Catalog 2008–2009*

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In the Catalog Table of Contents, page vii, click on any item or page number to go to that page.

In the Catalog Index, pages 402–424, click on a page number to go to that location in this Catalog.
Correspondence: Inquiries about admission or for additional information should be addressed to:
UT Health Science Center San Antonio
Office of the Registrar
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San Antonio, Texas 78229-3900

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Doris Lee, J.D., assistant vice president for student services
Alan Miller, editor (milleraa@uthscsa.edu)
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>1</td>
</tr>
<tr>
<td>Department Chairs</td>
<td>2</td>
</tr>
<tr>
<td>Faculty Listing</td>
<td>6</td>
</tr>
<tr>
<td>The Health Science Center</td>
<td>36</td>
</tr>
<tr>
<td>Mission, Role, and Scope</td>
<td>46</td>
</tr>
<tr>
<td>Research and Teaching</td>
<td>48</td>
</tr>
<tr>
<td>Enrollment</td>
<td>48</td>
</tr>
<tr>
<td>Size and Location</td>
<td>48</td>
</tr>
<tr>
<td>Teaching Affiliates</td>
<td>49</td>
</tr>
<tr>
<td>Support Services</td>
<td>51</td>
</tr>
<tr>
<td>Office of Student Services</td>
<td>54</td>
</tr>
<tr>
<td>Other University Support Offices</td>
<td>54</td>
</tr>
<tr>
<td>Campus Facilities</td>
<td>54</td>
</tr>
<tr>
<td>Library</td>
<td>54</td>
</tr>
<tr>
<td>Bookstore</td>
<td>54</td>
</tr>
<tr>
<td>Auditorium</td>
<td>54</td>
</tr>
<tr>
<td>Tutoring</td>
<td>54</td>
</tr>
<tr>
<td>Testing</td>
<td>54</td>
</tr>
<tr>
<td>Transportation</td>
<td>54</td>
</tr>
<tr>
<td>Accessibility for the Disabled</td>
<td>54</td>
</tr>
<tr>
<td>Additional Information</td>
<td>54</td>
</tr>
<tr>
<td>General Regulations and Requirements</td>
<td>55</td>
</tr>
<tr>
<td>Background Checks</td>
<td>55</td>
</tr>
<tr>
<td>Conduct and Discipline</td>
<td>55</td>
</tr>
<tr>
<td>Student Conduct</td>
<td>55</td>
</tr>
<tr>
<td>Student Conduct Procedures</td>
<td>55</td>
</tr>
<tr>
<td>Use of Student Social Security Number</td>
<td>55</td>
</tr>
<tr>
<td>Student Records</td>
<td>55</td>
</tr>
<tr>
<td>Privacy Rights of Students</td>
<td>55</td>
</tr>
<tr>
<td>Equal Opportunity/Non-Discrimination Policy</td>
<td>55</td>
</tr>
<tr>
<td>Professional Liability Insurance</td>
<td>55</td>
</tr>
<tr>
<td>Student Health Insurance</td>
<td>55</td>
</tr>
<tr>
<td>Bacterial Meningitis Information</td>
<td>55</td>
</tr>
<tr>
<td>Hazing Offenses</td>
<td>55</td>
</tr>
<tr>
<td>HIPAA</td>
<td>55</td>
</tr>
<tr>
<td>Sexual Assault Policy</td>
<td>55</td>
</tr>
<tr>
<td>Sexual Harassment &amp; Sexual Misconduct Policies</td>
<td>55</td>
</tr>
<tr>
<td>Solicitation</td>
<td>55</td>
</tr>
<tr>
<td>Student Safety on Campus</td>
<td>55</td>
</tr>
<tr>
<td>University Police (parking, security, crime reporting, etc.)</td>
<td>55</td>
</tr>
<tr>
<td>Student Consumer Information</td>
<td>55</td>
</tr>
<tr>
<td>Student Debts, E-mail Accounts, Papers</td>
<td>55</td>
</tr>
<tr>
<td>Student Travel Policy</td>
<td>55</td>
</tr>
<tr>
<td><strong>Handbook of Operating Procedures (HOP)</strong></td>
<td>55</td>
</tr>
<tr>
<td>General Academic Policies</td>
<td>55</td>
</tr>
<tr>
<td>Admission Requirements &amp; Application</td>
<td>55</td>
</tr>
<tr>
<td>Guidelines for Student Admission Selection</td>
<td>55</td>
</tr>
<tr>
<td>Texas Coordinating Commission Requirements</td>
<td>55</td>
</tr>
<tr>
<td>Scholarships &amp; Awards Policy</td>
<td>55</td>
</tr>
<tr>
<td>Freshmen Admissions</td>
<td>55</td>
</tr>
<tr>
<td>Texas Success Initiative (TSI)</td>
<td>55</td>
</tr>
<tr>
<td>Test Scores</td>
<td>55</td>
</tr>
<tr>
<td>Graduation</td>
<td>55</td>
</tr>
<tr>
<td>Residency Determination</td>
<td>55</td>
</tr>
<tr>
<td>Dual of Residence</td>
<td>55</td>
</tr>
<tr>
<td>Beneficiary of Pensions</td>
<td>55</td>
</tr>
<tr>
<td>Adding/Dropping Courses</td>
<td>55</td>
</tr>
<tr>
<td>Clearance to Withdraw, Dismissal, Leave of Absence</td>
<td>55</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>55</td>
</tr>
<tr>
<td>Excessive Credit Hours</td>
<td>84</td>
</tr>
<tr>
<td>Grades, Promotion, and Advancement</td>
<td>84</td>
</tr>
<tr>
<td>Probation</td>
<td>84</td>
</tr>
<tr>
<td>Dismissal</td>
<td>84</td>
</tr>
<tr>
<td>Readmission</td>
<td>84</td>
</tr>
<tr>
<td>Graduation</td>
<td>84</td>
</tr>
<tr>
<td>Financial Information</td>
<td>86</td>
</tr>
<tr>
<td>Tuition and Fees</td>
<td>86</td>
</tr>
<tr>
<td>Installation Payments</td>
<td>86</td>
</tr>
<tr>
<td>Required Fees</td>
<td>86</td>
</tr>
<tr>
<td>Tuition and Fees For Nonresidents</td>
<td>86</td>
</tr>
<tr>
<td>Fee Refund Schedule</td>
<td>86</td>
</tr>
<tr>
<td>Federal Financial Assistance</td>
<td>86</td>
</tr>
<tr>
<td>Scholarships</td>
<td>86</td>
</tr>
<tr>
<td>Policies and Procedures</td>
<td>94</td>
</tr>
<tr>
<td>Nondiscrimination Policy &amp; Complaint Procedure</td>
<td>94</td>
</tr>
<tr>
<td>General student policies</td>
<td>94</td>
</tr>
<tr>
<td>Religious Holy Days, Alcohol Policy</td>
<td>94</td>
</tr>
<tr>
<td>Graduation, Change of Address, Emergency Notification, Fraud</td>
<td>94</td>
</tr>
<tr>
<td>Student Conduct &amp; Discipline</td>
<td>101</td>
</tr>
<tr>
<td>Privacy Rights</td>
<td>106</td>
</tr>
<tr>
<td>AIDS/HIV/HBV/HCV Infection Policies</td>
<td>109</td>
</tr>
<tr>
<td>Needlestick Policy</td>
<td>115</td>
</tr>
<tr>
<td>Alcohol, Drug, &amp; Chemical Abuse</td>
<td>119</td>
</tr>
<tr>
<td>Immunization Requirements</td>
<td>121</td>
</tr>
<tr>
<td>TB Screening, Prevention, &amp; Management</td>
<td>122</td>
</tr>
<tr>
<td>Dental School</td>
<td>124</td>
</tr>
<tr>
<td>Advanced Dental Education Programs</td>
<td>150</td>
</tr>
<tr>
<td>Associated Programs</td>
<td>150</td>
</tr>
<tr>
<td>Graduate School of Biomedical Sciences</td>
<td>172</td>
</tr>
<tr>
<td>Integrated Multidisciplinary Graduate Program</td>
<td>185</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>194</td>
</tr>
<tr>
<td>Biomedical Engineering</td>
<td>194</td>
</tr>
<tr>
<td>Cellular and Structural Biology</td>
<td>205</td>
</tr>
<tr>
<td>Clinical Investigation</td>
<td>210</td>
</tr>
<tr>
<td>Microbiology and Immunology</td>
<td>212</td>
</tr>
<tr>
<td>Molecular Medicine</td>
<td>216</td>
</tr>
<tr>
<td>Joint Pharm.D. Program</td>
<td>219</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>220</td>
</tr>
<tr>
<td>Physiology</td>
<td>224</td>
</tr>
<tr>
<td>Radiological Sciences</td>
<td>224</td>
</tr>
<tr>
<td>Coordinate Graduate Courses</td>
<td>224</td>
</tr>
<tr>
<td>School of Medicine</td>
<td>234</td>
</tr>
<tr>
<td>School of Health Professions</td>
<td>251</td>
</tr>
<tr>
<td>Clinical Laboratory Science</td>
<td>264</td>
</tr>
<tr>
<td>Clinical Laboratory Science</td>
<td>264</td>
</tr>
<tr>
<td>Molecular Genetics</td>
<td>266</td>
</tr>
<tr>
<td>Immunohematology &amp; Transplant Science</td>
<td>267</td>
</tr>
<tr>
<td>Dentistry</td>
<td>267</td>
</tr>
<tr>
<td>Dental Laboratory Science</td>
<td>267</td>
</tr>
<tr>
<td>Dentistry</td>
<td>267</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>306</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>315</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>322</td>
</tr>
<tr>
<td>Respiratory Care</td>
<td>330</td>
</tr>
<tr>
<td>School of Nursing</td>
<td>344</td>
</tr>
<tr>
<td>Undergraduate Program</td>
<td>360</td>
</tr>
<tr>
<td>Graduate Program in Nursing</td>
<td>360</td>
</tr>
<tr>
<td><strong>INDEX</strong></td>
<td>402</td>
</tr>
</tbody>
</table>
Catalog for Five Schools

