpretation of imaging studies, and the indications for and interpretation of endoscopic assessments. In addition, the student will learn how the gastroenterologist, as a specialist-consultant, interacts with referring physicians and agencies. Since many of the gastrointestinal disorders managed in this practice are chronic in nature, students will learn how children and their families cope with these conditions at home, in school, and in the community at large. The preceptor will guide the student in selecting appropriate reading to enhance the experiential component of the elective. The student may have an opportunity to complete a small research project during the elective. Facility in Spanish is desirable but not essential. Semester Credit Hours: 1.0–4.0

PEDI 4210 Pediatric Inpatient Service – RAHC (Valley Baptist Medical Center-Harlingen)

The Pediatric Inpatient Service at VBMC-H accepts acutely ill children referred for inpatient care from local pediatricians, the hospital’s emergency department, and pediatricians and hospitals in the larger region served by VBMC-H. All activity will occur on the inpatient unit. The student will function as a “subintern” with responsibilities for patient assessment and management appropriate to the student’s interests and abilities. In the subintern role, the student will be expected to accept and discharge patient care responsibilities as a member of the ward team under the direct supervision of the faculty preceptor. Semester Credit Hours: 1.0–4.0

PEDI 4425 Community for Children – At the Border and Beyond

This is a four-week elective rotation in International Children’s Health and Community Pediatrics located in the Lower Rio Grande Valley. The purpose is to educate future physicians to provide compassionate, effective international leadership within community collaborations addressing children’s rights and the social determinants of health in resource-poor communities and to provide opportunities to develop skills necessary for effective advocacy. Curriculum objectives include the following: rights of the child; social determinants; clinical care in resource-poor regions; the impact of poverty; immigration and violence; preparing for advocacy; fostering a culture of compassion and professional development through experiences that broaden a physician-in-training’s view of health and illness. Objectives are addressed through didactics provided at the UTHSCSA RAHC, community outreach, advocacy projects, and individualized professional development counseling and goal setting. The elective also includes individually tailored Spanish classes and fieldwork with promotoras, community leaders, public health officials, and families. Advocacy is a large component of this elective. The participants work with community-based organizations on selected advocacy issues, such as child refugees and immigration, obesity and diabetes among the young, and medical-legal interventions for children and their families. Participants explore the sources of health, disease, and healing and examine models of public health and medical care on both sides of the border. Community for Children is not a clinical course, although there are opportunities to participate in patient care in clinics and hospitals, including home visits. CFC directors mentor participants during the rotation and beyond, providing tools and support for professional development.
This elective is a signature program of the UTHSCSA Regional Academic Health Center’s Community Medicine Educational Cooperative, in partnership with the UTHSCSA Department of Pediatrics, UT Health Science Center-Houston School of Public Health-Brownsville, Brownsville Community Health Center, Harlingen Pediatrics Associates, Hospital Infantil de Tamaulipas/Ciudad Victoria, Mexico, and Centro de Salud Tamaulipas, Mexico.

To apply, please contact Marsha Griffin, M.D., director, Community for Children, and clinical assistant professor, RAHC Pediatric Programs, at griffinmmd@yahoo.com. Only students serious and committed to this exceptional training and making it a first choice should apply. Once the student has been accepted by Community for Children, UTHSCSA students will be given electronic permission to go online and register for the course. Visiting students will be assisted with the application process by Jo Ann Lieberman at Lieberman@uthscsa.edu.

Semester Credit Hours: 4.0

PEDI 7002 Pediatric Developmental Disabilities

The student will have the opportunity to participate with the faculty in the evaluating children presenting with developmental delays, school dysfunction and/or behavioral problems. Common disabilities seen include Autism Spectrum Disorder, Attention-Deficit Hyperactivity Disorder, Anxiety Disorders such as Selective Mutism and others, other behavioral health disorders, Intellectual Disability (formerly mental retardation), Learning Disability, Neural Tube Defects, and Cerebral Palsy. The student will also see patients in follow up for medication and behavioral management.

The goals of the elective include the enhancement of skills in developmental assessment and interpretation of findings in infants, toddlers and younger and older school-aged children through active participation and direct observation of assessments. The student will also have the opportunity to become acquainted with a multidisciplinary approach to the evaluation and management of children presenting with developmental and behavioral concerns. The student will be exposed to community resources available for children and families with disabling conditions through key community site visits, such as an Early Childhood Intervention agency, a school for deaf children, and others. The student will spend one day per week in formal didactics on core topics in developmental disabilities. Students will be assigned to complete either an independent learning activity or a 30-minute presentation to be completed at the end of the rotation. This elective is set in an outpatient clinic at the CHRISTUS Santa Rosa Center of Hope for Child Development.

For electives occurring in June, July and August, the student may participate in a summer camp in the Texas Hill Country (all expenses paid). Camp CAMP (Children’s Association for Maximum Potential) is attended by children with a variety of disabilities. The volunteer staff typically consists of pediatricians, nurses, residents, teachers, and therapists. Medical students will be part of a team responsible for daily medical management of a “tribe” of children, and participate in medical “rounds” and nightly report to the on-call medical staff. Students would typically attend Camp for one of the 6-day camps during their rotation, while the remaining weeks of the rotation will be at the Center of Hope clinic site. Early scheduling is important if Camp participation is desired. The student must complete paperwork as required by CAMP before attending.

Laboratory fee: $32 for the Freshman year.

Semester Credit Hours: 4.0

PEDI 7012 Primary Ambulatory Care Preceptorship - Pediatrics

This rotation offers a clinical experience utilizing the office practice of qualified pediatric preceptors. Preceptorships are available with general pediatricians or with subspecialties. Preceptorships experience must be scheduled well in advance and may be 2 or 4 weeks in length.

The objectives for this course are:

1. To acquire knowledge of:
   a. The lifestyle of a practicing physician
   b. The business aspects of the practice of medicine
   c. The patient profile of a practicing physician

2. To extend the skills and knowledge acquired as a third-year clerk in a specific clinical pediatric setting. The student must increase her/his:
   a. Skills in pediatric physical diagnosis
   b. Skills in clinical decision making
   c. Knowledge of pediatric differential diagnosis
   d. Knowledge of pediatric therapeutics

3. To gain clinical experience with the disease spectrum seen in an ambulatory pediatric setting. Students must arrange to work with a preceptor before contacting the department for permission.

Texas Pediatric Society General Pediatric Preceptorship Program

This elective is part of a statewide program created by the Texas Legislature and administered by the Texas Pediatric Society in coordination with all of the medical schools in Texas. General pediatricians are serving as preceptors throughout Texas. In this elective experience the student will be placed (through a matching process) with a pediatrician in private practice for four weeks. The student will work and live in the preceptor’s community and learn at a practical level about general pediatric practice including common pediatric medical and developmental conditions, office management, hospital practice, and community services for children.

Semester Credit Hours: 4.0
### Psychiatry

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 2005</td>
<td>Psychopathology</td>
<td>This course is designed to provide fundamental knowledge about descriptive and psychodynamic aspects of mental disorders.</td>
<td>Successful completion of all required preclinical courses is prerequisite to enrollment in any of the clinical clerkships.</td>
</tr>
<tr>
<td>PSYC 3005</td>
<td>Psychiatry Clerkship</td>
<td>The psychiatric clinical clerkship is designed to familiarize the student with the personality traits, illnesses, and emotional disturbances that affect health and productivity.</td>
<td>Offered By: Department of Psychiatry</td>
</tr>
<tr>
<td>PSYC 4001</td>
<td>Clinical Psychiatry – HSC and RAHC</td>
<td>The fourth-year medical student inpatient rotation is designed as a bridge between the role of third-year clerk and the very active, responsible role of the intern.</td>
<td>Offered By: Department of Psychiatry</td>
</tr>
<tr>
<td>PSYC 4008</td>
<td>Clinical Biological Psychiatric Research</td>
<td>The course includes participation in clinical research into biochemical disturbances in mood disorders, mechanism of drug actions, and clinical testing of experimental drugs in depression, ADHD, schizophrenia, and anxiety.</td>
<td>Offered By: Department of Psychiatry</td>
</tr>
<tr>
<td>PSYC 4015</td>
<td>Neuropsychiatry – VA Hospital</td>
<td>This rotation will introduce students to an appreciation of the correlation between brain dysfunction and behavior disorders.</td>
<td>Offered By: Department of Psychiatry</td>
</tr>
<tr>
<td>PSYC 4019</td>
<td>Psychiatric Emergency Service (PES)</td>
<td>The fourth-year medical student psychiatric emergency service rotation at University Hospital is designed to further the training of the medical student by emphasizing systems of care and how these impact the patient in crisis.</td>
<td>Offered By: Department of Psychiatry</td>
</tr>
<tr>
<td>PSYC 4020</td>
<td>Consultation-Liaison Service</td>
<td>The course includes participation in the evaluation and management of medical and surgical inpatients with psychiatric problems at the University Hospitals.</td>
<td>Offered By: Department of Psychiatry</td>
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</tbody>
</table>

### Physiology

<table>
<thead>
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<tbody>
<tr>
<td>PHYL 4012</td>
<td>Research in the Endocrinology of Aging</td>
<td>The course consists of student participation in research on glucocorticoid-induced gene expression during aging and food restriction.</td>
<td>4.0</td>
</tr>
<tr>
<td>PHYL 4016</td>
<td>Ion Channel Research in Excitable and Non-Excitable Cells</td>
<td>The course includes student participation in ongoing basic research on the molecular mechanisms of signaling pathways acting on ion channels. Techniques may include patch-clamp, electrophysiology, molecular biology and biochemistry.</td>
<td>4.0</td>
</tr>
</tbody>
</table>
PSYC 4022  Psychotic Disorders
Rotation focuses on research. It may include assessment, planning of care, diagnosis, treatment and evaluation of care of patients in research protocols; experience with behavioral ratings for psychosis, counseling of families and theories regarding schizophrenic etiology and treatment. Rotation sites will vary (but all located within the San Antonio area) and students will be required to travel from one site to another on their own. Given the inherent characteristics of research, daily rotation schedules may change frequently.
Semester Credit Hours: 4.0

PSYC 4023  Child and Adolescent Psychiatry
To gain clinical experience in both inpatient and outpatient child/adolescent psychiatry, the student will attend the Child Guidance Center and Christus Santa Rosa Children’s Hospital outpatient psychiatry clinics. Some half-days are spent at the Southwest Mental Health Center working with children and adolescent inpatients. The student will also rotate one half-day a week at the Bexar County Juvenile Detention Center and attend seminars with the child and adolescent psychiatry residents. Experiences may be adjusted to fit students’ individual interests.
Semester Credit Hours: 4.0

Radiation Oncology
RADO 4003  Radiation Oncology
Participation in daily operations at the Cancer Therapy and Research Center includes treatment planning conferences, simulation, computer planning, applied physics, treatment setups, etc. Assistance is provided in consultations, follow-up clinics, and inter-departmental activities and ongoing projects. Emphasis is on radiation oncology. Responsibility is given according to capability and interest.
Semester Credit Hours: 1.0–4.0

Radiology
RADI 4001  General Diagnostic Radiology
This course is designed as an introduction to diagnostic radiology. The primary goals of the course are directed toward introducing the student to the different diagnostic imaging modalities and teaching the student to select the appropriate radiologic examinations for different clinical problems. Students will have the opportunity to receive a working knowledge of diagnostic radiology through lectures, individual projects, reading assignments, participation in subspecialty rotations, teaching conferences, and study of the American College of Radiology teaching file.
Semester Credit Hours: 4.0

RADI 4004  Diagnostic Radiology Clerkship – WHMC
This clerkship is designed as an introduction to the broad field of Diagnostic Radiology for students who are considering a career in this specialty or who seek a detailed overview of Diagnostic Radiology. The student rotates on each subspecialty service, (Chest, GI, GU, Neuroradiology, Pediatric Radiology, Skeletal Radiology, CT, Ultrasound, Special Procedures, MRI, Nuclear Radiology and Mammography), and participates with the staff and residents in performing and interpreting radiologic procedures.
Semester Credit Hours: 4.0

RADI 4005  Diagnostic Radiology – BAMC
This course is an introduction to basic radiology, including patient positioning, film exposure, and processing procedures. Students will study of the operation of a radiology department and learn the indications for different diagnostic imaging modalities. Work with radiology teaching files, take part in film and study performance and interpretation, and attend 10 hours per week of formal conferences given by residents, staff, and visiting consultants. Exposure to chest, bone and joint, genitourinary, gastrointestinal, neuro, cardiovascular, pediatric, and emergency radiology is provided to include the modalities of CT, MRI, Nuclear Medicine, and Ultrasound.
Semester Credit Hours: 4.0

RADI 4006  Pediatric Radiology
By being with the pediatric radiologist on a one-on-one basis through most of the working day, the student will have the opportunity to gain some insight as to the radiologist’s role as a clinician, consultant, and teacher; and acquire some knowledge of general pediatrics, neonatology, urology, orthopaedics, and other specialties. The student may attend Diagnostic Radiology Lectures.
Semester Credit Hours: 4.0

RADI 4007  Review of Radiology for the Intern
This is a refresher course in Clinical Diagnostic Radiology. In a large group format, a Radiology faculty member will review with the participants the basics of evaluating the chest X-ray, chest CT, abdominal CT, spinal, head, and pediatric cases. In addition, time will be spent on reviewing the appropriate studies to order for the work-up of various clinical scenarios.
Semester Credit Hours: 0.5

RADI 4022  General Diagnostic Radiology – RAHC
This course is designated as an introduction to diagnostic radiology. The primary goals of the course are directed toward introducing students to the different diagnostic imaging modalities available and teaching students to select the appropriate radiologic examinations for different clinical problems. Students will have the opportunity to receive a working knowledge of diagnostic radiology through lectures, individual projects, reading assignments, participation in subspecialty rotations, teaching conferences, and study of the American College of Radiology teaching file.
Semester Credit Hours: 1.0–4.0

Rehabilitation Medicine
REHB 4001  Clinical Rehabilitation Medicine (Outpatient and Consultative)
This course is especially recommended for students planning to specialize in Family Practice, Neurology, Neurosurgery, Orthopaedics, Internal Medicine, or Rheumatology. The student will have the opportunity to participate in patient-care activities and limited exposure to electrodiagnostic procedures under the direct supervision of faculty and residents. The
surgery facility, students are required to participate in treating patients in virtually all aspects of their injury, from acute care, to rehabilitation evaluation and treatment, to eventual discharge and outpatient follow-up. Students must become an integral part of an interdisciplinary team under the supervision of faculty and residents (VA Hospital and/or University Hospital). No late drops will be accepted.
Semester Credit Hours: 4.0

REHB 4007 Hyperbaric Medicine and Wound Care
This course is designed to introduce the student to the principles of wound care, advanced wound therapies, and hyperbaric medicine. The student will have the opportunity to observe monoplace and multiplace hyperbaric medicine treatments; will review theory of the use of hyperbaric in the 14 UHMS approved therapies. Complication and controversies of HBO use will be discussed in lecture format. The student is required to review common wound problems, diabetes infection, nutrition, venous stasis, and arterial insufficiency. Advanced treatment modalities will be observed and reviewed – wound vbac, collagen, apligraft, OASIS, debriding agents. (University Center for Community Health [Texas Diabetes Institute]). No late drops will be accepted.
Semester Credit Hours: 4.0

REHB 4008 Rehabilitation Engineering
This course is especially recommended for students planning to specialize in Family Practice, Neurology, Neurosurgery, Orthopaedics, Internal Medicine, or Rheumatology. The student will have the opportunity to participate in patient care activities and have limited exposure to orthotics, prosthetics, and pedorthotics procedures under the direct supervision of faculty and residents. The student will have exposure to Rehabilitation Medicine from an outpatient/inpatient perspective and is required to attend clinics to experience comprehensive rehabilitation management of inpatients with strokes, spinal cord injuries, neurologic disorders, rheumatoid arthritis, amputations, and other major disabling conditions requiring orthoses, prosthetics, and pedorthotics. The student will have exposure to the gait lab to experience research and an understanding of gait. (University Hospital and University Center for Community Health [Texas Diabetes Institute]). No late drops will be accepted.
Semester Credit Hours: 1.0–4.0

Surgery

SURG 3005 Surgery Clerkship
The 12-week clerkship is divided into two 6-week rotations, one on general surgery and one on surgical specialties. Each of these rotations is then subdivided into two 3-week sessions with the general surgery rotation consisting of sessions on each of two different surgical services and the surgical specialties rotation including sessions on two different specialty services chosen electively from among seven surgical specialties. During this surgical clerkship, the student is afforded the opportunity to participate actively in the diagnosis and therapy of patients suffering from both acute and chronic surgical illness including both ambulatory and bedridden patients. The clerkship is interwoven with teaching ward...
rounds, clinical conferences, symposia, and a reading program with weekly examination and reviews on all aspects of surgery and the surgical specialties. The goals of the surgical clerkship are to provide students the opportunity to develop adequate knowledge, basic manual skills, and attitudes about surgical disease that should be encompassed by every practicing physician. (12 weeks)

**Semester Credit Hours:** 14.0

**Prerequisites:** Successful completion of all required preclinical courses is prerequisite to enrollment in any of the clinical clerkships.

**Offered By:** Department of Surgery

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**SURG 4002  Surgical Oncology**

Senior students must function as “interns” on the surgical oncology service. They admit and discharge surgical oncology patients. They perform history and physical examinations, and keep daily records on surgical oncology patients. They follow patients in the outpatient clinics, in the emergency department, in the intensive care units and on general wards. They participate in operations for their patients. They participate in pre-and post-operative care of surgical oncology patients. They present cases, attend all conferences, and take call as designated by the surgical oncology service. They mentor third-year medical students on the surgical oncology service. They may participate in basic science research projects in the surgical oncology laboratory and in ongoing clinical trials of cancer diagnosis and management.

**Semester Credit Hours:** 4.0

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**SURG 4004  Supervised Basic Science Research**

Senior students are required to participate in a basic science project in a research laboratory. Before students enroll in the course, they must contact a surgery faculty member with whom they want to conduct a basic science research project. In order to receive credit for this elective, a student must write a brief synopsis of the basic science research project including: research purpose, methodology, and project (report, abstract, presentation, clinical protocol). A student must submit the synopsis with paperwork for approval of the elective. Midway during the elective (2 [or 4] weeks), a student must submit a progress report to the Director of Surgical Education and the supervising surgery faculty member. At the end of the elective, the student must submit a final report to the Director of Surgical Education and to the supervising faculty member.

**Semester Credit Hours:** 4.0

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**SURG 4006  Supervised Clinical Science Research**

Senior students are required to participate in a clinical science project. Before students enroll in the course, they need to contact a surgery faculty member with whom they want to conduct a clinical science research project. In order to receive credit for this elective, a student must write a brief synopsis of the clinical science research project including: research purpose, methodology, and project (report, abstract, presentation, clinical protocol). A student must submit the synopsis with paperwork for approval of the elective. Midway during the elective (2 [or 4] weeks), a student must submit a progress report to the Director of Surgical Education and the supervising surgery faculty member. At the end of the elective, the student must submit a final report to the Director of Surgical Education and to the supervising faculty member.

**Semester Credit Hours:** 4.0

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**SURG 4007  General Surgery – BAMC/Burn Unit**

Senior students may take a general surgery clerkship at BAMC. They may also take a clerkship at the Burn Unit at the U. S. Army Institute of Surgical Research at Fort Sam Houston. Senior students function as “interns” on each service. They admit and discharge surgical patients. They perform history and physical examinations, and keep daily records on surgical patients. They follow patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of surgical patients. They present cases, attend all conferences, and take call as designated by the service. Students who participate on the Burn Unit have good exposure to the diagnosis, resuscitation, and treatment of critically ill patients.

**Semester Credit Hours:** 1.0–8.0

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**SURG 4010  Neurosurgery**

Senior students function as “interns” on the neurosurgery service. They admit and discharge neurosurgery patients. They perform history and physical examinations, and keep daily records on neurosurgery patients. They follow patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre and post-operative care of neurosurgery patients. They present cases, attend all conferences, and take call as designated by the neurosurgical service. They mentor third-year medical students on the neurosurgery service. They learn how to obtain a history and perform a focused neuroexamination on a patient with brain and spinal cord injury. They are encouraged to participate in basic or clinical science research projects with neurosurgical faculty.

**Semester Credit Hours:** 1.0–4.0

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**SURG 4012  Oral Maxillofacial Surgery**

Senior students function as “interns” on the oral maxillofacial surgery service. They admit and discharge oral maxillofacial patients. They perform history and physical examinations, and keep daily records on oral maxillofacial patients. They present cases, attend all conferences, and take call as designated by the service. Students who participate on the oral maxillofacial surgery service have good exposure to the diagnosis, treatment, and management of patients with oral and maxillofacial disease. Students will participate in all conferences designated by the service. Late drops, as defined by the Registrar, will not be permitted.

**Semester Credit Hours:** 1.0–12.0
wards. They participate in operations for their patients. They participate in pre- and post-operative care of oral maxillofacial issues including outpatient sedation and anesthesia, dentoalveolar surgery, facial fractures, facial aesthetic and reconstructive surgery, management of facial and dental pain, and management of facial infections.  
*Semester Credit Hours: 4.0*

**SURG 4026 Plastic Surgery**
Senior students function as “interns” on the plastic surgery service. They admit and discharge plastic surgery patients. They perform history and physical examinations, and keep daily records on plastic surgery patients. They follow patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of plastic surgery patients. They present cases, attend all conferences, and take call as designated by the plastic surgery service. They mentor third-year medical students on the plastic surgery service. They have exposure to a wide range of plastic surgery issues including complex wound management, aesthetic plastic surgery, facial fractures, reconstructive surgery of the head and neck, and breast, hand, and extremity.  
*Semester Credit Hours: 1.0–12.0*

**SURG 4031 Transplant Surgery**
Senior students function as “interns” on the transplant surgery service. They admit and discharge transplant patients. They perform history and physical examinations, and keep daily records on transplant patients. They follow patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate actively in live renal and liver donor evaluation. They participate in operations for their patients, including liver resection and renal, pancreas, and liver transplants. They participate in the evaluation and procurement of the multiorgan cadaveric donor. They participate in pre- and post-operative care of transplant patients. They present cases, attend all conferences, and take call as designated by the transplant service. They present patients at formal multidisciplinary transplant rounds daily. They mentor third-year medical students on the transplant service. They have much contact with gastroenterologists and nephrologists who care for patients on the transplant service. The students rotate at University Hospital and Santa Rosa Northwest Medical Center.  
*Semester Credit Hours: 1.0–4.0*

**SURG 4036 Pediatric Surgery**
Senior students function as “interns” under private practice pediatric surgeons who are clinical faculty at the Health Science Center. They admit and discharge pediatric surgery patients. They perform history and physical examinations, and keep daily records on pediatric surgery patients. They follow patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of pediatric surgery patients. They present cases, attend all conferences, and take call as designated by the pediatric surgery service. They mentor third-year medical students on the pediatric surgery service. This rotation is intended for students who seek a career in pediatric surgery or primary care pediatrics. Opportunities for clinical research projects are available. The students rotate at Santa Rosa Children’s Hospital.  
*Semester Credit Hours: 1.0–12.0*

**SURG 4038 Rural Surgery**
In this rotation, senior students work with a private practice general surgeon in a rural setting. Senior students function as a “junior partners” on this general surgery service. They admit and discharge general surgery patients. They perform history and physical examinations, and keep daily records on general surgery patients. They follow patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of general surgery patients. They take call as designated by the surgeon. The objectives of this rotation are: to introduce students to the socioeconomic problems that rural patients face with access to care, to discover how the internet and distance learning decrease isolation in rural communities, to encourage students to consider surgical practice in underserved rural communities. Housing for students will be provided during the rotation.  
*Semester Credit Hours: 1.0–12.0*

**SURG 4040 Surgical Critical Care**
This course provides senior students with a broad exposure to surgical critical care. Students rotate through the surgical trauma ICU and have the opportunity to gain a great understanding of the principles and practice of surgical critical care. Students will have good exposure to cardiovascular and pulmonary physiology. They will have the opportunity to learn about modern concepts of resuscitation, ventilator management, vasopressor support, nutritional support, and infection control. They will have opportunity to place central lines, PA catheters, arterial lines, and perform intubation and bronchoscopy. They will have opportunity to examine and manage critically ill and injured patients in the ICU and keep medical records daily. They will have opportunity to present patients on formal rounds daily and participate in didactic critical care conference and trauma morbidity and mortality conference. They will have opportunity to take call as designated by the service.  
*Semester Credit Hours: 1.0–12.0*

**SURG 4042 General Surgery A**
Senior students function as “interns” on this broad-based general and laparoscopic surgery service. They admit and discharge general surgical patients. They perform history and physical examinations, and keep daily records on general surgical patients. They follow general surgical patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of general surgical patients. They present cases, attend all conferences, and take call as designated by the general surgical service. They mentor third-year medical students on the service.  
*Semester Credit Hours: 1.0–4.0*
SURG 4043  General Surgery B
Senior students function as “interns” on this broad-based general and laparoscopic surgery service. They admit and discharge general surgical patients. They perform history and physical examinations, and keep daily records on general surgical patients. They follow general surgical patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of general surgical patients. They present cases, attend all conferences, and take call as designated by the general surgical service. They mentor third-year medical students on the service.
Semester Credit Hours: 1.0–4.0

SURG 4044  General Surgery – VA
Senior students function as “interns” on this broad-based general surgery VA service. They admit and discharge general surgical VA patients. They perform history and physical examinations, and keep daily records on general surgical VA patients. They follow general surgical VA patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of general surgical VA patients. They present cases, attend all conferences, and take call as designated by the service. They mentor third-year medical students on the general surgical VA service.
Semester Credit Hours: 1.0–4.0

SURG 4047  Trauma/Emergency Surgery
Senior students function as “interns” on this emergency and trauma surgery service. They admit and discharge surgical patients. They perform history and physical examinations, and keep daily records on surgical patients. Although students will examine most patients in the emergency department, students will also examine patients in outpatient clinics, in intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of emergency and trauma surgical patients. They present cases, attend all conferences, and take call as designated by the service. They mentor third-year medical students on the emergency and trauma surgery service.
Semester Credit Hours: 1.0–4.0

SURG 4048  Vascular Surgery – UH/VA
Senior students function as “interns” on each vascular surgery UH/VA service. They admit and discharge vascular UH/VA patients. They perform history and physical examinations, and keep daily records on vascular surgery UH/VA patients. They follow vascular surgery UH/VA patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of vascular surgery UH/VA patients. They present cases, attend all conferences, and take call as specified by the service. They mentor third-year medical students on the vascular surgery UH/VA service. They have the opportunity to learn to perform a complete vascular physical examination and learn to interpret vascular diagnostic studies. They will have the opportunity to learn the finer details of endovascular treatment of vascular diseases.
Semester Credit Hours: 1.0–4.0

SURG 4049  Surgical Internship Readiness Elective
The purpose of this elective is to prepare senior medical students who are interested in a surgical career for their internship. This elective is a surgical "boot camp" to provide practical “hands on” experience for students.
Semester Credit Hours: 1.0–4.0
Prerequisites: Students will require a general surgery subinternship as a prerequisite. Students will also require a critical-care rotation as a prerequisite. Students can do a critical care rotation in the SICU, MICU, PICU, or CCU. These mandatory prerequisites can occur at the Health Science Center or at a remote site.