This Catalog contains program offerings of all five schools which constitute The UT Health Science Center San Antonio:
• Dental School,
• Graduate School of Biomedical Sciences,
• School of Medicine,
• School of Health Professions, and
• School of Nursing.

The General Information section contains material common to all schools. Programs and policies specific to the respective schools appear in the appropriate school’s section.

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Dean, School of Health Professions
Department Chairs

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**Deaf Education and Hearing Science**
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**Dental Hygiene**
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**Dental Laboratory Sciences**
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**Emergency Health Sciences**
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**Nutrition and Dietetics**
Carmen Roman-Shriver, PhD, RD, LD

**Occupational Therapy**
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**Physical Therapy**
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**Physician Assistant Studies**
J. Dennis Blessing, PhD, PA-C

**Respiratory Care**
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**Cellular & Structural Biology**
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**Microbiology and Immunology**
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**Molecular Medicine**
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**Pathology**
Robert L. Reddick, MD

**Pharmacology**
Alan Frazer, PhD

**Physiology**
David S. Weiss, PhD

**Dental Sciences**

**Community Dentistry**
Adriana Segura, DDS, MS (Interim)

**Dental Diagnostic Science**
Spencer Redding, DDS, MEd

**Endodontics**
Kenneth M. Hargreaves, DDS, PhD

**General Dentistry**
Joseph M. Berrong, DDS

**Oral & Maxillofacial Surgery**
James M. Startzell, DMD, MS (Interim)

**Orthodontics**
John D. Rugh, PhD

**Pediatric Dentistry**
Kevin J. Donly, DDS, MS

**Periodontics**
David L. Cochran, DDS, MS, PhD

**Prosthodontics**
Lily T. Garcia, DDS, MS

**Restorative Dentistry**
James B. Summit, DDS, MS

**Medical Sciences**

**Anesthesiology**
J. Jeffrey Andrews, MD

**Epidemiology and Biostatistics**
Brad H. Pollock, PhD, MPH

**Family & Community Medicine**
Carlos Roberto Jaén, MD, PhD

**Medicine**
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**Neurology**
Charles A. Szabo, MD (Interim)

**Neurosurgery**
David F. Jimenez, MD, FACS

**Obstetrics & Gynecology**
Robert S. Schenken, MD

**Ophthalmology**
Carlos A. Rosende, MD, FACS

**Orthopaedics**
Daniel W. Carlisle, MD (Interim)

**Otolaryngology-Head & Neck Surgery**
Randal A. Otto, MD, FACS

**Pediatrics**
Thomas C. Mayes, MD, MBA

**Psychiatry**
Pedro L. Delgado, MD

**Radiation Oncology**
Chul S. Ha, MD

**Radiology**
Gerald D. Dodd, III, MD

**Rehabilitation Medicine**
Nicolas E. Walsh, MD

**Surgery**
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**Urology**
Ian M. Thompson, Jr. MD

**Nursing**

**Acute Nursing Care**
Carol Reineck, PhD, RN

**Chronic Nursing Care**
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**Family Nursing Care**
Kay C. Avant, PhD, RN, FAAN
# Faculty

*This Faculty listing is based on data received in the fall of 2006 from the HSC faculty eCV.*

## Graduate School of Biomedical Sciences

### Biochemistry

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Degree/Certificate</th>
<th>University/College/School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adamo, Martin L.</td>
<td>Associate Professor</td>
<td>PhD</td>
<td>Houston</td>
</tr>
<tr>
<td>Banerjee, Asok*</td>
<td>Assistant Professor/Research</td>
<td>PhD</td>
<td>Calcutta</td>
</tr>
<tr>
<td>Barnes, Larry D.</td>
<td>Professor &amp; Associate Dean</td>
<td>PhD</td>
<td>UCLA</td>
</tr>
<tr>
<td>Chambers, James P.</td>
<td>Professor</td>
<td>PhD</td>
<td>UTHSCSA</td>
</tr>
<tr>
<td>Chaudhuri, Asish R.</td>
<td>Assistant Professor/Research</td>
<td>PhD</td>
<td>Calcutta</td>
</tr>
<tr>
<td>Demeler, Borries</td>
<td>Assistant Professor</td>
<td>PhD</td>
<td>Oregon State</td>
</tr>
<tr>
<td>Garrison, Preston N.</td>
<td>Instructor/Research</td>
<td>PhD</td>
<td>UTHSCSA</td>
</tr>
<tr>
<td>Griess, Gary A.</td>
<td>Assistant Professor/Research</td>
<td>PhD</td>
<td>Massachusetts</td>
</tr>
<tr>
<td>Groppe, Jay C.</td>
<td>Assistant Professor/Research</td>
<td>PhD</td>
<td>California</td>
</tr>
<tr>
<td>Gu, Sumin</td>
<td>Assistant Professor/Research</td>
<td>MD</td>
<td>U. Luebeck, China</td>
</tr>
<tr>
<td>Hardies, Stephen C.</td>
<td>Associate Professor</td>
<td>PhD</td>
<td>Wisconsin-Madison</td>
</tr>
<tr>
<td>Hart, Peter John</td>
<td>Professor</td>
<td>PhD</td>
<td>UT Austin</td>
</tr>
<tr>
<td>Haskins, William E.</td>
<td>Assistant Professor/Research</td>
<td>PhD</td>
<td>Florida</td>
</tr>
<tr>
<td>Hinck, Andrew Peterson</td>
<td>Associate Professor</td>
<td>PhD</td>
<td>Wisconsin</td>
</tr>
<tr>
<td>Ilangovan, Udayar</td>
<td>Instructor/Research</td>
<td>PhD</td>
<td>Inst. of Tech, Kanpur, India</td>
</tr>
<tr>
<td>Jiang, Jean X.</td>
<td>Associate Professor</td>
<td>PhD</td>
<td>SUNY</td>
</tr>
<tr>
<td>Kim, Chongwoo A.</td>
<td>Assistant Professor</td>
<td>PhD</td>
<td>Johns Hopkins</td>
</tr>
<tr>
<td>Lafer, Eileen M.</td>
<td>Professor</td>
<td>PhD</td>
<td>Tufts</td>
</tr>
<tr>
<td>Lee, John C.</td>
<td>Professor</td>
<td>PhD</td>
<td>Purdue</td>
</tr>
<tr>
<td>Luduena, Richard F.</td>
<td>Professor</td>
<td>PhD</td>
<td>Stanford</td>
</tr>
<tr>
<td>Martasek, Pavel*</td>
<td>Adjunct Professor</td>
<td>MD</td>
<td>Charles U., Prague</td>
</tr>
<tr>
<td>Martasek, Pavel*</td>
<td>Adjunct Professor</td>
<td>PhD</td>
<td>Charles U., Prague</td>
</tr>
<tr>
<td>Masters, Bettie Sue Siler</td>
<td>Professor/Robert A. Welch Foundation Chair</td>
<td>PhD</td>
<td>Duke</td>
</tr>
<tr>
<td>McAlister-Henn, Lee</td>
<td>Professor and Deputy Chair</td>
<td>PhD</td>
<td>UTHSCS Dallas</td>
</tr>
<tr>
<td>McEwen, Donald G.</td>
<td>Assistant Professor</td>
<td>PhD</td>
<td>Washington</td>
</tr>
<tr>
<td>Musatov, Andrej</td>
<td>Assistant Professor/Research</td>
<td>PhD</td>
<td>U. Masaryk, Czech.</td>
</tr>
<tr>
<td>Nicholson, Bruce J.</td>
<td>Professor and Chair</td>
<td>PhD</td>
<td>California Inst. of Technology</td>
</tr>
<tr>
<td>Olson, Merle S.</td>
<td>Professor</td>
<td>PhD</td>
<td>Minnesota</td>
</tr>
<tr>
<td>Renthal, Robert D.</td>
<td>Professor</td>
<td>PhD</td>
<td>Columbia</td>
</tr>
<tr>
<td>Robinson, Neal C.</td>
<td>Professor</td>
<td>PhD</td>
<td>Washington</td>
</tr>
<tr>
<td>Roman, Linda J.</td>
<td>Assistant Professor/Research</td>
<td>PhD</td>
<td>Northwestern</td>
</tr>
<tr>
<td>Serwer, Philip</td>
<td>Professor</td>
<td>PhD</td>
<td>Harvard</td>
</tr>
<tr>
<td>Shiio, Yuzuru*</td>
<td>Assistant Professor</td>
<td>MD</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Shiio, Yuzuru*</td>
<td>Assistant Professor</td>
<td>PhD</td>
<td>Tokyo</td>
</tr>
<tr>
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*part-time faculty*
Vaughan, Mary K. Associate Professor PhD UTMB Galveston
Vogel, Kristine Susan Assistant Professor PhD Oregon
Walter, Christi A. Professor and Interim Chair PhD Florida State
Weaker, Frank J. Associate Professor PhD LSU
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Xu, Guogang Assistant Professor/Research MD Shanghai Medical U.
Yang, Funmei Associate Professor PhD LSU
Williams, Vick Professor PhD UTMB Galveston
Zhang, Jianhua Instructor/Research MD Heilongjiang TCM Med. School
Zhang, Jianhua Instructor/Research PhD Geneva, Switzerland