SURG 4201  General Surgery – Harlingen
Senior students function as “interns” under private practice general surgeons who are clinical faculty at the Regional Academic Health Center. They admit and discharge surgical patients. They perform history and physical examinations, and keep daily records on surgical patients. They follow patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards. They participate in operations for their patients. They participate in pre- and post-operative care of surgical patients. They present cases, attend all conferences, and take call as designated by the surgical service. They mentor third-year medical students on the surgical service.
Semester Credit Hours: 1.0–4.0

SURG 4202  Clinical Anesthesiology – Harlingen
Senior students function as “interns” under private practice anesthesiologists who are clinical faculty at the Regional Academic Health Center. They perform preoperative anesthetic assessment on surgical patients in the outpatient clinics, in the ICUs, and on the general wards. They develop appreciation for medical conditions that affect choice of anesthetic agent. They have the opportunity to develop expertise in airway management. They have the opportunity to become knowledgeable in induction and maintenance anesthetic agents. They have the opportunity to develop expertise in intraoperative monitoring techniques of the anesthetized patient. They follow patients in the recovery room and develop appreciation for complications that may occur in the intra- and post-operative period. They present cases, attend all conferences, and take call as designated by the service. They mentor third-year medical students on the designated service.
Semester Credit Hours: 1.0–4.0

Urology

UROL 4027  Urology
Senior students are required to function as “interns” on the Urology service; perform history and physical examinations; keep daily records on urology patients; follow patients in the outpatient clinics, in the emergency department, in the...
intensive care units, and on general wards; participate in operations for their patients and in pre- and post-operative care of urology patients; present cases, attend all conferences, and take call as designated by the urology service; mentor third-year medical students on the urology service; and present one 10- to 15-minute lecture on a urologic topic of their choice. They are encouraged to participate in basic and clinical science research projects with urology faculty.

**Semester Credit Hours:** 1.0–12.0

**UROL 7000  Urology Off Campus**

Senior students are required to function as “interns” on the Urology service; perform history and physical examinations; keep daily records on urology patients; follow patients in the outpatient clinics, in the emergency department, in the intensive care units, and on general wards; participate in operations for their patients and in pre- and post-operative care of urology patients; present cases, attend all conferences, and take call as designated by the urology service; mentor third-year medical students on the urology service; and present one 10- to 15-minute lecture on a urologic topic of their choice. They are encouraged to participate in basic and clinical science research projects with urology faculty.

**Semester Credit Hours:** 4.0
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Class Year(s)</th>
</tr>
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<tbody>
<tr>
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<td>Web Registration Begins</td>
<td>MD Years 1, 2 &amp; 4</td>
</tr>
<tr>
<td>Monday, June 20, 2011</td>
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<td>Monday, March 12, 2012</td>
<td>Spring Break Begins</td>
<td>MD Years 1 &amp; 2</td>
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<td>Spring Break Ends</td>
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### MS3 Clerkship Dates 2011–2012

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<tr>
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<td>Friday, November 4, 2011</td>
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## MS4 Rotation Dates 2011–2012

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<td>Friday, November 18, 2011</td>
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<tr>
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<tr>
<td>Friday, February 3, 2012</td>
<td>Period 7 Ends</td>
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<tr>
<td>Monday, February 6, 2012</td>
<td>Period 8 Begins</td>
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<tr>
<td>Friday, March 2, 2012</td>
<td>Period 8 Ends</td>
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<td>Monday, March 5, 2012</td>
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<td>Friday, April 6, 2012</td>
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Deaf Education and Hearing Science

- Master of Deaf Education and Hearing Science Program
- Application and Admission
- General Policies and Information
- Program Curriculum
- Course Descriptions

The Master of Deaf Education and Hearing Science program is offered by the School of Medicine, in partnership with the Sunshine Cottage School for Deaf Children that serves as the primary teaching laboratory for the program. Sunshine Cottage School for Deaf Children is an auditory-oral school whose mission is to teach children with hearing loss to develop listening, language, and speech in order to become part of the hearing world and be academically competitive with their hearing peers; sign language is not used nor taught.

Students graduate as specialists in providing training that enhances spoken communication and listening skills to children with hearing loss. Advances in hearing-aid technology and surgical procedures, such as cochlear implantation, make the employment demand high for individuals with this preparation.

Master of Deaf Education and Hearing Science Program

The Master of Deaf Education and Hearing Science (MDEHS) program is designed to further the education of individuals with undergraduate degrees in education and other related fields. The program prepares students for a career in the education of children with hearing loss through spoken language, using auditory-oral and auditory-verbal methods. Graduate-level coursework trains teachers to work as members of multi-professional teams to address the educational, social, and health needs of children who have hearing loss. The MDEHS program is completed in six semesters.

The program consists of 36 semester credit hours completed in 6 semesters of course work that includes observations, seminars, demonstrations, research opportunities, and practicum. Practicum assignments are scheduled at Sunshine Cottage, the Health Science Center, and partnership schools and clinics in the San Antonio area. To accommodate working professionals, classes are offered in the evenings and during summers. Students must be available for two 5-week practice teaching sessions during their course of study.

Students who successfully complete the course requirements must pass a comprehensive examination covering the major components of the program. A thesis is not required; however, students are required to acquire competency in reading and critically reviewing professional and research literature, and to develop awareness of statistical and research design concepts for educational and clinical studies.

The MDEHS program is accredited by the Council on Deaf Education, Gallaudet University, 800 Florida Ave. NW, Washington, D.C. 20002-3695, and telephone (202) 651-5525, fax (202) 651-5749.

Philosophy

The MDEHS program is based on, and committed to, teaching future teachers of the deaf the auditory-oral methods of intervention/education for children with hearing loss, as stated in the Auditory-Verbal Position Statement published by the Board of Directors of Auditory-Verbal International.

In addition, the program’s philosophy encompasses the following educational assumptions:

- Many profoundly deaf children can obtain an excellent education in an auditory-oral or auditory-verbal environment;
- At some time during the educational years, it is desirable that a child with hearing loss attend school with her/his hearing peers;
- Applicants with a baccalaureate degree in education or related fields can become effective teachers of the hearing impaired through application of previously gained knowledge and skills plus the acquisition of procedures, techniques, and information unique to the hearing-impaired child. The MDEHS curriculum addresses topics and skills required for Texas teacher certification and national certification.

Each child with a hearing loss is a unique combination of learning styles, degrees of and adjustment to a hearing loss, motivation toward learning, home and community experiences, intellectual abilities, and personal responses to the environment. A dually prepared teacher is in an enviable position of being able to identify these factors and create a learning setting that would permit maximum attainment not only by the child with a hearing loss but also the typically developing children.

Application and Admission

Application for admission to Master of Deaf Education and Hearing Science program may be completed online at https://www.applytexas.org/adappc/commonapp.WBX.

Detailed information about application and admission is available from the Application Center at (210) 567-2633.
Health Professions Welcome Center. Completed application, application fee, official transcripts, and supporting documents must be submitted to the Application Center between September 1 and February 15.

All required admissions information and documents must be submitted to the Application Center before an applicant is considered for admission. Because applications and documents are reviewed as they are received, applicants are encouraged to apply early in the application period. Classes begin in the summer semester each year.

Admission Factors
In addition to the academic factors listed below, the following non-academic factors are considered for selecting students for the Master of Deaf Education and Hearing Science:

- Bilingual ability
- Race/ethnicity
- Hometown or county of residence that has been designated a medically under-served and/or health professions shortage area, especially South Texas
- Employment history, especially as it occurred simultaneously with undergraduate academic preparation
- Positions of leadership held
- Public/community service or volunteer activities
- Volunteer activities in education-related areas
- Prior experience in providing educational-related services
- Extracurricular activities
- Communication skills – as demonstrated in the essay and personal interview
- Commitment/desire to serve in an underserved region of the state following graduation
- Reference letters or recommendations
- Research accomplishments
- Future goals
- Knowledge of, and preparation to enter, the profession of deaf education gained through observing or volunteering in a school setting or other setting
- Personal disability condition

Admission Requirements
To be admitted to the MDEHS program, applicants must have earned a baccalaureate degree from an accredited college or university, with an overall grade point average of 3.0. Incoming students must have completed a baccalaureate degree in education or a related field. Depending on the applicant’s background, collateral coursework in Curriculum and Instruction from another college or university may be required.

In addition, 50 hours of classroom observation and 25 hours of field experience may be required.

General Policies and Information

Advancement, Probation, and Dismissal
All decisions concerning a student’s status in the program are based on recommendations from the program faculty. Faculty meet regularly to review students’ performance and progress. The faculty may recommend: continuation in the program, academic probation, dismissal, repetition of the course when next offered, repetition of the semester/year, or other actions as deemed appropriate. Under no circumstances will a student on academic probation be awarded a degree.

Advancement
Continuation in the program is dependent on:

- Maintenance of a minimum cumulative grade point average of 3.0 (B) for all courses taken while enrolled in the program
- Satisfactory rate of progress toward the degree
- Satisfactory progress in meeting conditions imposed at the time of admission

Probation
- A student whose grade point average falls below 3.0 will be subject to academic probation and informed that continuation in the program is in jeopardy.
- While on probation, a student must maintain a B average in those courses for which he or she is registered or be considered for dismissal.

Dismissal
A student may be dismissed from the program for any of the reasons below:

- Failure to maintain a B average while on probation.
- Receiving a grade of D or F in any semester.
- A student who continues on probation may also be subject to dismissal.
- Unsatisfactory progress toward correcting deficiencies
- Violation of the provisions in the Guide for Professional Conduct (School of Health Professions introductory section).
- Violation of professional ethics.

Attendance
Attendance at all scheduled classes, clinical experiences, and practicums is expected. Excused absences may be granted in such cases as illness or personal emergency. Verification of the reason for an absence may be required. It is the student’s responsibility to notify the faculty member if an absence occurs.
and to arrange for make-up work, if necessary. Excessive absences may be cause for reductions in course grades.

Background Checks
In addition to the criminal background check completed before admission, students are subject to criminal background checks that may be required by clinical or practicum sites, such as Sunshine Cottage School for Deaf Children. Students are required to pay the cost of the background check, if not paid by the practicum site.

Computers
Students are required to use personal computers throughout the MDEHS program and should be competent in basic computer skills to complete assignments; communicate by e-mail with other students, staff, and faculty; manage assigned clients; conduct library and Internet research; participate in Web-based portions of courses; etc. Students will find a computer indispensable for their study, research, and communication. Numerous computers for student use are available in the Health Science Center Library and the School of Health Professions Building, but access may be limited due to high use. It is strongly recommended that MDEHS students acquire a computer for use at home.

Professional Attire, Demeanor, and Conduct
Students must dress at all times in a manner consistent with a professional image while on campus and at practicum sites. Appropriate attire for practicums or other clinical/educational settings may vary, depending on local customs and expectations. It is the student’s responsibility to inquire about dress and demeanor expectations and to comply with them.

Program Costs
Total, part-time program costs for Texas resident tuition and fees, parking permits, health and liability insurance, etc., are approximately $11,200. In addition, costs for other expenses, such as textbooks, personal computer, course manuals, and supplies are approximately $3,500. Non-resident students are subject to additional costs, which may be found under Financial Information in this Catalog.

Scholarships
Students are eligible to apply for competitive scholarships. After the application process is reviewed, recipients are selected by the department and approved by the School of Health Professions Scholarship Committee. Information about applying for scholarships is available from the MDEHS Office 210-567-8912; trautwein@uthscsa.edu or the Assistant Dean for Student Affairs at 210-567-8704.

State Certification
Deaf Education and Hearing Science is a profession requiring certification in teaching hearing-impaired children. State of Texas Certification examinations are administered through the State Board of Educator Certification (SBEC). All students who enter the program already holding teacher certification must pass the Texas State Certification Examination: Hearing Impaired #181, K–12 (ExCET). Students who enter the program as non-teachers must also become certified as teachers in Texas and must pass the Pedagogy and Professional Responsibilities Exam, EC–12 (TExES). The MDEHS program is nationally accredited through the Council on the Education of the Deaf (CED). It is highly recommended that students apply for certification through CED as well.

Time to Degree
The usual time to degree for the MDEHS program is six semesters. In unusual cases (e.g., leave of absence), students may require a longer time period to complete the degree. However, all degree requirements including the Comprehensive Examination must be completed within six years after initial entry into the program, and under the Catalog in effect at the time of initial entry. An extension of study beyond 6 years may be authorized by the faculty only with demonstration of justifiable cause.

Health Science Center/UTSA Cooperative Agreement
Through a cooperative agreement with The University of Texas at San Antonio (UTSA), students may be admitted to the MDEHS program and then take preparatory/background coursework at UTSA at the undergraduate or graduate level. UTSA courses may include: Principles of Learning and Classroom Management, Introduction to Exceptionality, Language and Cognitive Development, and reading instruction courses. Contact the program director for further information.

Master of Deaf Education and Hearing Sciences Curriculum

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UT Health Science Center San Antonio Catalog 2011–2012
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<td>DEHS 6004 - Curriculum Modifications for Children</td>
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<th>Spring Semester</th>
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<tr>
<td>DEHS 6002 - Comprehensive Assessment, Counseling</td>
<td>2.5</td>
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<td>and Management</td>
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<tr>
<td>DEHS 6006 - Auditory-Verbal Principles &amp; Practices</td>
<td>2.5</td>
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<td>in Early Intervention</td>
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<td>DEHS 6099 - Comprehensive Examination</td>
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<td><strong>Semester Total</strong></td>
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**Deaf Education and Hearing Science Course Descriptions**

**DEHS 5001  Foundations of Education for the Deaf**
History of the education of the hearing impaired including Deaf Culture and American Sign Language (ASL). Impact of hearing loss on academic access, vocational choice, and personal development. Current trends in academic programming, parent-infant through college, and provisions for multicultural populations.
*Semester Credit Hours: 2.5*

**DEHS 5003  Speech Mechanisms–Anatomy, Physiology, Acoustics**
This course is a study of the component parts of the speech mechanisms and their coordination to permit functional speech, physiology, and acoustics of speech, impact of hearing loss on development and maintenance of functional speech skills, and individual assessment procedures. Practicum included.
*Semester Credit Hours: 2.5*

**DEHS 5005  Factors in Child Language Acquisition**
Course content includes the normal progression of language, cognition and social development, and how hearing loss impacts on development; an overview of acquisition of language by children who may have more than one handicapping condition; the nature of bilingual and ESL language learning in relation to hearing loss, including the impact of visual language learning through speech reading and signing systems; and the nature of language development as related to learning theories, communicative functions, and culture. Practicum included.
*Semester Credit Hours: 2.5*

**DEHS 5007  Introduction to Audiology**
Nature of sound, anatomy, and physiology of hearing; types of testing for hearing loss; analysis of audiograms; fitting of ear molds; operation and design of hearing aids; use and maintenance of FM units; and Cochlear implants and assistive technology. Practicum included.
*Semester Credit Hours: 2.0*

**DEHS 5009  Introduction to Sign (ASL and Signed English)**
This course is a study of the evolution of the various forms of manual communication, review of options available in Texas public schools, and implications of American Sign Language as a first language.
*Semester Credit Hours: 2.5*

**DEHS 5011  Language Development and Hearing Ability**
Course content includes the assessment of present language and listening levels in hearing impaired children and methods of aural habilitation and language instruction/therapy. Practicum included.
*Semester Credit Hours: 4.0*

**DEHS 5021  Teaching/Management Apprenticeship I**
Students spend time in the education and management/coordination of services for the hearing impaired. Students spend time teaching both hearing and hearing-impaired students and in managing and coordinating social, education, and health services for the hearing impaired.
*Semester Credit Hours: 2.0*

**DEHS 5090  Independent Study**
This course will be arranged through DEHS faculty. Topic and mode of study are agreed upon by student and instructor. Semester hours are variable and credit hours will be determined per topic. The course is offered any term. The course may be repeated for credit when topics vary.
*Semester Credit Hours: 0.5–4.0*

**DEHS 6002  Comprehensive Assessment, Counseling, and Management**
The impact of a hearing loss upon the child, the family, and the community; reactions and adjustments identified and evaluated; delivery of services from birth through adulthood; and newborn screening are included. Crisis periods are identified and coping mechanisms evaluated. Also included are
the role of classroom teacher and health professional in providing support to the family, and a multi-professional team approach to long-term management for the hearing impaired.
Semester Credit Hours: 2.5

DEHS 6004  Curriculum Modifications for Children with Hearing Loss
Course content includes the development and adaptation of curricular materials and instructional procedures for the child with hearing impairment; selection and writing of objectives for speech, language, and listening within the content of early childhood education best practices; impact of current research in the effective teaching of reading and the language arts for children with hearing loss, including the identification of techniques and materials useful in meeting the individual needs of each student. Students will have the opportunity to learn adaptive strategies to address the needs of students with multiple handicaps. Practicum included.
Semester Credit Hours: 2.5

DEHS 6006  Auditory-Verbal Principles & Practices in Early Intervention
Provision of services to infants, toddlers, and preschoolers and their families through public and private agencies. Use of the Auditory-Verbal Therapy approach emphasizing the development of optimum listening skills in children with hearing impairment and the recognition of caregivers as the primary models of spoken language. Includes parent guidance, counseling, education, and support. Practicum is included.
Semester Credit Hours: 2.5

DEHS 6008  Speech for Hearing-Impaired Students
This course addresses the following: specific development and remedial techniques for articulation therapy; assessment of phonetic and phonologic level skills; strategies for elicitation, development; transfer and maintenance of all English phonemes and suprasegmentals; and choosing techniques appropriate to auditory/visual/tactile modalities available to the child with hearing loss. Practicum included.
Semester Credit Hours: 2.5

DEHS 6010  Mainstream Services for Children with Hearing Loss
Management of resource and mainstream services in school settings. Logistical considerations in grouping, teacher placement, and the development of individualized educational plans combining language/speech/listening consideration with academic instruction. Development of consultative style of interaction with regular education personnel.
Semester Credit Hours: 1.5

DEHS 6022  Teaching/Management Apprenticeship II
Continuation of Teaching/Management Apprenticeship I. Students will be required to develop a comprehensive portfolio of their experiences and abilities. Outcomes of their knowledge and skills gained in the program are emphasized.
Semester Credit Hours: 3.5

DEHS 6099  Comprehensive Examination
The comprehensive examination is required prior to graduation. The examination, which incorporates all critical elements of the curriculum, tests for mastery of knowledge as well as professional skills.
Semester Credit Hours: 0.0

INTD 5064  Applied Statistics for Health Care Practitioners
This online course focuses on the application of descriptive and inferential statistics in research studies. Students are expected to gain knowledge and skills that will enable them to understand, interpret, and evaluate statistical results; work with a consultant statistician; and use software to enter, analyze, and summarize data. Course requirements include homework assignments, online discussions and/or chats, and periodic projects.
Semester Credit Hours: 3.0
School of Nursing

Students are responsible for all information contained in this Catalog up to and including their school’s section.

Click on an item in the list below to be taken to the location of its content. Remember this page number to return to this list.

- Overview
- Mission, Vision, Values and Goals
- Accreditation
- Programs
- Application and Admission
- General Policies and Procedures
- Conduct and Discipline
- Student Concerns
- Program Policies and Procedures
- School of Nursing Academic Calendar
- Undergraduate Program in Nursing
- Graduate Program in Nursing
- School of Nursing Course Descriptions

Overview

The University of Texas Health Science Center at San Antonio School of Nursing was established in 1969. The School of Nursing was originally part of The University of Texas System School of Nursing with campuses in Galveston, Austin, Houston, San Antonio, El Paso and Tyler. All five schools followed the same curriculum. In 1976 the System School of Nursing was dissolved and each School of Nursing has since been independent and governed by the university on the campus where the school is located.

The School of Nursing offers three degree programs, a Bachelor of Science in Nursing (BSN), Master of Science in Nursing (MSN) and Doctor of Philosophy (PhD). At this writing, the School of Nursing has submitted a proposal to the THECB seeking approval for a new Doctor of Nursing Practice (DNP) program.

The School of Nursing has a unique role in nursing education related to its placement in the South Texas Region. The region has a large underserved Hispanic population (approx. 58%) with different health care needs. Cardiovascular disease, diabetes, teen pregnancy, mental illness and other chronic conditions are prevalent. We have been designated by the United States Department of Education as a Hispanic Serving Institution.

Mission, Vision, Values, and Goals

Mission

We engage with our diverse students and communities to produce the future nursing leaders of our expanding world who will lead the transformation of nursing care to make lives better through education, research, and practice.

Vision

The University of Texas Health Science Center at San Antonio School of Nursing promotes excellent health care as an act of social justice for individuals and their diverse communities by creating dynamic inter-professional approaches to lead research and prepare professional nurses to deliver effective, compassionate, innovative, and culturally proficient care.

Values

- We believe excellent health care is a right of every person.
- We believe physical, mental and social well-being is enhanced with high ethical standards, by honoring the dignity of others, and through accountability for our actions.
- We believe education is a lifelong process based on mutual teaching and learning and research that ultimately makes life better for those we serve.
- We believe that through our leadership we can influence organizations and governments within our communities to adopt practices and policy that promote health.
- We believe in the power of professional nurses to improve the health status of peoples here and abroad.

Goals

- Teaching: Provide leading edge, evidence-based instruction including innovative teaching technologies appropriate to the students and communities we serve.
• **Organizational Effectiveness:** Provide an effective, efficient and inclusive infrastructure to support faculty, staff and students as they fulfill the mission of the SON.

• **Scholarship/Research:** Become a nationally and internationally recognized health-related research institution.

• **Practice/Engagement:** The School of Nursing faculty will be recognized as a provider of exemplary, innovative, culturally proficient faculty practice/engagement from local to global communities.

The School of Nursing mission, values, and vision are written and published on the School of Nursing website (http://nursing.uthscsa.edu/about/mission.aspx) and relates to all programs. The School of Nursing goals (http://nursing.uthscsa.edu/about/strategicPlan.aspx) are incorporated into The Strategic Plan. Both are accessible to current and prospective students. The mission, vision and goals are each congruent with those of the Health Science Center. They are consistent with relevant professional standards and nursing guidelines to prepare students for beginning and advanced nursing practice.

### Accreditation

The UT Health Science Center San Antonio School of Nursing’s baccalaureate program is approved by the Texas Board of Nursing, P.O. Box 430, Austin, Texas 78767-0430, (512) 305-6818. The Bachelor of Science in Nursing degree program and the Master of Science in Nursing degree program has received full accreditation through 2011 from the:

- Commission on Collegiate Nursing Education
- One Dupont Circle NW, Suite 530
- Washington, D.C. 20036-1120
- (202) 887-6791

[http://www.aacn.nche.edu/Accreditation/](http://www.aacn.nche.edu/Accreditation/)

### Programs

The School of Nursing offers both undergraduate and graduate programs in nursing. The undergraduate, *Bachelor of Science (BSN) in Nursing*, program offers two tracks of study. Students in both tracks will enter at the junior level to complete the 60 credit hours of nursing major credit. The Traditional track is designed to meet the learning needs of the individual who has completed the required 62 credits of baccalaureate general education at the freshman and sophomore level. The Accelerated track is designed to meet the learning needs of the individual who has completed a bachelor's degree or higher in a field other than nursing.

The graduate program offers a Master of Science (MSN) program, Post Master’s Certificate Program, and a Doctor of Philosophy (PhD) in nursing program.

The Master of Science in Nursing program offers two options. Option one is Master of Science in Nursing (MSN) for students with a bachelor’s degree in nursing. Available majors are: (1) Administrative Management, (2) Clinical Nurse Leader (CNL), (3) Family Nurse Practitioner, (4) Family Psychiatric Mental Health Nurse Practitioner, (5) Pediatric Nurse Practitioner, and (6) Acute Care Nurse Practitioner (admission suspended).

Option two is the Alternate Entry for Associate Degree Registered Nurses (RNs)/Diploma RNs to complete their BSN degree while pursuing graduate level education. Students admitted into this option complete the requirements of the BSN degree and focus their Master's degree coursework in one of two majors: Administrative Management or Clinical Nurse Leader (CNL).

The Post Masters Certificate Program option is available for students who hold a master's degree in nursing and desire a Nurse Practitioner specialization in Family, Pediatric, or Family Psychiatric Mental Health.

The Doctor of Philosophy (PhD) in Nursing is a research-based doctoral degree which prepares students for careers as a clinical nurse scientist and faculty. Students can enter the program at the Post-BSN or Post-MSN level.

### Application and Admission

Applications to the School of Nursing programs are submitted via NursingCAS, the Centralized Application Service for Nursing Programs. For further detail, please refer to the School of Nursing website for appropriate information on application, admission, deadlines and selection processes.

### Links

- [http://nursing.uthscsa.edu/students/ugrad.asp](http://nursing.uthscsa.edu/students/ugrad.asp)
- [http://nursing.uthscsa.edu/students/grad.asp](http://nursing.uthscsa.edu/students/grad.asp)

### Applications and admissions processes

For information regarding Academic Fresh Start, International, and Military (admissions, service activation interruption of education), as well a residency classification, please the links below:

- [http://studentservices.uthscsa.edu/CS_ActiveMilitary.aspx](http://studentservices.uthscsa.edu/CS_ActiveMilitary.aspx)
- [http://studentservices.uthscsa.edu/CS_International.aspx](http://studentservices.uthscsa.edu/CS_International.aspx)
- [http://studentservices.uthscsa.edu/pdf/ResidencyQuestionnaire.pdf](http://studentservices.uthscsa.edu/pdf/ResidencyQuestionnaire.pdf)

### Transfer of Credit

An applicant, whether a new student or a former student of the School of Nursing who has attended another college, must submit all previous college records when applying for admission to the School of Nursing. Transferred grades are recorded as submitted.

### Non-degree/Special Student Status

Non-degree/special student status may be granted to an individual who wishes to enroll in a course(s) in the School of Nursing without entering a degree program. Those students who are eligible for Non-Degree Student Admission include students currently enrolled and in good standing in an
undergraduate or graduate program at another institution or a graduate of a bachelor's or master's in nursing.

- Students must communicate their desire to enroll as a non-degree seeking student to the School of Nursing Associate Dean for Admissions and Student Services.
- Students must receive approval of the Associate Dean for Admissions and Student Services in consultation with appropriate Academic Associate Dean and Program Directors.
- A graduate student may register as a non-degree student for a maximum of four semesters. Exceptions to this rule will be decided by the School of Nursing Associate Dean for Admissions in consultation with appropriate Academic Associate Dean and Program Directors.
- Nursing students who seek future enrollment in a Bachelor of Science Degree in Nursing may enroll for a maximum of 12 semester credit hours.
- Non-degree seeking students who seek future enrollment in a School of Nursing Graduate program may transfer course hours taken as a non-degree special student with the approval of the appropriate Graduate Program Director.
- Non-degree seeking students who wish to transfer courses to degree-seeking programs at a later date must do so within five years of completing the non-degree coursework.
- It is the student’s responsibility to determine if the course is transferable to her or his school.

Currently enrolled students have priority for courses. Non-degree students are admitted on a first-come, first-served basis for spaces remaining in a course. Students must go through the appropriate special student admissions process, please communicate directly with the Office of Admissions and Student Services for further details about the process at http://nursing.uthscsa.edu/students/index.asp and the Health Science Center Application Center, please see link: AppCenter@uthscsa.edu. The School of Nursing and the Health Science Center Application Center works collaboratively to process non-degree/special student applications. Students do not have to register consecutively for classes each semester but may skip a semester without penalty. The grading policies for non-degree students are the same as those for degree students and will be included in the student's transcript. Courses and grades taken as a non-degree student will be included in the computation of the cumulative GPA of the student admitted to a School of Nursing undergraduate or graduate program.

**Dual Enrollment Process**

A student who has been formally admitted to a graduate program at the School of Nursing may apply to take courses at the University of Texas at San Antonio (UTSA). Consent from the appropriate School of Nursing Graduate Program Director must be obtained before the student may apply to register at UTSA. The UTSA course instructor must also approve the course request and send an email to the student to be used during the UTSA course registration.

Students planning to take courses at both the University of Texas at San Antonio (UTSA) and the School of nursing must complete an admission form to the UTSA Graduate School and a Certification of Dual Enrollment form from the Health Science Center’s Registrar's Office. Registrar's Office personnel will complete the form. Students must hand carry the form to UTSA. Correspondence from UTSA will go directly to the student.

Admission form to UTSA must be filled out on line but the student does not need to request admittance into a specific UTSA graduate program of study. The online application form forces you to choose a UTSA program of study so you must call the UTSA Graduate Admissions office so they can manually record student status as “special student”. Download the form for concurrent enrollment (http://www.graduateschool.utsa.edu/Uploads/ProspectiveStudents/Admissions/Concurrent_Enrollment_Procedures_UTSA.pdf). Complete the form, include the UTSA course information, and ask the Health Science Center Registrar to sign that the student is in good standing. Students do not need to send transcripts to UTSA.

**Policy on Criminal Background Checks**

Applicants must submit to and satisfactorily complete a background check review as a condition of admission. An offer of admission will not be final until the completion of the criminal background check(s) is received and deemed favorable. Admission may be denied or rescinded based on a review of the background check. All clinical agencies in the metropolitan San Antonio area, and health care agencies in other parts of the state where students may pursue clinical experiences, require that students placed in their agencies pass a criminal background check before being allowed to practice in their facilities.

**Undergraduate Criminal Background Check**

The Texas Board of Nursing (TBON) conducts the background checks and has legally granted power to deny permission for a candidate to take the NCLEX-RN examination if it is demonstrated that the individual has not demonstrated “good professional character.” The Board may refuse to:

- approve persons to take the licensure examination
- issue or renew a license or certificate of registration to any individual who has been convicted of a felony, a misdemeanor involving moral turpitude, or engaged in conduct resulting in revocation of probation imposed pursuant to such conviction.

All nursing students must continue to show evidence of good professional character while enrolled in a nursing program.

Candidates with a positive background check will also be notified by TBON and asked to submit a petition for a “Declaratory Order." The petition will be reviewed by the TBON. Please contact the Office of the Associate Dean of Admissions and Student Services.
Continuing students who are charged or convicted of an offense while enrolled in the nursing program will be required to notify the Associate Dean for Undergraduate Program at the time of the offense and to petition TBON for a declaratory order. The student will be removed from clinical courses while obtaining the Decleratory Order, and may need to take a Leave of Absence. Failure to report any new incidents following the initial background check to the School may potentially cause the student to be released from the program. The Board investigates each incident based on its own information. Many of the factors used by the Board can be viewed at: http://www.bon.state.tx.us/disciplinaryaction/discp-guide.html.

**Graduate Criminal Background Check**

The School of Nursing Office of Admission and Student Services will designate an approved company to conduct the background checks for graduate students who are already licensed as a Registered Nurse. Results from a company other than those designated will not be accepted. Students and applicants must contact this designated company and comply with its instructions in authorizing and obtaining a background check. Applicants are responsible for payment of any fees charged by the certified criminal background check.

**Non-Nursing Students Criminal Background Check**

Students who wish to take a non-clinical course (s) offer at the School of Nursing must satisfy the Health Science Center criminal background check requirements. The School of Nursing Associate Dean for Admissions and Student Services will verify with appropriate entities on behalf of the student for the acceptable background checks.

**Immunization and Health Insurance**

Prior to Registration all students are required to complete the immunizations requirements and fill out an immunization card. For more information on immunizations see Student Services. All students are required to have health insurance. See Student Services - Health Insurance.

**Professional Liability Insurance**

Students enrolled in programs that involve direct patient care activities are required to purchase professional liability insurance through the university. Liability insurance purchased through the Health Science Center is applicable to the student role only. Nurse practitioner students are required to pay an additional insurance fee. See Student Services - Liability Insurance for more information.

**Computer Requirement**

All courses in the School of Nursing have an online component or other requirements that necessitate the use of a computer. Students are required to have certain minimum computer competencies. Minimum competencies include basic familiarity with computers, use of Internet, word processing, email and presentation software. All communications with students are done through email.

All students admitted into the School of Nursing undergraduate program will be required to purchase a laptop computer from the Health Science Center when entering the program. Windows-based and Apple platforms will be available. The computer will be formatted with standard programs and online learning resources.

Graduate students are expected to have a computer that meets specification for the School of Nursing. For specification, please see link: http://nursing.uthscsa.edu/students/newAdmints.asp

The Microsoft Office Suite, which includes Word, Excel, PowerPoint, and Outlook, is available to students through the Bookstore at a significant savings. The most up-to-date version of the suite is available for Windows and Mac. This software is required for all students.

**Financial Aid**

To be considered for federal and state sources of financial aid, please visit The Office of Veterans’ Services and Financial Aid.

**Scholarship and Stipends**

For School of Nursing Scholarships, undergraduate and graduate nursing students are encouraged to 1) submit a Free Application for Federal Student Aid Form (FAFSA) and 2) a School of Nursing Scholarship application, which must be completed every semester. The Office of Admissions and Student Services distributes scholarship applications to students via email during March for fall awards, October for spring awards, and March for Summer awards. New students submit scholarship applications with their admission paperwork. The School of Nursing Scholarship Advisory Group reviews all applications and selects recipients based on criteria for each scholarship.

For graduate stipends, please consult the School of Nursing Office of Admissions & Student Services and the Graduate Office for details.

The School of Nursing Office of Admissions and Student Services works collaboratively with the Office of Veterans’ Services and Financial Aid (VSFA) to facilitate identification of federal, state and private funding sources. Click here to view services available through VSFA and the process for applying for financial aid.

Please be aware that a Free Application for Federal Student Aid (FAFSA) must be completed. Click here to apply for all federal/state grants and student loans. The Renewal FAFSA is available for those who applied the previous year. Please note the school code for the FAFSA is 003659.

**Tuition**

For details about tuition and fees, visit the Office of the Bursars at the links provided below:

http://studentservices.uthscsa.edu/pdf/SON-U.pdf
http://studentservices.uthscsa.edu/pdf/SON-G.pdf
General Policies and Procedures

Registration

In order to hold their place in the class, entering students must register and pay tuition and fees on the date of official registration listed in the Academic Calendar. To maintain active student status, students must register every fall and spring term. Registration for summer session(s) is during a registration period in the spring. Students are expected to pre-register during stated Health Science Center required times. Students may register up to the Official first class day without late fees or penalties. Please refer to General Application and Admission Policies for the list of materials (and related policies) that must be received prior to registration. Those who do not register in the School of Nursing each term are considered to have withdrawn and their School of Nursing records are deactivated. Deactivated students may not register for courses, take examinations, submit Application for Degree or Degree Plan forms, or otherwise participate in the University community and the School of Nursing.

The procedure for registration can be found on the Office of Student Services website. Click on type of student (newly admitted or current) and follow the Registration links.

Degree Requirements

Students are held responsible for knowing degree requirements and for enrolling in courses that fit their degree programs. Students are likewise held responsible for knowing the School of Nursing and Graduate School of Biomedical Sciences (PhD Students only) and program regulations with regard to the standard of work required for continuance, eligibility for graduation.

Full time/ Part Time

Undergraduate students enrolled for a minimum of 12 semester credit hours (SCH) in the fall and spring semesters and 6 SCH in the summer, are considered full time students. Students enrolled in less than 12 SCH in fall and spring or less than 6 SCH in the summer are classified as part time.

Graduate students enrolled for a minimum of 9 semester credit hours (SCH) in the fall and spring semesters and 6 SCH in the summer, are considered full time students. Students enrolled in less than 9 SCH in fall and spring or less than 6 SCH in the summer are classified as part time.

Change of Part-Time/Full-Time Status

Students may not change their program plan from part time to full time or vice versa without consultation with the Office of Academic Programs and Support. Any student requesting a change of status—part-time to full-time or full-time to part-time—must make an appointment with the Associate Dean for Undergraduate Program or appropriate Graduate Program Director. All requests for change will be based upon space available in the requested course(s), and availability of courses based on curricular issues.

Course Numbering

Each course consists of a prefix that represents the discipline (NURS for Nursing) and a 4-digit number. The School of Nursing uses the following numbering system:

The First Digit is the Level of course: 1=Freshman, 2=Sophomore, 3=Junior, 4=Senior, 5=Introductory Graduate, 6=Advanced Graduate, 7=Doctoral. The Second Digit is credit number of semester credit hours (0=variable semester credit hours). The Third and Fourth Digits distinguish one course from another within the discipline.

The Semester Credit Hour

The unit measure for credit purposes is the semester credit hour (SCH). One semester credit hour of credit is given for each one hour of class or three hours of laboratory/clinical lab experience per week per semester, with the exception of the summer session during which the class and clinical hours are concentrated but provide equivalent course time.

Adding Courses

Students are expected to pre-register for all course work. However, if they desire to add a course after the registration deadline, they may add a course with the approval of The Associate Dean for Undergraduate Program and appropriate Graduate Program Director and course instructor. After the university census date, which can be found at this link: http://studentservices.uthscsa.edu/pdf/AcadCalendarsPDFs/AcadCalendars2011-2012/AcadCal2011-12NursingFinal.pdf, Late fee may apply.

Dropping Courses

Dropping refers to the procedure by which students remove themselves from one or more of the courses in which they are enrolled while continuing in the remainder of their courses. A student who is enrolled in only one course must either withdraw or apply for a leave of absence if he/she intends to drop the course. Please refer to the Registrar’s section of this catalog.

Withdrawal

Withdrawal refers to the procedure by which students voluntarily remove themselves from some or all courses in which they are enrolled. Withdrawal from all courses constitutes withdrawal from the nursing program and university unless the student is granted a leave of absence. A student wishing to withdraw from one or all courses in the School of Nursing initiates the process through consultation with the Associate Dean of the Undergraduate Program or appropriate Graduate Program Director. When approved, the student must obtain and complete the Student Clearance Form from the Registrar’s Office (317 L6 MED). Failure to clear campus appropriately will affect the students’ ability to obtain transcripts, be readmitted to the program in the future, or obtain financial support.

A student who completes a semester, but does not plan to continue in the School of Nursing during the next semester, must withdraw or apply for a leave of absence.
A student who discontinues class attendance in any course without completing the formal drop or withdrawal process will receive a grade of WF for the course. See policies for administrative Leave of Absence (LOA) in HSC catalogue. An application for readmission by a student who has previously withdrawn is subject to the same requirements, procedures, and acceptance considerations that apply to first-time applicants.

If a student withdraws from a required nursing course while failing, he or she may reenroll only once, if readmitted. Readmission is based on a space available basis. (See Repetition of a Failed Course).

Procedure for Dropping a Course or Withdrawal

If a student withdraws from school or drops a course prior to the first examination/graded assignment, a grade of W will be recorded. A student may drop a course, with the instructor’s permission, after the first examination/graded assignment with a W/P or W/F. If the student withdraws from school, the W/F or W/P will be recorded. The following procedures are to be followed:

The student discusses dropping with the clinical/course faculty.

The student makes an appointment with the Associate Dean of Undergraduate Program or Graduate Program Director through the Office of Academic Programs and Support to discuss the decision, explore options, and make necessary changes in the degree plan.

The Office of Academic Programs and Support notifies the Registrar and Financial Aid office of the change in status and change in the student’s graduation date.

The student will have to have a “drop card” signed by the course coordinator/course faculty after the card has been provided and signed by the Associate Dean of Undergraduate Programs or appropriate Graduate Program Director.

The Office of Academic Programs and Support will submit the completed drop card to the Registrar’s Office.

Leave of Absence

Any student who is in good standing (passing all required courses with a 2.0 or above GPA in undergraduate program or 3.0 in the graduate program; no incomplete grades in a course, and no failures) may, under special circumstances, take a leave of absence. A leave of absence may be granted for a maximum period of one year.

Students who are experiencing special circumstances that hinder their studies should make an appointment through the Office of Academic Programs and Support to discuss their issues with the Associate Dean for Undergraduate Program, or appropriate Graduate Program Director. If together the student and the academic administrator agree that a leave of absence is appropriate, the student will be sent to the Registrar’s Office to obtain the required Student Clearance Form. The student will “clear campus.” Failure to clear campus appropriately will affect the students’ ability to obtain transcripts, be readmitted to the program in the future, or obtain financial support. The student may return to school at any time during the year, but no later than one year from the time when the leave started.

The student must notify the Office of Academic Programs and Support at least one month prior to returning to campus. Return to school will coincide with the beginning of a semester. Courses that had not been completed at the time of initiating the leave will have to be repeated in total. Students who do not return from leave within the one-year limit will be voluntarily withdrawn from the nursing program and will have to apply for admission as a new student.

Incomplete Grades

A student may be granted a grade of “Incomplete” (I) for a course when the student is unable to complete all course work within allotted semester time under certain special circumstances. The student wishing to petition for extended time to complete course requirements must request the extension, incomplete grade, from the faculty. An Agreement for a Grade of Incomplete form must be signed by both the student and the course coordinator. Forms are available in the Office of Academic Programs and Support. The faculty may consult with the Associate Dean for Undergraduate Program, or the appropriate Graduate Program Director regarding the effect of granting a grade of I on the student’s progression in the nursing program. Students have up to one calendar year to complete course work that is incomplete.

If coursework is not completed, the course grade of I will be converted to an F. If the course is a required course, the student will not be allowed to progress in the program until the incomplete grade has been removed and a letter grade substituted. Once the coursework is completed, the faculty member must complete a Change of Grade Report form.

Intra-semester Report

At the middle of each semester, the faculty report to the Associate Dean for Undergraduate Nursing Program or the Graduate Program Director for all students doing work below the passing grade.

Conduct and Discipline

Students are responsible for knowing and observing the university’s procedures and regulations governing Student Conduct and Discipline and the Rules and Regulations of the Board of Regents. In addition to these regulations, standards of professional conduct may be set by each school of the Health Science Center.

In summary, the Regulations provide that: Violations of university regulations concerning standards of conduct which compromise professional integrity and/or competence shall be dealt with under Student Conduct and Discipline. The chief student affairs officer shall have responsibility for the administration of discipline in areas not directly related to the academic or professional training of the student. Procedures described in the Student Conduct and Discipline of the Health Science Center will be followed.
The Associate Dean for Admissions & Student Services of each school shall have the responsibility for the administration of discipline in cases concerning scholastic dishonesty and professional misconduct. The processes afforded a student subject to disciplinary sanctions are governed by Series 50101 of the Rules and Regulations of the Board of Regents of The University of Texas System and the Health Science Center's Student Conduct and Discipline.

Professional Conduct Guidelines

The goal of the School of Nursing is to create nursing professionals who can access and critically examine a reliable and extensive body of knowledge and apply it consistently to maximize the clinical benefit of patients. The School of Nursing students are expected to demonstrate academic professionalism and honesty, and to maintain the highest standards of integrity according to Regents Rules, 50101 Discipline and Conduct that embodies a spirit of mutual trust and intellectual honesty. The University of Texas Health Science Center School of Nursing Code of Conduct Document has established that nursing students have certain rights and responsibilities, and serves as an affirmation that students are a party to the social trust shared by all in the university community.

The School of Nursing follows the recommendation of the American Nurses Association Code of Ethics for Nurses as well as the Texas Board of Nursing, Nurse Practice Act. A code of professional behavior cannot encompass all potential issues of conduct which may arise. Therefore, it is impossible to specify all behaviors deemed to be unprofessional. Students are expected to hold themselves and their peers to professional standards of behavior throughout their course of study. Included among these standards are five fundamental values of academic integrity including honesty, trust, fairness, respect and personal accountability. The principles in the code of professional conduct as outlined in the School of Nursing document signed by all students upon enrollment in the School of Nursing should be reinforced throughout the curriculum.

Professionalism

Principles of professionalism are not rules that specify behaviors, but guidelines to provide direction in identifying appropriate conduct. These principles include the safety and welfare of patients, competence in knowledge and skills, responsibility for consequences of actions, professional communication, confidentiality, and lifelong learning for maintenance of professional skills and judgments. Professionalism and professional ethics are terms that signify certain scholastic, interpersonal and behavioral expectations. Among the characteristics included in this context are the knowledge, competence, demeanor, attitude, appearance, mannerisms, integrity and morals displayed by the student to faculty, peers, patients, clients and colleagues in other health care professions. Students are expected to conduct themselves at all times in a professional manner and to exhibit characteristics of a professional student.

The American Nurses Association Code of Ethics for Nurses can be found at the link: http://nursingworld.org/MainMenuCategories/EthicsStandards/CodeofEthicsforNurses/Code-of-Ethics.aspx

Students Rights and Responsibilities

Each individual student is responsible for their behavior and is expected to maintain standards of academic honesty. Students share the responsibility with faculty for creating an environment that supports academic honesty and principles of professionalism. Proper relationships between faculty and students are fundamental to the School of Nursing function and this relationship should be built on mutual respect and understanding together with shared dedication to the education process. It is a fundamental belief that each student is worthy of trust and each student has the right to live in an academic environment free of injustice caused by dishonesty. While students have an obligation to assist their fellow students in meeting the common goals of their education, students have an equal obligation to maintain the highest standards of personal integrity.

Click here to view Regents Rules 50101: http://www.utsystem.edu/BOR/rules/50000Series/50101.pdf

School of Nursing Code of Conduct: http://nursing.uthscsa.edu/students/pdf/codeOfConduct.pdf


Faculty Responsibilities

It is the responsibility of the faculty to specify in their syllabi the limits of acceptable resources that may be used for the purposes of the course. It is the responsibility of students to honor and adhere to those limits. The faculty should establish with the students what is considered to be academic dishonesty. Encouragement of group work varies greatly. Faculty shall convey to their students the acceptable level of individual versus collaborative work. Faculty, students, and administrators share the responsibility for creating an environment that encourages academic honesty.

Social Media Guidelines

The purpose of this policy is to promote the safety and privacy of students, faculty, staff, patients, and visitors. Students and faculty members must comply with the Health Insurance Portability and Accountability Act (HIPAA) and the Family Educational Rights and Privacy Act (FERPA) when using social media. These guidelines are informed by the American Nurses Association Principles for Social Networking and the Nurse (http://www.nursingworld.org).

No student may post, release, or otherwise disclose photos, identifiable case descriptions, images, or records related to the educational, clinical, or research activities of the school via social networking sites (e.g., MySpace, Facebook, Twitter, YouTube, etc.), non-educational blogs, message boards, Internet websites, personal e-mail, or anything other than standard professional means of query and/or dissemination.
Academic Appeals and Grievances

Student academic appeals and grievances are handled through established policies and procedures for the School of Nursing as outlined in the General Regulations and Requirements section of this Catalog.

The Associate Dean for Admissions and Student Services is available to explain, discuss, and facilitate this process with students and refer as appropriate to a particular Academic Dean or Program Director. This office also deals with issues directly related to other student life concerns, including, governance, mentoring, counseling and resource needs, Americans with Disabilities Act (ADA), Equal Employment Opportunity Coordinator (EEOC) and concerns related to harassment, threat, or violence.

Procedure for Academic Review

Section I: Purpose of Procedure

The purpose of Academic Review is to provide the student who has a concern about grades with the opportunity to pursue the concern through administrative channels if initial discussions with the faculty member/s who assign the grades are not perceived as fair or equitable. A grievance is an accusation or complaint about a grade or unfair action regarding academic achievement in the nursing program. The student has the right to grieve a grade or unfair action if the student’s perception is that the grade received does not accurately, fairly or appropriately reflect the student’s performance.

A student may grieve grades on the following:
1. Clinical performance
2. Papers
3. Projects
4. Examination
5. Course

The student may appeal the same grade only once. From the time the grade is released, the student has ten (10) business days to initiate Step 1 of the grievance procedures. A grievance is not the same as a request for a second person to a graded paper. Refer to procedures for obtaining a second reader.
Confidentiality is essential for all academic review/grievance procedures. Students may seek counsel or advice concerning the academic review process from the Associate Dean for Admissions and Student Services.

Section II: Procedure to be followed

Prior to initiation of an Academic Review or Grievance, the student must contact the faculty involved to discuss the concern. If resolution is not achieved, the student may pursue an academic review or Grievance.

Grade Appeal Process

Step 1

1. A written petition must be submitted by the student to the faculty of the class. This petition should contain: a) name of student, b) course, c) grade which is being challenged, d) dates student received grade, e) name of faculty member/s involved, f) dates student met with the faculty, and g) student’s reason for grieving the grade and a brief statement of the student’s concerns.

2. Within seven (7) business days (unless there are special circumstances, such as progression in the program, that require more rapid action), the faculty will respond to the student in writing with a decision. For the purpose of this grades appeals process, business days are established by the Health Science Center.

3. The student should retain a copy of the documents submitted for his or her records.

4. If the student concern is not resolved by the faculty in charge of the course then the grievance moves on to Step 2.

Step 2

1. A written petition will be submitted by the student to the Associate Dean for Admissions and Student Services who will engage the appropriate Associate Dean for Undergraduate Program or Graduate Program Director.

2. The petition should contain the same information included in Step 1.

3. The appropriate Associate Dean or Program Director will review the grievance.

4. An informal hearing with the student filing the grievance may be called if the student, faculty, Associate Dean, or Program Director feels it would be beneficial to discuss the complaint.

5. Within seven (7) business days (unless there are special circumstances, such as progression in the program, that require more rapid action), the appropriate Associate Dean for Undergraduate Programs or Graduate Program Director will respond to the student in writing with a decision. A written copy of the decision will also be provided to the faculty in charge of the course for which the grade is grieved.

6. If the student is not satisfied with the decision, the grievance may proceed to Step 3.

Step 3

1. The written petition, including the same information as listed in Step 1, will be submitted by the student to the Associate Dean for Admissions and Student Services who will brief and forward the petition to the Dean of the School of Nursing.

2. Information supporting the decision in Step 2 should also be forwarded to the Dean by the Associate Dean for Admissions and Student Services. This petition should contain the nature of the problem as stated in Step 1. A statement that an attempt was made to resolve the issue directly with both the faculty and/or the Associate Dean of Undergraduate Programs and/or the Program Director must be included.

3. The student should keep a copy of the documents submitted for his or her record.

4. The Dean may convene an impartial (e.g.: faculty who are outside the course or the department and a student) Grades Appeals Committee (GAC), which shall serve in an advisory capacity to the Dean. The manner of appointments and the number of members on the GAC shall be determined within the School of Nursing. The Chairperson of the GAC shall be appointed by the Dean. A decision will be made within seven business days unless there are special circumstances, such as progression in the program, that require more rapid action. The Chairperson of the GAC will make a recommendation to the Dean. The Dean will respond to the student in writing with a decision. A copy stating the recommended decision will be sent to the faculty in charge of the course and the Associate Dean for Undergraduate Programs.

- The decision of the Committee will be directed specifically to the charge (grade is indicative of the student’s achievement or the grade is not indicative of the student’s achievement). A rationale will be provided. If the Committee recommends reconsideration of the grade, the faculty member will consider the recommendation and inform the student and the Associate Dean for Admissions and Student Services of the action within seven business days unless there are special circumstances, such as progression in the program, that require more rapid action.

- A written report of the review is provided to the Associate Dean for Admissions and Student Services following the recommendation. The written record will be maintained in compliance with the records retention policy.

- The timeline for meetings of the GAC will be conducted under the HSC regular hours of operations. Under unusual circumstances deadlines may be extended.

Procedure for Second Readers of Papers and/or Projects

If a student disagrees with the grade given on a paper or project, he/she must discuss this with the faculty member who graded the paper. If agreement is not reached, the following procedure will be followed to request a second reader.

a. The student must submit a written petition for a second reader to the faculty member in charge of the course no later than seven business days after receiving the grade.
The petition should state which portions of the criteria are being challenged.

b. The student must also submit, to the faculty member in charge of the course, an unmarked and unaltered copy of the original paper. The student's name will be removed from the paper to allow for a blind review.

c. Through an impartial process, the faculty member in charge of the course will assign a faculty member, who is familiar with the course level and content, to serve as second reader.

d. The second reader’s evaluation will be returned to the original instructor for her/his consideration. The grade is reviewed by the second reader and faculty responsible for the course with the original faculty member assigning a final grade.

e. A request for a second reading may result in a grade that is the same, higher, or lower than the first grade.

Non Academic Appeals and Grievances

Student appeals and grievances are handled through established policies and procedures for the School of Nursing as outlined in the General Regulations and Requirements section of this Catalog. The Associate Dean of Admissions and Student Services is available to explain, discuss, and facilitate this process with students at any point in the process as well as to deal directly with any other student issues, including student life, governance, mentoring, counseling and resource needs, ADA, EEOC, and concerns related to harassment, threat, or violence.

Examinations

The faculty believes course examinations serve two purposes:

1. To validate the student’s knowledge of course content;
2. To reinforce learning and promote understanding of content.

The following policies and procedures have been developed to accomplish these purposes.

1. Students are expected to take examinations at the scheduled time. The student must notify the course coordinator prior to the scheduled exam time if they are unable to take the exam as scheduled. Failure to make this notification in advance will result in a “zero” for that examination. If the excuse is accepted as reasonable and necessary, arrangements will be made for a make-up examination.

2. Exam content is based on course, class, and clinical objectives. Included are all required readings, lecture and discussion, related material in the course packet, media presented in or required for class, material handed out or on Blackboard.

3. Examination items are the proprietary intellectual property of the university and are not to be shared by students. Sharing of exam items by students is considered cheating and is subject to disciplinary action. There are no legal test item banks available to students in the School of Nursing other than those provided with the ATI NCLEX –RN exam preparation materials.

4. Students cannot bring any items into the exam room (including purses, backpacks, cell phones, pagers, water bottles, caps, jackets, or other items). Student must wear the Health Science Center ID card clearly visible to enter the room. Pencils, erasers, and any other item needed to take the exam will be provided. If students arrive late, no extra time to complete the exam will be given. If the exam is not surrendered when time is called, a grade of zero will be assigned.

5. Each student is responsible for making sure that he or she has completed the exam before the exam is turned in to a proctor. Under no circumstances will a student be allowed to retrieve her or his exam materials after turning them in to the test proctor. If the exam uses a Scantron form for scoring, only the Scantron form will be used for final grade determination.

To reinforce learning and promote understanding of content:

1. After the exam has been graded, if course faculty review the exam with students, particular attention will be paid to those items on which students had difficulty, as demonstrated by the item analysis. The purpose of the review is to correct misconceptions and promote understanding of the content.

2. Exams may be reviewed either with the clinical group or with the total class outside regularly scheduled class time or clinical time. Exams may also be reviewed individually with course faculty.

3. Policies regarding faculty members’ review of exams with students individually are at the discretion of the faculty involved.

4. All exams/reviews must be completed within two weeks following the posting of grades for the respective exams.

Testing Policy

Students are expected to take all examinations on the scheduled date(s) and time(s). The student must contact the course coordinator or instructor prior to the scheduled exam time if unable to complete the exam as scheduled. If the excuse is accepted as reasonable and necessary, arrangements will be made for a make-up exam as soon as possible. Failure to notify will result in a grade of zero.

Guidelines for Written Work

All written work is to be submitted on the announced due date(s) and time(s) unless the student has made previous arrangements with the faculty member. Penalties may apply to late submissions as noted in course materials.

Guidelines for written work have been approved and adopted by the faculty. Every student is expected to follow these guidelines:

All students are required to use the official source book for citation and writing protocols. The official source book to be used at every level of the undergraduate curriculum and in the graduate program will be the most recent edition of the
Students are expected to follow the guidelines set forth in this manual; it is the only acceptable source book.

2. Students must provide two copies of submitted papers. One copy will be evaluated and returned to the student with written comments. The second copy will be retained by the School of Nursing for one year following the student’s graduation.

3. Written work should be generated from a word processor on good quality 8 1/2” x 11” paper. Papers should be double-spaced and allow margins of one and one-half inches at the left and bottom of the page. Errors in spelling and grammar and an abundance of noticeable corrections will adversely affect the value of the paper.

4. All written work must be stated in the student’s own words or must indicate clearly the portions quoted or paraphrased from the literature or spoken words of others. The student is cautioned to use direct quotations sparingly. Criteria for all student papers require documentation of sources of information, research methods and results, thoughts, ideas theories, etc. from the literature or from oral communications. All written sources cited within the body of a paper must be listed in the reference list at the end of the paper.