**Molecular Medicine**

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**Microbiology & Immunology**

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**Pharmacology**

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*part-time faculty
# Dental School

## Community Dentistry

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## Dental Diagnostic Science

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Endodontics

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General Dentistry

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**Oral & Maxillofacial Surgery**

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**Orthodontics**

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### Periodontics

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**Prosthodontics**

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**Restorative Dentistry**

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<td>Berry, Thomas G.*</td>
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*part-time faculty
Holleron, Barry W.*  Clinical Professor DDS UTHSCSA
Kellogg, Karen V.*  Clinical Associate Professor DDS UTHSCSA
McAlister, Elizabeth H.*  Clinical Associate Professor DDS UTHSCSA
Morris, Lawrence W.*  Clinical Associate Professor DDS UTHSCSA
Nield, Donald G.*  Clinical Associate Professor DMD Manitoba, Canada
Norling, Barry K.  Associate Professor MS UT Austin
Norling, Barry K.  Associate Professor PhD Northwestern
Orck, Bert H.*  Clinical Assistant Professor DDS Baylor
Overton, Johnie D.  Assistant Professor & Division Head DDS UTHSCSA
Park, Jacob G.*  Clinical Associate Professor DDS UTHSCSA
Parma, Rita Renee  Assistant Professor/Clinical DDS UTHSCSA
Payne, Steven R.*  Clinical Associate Professor DDS UTHSCSA
Randol, Cheryl K.*  Clinical Assistant Professor DDS UTHSCSA
Rawls, Henry R.  Professor PhD Florida State
Satsangi, Neera  Associate Professor/Research PhD Lucknow, India
Sullivan, Diane J.*  Clinical Associate Professor DDS Baylor
Summitt, James B.  Professor and Chair DDS Tennessee
Summitt, James B.  Professor and Chair MS UTHSC Houston
Teweles, Robert B.*  Clinical Assistant Professor DDS Medical Coll. of Virginia
Troendle, Karen B.  Associate Professor & Deputy Div. Head DDS UTHSCSA
Troendle, Karen B.  Associate Professor & Deputy Div. Head MPH UTHSC Houston
Trowbridge, Ronald C.*  Clinical Professor DDS Baylor
Watkins, Thomas R.*  Clinical Associate Professor DDS UTHSCSA
Whang, Kyumin*  Research Assistant Professor PhD Northwestern
Wright, Edward F.  Assistant Professor DDS Case Western
Wright, Edward F.  Assistant Professor MS Minnesota

*part-time faculty
## Clinical Laboratory Science

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## Deaf Education & Hearing Science

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## Dental Laboratory Sciences

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*part-time faculty
### Emergency Health Sciences

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### Occupational Therapy

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### Physical Therapy

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*part-time faculty
## Anesthesiology

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**Epidemiology & Biostatistics**

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**Family & Community Medicine**

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*part-time faculty
Chavez, Norma J. Faculty Associate
Corona, Betty A. Faculty Associate
De La Garza, Philip A. Assistant Professor/Clinical
DeLallo, Christopher Faculty Associate
Doty, Sue Associate Professor/Clinical
Doty, Sue Associate Professor/Clinical
Dunlap, Sally M.* Clinical Assistant Professor
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Espino, David V. Associate Professor
Ferrer, Robert Louis Associate Professor
Finley, Margaret R. Associate Professor/Clinical
Fortmeier-Saucier, Linda K. Assistant Professor/Research
Fortmeier-Saucier, Linda K. Assistant Professor/Research
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Gardea, Anthony G. Assistant Professor/Clinical
Garza-Tamez, Jesus Miguel Instructor/Clinical
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Hale, Matthew H.* Clinical Assistant Professor
Hernandez, Cristela Assistant Professor/Clinical
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Jaen, Carlos R. Professor & Chair/Dr. John M. Smith Jr. Professorship
Jaen, Carlos R. Professor & Chair/Dr. John M. Smith Jr. Professorship
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Kumar, Kaparaboyna A. Professor/Clinical
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Larme, Anne C.* Adjunct Assistant Professor
Lawler, W. Ross Professor
Legler, James D. Associate Professor
Loffredo, Alexandra S. Assistant Professor/Clinical
Lotay, Harpreet K.* Clinical Assistant Professor
Maldonado, Juan A.* Clinical Assistant Professor
Mann-Zeballos, Margaret M.* Clinical Assistant Professor
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Moreno, Alena V. Faculty Associate
Moscrip, Cordelia A. Assistant Professor/Clinical
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Oakes, Sandra L. Assistant Professor/Clinical
Oorjitham, Edward G.* Clinical Assistant Professor
Ortiz, David D. Assistant Professor/Clinical
Oscos-Sanchez, Manuel A. Assistant Professor
Owings, Kathleen K. Assistant Professor/Clinical
Palmer, Raymond F. Associate Professor
Parchman, Michael Leo Associate Professor
Parchman, Michael Leo Associate Professor
Parker, Robert W. Associate Professor/Clinical
Perales, Roger Faculty Associate
Pinkson, Sheila B. Faculty Associate

*part-time faculty
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Medicine

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*part-time faculty
Bingaman, Adam W. | Assistant Professor | PhD | Emory |
Boltz, David H. | Professor | MD | Tufts |
Bowers, Krista W. | Assistant Professor/Clinical | MD | UTHSCSA |
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Escalante, Agustin | Professor | MD | U. Nacional Autonoma de Mex. |

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**Neurosurgery**

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*part-time faculty*
Lopez, Adriana M. Assistant Professor/Clinical MD UTMB Galveston
Lozano, Rolando Antonio Associate Professor/Clinical MD El Salvador
Lynch, Jane L. Associate Professor/Clinical MD Wright State
Maldonado Campbell, Elaine* Clinical Assistant Professor MD Loyola
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Parra, Juan M. Associate Professor MD UTHSCSA
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Woosley, Clinton Ross Assistant Professor/Clinical PhD Bordeau, France
Ye, Fengchun Assistant Professor/Research PhD Huazhong Agricultural U., China

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**Radiation Oncology**

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**Radiology**

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**Rehabilitation Medicine**

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<td>Whittaker, Russell A.</td>
<td>Faculty Associate</td>
<td>BS Nebraska Med. Ctr.</td>
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<tr>
<td>Winston, John H.</td>
<td>Assistant Professor/Clinical</td>
<td>MD Alabama</td>
</tr>
<tr>
<td>Wolf, Steven E.</td>
<td>Professor</td>
<td>MD UTMB Galveston</td>
</tr>
<tr>
<td>Wooldridge, Larry J.</td>
<td>Faculty Associate</td>
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</tr>
<tr>
<td>Wu, Xiaowu</td>
<td>Assistant Professor/Research</td>
<td>MD Shanghai Second Med.</td>
</tr>
<tr>
<td>Yang, Paul H.*</td>
<td>Clinical Assistant Professor</td>
<td>DO Texas Coll. of Osteopathic Med.</td>
</tr>
<tr>
<td>Zeballos, Claudio F.*</td>
<td>Clinical Assistant Professor</td>
<td>MD Texas Tech</td>
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**Urology**