5. A student will be accused of plagiarism if he or she submits a paper that paraphrases and/or presents passages or ideas from writings or oral communication from others without citing the source of each or without identifying quoted material according to guidelines identified above.

6. Students are required to use Turnitin for research papers. Please see School of Nursing course syllabus for specific details.

This Catalog addresses plagiarism in the section that addresses scholastic dishonesty under procedures and regulations governing Student Conduct and Discipline. Any student found guilty of plagiarism is subject to disciplinary penalty ranging from written reprimand, zero on the work, failure in the course, and through dismissal from the program.

Program Policies & Procedures

Attendance

The School of Nursing faculty believes that attendance at scheduled classes, examinations, clinical experiences, and clinical learning laboratory is crucial to meeting course and program objectives. Excused absences may be granted by the instructor in such cases as illness or personal emergency and are considered on an individual basis. Students who have missed clinical obligations due to an illness or injury that has restricted their ability to perform in the clinical environment must provide written medical clearance stating that the student is ready and cleared to participate fully in clinical activities. The student will not be allowed to return to the clinical area until the health care provider’s statement has been received. The Administrative Assistants in the Office of Academic Programs and Support will notify the appropriate faculty. Repeated or unexcused absences make it impossible to achieve course objectives. Students must follow attendance guidelines specified for each course in the course syllabus. Missing clinical experiences may limit the student’s ability to achieve course objectives and may therefore result in the student not being able to progress to the next clinical course.

The student must contact the course coordinator, or faculty prior to the scheduled exam time or written assignment or presentation due date if unable to complete the exam or assignment or presentation as scheduled. If the excuse is accepted as reasonable and necessary, arrangements will be made for a make-up exam or to receive extended time for the written project or to reschedule the presentation. Failure to notify will result in a grade of zero.

Dress Code

Students are expected to dress professionally and display professional demeanor at all times. The School of Nursing follows a dress code in class and in the clinical setting. The Student Dress Code can be found on School of Nursing website.

Patient Safety

The nature of clinical nursing courses is such that students are involved in the direct or indirect delivery of patient care services. The primary purpose of any course is to provide education for students. However, when direct patient care is involved in the learning experience, the safety and well-being of patients are of paramount concern. Within the structure of nursing clinical courses, students are given the opportunity to demonstrate increasing independence and competence in providing nursing care as they progress through the program.

Students are expected to demonstrate achievement of clinical objectives by the end of a clinical course. If, in the instructor’s professional judgment, a student is consistently unable to provide safe nursing care to patients and cannot remedy the deficit in the given clinical time, the student will receive a grade of “F” for the course. Faculty, or staff in the clinical agency, has the right to remove a student from the clinical area at any time for cause.

Clinical Sites

All students are expected to be prepared to provide nursing care for the patient(s) to whom they are assigned in each clinical activity. Students are expected to complete any other assignments that constitute preparation for activities in the clinical environment. The faculty has the right and an obligation to remove a student from a clinical setting/agency if the student is not prepared. Students assume responsibility and are liable for their own actions. Students are responsible for maintaining the confidentiality of ALL forms of patient information.

Students should be in the clinical agency only during scheduled times. The student’s faculty and the agency
personnel must consent to all other visits. Students must obtain prior approval from their clinical instructor if they plan to contact any agency personnel. If the student is already assigned to an agency, and the purpose for the contact differs from the clinical assignment, clearance must also be obtained from the clinical instructor. Faculty assumes responsibility for the assignment in the clinical agency or setting.

Students are expected to achieve the clinical objectives within the allotted time. In order to accomplish objectives, students are expected to attend every clinical session in its entirety. Failure to do this will jeopardize the student's progression in the course. Classes and clinical practicum experiences may be held during the day or evening hours or on weekends. The time of day for class and clinical offerings varies from semester to semester and from course to course. Thus, a student may expect to attend a class or clinical practicum during the evening hours or weekend at some point during their program of study.

Clinical Attendance

Students are required to attend all clinical experiences. Students are to be prompt, prepared, and appropriately attired. A student who is unable to attend a clinical experience must contact the clinical faculty personally prior to the beginning of the clinical experience. Leaving a message or e-mail for the faculty is not acceptable. Faculty will share specifics regarding appropriate means of communicating during orientation. Completion of missed clinical time is at the discretion of the clinical faculty.

Transportation

Students must provide their own transportation to the various agencies for clinical experience. Parking fees associated with clinical practice are the responsibility of the student.

Learning Laboratory and Simulation Center

The Nursing Learning Laboratory and Simulation Center was designed as a specific area where clinical competence or psychomotor skills are learned and practiced within the curriculum to promote development of psychomotor dexterity and to practice patient care using medium and high fidelity mannequins that are programmed to mimic human reactions to health care interventions. The Learning Laboratory is considered Clinical Time. Learning is facilitated when students actively participate in the activities that have been carefully constructed for each laboratory period to promote acquisition of new competencies, and continued advancement of competence. There are typically readings, study guides or other activities that students are expected to complete prior to arriving in the lab so that they are fully prepared to extract maximum value from the learning experience.

Students may gain extra practice in the laboratory outside of assigned laboratory periods. Simulation Specialist and graduate assistants are available to help students. They will monitor practice activities, and demonstrate skills. They collaborate with course faculty in the development of learning activities from skills to simulated patient care scenarios.

The following requirements are designed to help students maximize the benefits of using this environment.

1. Students may only practice those nursing procedures that they have previously been taught during a regular Learning Lab classes.
2. Graduate students, undergraduate students, and faculty may schedule practice labs with the Manager of the Learning Laboratory and Simulation Center or her/his designee.
3. Scheduling of sessions is dependent upon availability of space and supplies.
4. In the interest of safety for all students, practice of invasive procedures requiring needles, syringes, and intravenous supplies must be supervised by a faculty member of one of the Simulation Specialists. Arrangements for such supervision are the student's responsibility.
5. Practice sessions not requiring supervision must also be scheduled with the Learning Laboratory and Simulation Center personnel.
6. In light of the high volume of student activities scheduled in this environment, make-up labs for scheduled lab sessions are not offered, unless specifically scheduled by the faculty who will teach extra labs, therefore attendance is crucial.

Equipment, literature, audiovisual, and practice materials may be used in the Learning Lab, and many of these items may be checked out for use in other areas. Items to be checked out should be reserved in advance with the staff. The borrower is responsible for items on loan. The Learning Lab staff should be consulted for instructions on use, and they should be made aware of equipment not operating properly. Extra books and other nonessential items should be stored before the student enters the Lab. Equipment or supplies are damaged or lost the student is responsible for replacement cost.

Learning Laboratory Attendance

Learning Laboratory is considered Clinical Time. Attendance is essential to meet the objectives of the course. If a student must miss a scheduled lab, he/she must notify their clinical instructor and the Director of Learning Lab and Simulation Center or designee in advance. The student must contact his or her assigned clinical instructor to make up the missed content. When a Learning Lab is missed, the student cannot perform the missed skills in the authentic clinical environment until the make-up activity has been completed. Students arriving late for Learning Laboratory are not given extra time for skill practice or performance.

The Associate Dean of the Undergraduate Program or appropriate Graduate Program Director will be notified in writing by the course coordinator and clinical faculty if a student is at risk of being removed from a clinical course because they have exceeded the maximum allowable missed
hours in either Clinical or the Learning Laboratories. The appropriate Associate Dean of the Undergraduate Program or appropriate Graduate Program Director will follow-up with clinical faculty and course coordinator to identify appropriate next action.

**Student Center**

The Office of Student Services, Student Center found online is a one-stop center to provide services and information to assist students in achieving their academic goals. The Student Center allows students to review policies, procedures, and graduate handbooks, enroll in classes, view their bill, check financial aid status, make payments, view their holds, change address, enrollment verification and more all from a single anchor page.

**Organizations**

Organizations available at the School of Nursing are:

- Nursing Student Council
- National Student Nurses’ Association
- Student Government Association Representatives
- Graduate Student Nursing Association
- IHI Open School San Antonio Chapter
- Hispanic Student Nurses Association
- International Nursing Student Organization
- Men In Nursing
## School of Nursing Academic Calendar 2011–2012

### Fall 2011

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Group</th>
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</thead>
<tbody>
<tr>
<td>Sunday, May 01, 2011</td>
<td>Web Regular Registration Begins</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, June 30, 2011</td>
<td>Web Regular Registration Ends</td>
<td>All Students</td>
</tr>
<tr>
<td>Friday, July 01, 2011</td>
<td>Web Add/Drop/Late Registration Begins</td>
<td>All Students</td>
</tr>
<tr>
<td>Tuesday, August 16, 2011</td>
<td>Web Add/Drop/Late Registration Ends</td>
<td>All Students</td>
</tr>
<tr>
<td>Thursday, September 1, 2011</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
</tr>
<tr>
<td>Monday, September 05, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Monday, September 19, 2011</td>
<td>Census Date</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, November 24, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, November 25, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, December 16, 2011</td>
<td>Term Ends</td>
<td>All</td>
</tr>
<tr>
<td>Monday, December 19, 2011</td>
<td>Final Grades Due (by Noon)</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, December 20, 2011</td>
<td>Graduation</td>
<td>Graduating Students</td>
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<tr>
<td>Monday, December 26, 2011</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, December 27, 2011</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Wednesday, December 28, 2011</td>
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<td>All</td>
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<tr>
<td>Thursday, December 29, 2011</td>
<td>University Holiday</td>
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<tr>
<td>Friday, December 30, 2011</td>
<td>University Holiday</td>
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### Spring 2012

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<tr>
<th>Date</th>
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<tbody>
<tr>
<td>Tuesday, November 01, 2011</td>
<td>Web Regular Registration Begins</td>
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<td>Wednesday, November 30, 2011</td>
<td>Web Regular Registration Ends</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, December 01, 2011</td>
<td>Web Add/Drop/Late Registration Begins</td>
<td>Undergraduate Students</td>
</tr>
<tr>
<td>Tuesday, January 03, 2012</td>
<td>Web Add/Drop/Late Registration Ends</td>
<td>Undergraduate Students</td>
</tr>
<tr>
<td>Wed.–Fri., January 04–06, 2012</td>
<td>Orientation</td>
<td>New Students</td>
</tr>
<tr>
<td>Monday, January 09, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
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<tr>
<td>Monday, January 16, 2012</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Wednesday, January 25, 2012</td>
<td>Census Date</td>
<td>All</td>
</tr>
<tr>
<td>Monday, February 20, 2012</td>
<td>Presidents Day</td>
<td>All</td>
</tr>
<tr>
<td>Monday, March 05, 2012</td>
<td>Spring Break Begins</td>
<td>All</td>
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<tr>
<td>Friday, March 09, 2012</td>
<td>Spring Break Ends</td>
<td>All</td>
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<tr>
<td>Friday, April 27, 2012</td>
<td>Term Ends</td>
<td>All</td>
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<tr>
<td>Friday, May 04, 2012</td>
<td>Final Grades Due</td>
<td>All</td>
</tr>
<tr>
<td>Saturday, May 26, 2012</td>
<td>Graduation Ceremony</td>
<td>Graduating Students</td>
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### Summer 2012

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<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Sunday, April 01, 2012</td>
<td>Web Regular Registration Begins</td>
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<tr>
<td>Date</td>
<td>Event</td>
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<tr>
<td>Monday, April 30, 2012</td>
<td>Web Regular Registration Ends</td>
<td>All</td>
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<tr>
<td>Tuesday, May 01, 2012</td>
<td>Web Add/Drop/Late Registration Begins</td>
<td>Undergraduate Students</td>
</tr>
<tr>
<td>Thursday, May 10, 2012</td>
<td>Web Add/Drop/Late Registration Ends</td>
<td>Undergraduate Students</td>
</tr>
<tr>
<td>Wed. –Fri., May 09–11, 2012</td>
<td>Orientation</td>
<td>New Students</td>
</tr>
<tr>
<td>Monday, May 14, 2012</td>
<td>Term Begins (Official 1st Class Day)</td>
<td>All</td>
</tr>
<tr>
<td>Monday, May 28, 2012</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, May 30, 2012</td>
<td>Census Date</td>
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<tr>
<td>Wednesday, July 04, 2012</td>
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<tr>
<td>Friday, August 24, 2012</td>
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<tr>
<td>Tuesday, August 28, 2012</td>
<td>Final Grades Due</td>
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<tr>
<td>Saturday, September 1, 2012</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
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Undergraduate Program in Nursing

- Overview
- Undergraduate Program Policies
- Grades and Progression
- Graduation
- Traditional BSN Track
- Accelerated BSN Track
- School of Nursing Course Descriptions

Overview

Baccalaureate-Prepared Nurse

The baccalaureate-prepared professional nurse provides comprehensive care across the lifespan in diverse settings.

Program Objectives

The baccalaureate program provides opportunities for the learner to develop the following behaviors:

1. Incorporate knowledge, skills, and attitudes from the liberal arts and sciences in professional nursing education and practice.
2. Apply knowledge and skills of organizational and systems leadership, quality improvement and patient safety in promoting safe, high-quality care for diverse patients across healthcare systems and environments.
3. Analyze and apply evidence from research and other information sources as a basis for nursing practice.
4. Incorporate knowledge and skills in using information systems and a range of patient-care technologies to facilitate delivery of quality patient care.
5. Advocate for financial and regulatory healthcare policies, processes, and environments that improve the nature and functioning of the healthcare delivery system and nursing practice.
6. Collaborate and communicate effectively with healthcare professionals to promote positive working relationships, improve patient health outcomes, and deliver quality, safe patient care.
7. Promote individual and population health by assessing factors that influence individual and population health and apply principles and culturally appropriate health promotion and disease-prevention strategies.
8. Demonstrate consistent application of the core values of the discipline of nursing and the professional standards of moral, ethical, and legal conduct.
9. Integrate the knowledge, skills, and attitudes expected of baccalaureate prepared nurses by providing professional nursing care to diverse patients and populations across the lifespan, healthcare settings, and healthcare environments.

Undergraduate Program Policies

Assessment Technologies Institute (ATI)

The faculty of the School of Nursing has adopted the comprehensive program developed by Assessment Technologies Institute, LLC (ATI) as an assessment of student learning and preparation for success on the NCLEX-RN licensing examination. It is also hoped that this program will promote retention because it provides tutorial materials in book form, CD, and computerized practice tests that will help students and faculty evaluate acquisition of knowledge relative to content that may be seen in the licensing examination.

The ATI program is initiated during the application process for incoming students when the TEAS (Test of Essential Academic Skills) is administered and continues with learning assessments used throughout the program. Purchase of the ATI materials for each semester is mandatory. Completion of all ATI materials/exams as designated by each course syllabi that fall within the semester is required for all undergraduate nursing students to complete the semester course, receive a grade, and progress through the School of Nursing Curriculum. The learning and testing materials are designed to increase student confidence in computer-based testing, and to improve application of nursing process, critical thinking skills, and competencies required of new graduates in nursing to pass the NCLEX-RN.

We have received very positive feedback from other schools in Texas and the nation on satisfaction with the ATI comprehensive program. Our goal is to assure that our students are well prepared academically and experientially for the licensing examination and practice in the rapidly changing healthcare environment.

Transfer Students

Individuals who wish to transfer into the BSN program of the School of Nursing must have completed the 62 hours of pre-nursing coursework required by this institution and accumulated a minimum grade point average of 3.0 in required courses and an overall grade point average of 3.50. Applicants must also be in good standing and eligible for
Grades and Progression

The standing of students in their work is expressed by five grades: A (excellent), B (above average), C (average), D (below average), F (failure). Students may also register in certain courses on a pass/fail basis, in which case the grade is recorded as either Credit (CR) or Fail and no letter grade is assigned. All required nursing courses in the Bachelor of Science in Nursing program (Generic Process and Flexible Process) must be taken for a letter grade. A grade may not be changed after it has been reported to the Registrar unless an error has been made by the instructor.

Although a grade of D can be earned in a required nursing course, it is a failing grade and a grade of C or higher is necessary for progression to the next required course in the sequence or for graduation. In elective nursing courses, credit may be earned for a grade of D.

In computing the grade point average, the following scale of points per semester credit hour is used:

- A = 4 points (90–100)
- B = 3 points (80–89)
- C = 2 points (70–79)
- D = 1 point (60–69)
- F = 0 points (59 or below)

Satisfactory Progress

To be considered as making satisfactory progress, a student must maintain a cumulative grade point average of 2.0 or above with no grade lower than C in required upper-division nursing courses.

Students will be required to take nationally normed tests throughout the curriculum and to make satisfactory scores on such tests. In the last semester of the curriculum, students will be required to take a comprehensive exam and to make a satisfactory score on such an exam prior to graduation and/or taking the licensing exam.

Dean’s List

The GPA for full-time students for Dean’s List is 3.5. Fall and spring students should be enrolled at least 12 hours, and 6 hours for summer.

Progression in the Program

Students must maintain an average of C in each required course of the undergraduate program or B in the graduate program in order to progress in the program.

An undergraduate student who earns a D, F, or WF in a required nursing course must repeat the course in question. Students who earn a D, F, or WF in more than one course will be dismissed academically from the undergraduate nursing program.

Students who earn a D, F, or WF in a required course, or whose average falls below C (GPA falls below 2.0), will be placed on academic probation for one semester/term. If at the end of the semester/term, the student has achieved a GPA of 2.0 or above with no grade lower than C in required nursing courses, he or she will be removed from academic probation.

Students must request permission to repeat a clinical course that is not passed (either an F, or WF constitutes a failing grade) during the semester immediately following receipt of a failing grade. Permission to repeat the course will be granted by the Admission, Progression, and Graduation subcommittee of COUS based on space-available. Newly admitted students, enrolled students, and students who have withdrawn in good standing have priority over other students seeking to repeat a course.

Course and clinical faculty will review the performance of the failing student and will make recommendations to the COUS based on the students overall performance in the course in question. Students who have a documented pattern of unsafe or unprofessional clinical performance during the semester and have not improved following remediation will be rated as low priority for repeating the course and may not be permitted to repeat the course. Therefore, the student who is not granted permission to repeat a failed course in the semester immediately following a failure due to a documented pattern of significant unprofessional or unsafe performance will be dismissed from the nursing program.

Unsafe clinical practice is defined as “an act that is harmful or potentially detrimental to the patient, self, or other health personnel (Luhanga, Yonge, and Myrick, 2008, p1).” Professional behaviors include application of the nursing process, providing care and counsel, or health teaching to persons experiencing alterations in health based on synthesis of knowledge and understanding of basic scientific principles (Texas Board of Nursing, Rules and Regulations Relating to Nurse Education, September, 2007).
Repetition of a Failed Clinical Course(s)/Appeal of Academic Dismissal

Any student who wishes to repeat a clinical course, or who has failed two courses and is therefore subject to academic dismissal, should follow the procedure below:

1. Make an appointment with the Associate Dean for the Undergraduate Program.

2. Submit an Application for Course Repetition to the Undergraduate Office. The due date for the application is 72 hours following receipt of final grade.

COUS decisions, including any conditions that are to be met prior to or during the semester in which the student is repeating the course, are communicated to the student in writing by the Associate Dean for the Undergraduate Program. COUS makes its decision based upon the following:

1. Faculty recommendations regarding repetition.

2. Formative and summative clinical evaluation summary in student's file and documentation regarding plan for remediation.

3. Student statements related to performance, extenuating circumstances, plans for future success, etc., if the student wishes to submit comments.

Student petitions for reconsideration of the COUS decisions are reviewed by the Dean of the School of Nursing. These must be submitted in writing to the Dean within four weeks of the COUS decision. The Dean's decisions are final.

Advisement Program for Students on Academic Probation

The student who is allowed to repeat a course, or who is on academic probation will be required to participate in an advisement program. The student will be required to sign a contract agreeing to participate in the advisement program. Failure to comply with the contract constitutes cause for dismissal.

A student who fails (D or F grade) or withdraws failing from two required nursing courses (or from the same course twice) will be dismissed from the nursing program and will be ineligible for readmission.

Scholastic Probation

A student whose GPA falls below 2.0 but has no grade lower than C in required upper-division nursing courses will be placed on scholastic probation for one semester/term. If at the end of the semester/term, the student has achieved a GPA of 2.0 or above with no grade lower than C in required nursing courses, he or she will be removed from scholastic probation.

A student who fails to remediate her or his probationary status in one semester/term will be dismissed and will be ineligible for readmission.

A student who fails or withdraws failing from two required nursing courses (or from the same course twice) will be dismissed and will be ineligible for readmission.

Examinations

Examinations must be taken on the date and time scheduled. Policies regarding missed examinations are stated in course syllabi.

Correspondence Courses

Students wishing to enroll for correspondence courses and/or courses in another institution while enrolled in the School of Nursing must obtain permission from the Associate Dean for such courses to be accepted for credit by the School of Nursing. Students must be in good scholastic standing and must have demonstrated their ability to carry the increased course load to receive such permission. Not more than 12 hours of the 122 hours required for the degree may be taken by correspondence.

Transferring Grades

An applicant, whether a new student or a former student of the School of Nursing who has attended another college, must submit all previous college records when applying for admission to the School of Nursing. Transferred grades are recorded as submitted. Former students who attended another institution are responsible for providing a transcript of their records to the School of Nursing before reentering.

Graduate Credit

Undergraduate students may be admitted to graduate courses in nursing only in the last semester of the senior year. Three credit hours taken by undergraduate students may be applied toward the graduate degree as long as these credits are not used toward the undergraduate degree. Credit may be applied toward the graduate degree only after the student has been admitted to and is enrolled in the graduate program.

Transfer of Upper-Division Electives

Upper-division nursing electives taken through another NLNAC- or CCNE-accredited baccalaureate program may be accepted for credit. Grades earned for upper-level electives can be transferred only to the School of Nursing for credit.

Student Employment

The nursing program permits students to be enrolled full-time or part-time. Full-time students are encouraged not to plan full-time employment while enrolled in the program. A student's combined employment and semester-hour load should not exceed 40 hours per week.

Students may be employed as patient care assistants (certified nursing assistants), performing functions for which they have received training in the institution and for which the institution has a clearly discernible policy either in writing or by precedent defining the scope of these functions. Any individual not licensed in the State of Texas, or a Compact State, to practice professional nursing who engages in such practice is doing so
illegally and may be prosecuted accordingly. Supervision by the professional, licensed nurse does not provide protection to the student or make the student’s actions legal.

Students should be aware that: (1) the School of Nursing assumes no responsibility for their activities as an employee of an agency; (2) the students are personally responsible and liable for any activity they participate in while employed; (3) professional liability insurance purchased by students through the School of Nursing is only valid in their student roles, not their employment roles; (4) individuals who practice illegally may jeopardize their future, as persons who are convicted of violation of the Nurse Practice Act may not be eligible to take the NCLEX-RN and subsequently receive licensure.

Students employed in an agency have the responsibility, personally and professionally, to engage only in those activities which fall within their job description as nonprofessional workers (i.e., aides). They have a responsibility to refuse to participate in activities that they have not been legally licensed to perform (i.e., giving medication, assuming total responsibility for a division, etc.).

Students may not wear their school patch or student name badge at their place of employment.

Graduation

Requirements

To be eligible for graduation, a student must have a 2.0 grade point average for the required 60 semester hours of upper-division course work. At least 30 of the last 33 semester hours of the nursing major must be completed at the School of Nursing.

Procedures for Degree Candidates

Degree candidates who are taking upper-division electives off campus must supply the School of Nursing with a transcript from each school where work is done. Transcripts must be submitted as each course is completed.

A candidate for a degree must (1) register in the semester in which the degree is to be received and (2) file a degree application form with the Office of the Registrar during the semester prior to the term in which the degree is to be granted.

It is a requirement that a candidate for the degree be enrolled in the semester or summer session in which the degree is awarded.

Degrees will be conferred only on official dates publicly announced. Commencement ceremonies are held in December and May of each year.

Graduation with Honors

Students whose upper-division grade point average is above 3.4 will be awarded the degree with honors. The honors designation is noted on the diploma and the transcript, and honor students receive special recognition at graduation ceremonies.

Honors designations are based on the following scale:

- 3.4–3.59 Cum Laude
- 3.6–3.79 Magna Cum Laude
- 3.8–4.0 Summa Cum Laude

Registration as a Professional Nurse

A student seeking registration as a professional nurse must take and pass the National Council Licensure Examination for Registered Nurses (NCLEX-RN) administered by the Board of Nurse Examiners for the State of Texas. The Board may refuse to approve persons to take the licensure examination, may refuse to issue or renew a license or certificate of registration, or may refuse to issue a temporary permit to any individual who has been arrested for anything other than a minor traffic violation.

As of 1996, an individual applying for the NCLEX-RN examination must answer the questions listed below:

1. Have you ever been denied licensure by a licensing/certifying authority in any country, state, or province?
2. Have you ever had disciplinary action taken against you by any licensing/certifying authority in any country, state, or province?
3. Have you ever been convicted of a crime other than minor traffic violations?
4. Have you been diagnosed with or treated for schizophrenia or other psychotic disorders, bipolar disorder, paranoid personality disorder, antisocial personality disorder, or borderline personality disorder? (You may answer “no” if you have completed and/or are in compliance with TPAPN, Texas Peer Assistance Program for Nurses, for mental illness.)
5. Have you been addicted to or treated for the use of alcohol or any other drug within the past five (5) years? (You may answer “no” if you have completed and/or are in compliance with TPAPN for substance abuse.)
6. Have you ever been issued any order concerning your eligibility for examination or licensure by this Board?

If the answer to any of these questions is “yes,” the student must contact the Board of Nurse Examiners.

- The student will receive information about Initial Licensure and instructions about FBI background checks through the School of Nursing.
- All 122 hours for the degree must be completed before the student is eligible to take the NCLEX-RN.
- A student planning to take the NCLEX-RN in another state must obtain information regarding procedure from the agency responsible for professional nurse registration in that state.
Curriculum

The undergraduate nursing curriculum is completed in two phases, the first of which is the 62 semester hours of basic liberal arts required for admission to the School of Nursing (Pre-nursing Course Requirements).

The second phase encompasses the major in nursing and is presented in the junior and senior years. The curriculum includes 60 semester hours of upper-division nursing courses at the School of Nursing. Taken in either the Traditional Track or Accelerated BSN Track, these courses are designed to prepare the baccalaureate prepared nurse for practice in a variety of settings and specialties.

Students may complete the 60 hours of required nursing courses through the Traditional Track or the Accelerated Track. Successful completion of either pattern results in the awarding of the Bachelor of Science in Nursing degree. The Traditional Track can be taken either full-time or part-time; however, the School of Nursing reserves the right to revise curriculum to remain current with nursing practice standards. Such revisions may impact the availability of part-time options during times of transition. The Accelerated track is designed to be completed in 15 months and there is NO part time option.

Traditional BSN

The Traditional BSN track is designed for individuals entering the School of Nursing without prior nursing knowledge, experience, or skills. Completion of the track generally requires two years (four semesters) of full-time study.

Traditional BSN Program Plan
(Full-Time Study)

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Semester II Traditional

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Semester III Traditional

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Semester IV Traditional

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Total: 7 8 0 465 15

Program Totals: 36 (540) 23 (1035) 1 (45) 1620 60

Accelerated BSN Track

The Accelerated BSN track is designed for individuals who hold a baccalaureate degree in a field other than nursing. Completion of the track requires 15 months of full-time study. The program may only be undertaken on a full-time basis.

Accelerated BSN Program Plan
(Full-Time Study)

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<tr>
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<tr>
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**Semester II Accelerated**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Th</th>
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<td>NURS 3373</td>
<td>Family Nursing Care: Clinical Applications</td>
<td>3</td>
<td></td>
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<td>NURS 3274</td>
<td>Psychiatric and Mental Health Nursing: Theoretical Foundations</td>
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<td></td>
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<td>Research and Evidence-Based Practice</td>
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**Semester III Accelerated**

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<td>NURS 4111</td>
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**Semester IV Accelerated**

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<tr>
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<th>Clin</th>
<th>Lab</th>
<th>Cont</th>
<th>Cred</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 4327</td>
<td>Population Focused Health: Theoretical Foundations</td>
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<td></td>
<td>45</td>
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</tr>
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<td>NURS 4227</td>
<td>Population Focused Health: Clinical Applications</td>
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<td>Leadership and Management: Theoretical Foundations</td>
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<td><strong>Program Totals:</strong></td>
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<td>38</td>
<td>(570)</td>
<td>(765)</td>
<td>(225)</td>
<td>1560</td>
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</table>

**Time Limit**

Undergraduate students must successfully complete all coursework toward the degree within four years of the date of initial enrollment in the program.

**Independent Study**

Undergraduate nursing students may design their own Independent Study course for one to three semester hours of credit. Guidelines for design and approval of Independent Study are available from the Academic Coordinator for undergraduate or graduate program in the Academic Offices in the School of Nursing. The Committee on Undergraduate Studies or Committee on Graduate Studies must approve the Independent Study before a student can register for the course. Deadlines for submission of Independent Studies are April 15 for summer and fall semesters and October 15 for spring semesters.

School of Nursing Course Descriptions
Graduate Program in Nursing

- Graduate Program Policies
- Administration
- Grades and Progression - (MSN and PhD)
- Master of Science in Nursing
- Doctor of Philosophy in Nursing
- Course Descriptions

The Health Science Center’s Graduate Program in Nursing is designed to provide qualified individuals with educational opportunities which will enable them to make significant contributions to the improvement of health care, the science of nursing, and the advancement of nursing practice. The purpose of this program, leading to the degrees Master of Science in Nursing or Doctor of Philosophy, is to provide nurses with opportunities to become prepared for advanced clinical practice, for roles as educators or administrators, or as clinical nurse scientists.

Graduate Program Policies

General Information

Information about academic progression, policies, or procedures, as well as curriculum information, may be obtained from the Office of Academic Programs and Support or appropriate Graduate Program Director. The Committee on Graduate Studies (COGS), which represents the graduate nursing program, has responsibility to both the School of Nursing and the Graduate School of Biomedical Sciences (GSBS) for the Ph.D. program, and makes recommendations regarding both policy and curriculum.

Ph.D. students should refer to the Graduate School of Biomedical Sciences (GSBS) Catalog.

Current Licensure as a Registered Nurse

Each graduate nursing student is required to maintain current licensure as a registered nurse in Texas, or a Compact State, throughout the graduate program. The current licensure is presented each semester of enrollment at the time of preregistration. Students who do not submit a current license will not be allowed to preregister and/or register for a subsequent term of study until proof of licensure has been submitted. Failure to produce proof of current licensure is grounds for dismissal from the program.

Advisement

After acceptance, each student enrolled in the graduate program is assigned an academic advisor. When feasible, assignment is made on the basis of clinical area. The academic advisor serves as a resource person for the student in future program planning and academic counseling. Each student is expected to contact her/his advisor at least once a semester at the time of preregistration for the subsequent semester. A student may request a change in academic advisor through the Office of Academic Programs and Support. Ordinarily, requests for change in advisor can be accommodated, but, as a courtesy, the student should discuss the change with her/his current advisor. All changes in the student’s program plan must be submitted to the Office of Academic Programs and Support.

Independent Study

Graduate students may design their own independent study courses for one to four semester hours of credit. Guidelines for design and approval of Independent Studies are available from the Office of Academic Programs and Support. COGS and its subcommittee must approve the Independent Study before the student may register for the course. Courses for summer and fall must be approved in the spring; courses for spring must be approved during the fall semester. Assistance can be provided by the student’s academic advisor.

Dissertation

The Graduate School Instructions for Preparation and Submission of Thesis, Dissertations, and Dissertation Abstracts and forms for advisor approval are available from the GSBS website. Doctoral students should obtain a copy of the Guidelines that provide information about the dissertation process. These forms will be needed when the student decides to proceed with the thesis or dissertation. Dissertation proposals must be approved by the Nursing Committee on Graduate Studies and GSBS Graduate Faculty Council (GFC) before students may register for dissertation.

Incomplete Grades

An “Incomplete” may be initially granted for one year. An Agreement for a Grade of Incomplete form must be signed by both the student and the faculty member. Forms are available in the Office of Academic Programs and Support. A student granted an Incomplete must either complete the coursework or renegotiate an extension.

Coursework must be completed within one year.

Once the coursework is completed, the faculty member must obtain a Change of Grade Report form from the Graduate Nursing Office to assign a grade.

Auditing Courses

Students may not attend class without proof of registration, either as a matriculated or an auditing student. Anyone may audit a non-clinical course in the School of Nursing with the
approval of the appropriate Graduate Program Director, and based on space available. A student auditing a course is not permitted to participate in any clinical activity of the course. The appropriate Graduate Program Director seeks the consent of the course instructor. Students pay an audit fee. It is the instructor’s prerogative to stipulate expectations of attendance or assignments for auditors. Audited courses will be recorded on the transcript as audited (AU). No audited course may be taken subsequently for credit.

Petitioning

Students may petition COGS for the consideration of relevant issues influencing program progression and/or completion. Students who wish to petition COGS should consult with their advisors, and then complete the Student Petition Form that is available from the Office of Academic Programs and Support. Decisions regarding the petition will be communicated in writing to the students.

Petitions for reconsideration of the decision of COGS are reviewed by the Dean of the School of Nursing. The Dean’s decisions are final.

Teaching Assistants

Opportunities are available for graduate nursing students enrolled part-time to work as teaching assistants in the School of Nursing Learning Laboratory. Teaching assistants work with undergraduate students, assisting them to learn technical skills. Interested applicants should contact the School of Nursing for additional information.

Transfer of Credit

Academic work for the Master of Science in Nursing is usually completed within the UT Health Science Center San Antonio. However, students may, with the approval of their advisors, transfer from another accredited institution a maximum of six semester credit hours (9 quarter hours) of graduate credit applicable to their course of study leading toward the Master of Science in Nursing degree. Additional graduate courses may be transferred from other accredited institutions upon the approval of the Committee on Graduate Studies, with the number not to exceed an additional six semester credit hours. The doctoral program provides special opportunities for an increased number of hours of transfer credit.

Approval of courses beyond the six semester hours or courses to be accepted in lieu of required, clinical major or minor courses must be submitted to COGS. The student may obtain additional information about materials that must be submitted with the petition from the appropriate Graduate Program Director. Approval of any course for transfer, prior to registration for the course, is strongly recommended.

Approval of transfer credit requires that the student be enrolled in the graduate program. The student must complete a Request for Transfer of Credit form and submit it to her/his advisor with an official course description from the Catalog and must ascertain that an official transcript, sent directly from the college or university attended, is in her/his file or request that a transcript be sent as soon as the course is completed. All courses must have been completed not more than five years before the degree is awarded. Courses in which a grade of C or less has been earned will not be accepted for transfer.

Upper-Division Coursework

The maximum number of credit hours of upper-division level coursework which may be included is three, and such undergraduate coursework must be completed within the School of Nursing. This coursework is for elective credit only.

Correspondence Courses

Courses completed by correspondence are not accepted for graduate credit.

Residence

Each degree candidate must complete two semesters of full-time study, or the part-time equivalent, in residence at the Health Science Center. No student may receive advice and assistance from a member of the faculty in the preparation of the thesis or dissertation without being registered (if necessary for multiple semesters) for the thesis/dissertation course.

Scholastic Probation

A student whose cumulative grade point average or nursing grade point average falls below 3.0 will be placed on probation and warned that continuation in the graduate program is in jeopardy.

The probation period shall extend no longer than two consecutive semesters of enrollment. No more than one probationary period shall be permitted. NURE (elective) courses may not be taken during the probationary period, and the student may not drop any course after the first class day.

To be removed from probation, the student must achieve a 3.0 cumulative grade point average by the completion of the probationary period. Failure to accomplish the required average will result in the student’s dismissal from the program.

The progress of students on probation will be reviewed by the Committee on Graduate Studies each semester. A student on probation will not be admitted to candidacy nor awarded a degree. Satisfactory progress toward the degree is required throughout the student’s enrollment. The Committee on Graduate Studies may terminate a student’s enrollment at any time if the student does not meet the criteria for continuance in the program.

Completion of Clinical Preceptorship

Clinical preceptorships, whether elective or required for the clinical major, must be completed during the semester in which the course is taken.

Deferred Enrollment
Each applicant accepted to the graduate program is admitted for a specific semester. If an applicant chooses to defer enrollment to a subsequent semester, he/she must be reconsidered for admission. The applicant must submit a written request indicating intent to defer and specify the desired semester for enrollment. Admission in a subsequent semester cannot be assured.

Honors

A graduate nursing student whose grade point average is 4.0 is awarded her/his degree with High Honors.

Graduate

Graduate students who do not:

a. absolve any contingencies related to admission within the allotted time period stated in the letter of admission,

b. maintain a 3.0 (b) average, or

c. earn a C or better in clinical major courses.

will be reviewed by COGS. The Committee may impose conditions or requirements for continuation in the program.

PhD student dismissal must be approved by the Dean of the Graduate School of Biomedical Sciences.

Administration

The Graduate Program in Nursing is administered through the School of Nursing. The faculty of the School of Nursing determines the curriculum and the policies related to students’ admission, progression, and graduation. Policies related to the Doctor of Philosophy (PhD) in Nursing are shared with other academic programs in the Graduate School which are within the administrative responsibility of the Dean of the Graduate School and the Graduate Faculty Council.

The Committee on Graduate Studies (COGS) of the nursing program has responsibility to the School of Nursing in administrative policy matters and relative to curriculum. The committee is responsible for recommending the admission of students to the nursing program, determining the curriculum, attesting to the eligibility of students for admission to candidacy for a degree, and certifying to the School of Nursing Faculty Council that students have fulfilled the requirements for the awarding of the degree. The School of Nursing establishes and maintains academic policy and makes recommendations to the President for the awarding of all master’s and doctoral degrees.

The Committee on Graduate Studies (COGS) of the nursing program has responsibility to the Graduate School of Biomedical Sciences in administrative policy matters relative to the Doctor of Philosophy (PhD) in Nursing.

Consistent with the philosophy of the School of Nursing, graduate nursing education at the UT Health Science Center San Antonio is designed to offer professional nurses the opportunity to prepare themselves to assume leadership roles in patient care activities, teach in schools of nursing, manage patient care services within institutions or health care agencies, and conduct independent research. Preparation for the master’s degree is available through two options: the registered nurse with a baccalaureate in nursing will proceed with the master’s program. The registered nurse with an associate degree in nursing or a diploma in nursing may qualify for admission to an Alternative Entry Master’s Degree for ADN/Diploma RNs. The doctoral degree is a post-baccalaureate degree program.

In order to provide nurses with the opportunity to develop the high level of competence and expertise necessary for leadership positions, the graduate nursing curriculum includes content in the theory and practice of nursing, development of skills in the research process, consideration of nursing’s present and future role in the health care system, and analysis of the social and ethical problems associated with professional issues. Through the curriculum, nursing educators, administrators, researchers, and consultants are being provided with the opportunity to practice their unique skills in a variety of settings.

Grades and Progression — MSN and PhD

Grades and Grade Point Average

The standing of students in their work is expressed by five grades: A (above average graduate work), B (average graduate work), C (below average graduate work), D (failing graduate work), and F (failing graduate work). D and F grades are not acceptable for graduate credit.

Other symbols used in reporting the standing of students in their classes are: WP=withdrawal from course passing; WF=withdrawal from course failing; I=incomplete; IP=in progress (thesis/dissertation courses only). AU records an audited course.

Courses in which a student receives a D or F will not be counted toward the total number of courses and/or hours required for a graduate degree in the Graduate School of Biomedical Sciences. However, all grades (A to F) are included in the computation of the grade point average. In computing the grade point average, the following scale of points per semester credit hour is used:

- A = 4 points (90–100)
- B = 3 points (80–89)
- C = 2 points (70–79)
- D = 1 point (60–69)
- F = 0 points (Below 60)

Repetition of a Course

Credit for courses in which a D or F is received may be obtained only by repetition of the course. If a course is repeated, only the second grade will be used in calculating the cumulative grade point average. Courses which the student
completes with a C or higher cannot be repeated. No course can be repeated more than one time.

The Semester Credit Hour
The unit of measure for credit purposes is the semester credit hour. One semester credit hour is given for each one clock hour of class, one clock hour of seminar, or three clock hours of laboratory/practicum/computer lab experience per week, per semester, with the exception of selected and summer sessions during which the class, seminar, and practicum hours may be concentrated but provide equivalent clock hours.

Thesis and Dissertation Course Reporting
Thesis and dissertation courses may be reported as In Progress (IP) until the work is completed, at which time they will be reported as a letter grade. Thesis and dissertation courses are not counted in the grade point average.

Examinations
Examinations must be taken on the date and time scheduled. If extenuating circumstances prevent the student from taking an examination, prior approval must be granted by the course instructor to postpone the examination. If a student misses an examination without prior approval by the instructor, a grade of F will be recorded for the examination.

Progression in the Graduate Program
To continue in the graduate program, a student must:

- absolve any contingencies related to admission to the program within the time period stated in the letter of admission, or within the first semester if not stated;
- maintain satisfactory progress (B average in first 9 hours) if conditionally admitted;
- receive no more than one C in clinical major courses;
- maintain a minimum cumulative grade point average of B (3.0) for all courses taken while enrolled in the graduate program; and
- maintain a minimum cumulative grade point average of B (3.0) for all nursing courses taken while enrolled in the graduate program.

Should a student fail to meet the criteria for continuance in the program, her/his progress will be reviewed by the Committee on Graduate Studies (COGS) which may:

- impose conditions as requirements for continuation in the program, or
- terminate the student’s enrollment in the program, with the consent of the Dean of the School of Nursing or the Dean of the Graduate School of Biomedical Sciences.

Readmission
Individuals who have previously been enrolled in graduate nursing courses should complete an Application for Readmission. Transcripts from any colleges or universities attended since the time of the previous enrollment in the master’s program must be submitted. Applicants may be requested to provide recent professional references. Proof of current licensure as a registered nurse in Texas is also required.

Individuals who have not registered in two consecutive terms must apply for readmission unless they were previously granted official permission for leave of absence.

Those seeking readmission are subject to all requirements, procedures, and acceptance considerations outlined in this Catalog.
Master of Science in Nursing

Master's Program Outcomes
Masters of Science in Nursing (MSN) graduates will have had the opportunity to learn to:

1. Integrate scientific findings from nursing and related sciences into the delivery of advanced nursing care to populations in diverse settings.
2. Assume organizational and systems leadership to assure ethical and critical decision making at all systems’ levels for quality and patient safety.
3. Lead performance improvement technologies for quality, safety, and patient-centered care delivery.
4. Use translational scholarship and processes to achieve optimal patient care and care environmental outcomes.
5. Integrate meaningful information systems and healthcare technologies to support and improve safe, quality patient care.
6. Promulgate policy and effect change through advocacy that influences health care at appropriate levels.
7. Lead interprofessional teams using collaborative strategies to effect quality patient care and population health outcomes.
8. Synthesize broad ecological and social health determinants to design and deliver evidence-based clinical prevention and population health care and services to individuals, families, and aggregates/identified populations.
9. Integrate the knowledge, skills, and attitudes expected of a master's-prepared nurse to design, deliver, and evaluate systems of care in diverse and multiple populations.

Degree Requirements
For the Master of Science in Nursing degree, a minimum of 36 semester credit hours of upper-division and graduate courses is required. All coursework must be completed within five years of enrollment in the program. A student must achieve no less than the total number of semester credit hours for the specific major/degree program, which may exceed 36 semester credit hours, in order to graduate.

The program of study includes required core courses and major courses. Graduate electives are offered in the School of Nursing or they may be taken at other universities.

To graduate, a student must have an overall minimum GPA of 3.0, at least a 3.0 average in nursing courses, no more than one C in a clinical major course, and no incomplete grades.

The program is designed to be completed in 24 months of full-time study for students entering in the fall semester; however, part-time enrollment is feasible within the program plan. Selected courses may be offered during summer sessions, but students should not anticipate completing the program by attending summer sessions only or by attending less than four regular semesters. A clinical preceptorship also may be required.

Curriculum

MSN Semester Credit Hour Requirements
Graduate courses required for the MSN vary per major. All master's students are required to take 24 hours of coursework in residence. The program is completed through full-time or part-time enrollment.

<table>
<thead>
<tr>
<th>MSN Required Core Courses</th>
<th>Semester Credit Hours</th>
<th>Clinical Hours</th>
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</thead>
<tbody>
<tr>
<td>NURS 5306 Advanced Theory for the Practice of Nursing</td>
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<tr>
<td>NURS 5307 Using Research for the Practice of Nursing</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5356 Financial and Economic Evidence in Healthcare</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5339 Leadership for Quality, Safety and Health Policy</td>
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<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>12.0</td>
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</table>

<table>
<thead>
<tr>
<th>Major</th>
<th>Semester Credit Hours</th>
<th>Clinical Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care Nurse Practitioner</td>
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<td>720</td>
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<tr>
<td>Administrative Management</td>
<td>31.0</td>
<td>540</td>
</tr>
<tr>
<td>Clinical Nurse Leader</td>
<td>28.0</td>
<td>495</td>
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<tr>
<td>Family Nurse Practitioner</td>
<td>38.0</td>
<td>720</td>
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<tr>
<td>Pediatric Nurse Practitioner</td>
<td>38.0</td>
<td>720</td>
</tr>
<tr>
<td>Psychiatric Mental Health Nurse Practitioner</td>
<td>38.0</td>
<td>720</td>
</tr>
</tbody>
</table>

School of Nursing Course Descriptions

Associate Degree in Nursing/Diploma in Nursing — Master of Science in Nursing Option

The Alternate Entry Master's Degree for ADN/Diploma RNs requires completion of 21 semester credit hours of undergraduate nursing courses at the School of Nursing with a grade point average of 3.0 or higher. Of the minimum 38 semester credit hours of upper-division and graduate courses required for the MSN, 24 credit hours of coursework must be taken in residence. (Elective courses may be taken outside the School of Nursing.) The program may be completed in five semesters of full-time study. Part-time enrollment is an option.
Alternate Entry Courses*

<table>
<thead>
<tr>
<th>Undergraduate Required Courses</th>
<th>Semester Credit Hours</th>
<th>Clinical Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 3321 Transitions in Professional Nursing</td>
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<td>NURS 4333 Nursing Leadership: Theoretical Foundations</td>
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<tr>
<td>NURS 3370 Pathophysiology</td>
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</tr>
<tr>
<td>NURS 3272 Health Assessment and Promotion: Theoretical Foundations</td>
<td>2.0</td>
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<tr>
<td>NURS 3273 Health Assessment and Promotion: Clinical Application</td>
<td>2.0</td>
<td>90</td>
</tr>
<tr>
<td>NURS 3374 Research and Evidence-Based Practice</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 4327 Population-Focused Health: Theoretical Foundations</td>
<td>3.0</td>
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<tr>
<td>NURS 4227 Population-Focused Health: Clinical Application</td>
<td>2.0</td>
<td>90</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>21.0</strong></td>
<td><strong>180</strong></td>
</tr>
</tbody>
</table>

Theoretical Core Courses for All Graduate Students

<table>
<thead>
<tr>
<th>Theoretical Core Courses for All Graduate Students</th>
<th>Semester Credit Hours</th>
<th>Clinical Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5306 Advanced Theory for the Practice of Nursing</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5307 Using Research for the Practice of Nursing</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5356 Financial and Economic Evidence in Healthcare</td>
<td>3.0</td>
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<tr>
<td>NURS 5339 Leadership for Quality, Safety and Health Policy</td>
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<tr>
<td><strong>SUBTOTAL</strong></td>
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Major

<table>
<thead>
<tr>
<th>Major</th>
<th>Semester Credit Hours</th>
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<tbody>
<tr>
<td>Administrative Management</td>
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<tr>
<td>Clinical Nurse Leader</td>
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<td>495</td>
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</tbody>
</table>

*Administrative Management Alternate Entry option requires a total of 64 semester credit hours and 720 clinical hours.

* Clinical Nurse Leader Alternate Entry option requires a total of 61 semester credit hours and 675 clinical hours.

**Course descriptions**

Graduate Majors

Nurse Practitioner Majors

All nurse practitioner majors require 12 semester credit hours of MSN core courses and 38 semester credit hours of Major courses for a total of 50 semester hours. A graduate is eligible for national certification and recognition by the Texas Board of Nursing as an Advanced Practice Registered Nurse.

Acute Care Nurse Practitioner (ACNP) (admissions suspended)

The role of the Acute Care Nurse Practitioner (ACNP)* is to provide advanced nursing care across the continuum of health care services to meet the specialized physiologic and psychological needs of patients with complex acute, critical, and chronic health conditions.

ACNP Courses

<table>
<thead>
<tr>
<th>Theoretical Core Courses for All Graduate Students</th>
<th>Clinical Hours</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5306 Advanced Theory for the Practice of Nursing</td>
<td>3.0</td>
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</tr>
<tr>
<td>NURS 5307 Using Research for the Practice of Nursing</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5356 Financial and Economic Evidence in Healthcare</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5339 Leadership for Quality, Safety and Health Policy</td>
<td>3.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute Care Nurse Practitioner Major Courses</th>
<th>Clinical Hours</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5338 Advanced Pathophysiology</td>
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<tr>
<td>NURS 6302 Advanced Pharmacotherapeutics</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 6210 Advanced Health Assessment and Clinical Reasoning</td>
<td>2.0</td>
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</tr>
<tr>
<td>NURS 6110 Advanced Health Assessment and Clinical Reasoning: Clinical Application</td>
<td>45</td>
<td>1.0</td>
</tr>
<tr>
<td>NURS 6101 Advanced Mental Health Concepts: Clinical Applications</td>
<td>45</td>
<td>1.0</td>
</tr>
<tr>
<td>NURS 6201 Advanced Mental Health Concepts</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>NURS 6380 Fundamentals of Epidemiology</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5418 ACNP Dx &amp; Mgmt: Concepts and Theory I</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5218 ACNP Dx &amp; Mgmt I: Clinical Application</td>
<td>90</td>
<td>2.0</td>
</tr>
<tr>
<td>NURS 5428 ACNP Dx &amp; Mgmt: Concepts and Theory II</td>
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<td>NURS 5427 ACNP Dx &amp; Mgmt II: Clinical Application</td>
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<td>4.0</td>
</tr>
<tr>
<td>NURS 5115 ACNP Dx &amp; Mgmt III: Seminar</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5815 ACNP Dx &amp; Mgmt III: Preceptorship</td>
<td>360</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>720.0</strong></td>
<td><strong>50.0</strong></td>
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</tbody>
</table>
Above courses required for a total of 50 semester credit hours. In the post-MSN option, each applicant is evaluated individually.

**Family Nurse Practitioner (FNP)**

Applicants for the FNP clinical major are encouraged to make a commitment to work with medically underserved populations, as defined by federal guidelines, upon completion of the program.

**FNP Courses**

<table>
<thead>
<tr>
<th>Theoretical Core Courses for All Graduate Students</th>
<th>Clinical Hours</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5306 Advanced Theory for the Practice of Nursing</td>
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</tr>
<tr>
<td>NURS 5307 Using Research for the Practice of Nursing</td>
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<td></td>
</tr>
<tr>
<td>NURS 5356 Financial and Economic Evidence in Healthcare</td>
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<tr>
<td>NURS 5339 Leadership for Quality, Safety and Health Policy</td>
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<td></td>
</tr>
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</table>

**Family Nurse Practitioner Major Courses**

- NURS 5338 Advanced Pathophysiology: 3.0 SCH
- NURS 6302 Advanced Pharmacotherapeutics: 3.0 SCH
- NURS 6210 Advanced Health Assessment and Clinical Reasoning: 2.0 SCH
- NURS 6110 Advanced Health Assessment and Clinical Reasoning: Clinical Application: 45 SCH
- NURS 6101 Advanced Mental Health Concepts: Clinical Applications: 45 SCH
- NURS 6201 Advanced Mental Health Concepts: 2.0 SCH
- NURS 6380 Fundamentals of Epidemiology: 3.0 SCH
- NURS 5448 FNP Dx & Mgmt: Concepts and Theory I: 4.0 SCH
- NURS 5248 FNP Dx & Mgmt I: Clinical Application: 90 SCH
- NURS 5449 FNP Dx & Mgmt: Concepts and Theory II: 4.0 SCH
- NURS 5450 FNP Dx & Mgmt II: Clinical Application: 180 SCH
- NURS 5148 FNP Dx & Mgmt III: Seminar: 1.0 SCH
- NURS 5848 FNP Dx & Mgmt III: Preceptorship: 360 SCH

**Family Psychiatric Mental Health Nurse Practitioner Major Courses**

- NURS 5338 Advanced Pathophysiology: 3.0 SCH
- NURS 6302 Advanced Pharmacotherapeutics: 3.0 SCH
- NURS 6210 Advanced Health Assessment and Clinical Reasoning: 2.0 SCH
- NURS 6110 Advanced Health Assessment and Clinical Reasoning: Clinical Application: 45 SCH
- NURS 6101 Advanced Mental Health Concepts: Clinical Applications: 45 SCH
- NURS 6201 Advanced Mental Health Concepts: 2.0 SCH
- NURS 6380 Fundamentals of Epidemiology: 3.0 SCH
- NURS 5412 FPMHNP Dx & Mgmt: Concepts and Theory I: 4.0 SCH
- NURS 5212 FPMHNP Dx & Mgmt I: Clinical Application: 90 SCH
- NURS 5416 FPMHNP Dx & Mgmt: Concepts and Theory II: 4.0 SCH
- NURS 5417 FPMHNP Dx & Mgmt II: Clinical Application: 180 SCH
- NURS 5114 FPMHNP Dx & Mgmt III: Seminar: 1.0 SCH
- NURS 5814 FPMHNP Dx & Mgmt III: Preceptorship: 360 SCH

**Total Hours** 720.0 | 50.0

Above courses required for a total of 50 semester credit hours. In the post-MSN option, each applicant is evaluated individually.

**Course descriptions**

**Pediatric Nurse Practitioner (PNP)**

Applicants for the PNP clinical major are recommended to have clinical practice experience focused among pediatric age-group clients.

**Family Psychiatric Mental Health Nurse Practitioner (PMHNP)**

This major blends the content from core courses in physiology, pathophysiology, pharmacotherapeutics, and health assessment as a foundation for advanced practice. The roles of the nurse in advanced practice are experienced through patient care management in outpatient and inpatient facilities and private practice settings.
PNP Courses

### Theoretical Core Courses for All Graduate Students

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Clinical Hours</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5306</td>
<td>Advanced Theory for the Practice of Nursing</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5307</td>
<td>Using Research for the Practice of Nursing</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5356</td>
<td>Financial and Economic Evidence in Healthcare</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5339</td>
<td>Leadership for Quality, Safety and Health Policy</td>
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### Psychiatric Mental Health Nurse Practitioner Major Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Clinical Hours</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5338</td>
<td>Advanced Pathophysiology</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 6302</td>
<td>Advanced Pharmacotherapeutics</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 6210</td>
<td>Advanced Health Assessment and Clinical Reasoning</td>
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</tr>
<tr>
<td>NURS 6110</td>
<td>Advanced Health Assessment and Clinical Reasoning: Clinical Application</td>
<td>45</td>
<td>1.0</td>
</tr>
<tr>
<td>NURS 6101</td>
<td>Advanced Mental Health Concepts: Clinical Applications</td>
<td>45</td>
<td>1.0</td>
</tr>
<tr>
<td>NURS 6201</td>
<td>Advanced Mental Health Concepts</td>
<td>2.0</td>
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</tr>
<tr>
<td>NURS 6380</td>
<td>Fundamentals of Epidemiology</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5412</td>
<td>PNP Dx &amp; Mgmt: Concepts and Theory I</td>
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</tr>
<tr>
<td>NURS 5212</td>
<td>PNP Dx &amp; Mgmt I: Clinical Application</td>
<td>90</td>
<td></td>
</tr>
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<td>NURS 5416</td>
<td>PNP Dx &amp; Mgmt: Concepts and Theory II</td>
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<tr>
<td>NURS 5417</td>
<td>PNP Dx &amp; Mgmt II: Clinical Application</td>
<td>180</td>
<td>4.0</td>
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<tr>
<td>NURS 5114</td>
<td>PNP Dx &amp; Mgmt III: Seminar</td>
<td>1.0</td>
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</tr>
<tr>
<td>NURS 5814</td>
<td>PNP Dx &amp; Mgmt III: Preceptorship</td>
<td>360</td>
<td>8.0</td>
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</tbody>
</table>

**Total Hours:** 720.0  50.0

Above courses required for a total of 50 semester credit hours. In the post-MSN option, each applicant is evaluated individually.