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<tr>
<td>Ankerst, Donna P.*</td>
<td>Research Associate Professor</td>
<td>PhD Carnegie Mellon</td>
</tr>
<tr>
<td>Arisco, Amy M.</td>
<td>Instructor/Clinical</td>
<td>MD UTHSC Houston</td>
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<tr>
<td>Bartholomew, Thomas H.*</td>
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<tr>
<td>Basler, Joseph W.</td>
<td>Professor/Clinical</td>
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<tr>
<td>Bermejo, Carlos Enrique</td>
<td>Assistant Professor</td>
<td>MD Francisco Marroquin</td>
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<tr>
<td>Brand, Timothy C.*</td>
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<tr>
<td>Canby-Hagino, Edith D.</td>
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</tr>
<tr>
<td>Cespedes, Richard Duane</td>
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<tr>
<td>Ghosh, Rita</td>
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<td>PhD Hyderabad, India</td>
</tr>
<tr>
<td>Jones, LeRoy A.*</td>
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<tr>
<td>Kraus, Stephen R.</td>
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<td>MD UMD New Jersey</td>
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<td>Kumar, Addanki Pratap</td>
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<td>Thompson Jr., Ian M.</td>
<td>Professor &amp; Chair/Smith Dielmann Mem. Chair</td>
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*part-time faculty*
### School of Nursing

#### Acute Nursing

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<td>Arevalo, Lyda*</td>
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<tr>
<td>Bell, Margaret L.</td>
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<tr>
<td>Byers, Vicki L.</td>
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<td>Clutter, Paula C.*</td>
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<td>Dittmar, Victoria Diane</td>
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<td>Fralix Gold, Carolyn M.*</td>
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<td>Jackson, Brenda G.</td>
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<td>Laureano-Julia, Wilfredo</td>
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<td>Tuller, Martha*</td>
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<td>Ward, Stacey L.</td>
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#### Chronic Nursing

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<td>Arndt, Roxanne M.</td>
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<td>Braden, Carrie Jo</td>
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<td>Cain, Noemi</td>
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<td>Cardea, Jane M.</td>
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<td>Carvalho, Clarissa*</td>
<td>Clinical Instructor</td>
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<td>SNDT Women’s U.</td>
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<td>Dispanet, Joanne</td>
<td>Instructor/Clinical</td>
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<td>Flagg, Amanda J.*</td>
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<td>Gilcreast, Darlene</td>
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<td>California-San Francisco</td>
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<td>Guerrero, Lorena C.*</td>
<td>Clinical Instructor</td>
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<td>Hayes, Jill M.</td>
<td>Assistant Professor</td>
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<td>Medical Coll. of Georgia</td>
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<td>Layman, Margo E.*</td>
<td>Clinical Assistant Professor</td>
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<td>Indiana</td>
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<td>Linton, Adrianne D.</td>
<td>Associate Professor &amp; Chair</td>
<td>PhD</td>
<td>UT Austin</td>
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<td>Marshall, Michelle M.</td>
<td>Instructor/Clinical</td>
<td>MPH</td>
<td>UTHSC Houston</td>
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*part-time faculty
McGowan, Nancy  
**Assistant Professor**  
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Murray, Anthia A.*  
**Clinical Instructor**  
MPH  
Tulane

Murray, Anthia A.*  
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Perry, Lee Alma*  
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St. Mary’s

Purcell, Cynthia V.*  
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UTHSCSA

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Ruzicka, Susan A.*  
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Singel, Laurie J.*  
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Catholic U. of America

Smith, Carmillia J.*  
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MSN  
Texas Tech

Wagner, Della F.  
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MSN  
UTHSCSA

Walker, Mary E.*  
**Clinical Instructor**  
MSN  
UTHSCSA

---

**Family Nursing**

Avant, Patricia Kay C.  
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St. Lukes

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UTHSCSA

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PhD  
UTHSCSA

Carreon, Rebecca*  
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MA  
UTSA

Carreon, Rebecca*  
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UTHSCSA

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UTHSCSA

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UTHSCSA

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UTHSCSA

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Lesser, Janna  
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Marshall, Margaret C.  
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Hawaii

Marshall, Margaret C.  
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Webster

Mathews, Lesley A.*  
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Mayle, Tina A.  
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Nabarrete, Synthia R.*  
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Rapp, Susan M.  
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MSN  
UTHSCSA

Rogers, Norma Martinez  
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PhD  
UT Austin

Rudolph, Dianne M.  
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MSN  
UTHSCSA

Soucy, Mark David*  
**Clinical Assistant Professor**  
PhD  
UTHSCSA

Stevens, Kathleen R.  
**Professor**  
EdD  
Houston

*part-time faculty
Tierney-Gumaer, Rosalie  Instructor/Clinical  MPH  UTHSCSA
Tierney-Gumaer, Rosalie  Instructor/Clinical  MSN  UTHSCSA
Williams, Gail B.  Professor  PhD  New York
Click, Louann*  Assistant Instructor  BN  UTHSCSA
Ecuyer, Laura P.*  Assistant Instructor  BN  LSU
Lazarus, Anne Marie*  Assistant Instructor  MPA  Golden Gate
McAllister, Judith Ann*  Assistant Instructor  MSN  Emory
Miller, Janet J.*  Assistant Instructor  MA  C. Michigan
Reilly-Hess, Lizabeth M.*  Assistant Instructor  BSN  Incarnate Word
Schwenke, Sandra J.*  Assistant Instructor  MA  Webster
Schwenke, Sandra J.*  Assistant Instructor  MSN  UTHSCSA
Smolens, Elizabeth S.*  Assistant Instructor  BN  Duke
Villagomez, Evangelina T.*  Assistant Instructor  MSN  UTHSC Houston

*part-time faculty
Mission, Role, and Scope

The mission of The UT Health Science Center San Antonio is to:

- Educate a diverse student body to become excellent health care providers and scientists.
- Engage in biomedical research focused on seeking information fundamental to the prevention, diagnosis and treatment of disease.
- Provide compassionate and culturally competent state-of-the-art clinical care.
- Enhance community health awareness, education and practices thereby improving the wellness of the citizenry.

The UT Health Science Center San Antonio is a health component 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 play 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 an interdisciplinary 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 university located in South Texas, the faculty have 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 for 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 UT Health Science Center San Antonio, with its five health professional schools, has developed into a major health 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 50 health-related degree specialties and several 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. It 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 University of Texas 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. Dental clinical faculty provide these programs in the Departments of Community Dentistry, Dental Diagnostic Science, Endodontics, General Dentistry, Orthodontics, Pediatric Dentistry, Periodontics, Prosthodontics, Restorative Dentistry, and Oral and Maxillofacial Surgery. The Dental School contributes significantly to the body of basic and applied knowledge related to oral health.

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 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 Anesthesiology, Family and Community Medicine, Medicine, Obstetrics and Gynecology, Ophthalmology, Orthopaedics, 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 Health Professions develops and conducts high-quality educational programs that offer students the opportunity to become competent health care providers in allied health sciences. Included in the school’s programs are certificate, baccalaureate, post-baccalaureate certificate, and master’s degree programs. Certificate programs are offered in dental hygiene, dental laboratory technology, and emergency health sciences. Bachelor’s degrees are offered in clinical laboratory sciences, dental hygiene, dental laboratory sciences, emergency health sciences, and respiratory care. Post-baccalaureate certificates are offered in clinical laboratory sciences, molecular diagnostics, and cytogenetics. Master’s programs include a Master of Science in Clinical Laboratory Sciences with tracks in immunohematology and forensic/analytical toxicology, Master of Science in Dental Hygiene, Master of Deaf Education and Hearing Science, Master of Occupational Therapy, Master of Physical Therapy, and Master of Physician Assistant Studies. The Emergency Health Sciences Department provides paramedical training for San Antonio, Bexar County, and surrounding areas.

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.

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, Audie L. Murphy Division of the South Texas Veterans Health Care System (VA), Trinity University, San Antonio Military Medical Center (SAMMC), (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), St. Mary’s University, the Southwest Foundation for Biomedical Research, Southwest Research Institute, and the 311th Human Systems Wing at Brooks City Base—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) located on a 160-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 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 Allied Health/Research (AHR) Building is adjacent to the McDermott Building and the Greehey Children’s Cancer Research Institute (CCRI). The AHR Building houses seven School of Health Professions departments and a Graduate School of Biomedical Sciences research center. The departments residing in the AHR Building are: Clinical Laboratory Sciences, Dental Hygiene, Emergency Health Sciences, Occupational Therapy, Physical Therapy, Physician Assistant Studies, and Respiratory Care. The Graduate School’s Center for Biomolecular Structure Analysis has a suite of laboratories in the AHR Building for use by scientists throughout South Texas.

The Greehey Children’s Cancer Research Institute (GCCRI) is housed in a new state-of-the-art research building on the Health Science Center’s Greehey Academic and Research Campus. The GCCRI concentrates on the epidemiology of childhood cancer in the South Texas border region, identifying new targets of therapy in childhood cancer, new drug development, and research in cancer prevention.

The Cancer Therapy and Research Center (CTRC) at the Health Science Center is one of the nation’s leading cancer research and treatment centers. CTRC provides comprehensive cancer care by offering a full spectrum of clinical and support services to meet the medical, nutritional, emotional,
and spiritual needs of the patient, from diagnosis through treatment, rehabilitation, discharge and follow-up care. At CTRC, physicians come together in one central location to treat patients as a team in disease-specific multidisciplinary clinics. This structure brings together all necessary medical specialists—including medical oncologists, radiation oncologists, and surgical oncologists—to build the treatment team around the patient in a convenient, one-stop approach. The CTRC Institute for Drug Development (IDD) is internationally recognized for conducting the largest Oncology Phase I clinical research studies program in the world.

**Enrollment**

The Health Science Center is designated by the U.S. Department of Education as a Hispanic-Serving Institution (HSI), which is defined as an accredited and degree-granting public or private nonprofit institution of higher education with at least 25 percent or more total undergraduate Hispanic full-time equivalent student 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 100 students are admitted to the Dental School.

The School of Nursing and School of Health Professions, with large undergraduate as well as graduate degree programs, have more than 25 percent Hispanic student enrollment.

Among its many academic offerings, the Graduate School of Biomedical Sciences offers a Master of Science degree for K–12 teachers that equips them as master science teachers in their classrooms.

The Health Science Center offers health-science-related degrees (M.D., D.D.S., Ph.D., for example) and pre- and post-baccalaureate certificate programs in 63 specialties.

**Student Enrollment Statistics**

(for school year 2005–2006)

<table>
<thead>
<tr>
<th>School Enrollments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate School of Biomedical Sciences</td>
</tr>
<tr>
<td>School of Medicine</td>
</tr>
<tr>
<td>Dental School</td>
</tr>
<tr>
<td>School of Nursing</td>
</tr>
<tr>
<td>School of Health Professions</td>
</tr>
<tr>
<td><strong>TOTAL:</strong> 2,775</td>
</tr>
</tbody>
</table>

**Minority Enrollment**

- Hispanic 24% (667)
- All minorities 38% (1,055)

(excludes multicultural or foreign students, and students who did not respond to race/ethnicity)

**Degrees Conferred**

(for school year September 2004–August 2005)

<table>
<thead>
<tr>
<th>Degree</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>125</td>
</tr>
<tr>
<td>BS</td>
<td>357</td>
</tr>
<tr>
<td>Certificates</td>
<td>187</td>
</tr>
<tr>
<td>PhD</td>
<td>26</td>
</tr>
<tr>
<td>PharmD</td>
<td>33</td>
</tr>
<tr>
<td>DDS</td>
<td>85</td>
</tr>
<tr>
<td>MD</td>
<td>194</td>
</tr>
</tbody>
</table>

**Size and Location**

The Health Science Center is one of 15 components of The University of Texas System. The Health Science Center is composed of seven campuses in San Antonio and South Texas.

The Joe R. and Teresa Lozano Long Central Campus is located on more than 100 acres in the heart of San Antonio’s South Texas Medical Center. A few blocks away is the 30-acre Greehey Academic and Research Campus. The 103-acre Texas Research Park Campus is in west Bexar County. The Cancer Therapy and Research Center campus 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 School of Health Professions, the Dental School, the Graduate School of Biomedical Sciences, the School of Medicine, and the School of Nursing. Also, programs leading to a Doctor of Pharmacy and a Masters in Public Health are jointly conducted with other components of The University of Texas System.

In addition, more than 200 individuals are pursuing postdoctoral education and several hundred medical interns and residents are training at the institution. Approximately $165 million is sponsored annually in research and contract programs. 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 approximately 5,000 faculty and staff, with a budget of approximately $470 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 Campus (8403 Floyd Curl Drive), between the CTRC Grossman Campus and Allied Health/Research Building.

Many institutions in San Antonio serve as excellent resources for programs of the Health Science Center. These include facilities of the Bexar County Hospital District, Audie Murphy Division/South Texas Veterans Health Care System, CHRISTUS Santa Rosa Hospital, Wilford Hall Medical Center, Brooke Army Medical Center, School of Aerospace Medicine, San Antonio Metropolitan Health District, Southwest Research Institute, and Southwest Foundation for Biomedical Research.

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-year medical training at the Regional Academic Health Center and its affiliated clinical sites. Students may also choose to complete any or all of the fourth-year rotation in Harlingen. Beginning with the entering class of 2008, preference for completing third and fourth year in Harlingen will be made during the process of application to medical school. The clinical sites include Valley Baptist Medical Center and Su Clinica Familiar, both located in Harlingen. Through the RAHC, the Dental School also rotates senior dental students to Su Clinica Familiar (Harlingen, Raymondville, and Santa Rosa) each year as part of a required South Texas rotation. 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 Regional Academic Health Center will, to the extent possible, be based on student preference.

The Laredo Campus Extension (LCE) is located in Laredo, Texas, and serves as a regional campus for the Mid-Rio Grand Border Area. The School of Health Professions offers the Bachelor of Science in Respiratory Care and the Master of Physician Assistant Studies in Laredo as part of the Laredo Campus Extension. Coursework is provided through distance learning, Web-supported courses, and local faculty. 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 Prosthodontic 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. Through the LCE, the Dental School also rotates senior dental students to the Gateway Community Health Center (2 sites) each year as part of a required South Texas rotation.

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

Teaching Affiliates - San Antonio
Some members of the staffs of our teaching affiliates hold joint appointments in the Dental, Graduate, Medical, or Nursing Schools and participate in educational research programs. These institutions constitute an important resource for training students as well as providing 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, orthopaedic 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, serves as a regional medical center for medical, surgical, and psychiatric patients, serves 59 counties of Southwestern Texas. The facility provides 40,000 square feet of space for research. It is linked by a crosswalk to University Hospital.

The CHRISTUS Santa Rosa Health Care (CSRHC) System includes the general hospital, Children's Hospital, Otto Koehler Radiation Therapy and Research Unit and the Outpatient Clinic in downtown San Antonio, and the CHRISTUS Santa Rosa Rehabilitation Hospital and CHRISTUS Santa Rosa Medical Center Hospital, located in the South Texas Medical Center. CSRHC 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 (SAMMC) 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 Brooke has gained international renown 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 a million visits from outpatients each year.

The Baptist Health System, comprising five hospitals totalling 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 provides a state-of-the-art patient care and education unit, and a clinical research center.

The University of Texas at San Antonio, 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 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 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 at San Antonio and the Southwest Foundation for Biomedical Research. This agreement allows the two institutions to share facilities and faculties. The Southwest Foundation's staff works primarily in the fields of cancer and 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 institute 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 School of Medicine and targets a 38-county region of South Texas. Its primary mission is to improve the quantity, quality, and maldistribution of health professionals in this geographic region. It operates through five regional administrative centers located in Corpus Christi, Harlingen, Laredo, Del Rio, and San Antonio. These administrative centers determine local community health professional manpower 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 medicine, dental, health professions, nursing, public health, and pharmacy 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.

South Texas Environmental Education and Research Center (STEEER)

The center offers an elective course in environmental and border health in Laredo, for medical students and residents, and students in other health 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 colonias 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 chief student affairs officer oversees the areas of admissions and registration, counseling, health care, student life/wellness & recreation, and financial aid. Official student publications, including this Catalog, the Student Guide, Applicant Viewbook, Certificate & Degree Programs brochure, and the Student Services Web site are also published by this office. Scheduling of student activities is coordinated with the Office of Student Life (see “Student Life” in this section).

More detailed information about services offered by this office is contained in the Student Guide.

Counseling Services

The following services for academic issues, 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, or on the Web at http://studentservices.uthscsa.edu/personalCounseling.aspx.

Registrar/Admissions & Records

The custodian of student academic records, the Registrar is also responsible for the processes of admissions, enrollment, withdrawals, and graduation. The decisions of various academic committees are implemented by this office. The staff handles students’ questions about their records, provides transcripts, diplomas, veterans documents, and enrollment certification documents (http://studentservices.uthscsa.edu/GI_registrar.aspx).