### Clinical Nurse Leader (CNL)

The Clinical Nurse Leader is an advanced nurse who is prepared to be a direct care provider accountable for the care outcomes of a clinical population or a specified group of patients/clients in a health care system. The CNL provides for lateral integration of care that promotes quality care outcomes. The practice guidelines prepared and utilized by the CNL are evidence-based, and the CNL educator role ensures that new evidence becomes embedded in the practice of the healthcare unit. The CNL is a leader in the health care delivery system at the microsystem level of care that provides and manages care at the point of care to individuals and cohorts of clients within a unit or healthcare setting. The CNL role addresses the crucial need to improve clinical effectiveness, quality and safety of patient care in all settings. The CNL provides lateral integration at the point of care and combines evidenced-based practice with Microsystems-level advocacy, centralized care coordination, outcomes measurement and management, risk assessment, quality improvement, and interprofessional communication and practice.

Standards for the Clinical Nurse Leader MSN program are established by The American Association of the Colleges of Nursing (AACN). Graduates are eligible for certification as a CNL™.

### CNL Courses

#### Theoretical Core Courses for All Graduate Students

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Clinical Hours</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5306</td>
<td>Advanced Theory for the Practice of Nursing</td>
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<tr>
<td>NURS 5307</td>
<td>Using Research for the Practice of Nursing</td>
<td>3.0</td>
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</tr>
<tr>
<td>NURS 5356</td>
<td>Financial and Economic Evidence in Healthcare</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>NURS 5339</td>
<td>Leadership for Quality, Safety and Health Policy</td>
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</table>

### Clinical Nurse Leader Major Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Clinical Hours</th>
<th>SCH</th>
</tr>
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<tbody>
<tr>
<td>NURS 5338</td>
<td>Advanced Pathophysiology</td>
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<tr>
<td>NURS 6302</td>
<td>Advanced Pharmacotherapeutics</td>
<td>3.0</td>
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</tr>
<tr>
<td>NURS 6210</td>
<td>Advanced Health Assessment and Clinical Reasoning</td>
<td>2.0</td>
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</tr>
<tr>
<td>NURS 6110</td>
<td>Advanced Health Assessment and Clinical Reasoning: Clinical Application</td>
<td>45</td>
<td>1.0</td>
</tr>
<tr>
<td>NURS 5317</td>
<td>Healthcare Information Systems &amp; Patient Care Technology</td>
<td>3.0</td>
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<td>NURS 5220</td>
<td>Clinical Nurse Leader I: Role of the Advanced Generalist in Health Care Microsystems</td>
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<td>NURS 5222</td>
<td>Clinical Nurse Leader I: Role of the Advanced Generalist in Health Care Microsystems: Clinical Application</td>
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<td>NURS 5120</td>
<td>Clinical Nurse Leader Role II: Seminar</td>
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<td>NURS 5822</td>
<td>Clinical Nurse Leader Role II: Clinical Application for the Advanced Nursing Generalist</td>
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</table>

**Total Hours:** 495.0  40.0

Above courses required for a total of 40 semester credit hours.

### Administrative Management

The Administrative Manager is a nurse prepared through graduate education to lead and manage nursing care...
departments and service lines across the continuum of care. This nurse professional manages the business of nursing practice through financial management, human resource management, performance improvement, critical thinking skills, technology use, strategic management, and clinical practice knowledge. The administrative manager is skilled in the art of leading people through organizational leadership skills, relationship management, interprofessional collaboration, and promotes cultural diversity, social justice, and shared decision making. The Administrative Manager is an advocate for the profession, and demonstrates a commitment to learning and development through personal and professional accountability for her/his leadership and management practice.

Standards for nursing administrative MSN programs are established by the specialty organization, The American Organization of Nurse Executives (AONE). Graduates are eligible for certification as a Certified Nurse Manager Leader for the credential, CNML; and from the American Nurses Credentialing Center as a Nurse Executive for the credential, NE-BC.

**Administrative Management Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>NURS 5306</td>
<td>Advanced Theory for the Practice of Nursing</td>
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<td>NURS 5307</td>
<td>Using Research for the Practice of Nursing</td>
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</tr>
<tr>
<td>NURS 5356</td>
<td>Financial and Economic Evidence in Healthcare</td>
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<td>NURS 5339</td>
<td>Leadership for Quality, Safety and Health Policy</td>
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**Administrative Management Major Courses**

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>NURS 5353</td>
<td>Transforming Complex Healthcare Systems for Quality &amp; Safety</td>
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<td>NURS 5317</td>
<td>Healthcare Information Systems &amp; Patient Care Technology</td>
<td>3.0</td>
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<tr>
<td>NURS 5310</td>
<td>Organizational Systems and Administrative Strategies</td>
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<td>NURS 5323</td>
<td>Program Planning and Evaluation</td>
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<tr>
<td>NURS 5210</td>
<td>Program Planning and Evaluation: Practicum</td>
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<tr>
<td>NURS 5318</td>
<td>Nursing and Health Systems Management I</td>
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</tr>
<tr>
<td>NURS 5301</td>
<td>Advanced Financial Management</td>
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<tr>
<td>NURS 5203</td>
<td>Advanced Financial Management: Practicum</td>
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</table>

Above courses required for a total of 43 semester credit hours

**Minor Courses**

- NURS 5371 Curriculum and Instruction in Nursing
- NURS 5141 Roles of the Teacher in Contemporary Nursing Education
- NURS 5241 Application of Roles of the Teacher in Contemporary Nursing Education (90 hours practicum)

**Elective Courses**

There are no elective courses required for the MSN program. Elective courses would be in addition to the required credits to complete the program. The specific electives offered vary from semester to semester and are listed in the course schedule for each semester and summer session. The school reserves the right to cancel a class with insufficient student enrollment. Classes and practicums offered during summer sessions may be in a concentrated format. Contact the Office of Academic Programs and Support for more information on electives.

**Post Master of Science in Nursing Certificate Program**

The Post Master of Science in Nursing Certificate Program option is available for students who hold a master's degree in nursing and desire a Nurse Practitioner specialization in Family, Pediatric, or Family Psychiatric Mental Health. Students can expect to take a minimum of 23 semester credit hours in their specialty towards their certificate. However, total semester credit hours needed for completion is determined on a case by case basis once admission is offered. Post Masters Certificate students are subject to general and graduate policies of the Master's degree program and the School of Nursing. Students who complete the certificate program are eligible to take National credentialing boards.
Announcing a future offering of Doctor of Nursing Practice (DNP) degree

Profound changes in the increasingly complex health care systems mandates change to improve quality of care while reducing costs, improving access, eliminating disparities, and promoting safe practice. The DNP is a practice-focused doctoral program designed to prepare experts in specialized advanced nursing practice. Emphasis is on advanced competencies for complex practice and research utilization for the improvement of clinical care delivery, patient outcomes, and system management. Master’s prepared nurses who hold positions as nurse executives and nurse practitioners are ideal candidates for this terminal professional doctoral degree.

Note: The DNP program is pending approval from the Texas Higher Education Coordinating Board and the Southern Association of Colleges and Schools.

Doctor of Philosophy in Nursing

Objectives

The objectives of the doctoral program are designed to provide the student the opportunity to:

1. Advance the discipline of nursing through the generation of new knowledge and theory.
2. Demonstrate excellence as a clinical researcher in the health sciences in a focal area of nursing.
3. Synthesize theories from natural and/or behavioral sciences for application to a specified area of nursing.
4. Advance clinical practice through research utilization.
5. Assume nurse scientist roles within academic health centers and other interdisciplinary health sciences and educational institutions.
6. Evaluate the value and knowledge components of philosophical and ethical dimensions of issues confronting health care and nursing.

The PhD in nursing program is offered by the UT Health Science Center San Antonio School of Nursing (UTHSCSASN). The PhD degree is awarded by the UT Health Science Center San Antonio Graduate School of Biomedical Sciences.

Degree Requirements

Students may enter the PhD program post baccalaureate degree in nursing or post master’s degree in nursing. Through the post-baccalaureate education program, a Master of Science in Nursing (MSN) is available.

Full-time and part-time study options are available. Part-time study for doctoral students is defined as six credit hours or two courses per semester.

Curriculum

Doctor of Philosophy (PhD) Program of Study

<table>
<thead>
<tr>
<th>Courses</th>
<th>Post Baccalaureate PhD</th>
<th>Post Master’s In Nursing PhD</th>
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<tbody>
<tr>
<td>MSN Required Core Courses*</td>
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<tr>
<td>MSN Majors*</td>
<td>28.0-38.0</td>
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<tr>
<td>Theory/Research/Science (21 credits)</td>
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<tr>
<td>NURS 7310: Theory Development, Analysis and Evaluation in Nursing</td>
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<tr>
<td>NURS 7380: Qualitative Inquiry for Clinical Nursing Research</td>
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<tr>
<td>NURS 7383 Qualitative Methods II Applications in Nursing Science</td>
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<td>NURS 6374: Nursing: Quantitative Research Methods I</td>
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<td>NURS 6373: Nursing: Quantitative Research Methods II</td>
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<td>NURS 6375: Regression Models in Nursing Science</td>
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<td>NURS 7382 Structural Equation Models for Nursing Science</td>
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<td>NURS 6226: Ethics of Nursing Science</td>
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<td>NURS 6105: Role of the Clinical Nurse Scientist</td>
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<td><strong>Teaching Minor Courses (as appropriate)</strong></td>
<td></td>
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<tr>
<td>NURS 5371: Curriculum &amp; Instruction in Nursing</td>
<td>3.0</td>
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<tr>
<td>NURS 5141: Roles of the teacher in Nursing Education</td>
<td>1.0</td>
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<tr>
<td>NURS 5241 Application of Roles of the Teacher</td>
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<tr>
<td>NURS 6071: Supervised Teaching</td>
<td>1.0</td>
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<tr>
<td><strong>Substantive Courses (6 credits)</strong></td>
<td>6.0</td>
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<tr>
<td>Applications of Research (1-3 credits)</td>
<td>1.0 - 3.0</td>
<td>1.0 - 3.0</td>
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<tr>
<td>Dissertation (9-12 credits)</td>
<td>9.0 - 12.0</td>
<td>9.0 - 12.0</td>
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*See Master of Science in Nursing section for course descriptions.*
Undergraduate Courses

NURS 3110  Health Assessment: Clinical Application
This course provides an opportunity for application of health assessment theory and skills in a simulated practice setting with emphasis on the adult and geriatric populations.

Credit Hour Allocation: 1 semester hour (1 hour clinical skills laboratory)
Semester Credit Hours: 1.0
Prerequisites: NURS 3272, 3303, and 3304

NURS 3170  Foundations of Nursing Care: Theoretical Foundations
In this course the student will have the opportunity to acquire a theoretical foundation for developing clinical competencies to provide safe, quality patient care.

Credit Hour Allocation: 1 semester hour (1 hour theory)
Semester Credit Hours: 1.0
Prerequisites: admission to the Accelerated Undergraduate Program

NURS 3171  Pharmacotherapeutics: Family Nursing Care
This course focuses on the nurse’s role in safe, effective pharmacotherapeutics for childbearing and childrearing families.

Credit Hour Allocation: 1 semester hour (1 hour theory)
Semester Credit Hours: 1.0
Prerequisites: successful completion of Semester I

NURS 3172  Pharmacotherapeutics: Psychiatric and Mental Health Nursing
This course focuses on the nurse’s role in safe, effective pharmacotherapeutics for persons with psychiatric and mental health alterations.

Credit Hour Allocation: 1 semester hour (1 hour theory)
Semester Credit Hours: 1.0
Prerequisites: successful completion of Semester I

NURS 3204  Health Assessment: Theoretical Foundations
This course focuses on the theory and practice of health assessment of individuals and families across the lifespan with emphasis on the adult and geriatric populations.

Credit Hour Allocation: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisites: NURS 3303 and 3304

NURS 3205  Psychiatric and Mental Health Nursing: Theoretical Foundations
This course focuses on the promotion, maintenance, and restoration of mental health across the lifespan with an emphasis on professional relationships, therapeutic communication, and the understanding of psychopathology.

Clock hours: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisite: completion of Semester 1

NURS 3206  Psychiatric and Mental Health Nursing: Clinical Application
This course provides the opportunity for clinical experience for nursing intervention development for promoting, maintaining, and restoring mental health across the lifespan integrating principles of professional relationships, therapeutic communication, and concepts of psychopathology.

Clock hours: 2 semester hours (2 hours clinical)
Semester Credit Hours: 2.0
Prerequisite: completion of NURS 3205 or concurrent

NURS 3207  Care of Childbearing Families: Theoretical Foundations
This course addresses holistic care of women and their families during the childbearing years with emphasis on health promotion and risk reduction.

Clock hours: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisite: completion of Semester 1

NURS 3208  Care of Childbearing Families: Clinical Foundation
This course provides opportunity for clinical application of holistic care of women and their families during the childbearing years with emphasis on health promotion and risk reduction.

Clock hours: 2 semester hours (2 hours clinical)
Semester Credit Hours: 2.0
Prerequisite: NURS 3207
NURS 3270  Professional Socialization II
This course addresses professional values, ethical and legal foundations, principles of social justice, history of nursing, and the roles of the 21st Century nurse with an emphasis on safety and quality.
Credit Hour Allocation: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisites: admission to the Accelerated Undergraduate Program

NURS 3271  Principles of Pharmacotherapeutics
This course focuses on the nurse’s role and responsibilities in drug therapy emphasizing safety related to drug therapy including principles of pharmacology and accurate calculations.
Credit Hour Allocation: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisites: admission to the accelerated Undergraduate Program

NURS 3272  Health Assessment and Promotion: Theoretical Foundations
This course focuses on the theory and practice of health assessment of individuals and families across the lifespan.
Credit Hour Allocation: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisites: admission to the Accelerated Undergraduate Program

NURS 3273  Health Assessment and Promotion: Clinical Application
This course focuses on the theory and practice of health assessment of individuals and families across the lifespan.
Credit Hour Allocation: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisites: NURS 3272

NURS 3274  Psychiatric and Mental Health Nursing: Theoretical Foundations
This course focuses on the promotion, maintenance, and restoration of mental health across the lifespan with an emphasis on professional relationships, therapeutic communication, and the understanding of psychopathology.
Credit Hour Allocation: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisites: successful completion of Semester I

NURS 3275  Psychiatric and Mental Health Nursing: Clinical Application
This course provides clinical experience for nursing intervention development for promoting, maintaining, and restoring mental health across the lifespan integrating principles of professional relationships, therapeutic communication, and concepts of psychopathology.
Credit Hour Allocation: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisites: NURS 3172 and NURS 3274

NURS 3303  Concepts of Professional Nursing
This course addresses professional role development integrating concepts of multidimensional care and skills of inquiry and analysis to inform clinical decision making, professional judgment, and lifelong learning.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: admission to the Traditional Undergraduate Program

NURS 3304  Pharmacotherapeutics
This course provides the opportunity for students to learn the foundation for safe, effective drug therapy and the role of the nurse in health promotion, disease prevention, and management.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: admission to the Traditional Undergraduate Program

NURS 3305  Foundations of Clinical Nursing Practice: Clinical Application
This course provides practice experience for clinical decision making and interventions with individuals, including a special focus on the older adult, in diverse settings using a patient-centered, holistic, caring framework.
Credit Hour Allocation: 3 semester hours (3 hours clinical)
Semester Credit Hours: 3.0
Prerequisites: NURS 3201, 3303, and 3304.

NURS 3309  Pathophysiology
This course focuses on concepts of pathophysiology essential to understanding alterations in body systems and developing clinical decision making for health promotion, risk reduction, and disease management.
Clock hours: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisite: completion of Semester 1

NURS 3321  Transitions in Professional Nursing
3.0 Semester Credit Hours
This course addresses professional role development for Registered Nurses who are returning to school to prepare for advanced generalist roles as Clinical Nurse Leaders or Administrative Managers at the graduate level. The focus is on integrating multidimensional care, skills of inquiry and analysis, and a broadened focus on individuals, families, and populations to inform clinical reasoning in changing health care environments.
Clock Hours: 3 semester hours (3 hours theory)
Prerequisites: admission to the Alternate Entry Master’s Program

NURS 3370  Pathophysiology
This course focuses on the concepts of pathophysiology essential to understanding alterations in body systems and developing clinical decision making for health promotion, risk reduction, and disease management.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: admission to the Accelerated Undergraduate Program

**NURS 3371  Foundations of Nursing Care: Clinical Applications**
In this course the student will have the opportunity to develop foundational clinical competencies for providing safe, quality patient care in a simulated practice setting.
Credit Hour Allocation: 3 semester hours (3 hours clinical skills laboratory)
Semester Credit Hours: 3.0
Prerequisites: NURS 3372

**NURS 3372  Family Nursing Care: Theoretical Foundations**
This course focuses on the care of families across the lifespan with emphasis on childbearing and childrearing families and their roles, functions, and dynamics with regard to health promotion and risk reduction.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: successful completion of Semester I

**NURS 3373  Family Nursing Care: Clinical Applications**
This course provides the opportunity for clinical application of nursing care for families across the lifespan with emphasis on childbearing and childrearing families and their roles, functions, and dynamics with regard to health promotion and risk reduction.
Credit Hour Allocation: 3 semester hours (3 hours clinical)
Semester Credit Hours: 3.0
Prerequisites: NURS 3372 and NURS 3171

**NURS 3374  Research and Evidenced-Based Practice**
This course integrates concepts from research and information management that apply to the generation, appraisal, use, and dissemination of evidence that informs safe, quality nursing practice.
3 hours theory
Credit Hour Allocation: 3 semester hours
Semester Credit Hours: 3.0
Prerequisites: completion of Semester I

**NURS 3402  Nursing Research and Evidence-Based Practice**
This course addresses the role of research in professional nursing practice including conduct of research, research sources, utilization and dissemination, and principles and models of evidence-based practice.
4 hours theory
Clock hours: 4 semester hours
Semester Credit Hours: 4.0
Prerequisite: completion of Semester 1

**NURS 4110  Pharmacotherapeutics: Disease Management I**
This course focuses on the nurse's role in safe, effective pharmacotherapeutics for individuals with conditions affecting the immune, endocrine, respiratory, cardiovascular, gastrointestinal, and musculoskeletal systems.
Semester Credit Hour: 1.0
Prerequisites: successful completion of Semester II

**NURS 4111  Pharmacotherapeutics: Disease Management II**
This course focuses on the nurse's role in safe, effective pharmacotherapeutics for individuals across the lifespan who have acute life-threatening conditions.
1 hr. Theory
Semester Credit Hours: 1.0
Prerequisites: successful completion of Semester II

**NURS 4113  Transition to Professional Nursing Practice: Clinical Reflection**
This course focuses on scholarly inquiry, analysis, and strategy development to address current health care issues encountered during the clinical immersion experience.
Credit Hour Allocation: 1 semester hour (1 hour theory)
Semester Credit Hours: 1.0
Prerequisites: concurrent with NURS 4313

**NURS 4210  Child and Family Health: Theoretical Foundations**
This course addresses holistic care of children and families with emphasis on health promotion, disease management, and injury prevention through therapeutic nursing assessment and intervention across environments.
Credit Hour Allocation: 2 semester hours (2 hours theory)
Semester Credit Hours: 2.0
Prerequisites: completion of Semester II

**NURS 4211  Child and Family Health: Clinical Application**
This course addresses holistic care of children and families with emphasis on health promotion, disease management, and injury prevention through therapeutic nursing assessment and intervention across environments.
Credit Hour Allocation: 2 semester hours (2 hours clinical)
Semester Credit Hours: 2.0
Prerequisites: completion of NURS 4210 or concurrent

**NURS 4217  Population Focused Health: Clinical Application**
This course provides experience for application of population focused health promotion and disease and injury prevention based on determinants of local, national, and global health including lifestyle, environmental, cultural, and genetic factors.
Credit Hour Allocation: 2 semester hours (2 hours clinical)
Semester Credit Hours: 2.0
Prerequisites: completion of NURS 4317
NURS 4227  Population Focused Health: Clinical Applications
This course provides clinical experience for application of population focused health promotion, and disease and injury prevention based on determinants of local, national, and global health including lifestyle, environment, cultural, and genetic factors.
Credit Hour Allocation: 2 semester hours (2 hours clinical)
Semester Credit Hours: 2.0
Prerequisites: completion of NURS 4327

NURS 4230  Leadership and Management: Clinical Application
This course provides opportunity for clinical application of nursing leadership and management in diverse settings to promote quality patient outcomes.
2 Cr Clinical
Semester Credit Hours: 2.0
Prerequisites: NURS 4329

NURS 4311  Care of the Adult I: Theoretical Foundations
This course focuses on theoretical principles regarding holistic care of the adult experiencing chronic health problems within diverse settings.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: completion of Semester II

NURS 4313  Transition to Professional Nursing Practice: Clinical Immersion
This course is a clinical immersion experience designed to provide comprehensive learning opportunities that promote integration of baccalaureate learning outcomes to prepare the graduate for professional nursing practice.
Credit Hour Allocation: 3 semester hours (3 hours clinical)
Semester Credit Hours: 3.0
Prerequisites: completion of all courses in the traditional Undergraduate Program

NURS 4314  Care of the Adult I: Clinical Application
This course provides opportunity for clinical application regarding holistic care of the adult experiencing chronic health alterations.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: completion of NURS 4311 or concurrent

NURS 4315  Care of the Adult II: Theoretical Foundations
This course addresses holistic care of the acutely and critically ill adult experiencing complex health alterations while in acute care settings.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: completion of NURS 4311 and NURS 4314

NURS 4316  Care of the Adult II: Clinical Application
This course provides clinical experience for holistic patient-centered care of the acutely and critically ill adult experiencing complex health alterations within acute care settings.
Credit Hour Allocation: 3 semester hours (3 hours clinical)
Semester Credit Hours: 3.0
Prerequisites: completion of NURS 4315 or concurrent

NURS 4317  Population Focused Health: Theoretical Foundations
This course addresses population focused health promotion and disease and injury prevention based on determinants of local, national, and global health including lifestyle, environmental, cultural, and genetic factors.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: completion of Semester III

NURS 4319  Leadership and Management: Theoretical Foundations
This course presents theoretical principles of nursing leadership and management in diverse settings to promote quality patient outcomes.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: completion of Semester III

NURS 4320  Leadership and Management: Clinical Application
This course provides opportunity for clinical application of nursing leadership and management in diverse settings to promote quality patient outcomes.
Credit Hour Allocation: 3 semester hours (3 hours clinical)
Semester Credit Hours: 3.0
Prerequisites: completion of NURS 4319

NURS 4327  Population Focused Health: Theoretical Foundations
This course provides clinical experience for application of population focused health promotion, and disease and injury prevention based on determinants of local, national, and global health including lifestyle, environment, cultural, and genetic factors.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: completion of Semester III

NURS 4329  Leadership and Management: Theoretical Foundations
This course presents theoretical principles of nursing leadership and management in diverse settings to promote quality patient outcomes.
Credit Hour Allocation: 3 semester hours (3 hours theory)
Semester Credit Hours: 3.0
Prerequisites: completion of Semester III

NURS 4333  Nursing Leadership: Theoretical Foundations
3.0 Semester Credit Hours
This course presents theoretical principles of nursing leadership and management in diverse settings to promote quality patient outcomes.

Clock Hours: 3 semester hours (3 hours theory)
Prerequisites: NURS 3273 and 3273

NURS 4403  Disease Management III: Clinical Applications
This course is the clinical component for Disease Management I: Theoretical Foundations and Disease Management II: Theoretical Foundations that focuses on the nursing care and decision making related to multiple disease concepts across the lifespan.

4 hrs Clinical
Semester Credit Hours: 4.0
Prerequisites: successful completion of Disease Management I: Theoretical Foundations, Pharmacotherapeutics: Disease Management I, Disease Management II: Theoretical Foundations, and Pharmacotherapeutics: Disease Management II

NURS 4423  Clinical Immersion
This course facilitates the transition of the student into professional practice through preceptorship by Registered Nurses in a variety of settings.

Credit Hour Allocation: 4 semester hours (4 hours clinical)
Semester Credit Hours: 4.0
Prerequisites: completion of all Accelerated Undergraduate Program courses

NURS 4501  Disease Management I: Theoretical Applications
This course emphasizes nursing care and decision making regarding patients across the lifespan experiencing alterations in metabolism, circulation, oxygenation, elimination, immunology/inflammation, and sexuality.

5 hrs Theory
Semester Credit Hours: 5.0
Prerequisites: successful completion of Semester II

NURS 4502  Disease Management II: Theoretical Applications
This course emphasizes nursing care and decision making regarding patients across the lifespan experiencing alterations in coordination and control, cellular differentiation, cognitive/sensory, fluid and electrolytes, sepsis, and trauma.

5 hrs Theory
Semester Credit Hours: 5.0
Prerequisites: successful completion of Disease Management I: Theoretical Foundations and Pharmacotherapeutics: Disease Management I

Graduate Courses

NURS 5114  Family Psychiatric Mental Health Nurse Practitioner (FPMHNP) Diagnosis and Management III: Seminar
This course focuses on discussing implementation of the FPMHNP role in managing and negotiating the healthcare system with patients and ensuring quality healthcare practice.

Clock Hours: 1 clock hour seminar (15 contact hours per semester)
Semester Credit Hours: 1.0
Prerequisites: NURS 5412, 5212, 5416, 5417
Concurrent: NURS 5814

NURS 5115  Acute Care of the Adult Nurse Practitioner (ACNP) Diagnosis and Management III: Seminar
This course focuses on clinical integration, synthesis and application of Acute Care Nurse Practitioner competencies in health promotion, assessment, diagnosis, and care management of patient and family population in preceptor settings.

Clock Hours: 1 clock hour class (15 clock hours)
Semester Credit Hours: 1.0
Prerequisites: NURS 6210, 6302, 6201, 5338, 6380, 5651, and 5218
Co-requisites: NURS 5815

NURS 5120  Clinical Nurse Leader (CNL) Role II: Seminar
This seminar is designed to provide students enrolled in the CNO capstone clinical course the opportunity to discuss and analyze leadership challenges in the development and implementation of the CNL role in various health care microsystems.

Clock hours: 1 semester class hour (15 clock hours)
Semester Credit Hours: 1.0
Prerequisite: NURS 5220 and 5222
Concurrent: NURS 5822

NURS 5128  Pediatric Nurse Practitioner (PNP) Diagnosis and Management III: Seminar
This course focuses on discussing implementation of the PNP role in managing and negotiating the healthcare system with patients and ensuring quality healthcare practice.