Student Financial Aid

Students seeking financial assistance in the form of scholarships, grants, and/or loans may seek the help of the Office of Student 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, prior to receiving an offer of assistance (http://studentservices.uthscsa.edu/financialAid.aspx).
Student Health Center
In accordance with both fair business practice regulations in Texas, and insurance requirements, a 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 required is $15 per visit for those insurance carriers without minimum stated co-pay rates, or the lowest respective co-pay required by the specific insurance plans covering the students.

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:
1) Screening for, and provision of, required annual TB skin testing.
2) Primary care visits including physicals, well-woman exams, and family planning.
3) Evaluation and treatment of minor illnesses and injury.
4) Assessment for referrals to specialty clinics/labs (co-pay may be required by these external services).
5) 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 HSC.
• 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
• Web site: http://studentservices.uthscsa.edu/studentLife.asp

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.

For detailed information about the Office of Student Life, consult the Student Guide or our Web site at http://studentservices.uthscsa.edu/studentLife.asp.

Scheduling and Facilities Data Management
The Office of Scheduling and Facilities Data Management is responsible for the loan and scheduling of all spaces in the university’s 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 information to the Texas Higher Education Coordinating Board.

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 567-2053.

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

Information Management & Services (IMS) provides 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.

IMS is comprised of Academic Technology Services, Client Support Services, Information Security, Integrated Management Information Services, and Systems and Network Operations, all working together to better serve you and your department.

Some of the support services include Multimedia Production and Print Media to aid in Web design and development, database programming; medical illustration; print design and production; printing and duplication, including color copying; poster sessions; slides, and photography production and duplication; DVD & CD duplicating; video production and editing; framing and plaques; and other media services.
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 immunocompromised 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 U. T. System Board of Regents to operate and maintain an effective and efficient system of institutions of higher education requires that the time, place, and manner of assembly, speech, and other activities on the grounds and in the buildings and facilities of the U. T. System or component 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.

More detailed information on the campus facilities described below, as well as information about student lounges, group study rooms, self-service photocopying areas, etc., is contained in the Student Guide.

Access to Campus Facilities

(from Handbook of Operating Procedures 9.1.4)

Events Jointly Sponsored by a Health Science Center Department and an Outside Organization Policy. Outside organizations may not use Health Science Center facilities except with the joint sponsorship of a Health Science Center department. The Health Science Center may recommend joint sponsorship of a project or program only if (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

Office of International Services (OIS)

The Office of International Services (OIS) is responsible for providing professional guidance and service on immigration matters to all faculty/staff and all non-immigrant visitors/employees. The Health Science Center is dedicated to obeying all federal immigration rules and regulations. All immigration issues may be discussed with an OIS advisor.

Once OIS has assisted departments and international visitors in determining which visa status best suits the nature of the stay at the Health Science Center, OIS will process and issue the proper immigration documents needed. It is of utmost importance that all consultations with OIS be done prior to the arrival of any international visitors.

All international visitors must make an appointment to check in with OIS upon arriving on campus. During the check in, an OIS advisor will provide international visitors with an overview of the federal rules and regulations that must be followed in order to maintain their status and will also report to the U. S. Department of Homeland Security of their arrival on campus.

It is the responsibility of each international student and scholar to know and comply with all applicable federal rules and regulations and The University of Texas System requirements. International visitors are also responsible for maintaining their own status and being aware of their program requirements. International students and scholars are encouraged to contact the OIS if they have any questions, need clarification, or require assistance in this area. Call 567-6241, visit Room 331A MED, or go to http://www.uthscsa.edu/ois.

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 HSC’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 triage@uthscsa.edu, by phone at 210-567-2069, 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 4.492L, 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.

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Libraries include approximately 222,000 print volumes. The combined collections of the Health Science Center in a 93,000-square-foot multilevel building in the center of campus (CLHIN), which provides information services to participants in the Texas Research Park, the Jesse H. Jones Comprehensive Research Library at the Health Center (RAHC) Medical Library in Harlingen, the Regional Academic Campus, the Briscoe, Jr. Library on the Joe R. and Teresa Lozano Long (Central) Campus, the Circuit Librarian Health Information Network, and the Library Service.

Charges. To the extent that there are charges for Health Science Center services (e.g., printing, housekeeping, parking, security, etc.) for the event, such charges (as noted in the HOP) 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 co-sponsoring the event and obtain such payments and deposit such payments to the accounts from which charges for the event were made. [Regents' Rule and Regulation] apply.

Speech and Assembly Area
Peaceful assembly and speech activities conducted in accordance with applicable state law and [Regents' Rule and Regulation] and other university policies as contained in the UT Health Science Center San Antonio Catalog, Handbook of Operating Procedures, or HSC Handbook of Operating Procedures may be conducted in this area without prior administrative approval. The area designated is 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.

Visiting the Campus
The Health Science Center welcomes visitors from the community when arranged with prior notice. To obtain information about ongoing prearranged tours for students, call (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 or vice president. 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.

Library Services
The Libraries of the Health Science Center are the Dolph Briscoe, Jr. Library on the Joe R. and Teresa Lozano Long (Central) Campus, the Brady Green Library at the University Health Science Center-Downtown, the Regional Academic Health Center (RAHC) Medical Library in Harlingen, the Jesse H. Jones Comprehensive Research Library at the South Texas Research Park, the Laredo Campus Extension Library, and the Circuit Librarian Health Information Network (CLHIN), which provides information services to participating hospitals in South Texas. The Briscoe Library, housed in a 93,000-square-foot multilevel building in the center of the campus, serves as the primary source and repository of information for the educational, research, and health care functions of the Health Science Center.

The combined collections of the Health Science Center Libraries include approximately 222,000 print volumes including 108,000 print books and 113,000 print serial volumes. The Library provides access to 8,600 books in electronic format. Faculty and students have access to more than 2,800 journal titles in the health sciences plus more than 13,000 electronic journals in a variety of disciplines through statewide and regional library consortia. The collection covers 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 from off-campus to faculty, staff, and students. Library services include reference; instruction on research methods and use of databases; electronic document delivery; interlibrary loan; and support for PDAs, Pocket PCs, knowledge management, and other initiatives. The Library provides 100 computers with Internet access and software for student use. The RAHC Library, which has a core print collection of books and journals, provides 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.

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.–6 p.m. Mondays through Thursdays
• 8 a.m.–5 p.m. Fridays and summers (M–F)
• 10 a.m.–1 p.m. Saturdays (closed on university holidays)

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. Visit the Bookstore Web site at http://uthscsa.bncollege.com.

Auditorium
The 634-seat 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.

Cafeterias (Dining Services)
Students, faculty, and staff may purchase meals in the Health Science Center’s Texas Star Café, connected to the ground floor of the Dental School’s south end; the university Subway Shop, located in the Medical Lecture Hall Foyer; and Java City coffee, smoothies, yogurt, and pastries, also located in the Medical Lecture Hall Foyer. Cafeteria 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 the street from central campus at the Methodist Hospital, and across Medical Drive, and other locations within walking distance from central campus.
Area Housing
There are no housing accommodations on the campus of the Health Science Center. Numerous apartments, condos, and rental homes, however, are located nearby. Students may contact the Office of Student Life for a housing list (567-2654).

Parking
Students may park in the zone for which they purchase a permit. Vehicles parking or driving on campus must follow all Texas vehicle inspection laws. All Texas laws will be enforced on campus by university police officers and guards. Failure to register the vehicle in this state or to display a current and appropriate inspection certificate issued under Chapter 548, *Texas Transportation Code*, may violate state law if the owner of the vehicle resides in this state. State of Texas vehicle inspection laws for vehicles parking or driving on the campus of the institution will be enforced (see *Texas Education Code* Section 51.207). Also see “Parking and Traffic” in the “University Police” section.

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 (Allied Health, McDermott, and CCRI buildings). The route includes University Plaza, Lot 17, and the UT Medicine building on Medical Drive. Scheduled shuttle service to the Texas Research Park is also provided.

Accessibility for the Disabled
Every program is accessible to students who have a disability, and every area has disabled-accessible restrooms. The University Police Department provides a map that indicates parking areas designated for the disabled.

Interior and exterior doors have been adjusted to conform with the American National Standards Institute specifications for physically disabled people. Students who may need special arrangements or auxiliary aids for any limitation based on a disability covered under the *Americans with Disabilities Act (ADA)* are encouraged to discuss these requests with their associate deans.

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)*. Students, fellows and residents must submit a Student/Resident Request for Accommodation Under the Americans with Disabilities Act (ADA), form ADA-100, to the appropriate associate dean of their school and a copy to the ADA Coordinator.

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 an annual basis, or earlier as need arises.

Reasonable accommodations under the ADA is 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.

All medical-related information shall be kept 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)* Section 4.2.3, for complete details and procedures for ADA accommodations.

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](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 and the Student Guide given to matriculating students and 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.

In addition, applicants and continuing students shall conform to the policy adopted by each specific school for which the students apply or are admitted. Policies include information about the issues listed below:

1. The scope of the CBC. How far back will the check go and what it will include, i.e. convictions, deferred adjudications, etc.
2. When the CBC will be conducted and how often.
3. Who (either the school/program or other state agencies) will review the CBC and determine the student’s status.
4. What criteria the school will use to assess relevancy of the applicant’s or continuing student’s criminal history.
5. Indicate whether any affiliation agreements will include the reference of continuing students’ criminal background checks.

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 of The University of Texas System. Copies of the regulations are printed in this Catalog on page 101. 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 “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 HSC 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
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.

II. Student Nonacademic Grievance Procedure

Any student who has a nonacademic grievance concerning the interpretation, application, or claimed violation of her/his rights as an HSC 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 Vice President for Academic Administration 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 University of Texas Health Science Center at San Antonio.

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 University of Texas Health Science Center at San Antonio.

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 & 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 UTHSCSA 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 grievant, the party 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 his/her 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 is requested for the student records system of The University of Texas Health Science Center at San Antonio 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 is 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 550.004 to have the institution correct information about the individual that is incorrect.

Student Records

The UT Health Science Center at San Antonio 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 this Catalog, p. 105.) The chief student affairs officer coordinates the inspection and review procedures of student education records which include admissions, 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 Internet 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 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 which 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.

**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.

**Directory Information**
Directory information is available on the Web in the Student Telephone Directory at [http://adminweb.uthscsa.edu/studirec](http://adminweb.uthscsa.edu/studirec), and may contain a student’s name, school and class, address, telephone number, photograph, e-mail address, date and place of birth, degrees and awards received, dates of attendance, major field of study, classification, date of graduation, class schedules, and the most recent previous educational institution attended.

Students may withhold all or part of the directory information except last name, first name, middle initial, school and class, by notifying the Registrar in writing within 12 days after the first day of class for every semester.

**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 released 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” 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, or 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 procedure for discrimination complaints can be found in the [Handbook of Operating Procedures](http://adminweb.uthscsa.edu/hobop), Policy 4.2.1.

**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 profes-
sional 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 U. T. 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 U. T. System Chancellor. Each student must submit proof of coverage to the Registrar each semester. A student will be charged for a policy with United Healthcare insurance unless proof of proper insurance coverage is received by the Registrar’s Office prior to the generation of her/his bill. The United Healthcare fee is non-removable once the payment due date passes, and non-refundable once paid.

A student may wish to find a policy more suited to her/his needs and/or family's needs, possibly through a parent's or spouse's insurance plan. It all depends on how much coverage the student would like. A student may have more health insurance needs than the group plan offers. The United Healthcare group plan is negotiated by the U. T. System with input from student representatives from all UT campuses, but sometimes may be more suitable to an undergraduate student's needs. An HSC student will need to make that decision on her/his own.

Items a student 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 2008, the Health Science Center's Student Health Center will provide more services at no cost. However, services such as labs, X-rays, specialists, etc. will be charged to the student through their particular health plan. If a student has her/his own health insurance plan, he/she must complete the Health Insurance Verification Form and return it to the Registrar's Office, with a copy of her/his health insurance card, before the first day of classes. If a student has not provided coverage prior to the first day of classes, he/she 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 Requirements for Certain International Students**

All international students and scholars are required to maintain approved comprehensive health insurance policy/coverage while enrolled at institutions of The University of Texas System. Each institution of the U. T. 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 U. T. 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 U. T. 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 any alternative coverage approved by the institution.

**Important Information about Bacterial Meningitis**

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.

**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.

**How do you increase your risk of getting bacterial meningitis?**
- 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
- 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/meningitis_bacteria_nip.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/meningitis_bacteria_nip.htm) and [http://www.acha.org](http://www.acha.org) (click on “Information and Resources,” then “Meningitis on Campus”)

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**Hazing Offenses**

Hazing in state educational institutions is prohibited by both state law (Texas Education Code, Sections 51.936 and 37.151), 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 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 or peer pressure;
- lineups intended to demean or intimidate;
- transportation and abandonment (road trips, kidnaps, 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 which 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.

**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 HSC’s Office of Regulatory Affairs & Compliance Web site (http://www.uthscsa.edu/hipaa) for details about this Act and how it refers to you as a student at the HSC. 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 HSC’s Handbook of Operating Procedures (HOP), Chapters 5 (security policies) and 11 (privacy policies). The HOP Web site is http://www.uthscsa.edu/hop2000/.

**Information Security**

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 Information Security Office (ISO) 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, utility, authenticity, and confidentiality of information. While the ISO provides leadership, information security is the responsibility of all computer users and therefore students are expected to comply with the following Information Security policies:

**HSC Handbook of Operating Procedures, Section 5.8, Information Security**

- 5.8.1 Information Security Function
- 5.8.2 Definitions
- 5.8.3 Computer Crimes Law
- 5.8.4 Access Control and Password Management
- 5.8.5 Information Security Incident Reporting Policy
- 5.8.7 Network Access Policy
- 5.8.9 Computer Virus Protection
- 5.8.10 Acceptable Use of Information Resources Policy
Sexual Assault Policy

The policy of The UT Health Science Center at 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 University of Texas Health Science Center at San Antonio, 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 or take the case to criminal trial or 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 (567-2648) and the Sexual Assault Crisis and Resource Center Hotline (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 which 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 and Sexual Misconduct

I. STATEMENT OF POLICY

The University of Texas Health Science Center at 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.

II. SCOPE OF 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 and individuals who engage in such conduct will be subject to disciplinary action.

III. STATUTORY REFERENCE

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, Chapter 21, and it is illegal, and actionable under civil and criminal law.

IV. 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 includes 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 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.

V. CONSENSUAL RELATIONSHIPS

It is the policy of The University of Texas Health Science Center at 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 his or her 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 of 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.

VI. 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.

VII. 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.

VIII. 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 University of Texas Health Science Center at 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 shall 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 with a written statement he/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 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. 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

General Information 65
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, 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 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, 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.

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.

IX. PROVISIONS APPLICABLE TO ALL COMPLAINTS

A. Assistance. During the complaint process, a complainant or respondent may be assisted by a person of his or her 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.

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 Office of EEO/AA. 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.

X. 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 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 printed in this Catalog. 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 Number ..................................................911
- 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.

Solicitation
Solicitation is defined as the sale or offer of sale of any product or service, whether for immediate or future delivery; the receipt or request for a gift or contribution; and the request that a vote be cast for an agent or candidate, issue, or proposition appearing on the ballot at any election held pursuant to state or federal law.

No solicitation, as defined above, shall be conducted on the campus of the Health Science Center with the following exceptions (as outlined in the Regents’ Rules and Regulations, Series 8010.3):
- Official activities of the Health Science Center itself or its contractors such as bookstores, cafeterias, and vending machines.
- Registered student organizations may collect membership fees and admission for events and similar activities, provided prior approval is obtained from the Director of Student Life and an accounting for such activities is made to the Director of Student Life.
- Major focus for fund-raising activities on the campus of The University of Texas Health Science Center at San Antonio should be to generate funds for Health Science Center programs and the State Employee Charitable Campaign. (See the Handbook of Operating Procedures, Sections 9.1 and 9.1.4.)

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.

HSC Alert and Emergency Information
Important Numbers
Emergencies
911
210-567-8911 (cell, San Antonio)

24-hour Message
210-567-7669 (567-SNOW)
956-565-UTEL
The UT Health Science Center has an emergency notification service called HSC Alert. 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 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 lower 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.

**Emergency Information Outlets**

- **Emergency Response and Evacuation Plan**
  - [http://research.uthscsa.edu/safety/evacplans.shtml](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**

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

- **National Security Advisory System**

  The Department of Homeland Security sets the risk of a terrorist attack in the government’s five-color security advisory system.

- **Texas Department of Transportation**
  - [http://www.dot.state.tx.us](http://www.dot.state.tx.us)

  TxDOT provides roadway and travel information around-the-clock, and reports on road closures in times of emergency.

- **Texas Homeland Security**
  - [http://www.texashomelandsecurity.com](http://www.texashomelandsecurity.com)

  The state of Texas publishes information about homeland security threat levels in Texas and what Texans can do to be prepared and involved.

**University Police**

Robert K. Bratten, Chief
567-2800 University Police Building
[http://www.uthscsa.edu/utpolice](http://www.uthscsa.edu/utpolice)

- Call 911 for any Campus Emergency

**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 which 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 which 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 service 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 upholding and enforcing the general laws of the state of Texas, the Regents’ Rules and applicable HSC 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 and 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 and can be transferred from car to car by the owner. Parking permits may be purchased in the Parking Service Office, next to the Bookstore, in Parking Garage B (adjacent to the School of Nursing). Call 562-PARK for information.