Clock Hours: 1 clock hour seminar (15 contact hours)
Semester Credit Hours: 1.0
NURS 5141  **Roles of the Teacher in Contemporary Nursing Education**

This course focuses on the investigation of the roles of the educator in contemporary nursing education. The course provides the opportunity to design, refine, and evaluate teaching and learning experiences for settings such as nursing programs, staff development, and/or continuing education opportunities. Emphasis is on extending an understanding of adult learning principles and evidence-based teaching and evaluation strategies appropriate for nursing education.

**Clock hours:** one clock hour class (15 clock hours)

**Semester Credit Hours:** 1.0

**Prerequisites:** NURS 5371 or equivalent

**Concurrent:** NURS 5410

NURS 5148  **Family Nurse Practitioner (FNP) Diagnosis and Management III: Seminar**

This course focuses on discussing implementation of the primary care FNP role in managing and negotiating the healthcare system with patients and monitoring and ensuring quality healthcare practice.

**Clock Hours:** 1 clock hour seminar (15 contact hours)

**Semester Credit Hours:** 1.0

**Prerequisites:** NURS 5448, 5248, 5449, and 5450

**Concurrent:** NURS 5501

NURS 5203  **Advanced Financial Management: Practicum**

This practicum provides students the opportunity to engage in the advanced financial management activities of a selected healthcare institution while working with a designated preceptor.

**Clock hours:** 90 clock hours clinical practicum

**Semester Credit Hours:** 2.0

**Prerequisite:** NURS 5356

**Concurrent:** NURS 5501

NURS 5210  **Program Planning and Evaluation: Practicum**

This course provides the opportunity to explore clinical or management problems in a variety of health care settings. The focus of this course is development of program planning and evaluation projects using analytical and problem-solving skills, processes, strategies, and evidenced-based practice. Students will be given the opportunity to work with an institutional based preceptor to develop theory-based interventions and evaluation strategies.

**Clock hours:** 6 clock hours practicum (90 clock hours practicum)

**Semester Credit Hours:** 2.0

**Prerequisite:** NURS 5356, 5306, and 5307

**Concurrent:** NURS 5323

NURS 5222  **Clinical Nurse Leader (CNL) I: Role of the Advanced Generalist in Health Care Microsystems**

This course is a practicum course designed to assist the CNL in assessing a particular clinical microsystem of healthcare and designing educational programs for patients, families, and the interprofessional team. The focus of the assessment is on improving patient safety and selected quality outcomes based on evidence-based practice.

**Clock hours:** 90 clinical clock hours

**Semester Credit Hours:** 2.0

**Prerequisite:** NURS 5339, 5338, 6210, 6302, 5306, and 5307

**Concurrent:** NURS 5220

Diagnosis and Management I: Clinical Application

The focus of this course is on primary care experiences promoting health, preventing disease, and diagnosing and managing common psychiatric illnesses and developing collaborative partnerships among patients, families, and interprofessional teams.

**Clock Hours:** 90 hours clinical practicum

**Semester Credit Hours:** 2.0

**Concurrent:** NURS 5410

NURS 5218  **Acute Care of the Adult Nurse Practitioner (ACNP) Diagnosis & Management I: Clinical Application**

This course provides the opportunity for acute care experience in health promotion, disease prevention, diagnosis and management of common illnesses in adult populations of focus. Additionally, this course emphasizes collaborative, partnership development among patients, families, and interprofessional teams.

**Clock hours:** 90 clock hours clinical practicum

**Semester Credit Hours:** 4.0

**Prerequisite:** Concurrent with NURS 5418

NURS 5203  **Clinical Nurse Leader (CNL) I: Role of the Advanced Generalist in Health Care Microsystems**

The focus of this course is on assessment of clinical Microsystems in health care settings to identify needed changes in clinical trajectory for patients within the system. Development of the role of the CNL as a patient care coordinator and educator for an interprofessional team is the aim of this course. Improving patient safety, quality outcomes, and planning for implementation of innovations in care based on evidence-based practice will be discussed.

**Clock hours:** 2 clock hours class (30 clock hours class)

**Semester Credit Hours:** 2.0

**Prerequisite:** NURS 5339, 5338, 6210, 6302, 5306, and 5307

NURS 5220  **Clinical Nurse Leader (CNL) II: Role of the Advanced Generalist in Health Care Microsystems: Clinical Applications**

This course is a practicum course designed to assist the CNL in assessing a particular clinical microsystem of healthcare and designing educational programs for patients, families, and the interprofessional team. The focus of the assessment is on improving patient safety and selected quality outcomes based on evidence-based practice.

**Clock hours:** 90 clinical clock hours

**Semester Credit Hours:** 2.0

**Prerequisite:** NURS 5339, 5338, 6210, 6302, 5306, and 5307

**Concurrent:** NURS 5220
NURS 5223  Pediatric Nurse Practitioner (PNP)  
Diagnosis and Management I:  
Clinical Application  
The focus of this course is on primary care experiences promoting health, preventing disease, diagnosing and managing common illnesses from birth through adolescence and developing collaborative partnerships among patients, families, and interprofessional teams.  
Clock Hours: 90 clock hour clinical practicum  
Semester Credit Hours: 2.0  
Concurrent: NURS 5423

NURS 5241  Application of Roles of the  
Teacher in Contemporary Nursing  
Education  
This course focuses on the integration and application of the roles of the educator in contemporary nursing for the clinical, laboratory, and/or simulation environments. The course provides the opportunity to implement adult teaching and learning experiences in nursing areas of academia, staff development, and/or continuing education.  
Clock hours: six clock hours practicum (90 clock hours)  
Semester Credit Hours: 2.0  
Prerequisites: NURS 5371 or equivalent  
Concurrent: NURS 5141

NURS 5248  Family Nurse Practitioner (FNP)  
Diagnosis and Management I:  
Clinical Application  
The focus of this course is on primary care experiences promoting health, preventing disease, diagnosing and managing common illness in diverse populations, and on developing collaborative partnerships with patients, families, and interprofessional teams.  
Clock Hours: 90 hours clinical practicum  
Semester Credit Hours: 2.0  
Concurrent: NURS 5448

NURS 5301  Advanced Financial Management  
This course covers advanced financial management concepts relevant to managing the business of healthcare. Key concepts covered include principles of advanced financial management, interpretation of financial statements, regulatory requirements imposed by payers and accreditors, advanced budgeting and variance analysis, forecasting, and productivity management. The role of the Administrative Nurse Manager in interprofessional financial planning for quality, safety, and financial stability will be addressed.  
Clock hours: three clock hours class (45 clock hours)  
Semester Credit Hours: 3.0  
Prerequisite: NURS 5356

NURS 5306  Advanced Theory for the Practice of Nursing  
This course explores and analyzes theories and propositions from social, psychological, medical, nursing, and interpersonal relations as a foundation to understanding research, practice and scholarship in nursing.
This course focuses on principles of health care economics; resource principles and skills in the development of patient care staff and quality work environments to assure excellence in patient-care delivery.

Clock hours: three clock hours class (45 hours class)
Semester Credit Hours: 3.0
Prerequisites: NURS 5339

NURS 5323 Program Planning and Evaluation
This course provides the opportunity to explore management problems in health care settings with an emphasis on program planning and evaluation. Using analytical and problem-solving skills, processes, strategies, and evidenced-based practice, students will be given the opportunity to develop theory-based interventions and evaluation strategies.

Clock hours: 3 clock hours class
Semester Credit Hours: 3.0
Prerequisite: NURS 5356, 5306, and 5307

NURS 5338 Advanced Pathophysiology
This course focuses on pathophysiological processes across the lifespan and the development of clinical reasoning skills that distinguish the relationship between normal physiology and specific system alterations produced by injury and disease. Particular attention will be given to etiology, pathogenesis, developmental and environmental influences, and clinical manifestations of major health problems.

Laboratory fee: $5.

3 clock hours class (45 hours class)
Semester Credit Hours: 3.0
Prerequisites: Graduate standing

NURS 5339 Leadership for Quality, Safety and Health Policy
The course focuses on the principles and theories germane to leadership in complex organizations; models, tools, and processes to measure health care outcomes; and forces that influence health policy and nursing practice.

Clock Hours: 3 clock hours class (45 hours class)
Semester Credit Hours: 3.0
Prerequisites: Graduate standing

NURS 5353 Transforming Complex Healthcare Systems for Quality and Safety
This course focuses on the analysis, synthesis, and application of science to address current and emerging problems related to patient care quality and safety within a healthcare system. Organizational theories and culture, and the dynamic forces at microsystem, mesosystem, and macrosystem levels are explored. The unique role of advanced nursing in quality improvement and conceptualization and redesign of effective care delivery models that address gaps in science and delivery of patient care services will be explored.

Clock hours: 3 clock hours (45 clock hours class)
Semester Credit Hours: 3.0
Prerequisites: “Leadership in Complex Healthcare Settings”

NURS 5356 Financial and Economic Evidence in Healthcare
This course focuses on principles of health care economics; third-party reimbursement; costing; budget types, process and monitoring; economic evaluation methods; and business plan importance, components and writing.

Clock Hours: 3 hours class (45 hours class)
Semester Credit Hours: 3.0
Prerequisites: Graduate standing

NURS 5371 Curriculum and Instruction in Nursing
This course is designed to introduce students to the process of curriculum development. The teaching, learning, and evaluation principles are examined from the standpoint of and the effect on various curriculum patterns. The course provides opportunity for examination of factors that influence curriculum development, implementation, and evaluation.

Clock Hours: three class hours per week
Semester Credit Hours: 3.0

NURS 5412 Family Psychiatric Mental Health Nurse Practitioner (FPMHNP) Diagnosis and Management: Concepts and Theory I
The focus of this course is the theoretical basis for the competencies of the FPMHNP and scientific foundation for independent practice as the RN transitions to the FPMHNP role.

Clock Hours: 60 clock hours class
Semester Credit Hours: 4.0
Prerequisites: NURS 5306, 5307, 5356, 5339, 6210, 6302, 6201, and 5338
Concurrent: NURS 5212

NURS 5416 Family Psychiatric Mental Health Nurse Practitioner (FPMHNP) Diagnosis and Management: Concepts & Theory II
The focus of this course is on increasing refinement of the FPMHNP role in health promotion, disease prevention, diagnosis, and management in psychiatric practice with diverse populations across the lifespan. Using problem-based and self-directed learning strategies, disorders of the remaining physiologic systems and psychiatric disorders are examined. Emphasis is placed on differentiating signs and symptoms to formulate possible diagnoses and determining the effect of illness on the family. In addition, the nurse practitioner’s role as a collaborative member of the interprofessional team will be evaluated.

Clock Hours: 60 clock hours class
Semester Credit Hours: 4.0
Prerequisites: NURS 5412 and 5212
Concurrent: NURS 5417

NURS 5417 Family Psychiatric Mental Health Nurse Practitioner (FPMHNP) Diagnosis and Management II: Clinical Application
The course focuses on increasing the clinical skills of the FPMHNP by refining the FPMHNP role in providing primary psychiatric healthcare to diverse populations with complex health problems across the lifespan.
NURS 5418  Acute Care of the Adult Nurse Practitioner (ACNP) Diagnosis and Management: Concepts And Theory I

The focus of this course is on acute care experience in health promotion, disease prevention, and diagnosis and management of common acute health conditions. Emphasis is placed on differentiating signs and symptoms to formulate possible diagnoses and determining the effect of the illness on the family. In addition, the nurse practitioner’s role as a collaborative member of the interprofessional team will be evaluated.

Clock Hours: 12 clock hours clinical (180 hours clinical practicum)
Semester Credit Hours: 4.0
Prerequisites: Concurrent with NURS 5418

NURS 5428  Pediatric Nurse Practitioner (PNP) Diagnosis and Management: Concepts and Theory II

The focus of this course is on refining the PNP role in primary health promotion, disease prevention, diagnosis, and management in primary healthcare practice with diverse populations from birth through adolescence. Emphasis is placed on care of persons with complex health problems from birth through adolescence. In addition, the nurse practitioner’s role as a collaborative member of the interprofessional team will be evaluated.

Clock Hours: 12 clock hours clinical (180 hours clinical practicum)
Semester Credit Hours: 4.0
Prerequisites: NURS 5423 and 5223

NURS 5429  Pediatric Nurse Practitioner (PNP) Diagnosis and Management II: Clinical Application

The focus of this course is on refining the PNP role in primary healthcare practice in diverse populations. Emphasis is placed on care of persons with complex health problems from birth through adolescence. In addition, the nurse practitioner’s role as a collaborative member of the interprofessional team will be evaluated.

Clock Hours: 12 clock hours clinical (180 hours clinical practicum)
Semester Credit Hours: 4.0
Prerequisites: NURS 5423 and 5223

NURS 5448  Family Nurse Practitioner (FNP) Diagnosis and Management: Concepts and Theory I

The focus of this course is on the theoretical basis for the competencies of the Nurse Practitioner (NP). This course lays the scientific foundation for independent practice as the RN transitions to the role of the Nurse Practitioner in health promotion, disease prevention, diagnosis and management of common illnesses in primary healthcare practice in diverse populations across the lifespan. Additionally, this course emphasizes collaborative, partnership development among patients, families, and interprofessional teams.

Clock Hours: 60 hours class
Semester Credit Hours: 4.0
Prerequisites: NURS 5423 and 5223
NURS 5499  Family Nurse Practitioner (FNP) Diagnosis and Management II: Concepts and Theory
The focus of this course is on increasing refinement of the FNP role in health promotion, diagnosis and management in primary healthcare practice in diverse populations. Problem-based and self-directed learning strategies are used to review disorders of the remaining physiologic systems. Emphasis is placed on differentiating signs and symptoms to formulate possible diagnoses and determining the effect of illness on family. In addition, the nurse practitioner's role as a collaborative member of the interprofessional team will be evaluated.
Clock Hours: 4 clock hours class (60 clock hours)
Semester Credit Hours: 4.0
Prerequisites: NURS 5448 and 5248
Concurrent: NURS 5450

NURS 5450  Family Nurse Practitioner (FNP) Diagnosis and Management II: Clinical Application
The focus of this course is on increasing the clinical skills of the FNP by refining the role of the FNP in providing primary healthcare to diverse persons with complex health problems across the lifespan.
Clock Hours: 12 clock hours clinical per week (180 hours clinical practicum)
Semester Credit Hours: 4.0
Prerequisites: NURS 5448 and 5248
Concurrent: NURS 5449

NURS 5813  Nursing and Health Systems Management II: Capstone Practicum
This capstone practicum provides an opportunity for the student to implement the role of the Administrative Nurse Manager in a selected institutional or community-based health care setting under the preceptorship of an experienced nurse executive. The emphasis of the course is development of knowledge and skills for strategic planning and operational management, implementation, regulatory management, organizational priority setting, interprofessional relationships, and the development of an evidence-based capstone project.
Clock hours: 8 semester hours practicum (360 hours class practicum)
Semester Credit Hours: 8.0
Prerequisites: NURS 5501, 5203, 5323, and 5210
Concurrent: NURS 5113

NURS 5814  Family Psychiatric Mental Health Nurse Practitioner (FPMHNP) Diagnosis and Management III: Preceptorship
This course focuses on implementing the full primary care FPMHNP role with patients across the lifespan experiencing simple and complex healthcare conditions and developing collaborative patient, family, and interprofessional partnerships.
Clock Hours: 360 clock hours clinical practicum
Semester Credit Hours: 8.0
Concurrent: NURS 5114

NURS 5815  Acute Care of the Adult Nurse Practitioner (ACNP) Diagnosis and Management III: Preceptorship
This course focuses on acute care experience in health promotion, disease prevention, diagnosis and management of common acute illnesses in adult populations of focus. Additionally, this course emphasizes collaborative, partnership development among patients, families, and interprofessional teams.
Clock Hours: 360 clock hours clinical practicum
Semester Credit Hours: 8.0
Concurrent: NURS 5115

NURS 5822  Clinical Nurse Leader (CNL) Role II: Clinical Application for the Advanced Nursing Generalist
This capstone clinical experience is designed for students to develop expertise in clinical leadership in their respective interest areas. The health care setting will vary based on a student's chosen program focus. Planning implementation of selected microsystems changes that will enhance the culture of learning, culture of safety, and improved patient outcomes based on evidence-based practice is the focus of this clinical course. At the successful conclusion of the course a student will be eligible to sit for the CNL™ credentialing examination provided by the American Association of Colleges in Nursing.
Clock hours: 360 clinical clock hours
Semester Credit Hours: 8.0
Prerequisite: NURS 5220 and 5222
Concurrent: NURS 5120

NURS 5828  Pediatric Nurse Practitioner (PNP) Diagnosis and Management III: Preceptorship
This course focuses on implementing the full primary care PNP role with patients from birth through adolescence experiencing simple and complex healthcare conditions and developing collaborative patient, family, and interprofessional teams.
Clock Hours: 360 clock hours practicum
Semester Credit Hours: 8.0
Concurrent: NURS 5128

NURS 5848  Family Nurse Practitioner (FNP) Diagnosis and Management III: Preceptorship
This course focuses on students implementing the full primary care FNP role with patients across the lifespan experiencing simple and complex problems and developing collaborative patient, family, and interprofessional teams.
Clock Hours: 360 clock hours practicum
Semester Credit Hours: 8.0
Concurrent: NURS 5148

NURS 6098  Thesis
A total of 6.0 semester credit hours (including 2.0 Semester Credit Hours for NURS 6298 Development of a Thesis Proposal) is required for thesis credit. (Completion of thesis is recommended but not required within the master's program.)
Specific policies regarding theses are available from the Office of the Graduate Nursing Program.)
Semester Credit Hours: 1.0–4.0
Prerequisites: consent of thesis advisor

**NURS 6101  Advanced Mental Health Concepts: Clinical Applications**
The focus of this course is developing advanced practice mental health nursing skills by providing holistic care through assessment, crisis intervention, pharmacological management, biological or other therapies, and consultation/referral.
Clock Hours: 3 clock hours clinical (45 hours clinical)
Semester Credit Hours: 1.0
Prerequisites: Graduate standing

**NURS 6105  Role of the Clinical Nurse Scientist**
This course will focus on the professional and ethical roles and responsibilities of the Clinical Nurse Scientist in advancing the discipline of nursing through the generation of clinical knowledge, discovery, and theory development. Potential settings for practice that are traditional, such as academic health centers as well as emerging venues, will be explored. Discussions about issues that may affect the Clinical Nurse Scientist in developing lifelong career/scholarship trajectories will occur.
Semester Credit Hours: 1.0

**NURS 6110  Advanced Health Assessment and Clinical Reasoning: Clinical Application**
This course focuses on applying advanced health assessment skills; developing clinical basis for advanced assessment in nursing practice; collecting, interpreting and summarizing database; documenting findings; and presenting complete problem list.
Clock Hours: 3 clock hours clinical (45 hours clinical)
Semester Credit Hours: 1.0
Prerequisites: An undergraduate health assessment course or comparable equivalent
Concurrent: NURS 6210

**NURS 6201  Advanced Mental Health Concepts**
The focus of this course is developing the theoretical basis for advanced practice nursing in mental health using a holistic perspective to examine the etiology, meaning, and consequences of human behavior.
Clock Hours: 2 clock hours class (30 hours class)
Semester Credit Hours: 2.0
Prerequisites: Graduate standing

**NURS 6210  Advanced Health Assessment and Clinical Reasoning**
This course focuses on developing theoretical and clinical basis for advanced nursing assessment across the lifespan including compiling a comprehensive database, using advanced problem-solving approaches and communicating findings.

**NURS 6222  Leadership in Complex Healthcare Systems**
The focus of this course is on leadership skills preparing nurses for intra/interprofessional leadership in complex healthcare systems including collaborative and consultative models, conflict and board management, and advanced communication and team-building skills with emphasis on innovation and change.
Clock hours: 2 clock hours class (30 hours class)
Semester Credit Hours: 2.0
Prerequisite: NURS 5339

**NURS 6225  Philosophy of Nursing Science**
The focus of this course is on articulating the differences in models of knowing and on analyzing the role of science and scientists in society. Emphasis is on the process of analysis, the ability to present the pros and cons of current and anticipated ethical issues, influencing specific clinical situations, and on development and use of technologies in health care.
Clock Hours: four seminar hours per week
Semester Credit Hours: 2.0
Prerequisites: study of advanced professional elements and issues; role(s) socialization

**NURS 6226  Ethics of Nursing Science**
The focus of this course is on the ethical imperative/implications in the role of the clinical nurse scientist. Current ethical theories are critiqued and the ethical implications of the major research paradigms are evaluated. Ethical issues arising from selected theoretical/research approaches are examined.
Semester Credit Hours: 2.0

**NURS 6298  Development of a Thesis Proposal**
The focus of this course is development and refinement of the thesis proposal. The course is completed when the proposal is approved by the thesis advisors.
Semester Credit Hours: 2.0
Prerequisites: NURS 5306, NURS 5307, and consent of thesis advisor

**NURS 6302  Advanced Pharmacotherapeutics**
This course focuses on advanced practice knowledge and skills in the therapeutic use of pharmacologic agents including pharmacologic treatment of major health problems, pharmacokinetics principles, pharmacodynamics, pharmacogenomics and legal aspects of prescribing.
Clock Hours: three clock hours class (45 hours class)
Semester Credit Hours: 3.0
Prerequisites: NURS 5338

**NURS 6310  Transition to the Doctor of Nursing Practice: Theories and
Research in Leadership, Quality, Safety, and Evidence Base

This course focuses on leadership, chaos, system, improved and transitional science theories and patient safety, healthcare quality and evidence-based research and models to frame improvement, implementation, and translational research studies.

Clock hours: 3 clock hours class (45 hours class)
Semester Credit Hours: 3.0
Prerequisite: Graduate standing

NURS 6311 Methods for Evidence-Based Practice (EBD) Translational Science I

This course focuses on analyzing evidence-based practice paradigms, quality improvement, and patient safety; appraising primary research and systematic review; and examining approaches to measuring care processes, organizational factors, nursing performance, and patient outcomes.

Clock hours: 3 clock hours class (45 hours class)
Semester Credit Hours: 3.0
Prerequisites: NURS 5306 and 5307

NURS 6316 Statistical Analysis for Nursing Science

The foundational course focuses on statistics and computing skills that assist students to understand statistical methods, gain computing skills, interpret and perform basic statistical tests, and critique typical quantitative articles.

Clock Hours: 3 clock hours class
Semester Credit Hours: 3.0
Prerequisites: Graduate standing

NURS 6322 Healthcare Policy Analysis and Advocacy

This course focuses on analyzing, designing, implementing, and evaluating public policy processes; engaging in policy decision-making process; participating in health services research, policy, and economic analysis; and political advocacy.

Clock hours: 3 clock hours (45 clock hours class)
Semester Credit Hours: 3.0
Prerequisite: NURS 5339

NURS 6323 Design and Analysis for Evidence-Based Practice (EBP) Translational Science II

This course extends Evidence-Based Practice Translational Science I to refine the student's ability to integrate research and knowledge into practice and evaluate impact on healthcare quality and safety and patient outcomes. Students will have the opportunity to use advanced program evaluation research approaches and analytic methods to design and evaluate innovations in systems of care in terms of care processes and patient outcomes. The course emphasizes appropriate and analytic approaches in translational science and explores ethical issues in translational science.

Clock hours: 3 clock hours class (45 hours class)
Semester Credit Hours: 3.0
Prerequisite: NURS 6311

NURS 6315 Nursing—Quantitative Research Methods II

This course presents modern and classical psychometrics for nursing science from the perspective of item response theory. Most of the course will cover classical test theory from the perspective of modern test theory. An introduction to binary item response theory will also be presented. The course will emphasize applications within the context of modern psychometric principles.

Semester Credit Hours: 3.0
Prerequisites: NURS 6225, 6226, 6374, 7310, 7380, 6375; Co-require: NURS 7381

NURS 6316 Nursing—Content and Practice: Quantitative Research Methodology I

Integration of the research process and qualitative and quantitative analysis, including concept mapping, operationalization of concepts, and appropriate statistical treatments, make up the content of this course. The course will incorporate identifying clinical research questions and developing study proposals for such questions.

Clock Hours: three class hours
Semester Credit Hours: 3.0
Prerequisites: NURS 7490

NURS 6375 Regression Models for Nursing Science

This course presents modern and classical psychometrics for nursing science from the perspective of item response theory. Most of the course will cover classical test theory from the perspective of modern test theory. An introduction to multilevel regression will occur.

Semester Credit Hours: 3.0
Prerequisites: Graduate standing

NURS 6376 Mixed Methods for Clinical Nurse Scientists

This course will cover the use of mixed methods, quantitative and qualitative, to address complex research questions in nursing and health care. Problems of trying to merge methods and practical strategies for accomplishing this successfully, as well as paradigmatic issues, will be discussed. Prior products developed in quantitative and qualitative methods classes to devise a mixed method proposal that integrates readings on mixed methods with the student’s own research interests will be used.

Semester Credit Hours: 3.0
Prerequisites: NURS 6374 and 7380

NURS 6380 Fundamentals of Epidemiology

This course is designed to study the distribution and determinants of health and disease in human populations. Improving health by altering personal and environmental risk factors will be a major focus. Epidemiological research using technology and public health informatics will be introduced. 45 clock hours
NURS 7099  Dissertation
Semester Credit Hours: to be arranged
Prerequisites: admission to candidacy for Doctor of Philosophy degree; registration for two terms is required of PhD candidates

NURS 7310  Theory Development, Analysis, and Evaluation in Nursing
This course provides opportunity to study a system for the development of nursing science through middle-range theory development. Learning activities include engaging in strategies for concept, statement clarification, and theory clarification. Students and faculty dialog about theory application, theory construction, evaluation, and clinical testing of theory. The relationship between research and clinical practice to theory generation and testing is explored. The student and faculty will have the opportunity to gain practice in strategies for middle-range theory building.
Semester Credit Hours: 3.0
Prerequisites: Masters level theory/research; Pre- or Corequisites: NURS 6225 and 6226

NURS 7380  Qualitative Inquiry for Clinical Nursing Research
This course will introduce students to qualitative inquiry as an approach to knowledge discovery applicable to clinical nursing research. Students will analyze, compare, and contrast a variety of qualitative approaches including philosophical underpinnings, methodologies, and applications. Those approaches may include: Phenomenology, ethnography, grounded theory, case study, historical research, naturalistic inquiry, interpretive analysis, action research, and focus-group methods. Criteria for evaluating qualitative research reports to critique qualitative research studies will be utilized. The relationship between a clinical problem and specific research methods will be analyzed. Students will have the opportunity to develop research questions and analyze their applicability to specific clinical issues, and learn varied strategies for collecting and analyzing qualitative research data.
Semester Credit Hours: 3.0
Prerequisites: NURS 6225, 6226, and 7310 (prerequisite or concurrent)
Cross-listed/Concurrent: NURS 6225, 6226, and 7310 (prerequisite or concurrent)

NURS 7381  Synthesis and Application of Clinical Research
This course integrates the dynamic elements of clinical practice, theory, and research to prepare doctoral students to function effectively in the synthesis and application of clinical research. This course provides guided direction in the processes used for dissertation development and grant application proposals. Students are required to be actively involved in the critique and analysis of published literature and other students’ dissertation proposals, grant applications, and manuscripts.

Nursing Electives (NURE)

NURE 3010  Mentored Research Practicum: Health Transitions
This course is a practicum course taken each semester the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific undergraduate/graduate student awards. The student must be concurrently enrolled in NURE 3115 Applications of Research in Nursing: Mentored Research Scholars. During this practicum course the student actively participates in selected aspects of a research project with a faculty mentor.
NURE 30011 Mentored Research Practicum: Chronic Health Transitions
This course is a practicum course taken each semester the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific undergraduate/graduate student awards. During this practicum course, the student actively participates in selected aspects of a research project with a faculty mentor.
Prerequisites: concurrent enrollment in NURE 3115, receipt of a Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file
Semester Credit Hours: 1.0–2.0

NURE 30012 Mentored Research Practicum: Health and Illness
This course is a practicum course taken each semester the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific undergraduate/graduate student awards. During this practicum course, the student actively participates in selected aspects of a research project with a faculty mentor.
Prerequisites: concurrent enrollment in NURE 3115, receipt of a Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file
Semester Credit Hours: 1.0–2.0

NURE 30013 Mentored Research Practicum: Children and Families
This course is a practicum course taken each semester the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific undergraduate/graduate student awards. During this practicum course, the student actively participates in selected aspects of a research project with a faculty mentor.
Prerequisites: concurrent enrollment in NURE 3115, receipt of a Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file
Semester Credit Hours: 1.0–2.0

NURE 30014 Mentored Research Practicum: Community
This course is a practicum course taken each semester the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific undergraduate/graduate student awards. During this practicum course, the student actively participates in selected aspects of a research project with a faculty mentor.
Prerequisites: concurrent enrollment in NURE 3115, receipt of a Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file
Semester Credit Hours: 1.0–2.0 Variable

NURE 3015 Mentored Research Practicum: Policy
This course is a practicum course taken each semester the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific undergraduate/graduate student awards. During this practicum course the student actively participates in selected aspects of a research project with a faculty mentor.
Prerequisites: receipt of a Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file
Semester Credit Hours: 1.0–2.0

NURE 3016 Bridge Course University Hospital
“Bridge to Success” is a clinical preceptorship program. The goals of the program are to provide a more intensive one-on-one clinical learning experience with a clinical role model and better prepare the Graduate Nurse to assume the roles of the professional nurse in a more efficient and timely manner. This is an intense hands-on course.
Prerequisites: good academic standing; enrolled in 3rd or 4th semester undergraduate, Generic Program or senior level Flex Program; must meet with faculty prior to enrollment
Semester Credit Hours: 1.0–3.0

NURE 3090 Topics of Special Interest in Nursing
Various topics offered. Topics include, but are not limited to:
- “Adolescent Pregnancy: Nursing Implications of Biological, Psychological, and Sociological Perspectives”
  3.0 Semester Credit Hours
  Prerequisite: NURS 4425

This course focuses on nursing intervention related to primary, secondary, and tertiary prevention of adolescent pregnancy and parenthood. The course is designed to provide the student with an overview of the nursing implications of interdisciplinary research and non-research literature on this increasing problem of premature childbearing and parenting. The scope of the focus includes the pregnant and parenting adolescent mother and father, the family structure, the community, and the greater society.

- “Healthcare of Women in their Reproductive Years”
  1.0–4.0 Variable Semester Credit Hours
  Prerequisites: completion of Semester 2 Generic Program or enrollment in Flex Program

This course will focus on the health of the young adult woman. It will provide lecture and classroom discussion on menstrual cycling, fertility management, health risk assessments, access to care issues, and psychosocial influences on women's health. This will include sexual practices, substance abuse, nutrition, domestic violence, and psychological stressors. Students will be required to research and provide a brief presentation on a relevant topic.

- “Application of Theory and Scientific Inquiry”
  3.0 Semester Credit Hours
  Prerequisites: minimum 3.0 GPA; senior standing

This course focuses on the development and implementation of a plan for scientific inquiry. A major emphasis is placed on how theory and research affect nursing practice. Attention is
given to the selection and study of nursing practice issues pertinent to beginning nursing practice. Each student is guided through a literature review and analysis regarding her/his selected focus. A proposal is developed for a project to study the nursing practice issue and subsequently to explore further the issue through direct experience, e.g., observation and/or participation. Students will have the opportunity to demonstrate leadership qualities through self-directed activities, assessment of findings from activities, and communication of project results. Attention is given to the process of scientific inquiry and the potential implications of results on nursing practice and the health care community.

Semester Credit Hours: see topics

**NURE 3091 Independent Study in Nursing**
This elective provides students with the opportunity to expand their knowledge and skills in areas of special interest. Topic and mode of study are agreed upon by student and instructor. The course may be repeated for credit when topics vary.

Semester Credit Hours: 1.0–4.0
Prerequisites: consent of instructor

**NURE 3105 Laughter is the Best Medicine: Interdisciplinary Elective about Humor, Healing, and Health Care**
The course focuses on the integration of humor and laughter into interdisciplinary partnerships with patients and families. Physiological and psychological effects of humor and their impacts on healing and health are explored. Stress and coping processes associated with humor are customized with professional practices and therapies. Impacts of cultural similarities and differences in humor are discussed within the context of the professional role in providing health care to patients and families.

Semester Credit Hours: 1.0

**NURE 3115 Applications of Research in Nursing: Mentored Research Scholars**
The course is taken each semester the student is designated as a Research Scholar. The course provides an opportunity for designated Research Scholars to work closely with a faculty member who is actively engaged in the conduct of research and to share learning experiences and gain insights through discussion in a Research Scholar Seminar.

Semester Credit Hours: 1.0
Prerequisites: receipt of Research Scholar award; file completed, signed contract in student’s Nursing Office file

**NURE 3215 Teaching Scholars Program**
This course is designed to provide an integrated learning experience for students interested in the pursuit of scholarship and professionalism within the context of a career in nursing education. The course will allow undergraduate and graduate students to participate in a scholarly program as an introduction to the education of professional nurses. The course will be structured to allow the students to work closely with a selected faculty member participating in the scholarship of teaching. Students will be mentored by the faculty member selected, working alongside her/him in the completion of an identified project. In addition, students will be required to participate in weekly seminars.

Semester Credit Hours: 2.0
Prerequisites: successful completion of Semesters I and II for Generic students; enrollment in the program for Flex RN students; successful completion of Semester I for Flex LVN students; current enrollment in the Program

**NURE 3260 Home Health Nursing the Adult and Pediatric Client**
This course will focus on the delivery of customized, therapeutic nursing care that is provided to the adult and pediatric client in the home. The nursing process will provide a framework for exploring the dynamics and logistics of providing home health care within the context of the client’s rights and responsibilities. Health care regulations and guidelines specific to home care will be explored. Case studies, classroom discussion, and mentored clinical practicum will give the student the opportunity to develop an understanding of home health care with an adult or pediatric client.

Semester Credit Hours: 2.0
Prerequisites: Generic Adult Clinical: completion of NURS 3610 and 3520; Pediatric Clinical: completion of NURS 4425 and 4435; Flex LVN: completion of first semester Flex Program; Flex RN: admission to the Flex Program

**NURE 3301 Perioperative Nursing I**
This “hands-on,” 15-week course is designed to provide the opportunity for students to learn to be able to function as beginning staff nurses in the operating room (OR) following graduation. The course reviews the framework of Perioperative Nursing and adds the needed depth and breadth necessary to work in ORs as novices. Theory and roles of perioperative nursing, introduced in Semester I, will be expanded upon. (It differs from the elective course, "Intro. to Perioperative Nursing," where only a general orientation to the OR is presented in a three-week course.) The clinical practicum is based on the utilization and application of research. Students are expected to provide perioperative care to select populations such as general and OB/Gyn surgery patients. The role of the professional circulating nurse will be emphasized, with an exposure to the scrub role. Critical thinking, problem solving, and decision making are integral parts of the course and are incorporated into both didactic and practicum experiences. The student will be required to demonstrate basic perioperative competencies by the conclusion of the course.

Semester Credit Hours: 3.0
Prerequisites: NURE 3802, students entering final semester, permission of the instructor

**NURE 3304 Contemporary Issues Related to Death and Dying**
This course provides an opportunity to explore in-depth issues related to death and dying at both the personal and professional level. Emphasizing the positive and necessary values of compassion, listening, and tolerance for the views of others, this course encourages participants to engage in a constructive process of self-discovery about death and dying. Areas of discussion include: valuing, definitions of death, stages of dying, emotions surrounding loss, the business of...
death (autopsy, funeral, cremations, burial), the ethics of death (advance directives, euthanasia, suicide, assisted suicide, organ donation), and transcultural aspects related to death and dying.

**Semester Credit Hours:** 3.0  
**Prerequisites:** Generic Process—NURS 3802 and 3209; admission to Flexible Process or permission of instructor

**NURE 3305  Topics of Special Interest to Nursing: Scholarly Writing for Nurses**

This course is designed to provide the opportunity for the undergraduate and graduate nursing students to learn to communicate more effectively in writing. Emphasis is placed on the importance of making every word work toward the goal of clear, concise communication. The knowledge and skills necessary to analyze and critique nursing/health-related articles and to write articles for nursing journals or patient education newsletters will be covered.

**Semester Credit Hours:** 3.0

**NURE 3306  Introduction to the Role of Childbirth Educator**

This course will focus on an in-depth exploration of childbirth education. It will utilize the nursing process in an exploration of a nurse’s role in family-centered childbirth education. Students will examine the philosophy of childbirth education and the roles of the childbirth educator in consumer advocacy. Essential childbirth preparation core content and coping techniques will be emphasized in light of family needs and effective teaching strategies. Students will have the opportunity to examine their own values and sociocultural aspects of clients in the assessment, planning, implementation, and evaluation of patient and family teaching.

**Semester Credit Hours:** 3.0  
**Prerequisites:** NURS 3209, 3310, 3802, 4425 or admission to Flexible Process

**NURE 3309  Renal Disease, Transplantation, Complications**

This course is an in-depth exploration of the plight of patients as they deal with End Stage Renal Disease resulting from Diabetes and Hypertension. The physical and psychological responses of the patient, family, and community to End Stage Renal Disease and Renal Transplantation are identified. Implications for Nursing to enhance a healthy adjustment to a potentially terminal illness are stressed.

**Semester Credit Hours:** 3.0  
**Prerequisites:** 1st semester Generic NURS 3802; admission to Flexible Process

**NURE 3310  Introduction to Computing in Health Care**

This course is an exploration of the role of the professional nurse in design, implementation, and use of computing and high technology medical devices in the health care setting. Theories of the teaching-learning process, change process, and information management are used to critically examine issues related to the use of state-of-the-art information systems in the health care system. The course includes opportunities for the student to expand cognitive and psychomotor skills in applying a variety of computing applications to complex health care issues.

**2 Cr Theory/1 Cr Lab**  
**Semester Credit Hours:** 3.0  
**Prerequisites:** permission of the instructor

**NURE 3312  Theoretical Foundations of Complementary and Alternative Therapies in Nursing**

The purpose of this course is to introduce selected complementary and alternative therapies cited in the health care literature. The course will critically evaluate these complementary and alternative therapies for potential benefit in maintaining and improving health. The course will incorporate current evidence and efficacy relating to use and safety of complementary and alternative therapies.

**3 Cr Theory**  
**Semester Credit Hours:** 3.0  
**Prerequisites:** Generic students who have completed NURS 3802, and Flex students who have been admitted to the program.

**NURE 3316  Chronic Respiratory Illness in Children and Adults**

This course is developed to present specialized nursing care of chronic respiratory illnesses across the lifespan. Included in the classroom experiences are relevant issues of the most prevalent respiratory illnesses in the population today. These will be explored in terms of physiologic rationale, clinical indicators, therapeutic goals, patient teaching, and use of specialized respiratory equipment as supported by research and case studies. Special emphasis on care occurring in the community, homes, and schools will be discussed with observational experiences at the American Lung Asthma Camp for Children.

**3 Cr Theory**  
**Semester Credit Hours:** 3.0  
**Prerequisites:** Undergraduate Generic: NURS 3802; Undergraduate Flex: NURS 4512

**NURE 3321  Animal-Assisted Activities and Therapy in Health Care**

This course is designed to explore the use of animal-assisted activities (AAA) and animal-assisted therapy (AAT) in various health care environments including selected observational experiences. An overview of the history and current understanding of the human-animal bond will be discussed including identified benefits as supported by observation, research, and case studies. Relevant national, state, and local organizations, laws, and standards will be introduced. Students will select specific environments, populations, and animals for further explorations. Various animals will be included in the classroom experiences.

**3 Cr Theory**  
**Semester Credit Hours:** 3.0  
**Prerequisites:** Undergraduate Generic: 3802; Undergraduate Flex: 4512; Graduate: no graduate course prerequisites; acceptance to the program
NURE 3324 Speaking Spanish to Patients
This course is designed to assist students in meeting the needs of Spanish-speaking patients through effective communication. Communication skills in Spanish will be used to gather a variety of data from Spanish-speaking patients and to identify patients’ needs. Verbal elements of Spanish pronunciation and grammar will be included to assist students in the application of the nursing process.
3 Cr Theory
Semester Credit Hours: 3.0
Prerequisites: NURS 3209, 3310 and 3802, or Graduate standing

NURE 3356 Nursing Interventions in Pain
This course is a survey and analysis of current theories about pain and its alleviation and an exploration of nurses’ role in pain management.
Semester Credit Hours: 3.0
Prerequisites: NURS 3802 or 3409

NURE 3365 Understanding Health Disparities and Caring for Racial and Ethnic Minorities
Understanding health disparities involves a critical analysis of historical, political, economic, social, cultural, and environmental conditions that have produced health disparities for racial and ethnic minorities in the United States. In Healthy People 2010 Report, two goals were listed: 1) improve the quality of life for all citizens, and 2) eliminate health disparities. The purpose of this class is to understand basic issues that underlie health disparities. Each student will gain a better understanding of the relationship between a minority patient’s socioenvironmental context and how that affects her or his health and the health of minority communities. This course will include current literature that will foster discussions that will examine health disparities, explore socioenvironmental determinants of those disparities, and determine the health care community’s response to these disparities. Students will be asked to critically reflect on their personal and professional roles in eliminating health disparities.
Semester Credit Hours: 3.0
Prerequisites: NURS 3209 or admission into the Flex Program

NURE 3366 Interdisciplinary Course on Minority Women’s Health
The purpose of this interdisciplinary course is to allow nursing students to examine and apply a gender-based analysis to specific and global health issues, particularly as they relate to minority women. Students’ work in this course will provide them the opportunity to better understand issues such as gender and the politics of health care; women’s reproductive health and health care; special issues in women’s health, including cancer, violence, and aging; and women’s health and the global environment. The course concentrates on health issues that are unique to minority women’s experiences and the medicalization of the treatment of illness considering only interventions designed for men, and of women’s health issues and concerns. As an interdisciplinary course (nursing, medical, and dental), enhanced understanding of varied perceptions about women’s health among health professions and its relationship to health outcomes will be offered. This course will include video presentations from local as well as national experts and current literature that will foster interdisciplinary discussions. Students will be asked to critically reflect on their personal and professional advocacy roles in providing health care to minority women.
Semester Credit Hours: 3.0

NURE 3369 Hispanic Health Concerns: A Nursing Perspective
This course is designed to provide the student with a comprehensive, in-depth view of topics and issues influencing the health of the Hispanic population in order to enhance the cultural sensitivity of the health care provider. An overview of the characteristics of the Hispanic population is given as well as data in relation to lifestyle, major health concerns, and research findings on Hispanic health across the life cycle. The use of folk practices, herbal medicine, and utilization of the health care delivery system and its implications to nursing practice is addressed. The role of the nurse in disease prevention is explored within the framework of the life cycle. Nursing interventions to overcome language barriers are provided, including sources for Spanish-language, culturally relevant publications.
Semester Credit Hours: 3.0
Prerequisites: NURS 3802 or Graduate standing

NURE 3373 Oncology Nursing
This course focuses on nursing issues related to major physical and psychological health transitions of oncology patients as well as associated social issues. The course emphasizes the customization of health care needed by oncology patients to cope with disease and side effects of treatment unique to this group. Students will explore professionalism as it relates to integrated learning, partnering, and scholarship in providing nursing support for oncology patients.
Semester Credit Hours: 3.0
Prerequisites: NURS 3610; admission to the Flex Program; admission to the Graduate Program

NURE 3383 Nursing Care of Children with Developmental Disabilities in the Community
This is a multidisciplinary course that will include students in nursing, social work, early childhood, and special education. The course will focus on the needs of children with developmental disabilities and their families in the community. Concepts and content to be covered include: family adaptation, normalization, behavioral and school problems, the impact of the Americans with Disability Act and Public Law 99-457, selected disease entities, and assessment of development for early detection of problems. Examination of many issues that exist in the community for children with developmental disabilities as well as transition to independent living will be explored. The role of the nurse on an interdisciplinary team that works to enable and empower families will be modeled for the student.
Semester Credit Hours: 3.0
Prerequisites: NURS 4435
NURE 3384 Complementary/Alternative Therapies in Nursing
This purpose of this course is to introduce complementary and alternative therapies cited in health care literature. The course will critically evaluate these complementary and alternative therapies for potential benefit in maintaining and improving health. The course will incorporate current evidence and efficacy relating to use and safety of complementary and alternative therapies.
Semester Credit Hours: 3.0
Prerequisites: Generic students who have completed NURS 3802, and Flex students who have been admitted to the program

NURE 3385 Speaking in Spanish
This course is designed to assist students in customizing care for Spanish-speaking patients and/or families. The course will focus on the verbal elements of Spanish pronunciation and grammar to assist students in the application of the nursing process with Spanish-speaking patients and/or families. Cultural theory will be analyzed and integrated in providing care for Spanish-speaking patients.
Semester Credit Hours: 3.0
Prerequisites: NURS 3802 and 3811 Generic Process, admission to Flexible Process, or admission to Graduate Program

NURE 3386 Environmental Health
Environment is an integral part of nursing’s heritage. Florence Nightingale was a pioneer in the field of environmental health and realized that people cannot be healthy unless they have healthy places to live, work, and play. This course will focus on many aspects of environmental health including how to take an exposure history; risk communication; exposure in the workplace, home, and school; children’s environmental health; various chemicals and their effects on humans; environmental justice; and environmental health laws. Field trips to various sites may be included. Also included will be discussion on topics such as acid rain, global warming, desertification, rain forests, etc.
Semester Credit Hours: 3.0
Prerequisites: admission to Undergraduate Program

NURE 3387 Care of the Client with HIV
This course is intended to provide an intensive introduction into the issues surrounding the HIV client. The course will give a general overview of the history of HIV; issues of the caregiver of the HIV client; pathophysiology, immunology, and epidemiology of HIV; diagnostic testing; counseling techniques; and the transdisciplinary treatments for HIV disease and associated opportunistic infections.
Semester Credit Hours: 3.0
Prerequisites: Generic: NURS 3610 or Flex: admission to Program

NURE 4048 Art Rounds
This course is an interactive, interprofessional course that takes students to the McNay Art Museum to learn physical observation skills. Using artwork as patients, students will have the opportunity to learn how to observe details and interpret images based on evidence. Taught jointly by Health Science Center faculty and McNay Museum educators, students will have the opportunity to view, observe, interpret, and give case reports on works of art. Studies indicate that these skills translate to improved patient physical observation skills.
2.0 Semester Credit Hours

NURE 4302 Flex Bridge in Critical Care
Flex Bridge I in Critical Care at University Hospital is offered as a clinical preceptorship in critical care for highly motivated undergraduate students enrolled in the RN completion program. In order to complete the clinical requirements for this course, students are provided the opportunity to rotate through at least 3 critical care areas of the hospital. These include the Surgical Trauma Intensive Care Unit, Pediatric Intensive Care Unit, Neonatal Intensive Care Unit, and the Emergency Department. This is an intense “hands-on” course in which each student is provided with an experienced preceptor in each of the critical care areas they “bridge” in. In addition to the clinical experience, the student will explore various concepts unique to the critical-care environment. These include, but are not limited to, complex case studies, pathophysiology, ethical dilemmas, managed care, etc.
1 Cr Theory/2 Cr Clinical
Semester Credit Hours: 3.0
Prerequisites: The student must be a licensed LVN or RN and have completed the undergraduate Flexible Process courses 3409 and 4212.

NURE 5001 Mentored Research Practicum: State of the Science
These courses are a series of practicum courses, one course taken, as appropriate, each semester that the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific graduate student awards and specific stages of the research process. During this practicum course, the student is required to actively participate in selected aspects of a research project with a faculty mentor.
Semester Credit Hours: 1.0–2.0
Prerequisites: receipt of a Research Scholar award; concurrent enrollment in NURE 5115. Submit a completed, signed student/faculty mentor contract for student’s Graduate Nursing Office file.

NURE 5002 Mentored Research Practicum: Proposal Development
These courses are a series of practicum courses, one course taken, as appropriate, each semester that the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific graduate student awards and specific stages of the research process. During this practicum course, the student is required to actively participate in selected aspects of a research project with a faculty mentor.
Semester Credit Hours: 1.0–2.0
Prerequisites: receipt of a Research Scholar award; concurrent enrollment in NURE 5115. Submit a completed, signed student/faculty mentor contract for student’s Graduate Nursing Office file.
NURE 5003  Mentored Research Practicum: Instrumentation
These courses are a series of practicum courses, one course taken, as appropriate, each semester that the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific graduate student awards and specific stages of the research process. During this practicum course, the student is required to actively participate in selected aspects of a research project with a faculty mentor.
Semester Credit Hours: 1.0–2.0 Variable
Prerequisites: receipt of a Research Scholar award; concurrent enrollment in NURE 5115. Submit a completed, signed student/faculty mentor contract for student’s Graduate Nursing Office file.

NURE 5004  Mentored Research Practicum: Statistical Methods
These courses are a series of practicum courses, one course taken, as appropriate, each semester that the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific graduate student awards and specific stages of the research process. During this practicum course, the student is required to actively participate in selected aspects of a research project with a faculty mentor.
Semester Credit Hours: 1.0–2.0
Prerequisites: receipt of a Research Scholar award; concurrent enrollment in NURE 5115. Submit a completed, signed student/faculty mentor contract for student’s Graduate Nursing Office file.

NURE 5005  Mentored Research Practicum: Proposal Testing
These courses are a series of practicum courses, one course taken, as appropriate, each semester that the student is designated as a Research Scholar. Designation as a Research Scholar is linked to specific graduate student awards and specific stages of the research process. During this practicum course, the student is required to actively participate in selected aspects of a research project with a faculty mentor.
Semester Credit Hours: 1.0–2.0
Prerequisites: receipt of a Research Scholar award; concurrent enrollment in NURE 5115. Submit a completed, signed student/faculty mentor contract for student’s Graduate Nursing Office file.

NURE 5007  Clinical Applications in Advanced Nursing Practice
This course provides an opportunity for qualified students to work closely with a faculty member and/or preceptor who are actively engaged in direct and indirect clinical practice.
Semester Credit Hours: 1.0–4.0
Prerequisites: Core courses as required for major

NURE 5090  Topics of Special Interest in Nursing
Various topics offered. Topics include, but are not limited to:
“Adolescent Pregnancy: Nursing Implications of Biological, Psychological, and Sociological Perspectives”
This course focuses on nursing intervention related to primary, secondary, and tertiary prevention of adolescent pregnancy and parenthood. The course is designed to provide the student with an overview of the nursing implications of interdisciplinary research and non-research literature on this increasing problem of premature childbearing and parenting. The scope of the focus includes the pregnant and parenting adolescent mother and father, the family structure, the community, and the greater society.
Clock hours: three class hours per week
“Anthropological Perspectives on Nursing and Health”
The course will be taught as a seminar, and will offer a review of concepts and methods of anthropology as they have been applied to problems of nursing and health. A major focus will be how anthropologists have investigated and analyzed health-related behaviors. This information will then be related to nursing science and practice, to see how the anthropological perspective can offer solutions or new approaches. Topics will include cultural variation in illness beliefs and illness behavior, types of healing practices, international health, the culture of health care, and narrative representations of illness and healing.
Semester Credit Hours: 1.0–4.0
Prerequisites: Graduate standing

NURE 5091  Independent Study in Nursing
This elective allows for detailed or in-depth study in a specific topic area. Topic and mode of study are agreed upon by student and instructor. The course may be repeated for credit when topics vary.
Clock hours to be arranged
Semester Credit Hours: 1.0–6.0
Prerequisites: Graduate standing and consent of instructor

NURE 5110  Interdisciplinary Team Approach to Pain Management
This course provides an overview of current concepts and management of pain from a clinical interdisciplinary health care team perspective. The content includes the classification, characteristics, and assessment of pain and interventions for pain control (pharmacologic, invasive, cognitive, and physical). Emphasis will be placed on respecting the contribution of each member of the health care team through student involvement in case studies. The faculty and student body will be multidisciplinary representing Health Professions
(Occupational Therapy and Physical Therapy), Dentistry, Medicine, Nursing, and the Clinical Pharmacy programs.

**Semester Credit Hours:** 1.0

**Prerequisites:** open to students enrolled in Nursing, Dental, Medicine, Health Professions occupational and physical therapy schools, and the clinical pharmacy program; OT 4; MPT 1–3; PharmD; DS 3&4; MS 1–4; NS 2, 3, & 4; and Graduate.

**NURE 5115 Application of Research in Nursing**

A list is provided each academic semester citing faculty and their research projects with whom graduate students may contract for this elective course.

**Semester Credit Hours:** 1.0

**NURE 5195 Mentored Research Scholars**

This course is taught each semester for students designated as Student Research Scholars to share learning experiences and gain insights through discussion in a Research Scholar Seminar.

**Semester Credit Hours:** 1.0

**Prerequisites:** concurrent enrollment in a 1- or 2-semester credit hour NURE 5115. Submit a completed, signed student/faculty mentor contract for student's Graduate Nursing Office file; receive acceptance of the plan for mentored contract.

**NURE 5215 Application of Research in Nursing**

A list is provided each academic semester citing faculty and their research projects with whom graduate students may contract for this elective course.

**Semester Credit Hours:** 2.0

**NURE 5315 Application of Research in Nursing**

A list is provided each academic semester citing faculty and their research projects with whom graduate students may contract for this elective course.

**Semester Credit Hours:** 3.0

**NURE 5412 Gross Anatomy for Advanced Practice Nurses**

This multidisciplinary elective course is an expansion of basic anatomy with the additional use of cadavers (when available), cadaver prosections, models, atlas drawings, and photographs. This course will concentrate on osteology, arthrology, and major organ systems as they apply to Advanced Practice Nursing. This course focuses on gross anatomy to include normal structures, landmarks, normal variations, and pathology. Clinical applications will be introduced in connection to gross anatomy. This course is Web-enhanced with some lectures and laboratory sessions on campus.

**Semester Credit Hours:** 4.0

**Prerequisites:** Graduate standing. Strongly recommended that this elective be taken before NURS 6307, 5338, and 6302.

**NURE 5415 Psychiatric Mental Health Therapy/Individual**

This course emphasizes the development of psychiatric mental health nurse specialist skills through individually supervised practice, analysis, and evaluation of interpersonal process with a client experiencing psychological dysfunction. Students examine factors fostering mental health and mental illness, assumptions about human behavior, and the developing practice of psychiatric/mental health nursing. Relevant theories are utilized to guide the nurse-client interpersonal process. Assessment of clients' health status with particular emphasis on psychosocial and mental functioning provide the basis for nursing intervention emphasizing the therapeutic use of self, critical application of research findings, and collaboration with other mental health personnel.

**Semester Credit Hours:** 4.0

**NURE 5445 Mental Health Liaison/Consultation Nursing**

This course is designed to further develop the psychiatric/mental health clinical specialist's role in liaison/consultation nursing. Current liaison/consultation nursing roles are examined, impediments and opportunities for role development are analyzed, collaborative relationships are explored, and new roles are projected. Selected aspects of the liaison/consultation nurse specialist's role are implemented and evaluated within a designated setting. Students utilize relevant theories to analyze the social, economic, and political forces within a social system related to the delivery of psychosocial care. Special emphasis is given to prioritizing needs and rendering selected mental health services within that social system. Areas of needed research within mental health liaison/consultation practice are explored.

**Semester Credit Hours:** 4.0

**Prerequisites:** NURS 5306, NURS 5307, NURS 6308

**NURE 7090 The Dissertation Proposal Process in Nursing**

This elective course provides an opportunity for doctoral candidates to work closely with their dissertation committee to develop the dissertation proposal and proceed through the Graduate Faculty Council approval process.

**Semester Credit Hours:** 1.0–3.0

**Prerequisites:** successful completion of the written and oral qualifying examinations
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