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

All of the parking on the campuses of the Health Science Center is established in zones. Spaces are available within each zone 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 each zone category, and the number of reserved spaces within each zone, has been established. All staff and students are eligible for any parking zone that is available at the time of registering. 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 build-ings. 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 Allied Health 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 on August 31st 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. Beginning September 1, 2008 annual fees for the various permits are: $698.88 for Garage Zone I Reserved, $436.80 for Zone I Garage Roof, $524.16 for all other reserved spaces in each zone, $349.44 for Zone II non-reserved, $172.64 for Zone III non-reserved, $87.36 for Zone IV non-reserved, $74.88 for Zone V non-reserved, $99.84 for Zone VI non-reserved (can be used in Edinburg, Harlingen, and Laredo only), $49.92 for Motorcycles, and $12.48 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 are responsible for enforcing parking and traffic regulations that have been approved by the President and Board of Regents, as well as enforcement of Texas vehicle inspection laws for vehicles parking or driving on campus. Changes to these regulations are by recommendation of the Parking and Traffic Safety Committee and approval by the President and Board of Regents.

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
• teaching defensive driving classes for insurance purposes only (no ticket abatement program is available)
• fingerprinting services provided for a fee for licensure and as part of “Operation Identification” (free for children)
• publishing monthly crime statistics
• 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
• all elevators

Campus Security Policies and Crime Statistics
This information is being provided as part of the HSC’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 Campus Security Act of 1990.

The Health Science Center is a state-supported member institution of The University of Texas System which is located within the San Antonio Metropolitan area. (For information on The University of Texas Institute of Biotechnology, 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.

Close to 3,000 students are enrolled in and approximately 5,000 faculty and staff are employed by the Health Science Center. 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, security officers (guards), 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 trained 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.

Assistance and support from other agencies or departments in the area can be obtained immediately either by computer, telephone, or radio. These agencies include other campus police departments, the San Antonio Police Department, Bexar County Sheriff’s Department, the Texas Department of Public Safety, federal law enforcement agencies, the San Antonio Fire Department, and the University's Physical Plant Department.

All campus telephones have been affixed with a distinctly colored label containing the applicable telephone numbers for both non-emergency and emergency assistance. The campus police telephone numbers of 567-2800 and 911 are listed in the campus telephone directories and in other University Police Department and campus publications.

Access to Campus Facilities
Most campus buildings and facilities, including the RAHC and Laredo Campus Extension, 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 which announce to the University Police Department when opened during prohibited hours. Each alarm is responded to by a police officer or security officer (guard) 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 security 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 security officers (guards) 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, is the philosophy of the UT Health Science Center at 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, security officer, 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/card keys. Cores are not changed and keys are not issued except in those instances which 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 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 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 Crime Awareness and Campus Security Act of 1990. 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 University of Texas Health Science Center at 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 Associa-
tion 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.

**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.”

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**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 which annunciate at the University Police Department when opened during prohibited hours. Each alarm is responded to by a police officer or security officer (guard) or both.

**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.

An outdoor telephone is located adjacent to the UTIBT’s front door. It allows a caller to communicate with the police communications operator on the main campus. The caller must dial ext. 7-2800.

**Emergency Assistance** regarding Fire/Smoke emergencies may be obtained immediately by dialing 911. The San Antonio Fire Department, Emergency Medical Service will respond.

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**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.–8:00 p.m. Monday through Thursday
- 7:30 a.m.–5:00 p.m. Friday
- Closed Saturday
- 1:00–6:00 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 up to four hours after the Library closes. 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 which annunciate at the University Police Department when opened during prohibited hours. A police officer or security officer (guard) or both respond to each alarm. In case of emergency, call 956-365-8900.
Law Enforcement and Security Information — Laredo

The Laredo Campus Extension (LCE) 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 78041.

Access to the Laredo Campus Extension Facilities

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

The Laredo Campus Extension 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 HSC 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 which 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). Visitors and guests must register at the security desk if they are not accompanied by a university official. 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, 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 HSC 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,” information about campus security and crime statistics 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 University of Texas Health Science Center at San Antonio will assist students with disabilities. (See Office of Student Life.)

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 IMCSS “Triage” Help Desk at triage@uthscsa.edu or call 210-567-2069.

Student Guide
The Student Guide is an official publication of the Health Science Center and a companion piece to this Catalog. All students are responsible for knowing its contents as well. The Guide includes helpful information for students, as well as more school-specific information, such as clinic attire, helpful telephone numbers, student organizations, honors, etc.

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

Student Travel Policy
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 by the Health Science Center.
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 comply 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 U. T. System policy.

Handbook of Operating Procedures Policies

Information on the following topics may be found in the university’s Handbook of Operating Procedures (HOP):

* Communication with outside sources (media, officials, etc.)
* Use of copyrighted materials
* Information Security
* Political activities
* Request for Americans with Disabilities accommodations
* Employment of non-citizens
* Health Insurance Portability and Accountability Act (HIPAA)
* International students with F visas
* Office of International Services
* Misconduct/Fraud in research
* Environmental policy—health and safety
* Environmental protection
* Chemical & biological safety
* Physical safety
* Violence in the workplace
* Select biological agents policy
* Confidentiality of patient health information
* Intellectual property policy
* Student information protection by Code of Ethics and Standards of Conduct
* Telephone number for bad weather information: 567-SNOW
* Disaster communication plan
* E-mail policy
* No Smoking policy on campus
Admissions Requirements and Application Procedures

Detailed information about admission requirements and application procedures is provided in the Viewbook of each school (http://studentservices.uthscsa.edu/prospects_apply.aspx). The Viewbooks are official publications of the Health Science Center and supplements to this Catalog.

Requests for admissions information are processed by the Office of the Registrar. The following admissions offices are the sources of decisions:

- Health Professions Admissions
- Dental Admissions
- Medical Admissions
- Graduate Admissions
- Nursing Admissions
- UT Health Science Center
- Office of the Registrar
- Mail Code 7702
- 7703 Floyd Curl Dr.
- San Antonio TX 78229-3900

Common Application Form

The board shall make a common application form for undergraduate applicants available to the public electronically by the Internet or other commonly used telecommunications media and may contract with an institution of higher education or other provider to satisfy this requirement.

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 this section. 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:

- 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
Texas Core Curriculum Requirements

Students who will be receiving their first baccalaureate degrees from The UT Health Science Center at San Antonio must successfully complete the Texas Core Curriculum requirements. 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

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

¹ 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.
number of hours accepted for CLEP shall be established by the respective school/program.

Scholarship Awards Policy
Twice annually, or as appropriate, the director of financial aid will submit scholarship information to the respective associate dean for student affairs. The following data will be supplied to each associate dean:
1. Name of the scholarship fund
2. Current amount available to be awarded
3. Award criteria and whether or not financial need is a consideration

Each school determines the selection method for making scholarship awards. A school may consider any of the elements contained within the university's Guidelines for Student Admission Selection in awarding scholarships. Each school will identify the specific elements that will be used in awarding scholarships. Continuation of scholarship(s) is dependent upon academic performance. Recommendations for awards from the dean will be forwarded to the director of financial aid and the chairperson of the Loan and Scholarship Committee for approval at the next committee meeting.

Awards will be presented to the recipients at the appropriate times as determined by the respective associate deans and the director of financial aid. No scholarship dollars will be awarded to recipients without approval of the Committee.

HSC 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 HSC Scholarship and Loan Committee. Applicants should contact the appropriate school within the HSC 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 HSC paying resident tuition under the Competitive Scholarship criteria must not exceed five percent of the total number of students at the HSC. 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.

“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 admissions office 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, Texas Education Code § 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 (Texas Education Code § 51.3062 – Texas Success Initiative).

The following assessment instruments will be used to assess academic skills: ASSET and COMPASS (offered by ACT); ACCUPLACER (offered by The College Board); and 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

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/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 payment deadline, he/she shall be removed from enrollment by the Registrar’s Office with no intervention from any administrative personnel. There shall be no exceptions to this policy.

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

The Dental School uses the following numbering system:
The 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, 7=Senior Off-campus.
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=Soph-

* 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 standard.

omore, 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 UT Health Science Center at San Antonio 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 are 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 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 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 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 X) and university regulations. 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.
(a) 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:

1. a person who:
   (A) 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

(B) maintained that domicile continuously for the year preceding that census date;

(2) a dependent whose parent:

(A) 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

(B) maintained that domicile continuously for the year preceding that census date; and

(3) a person who:

(A) graduated from a public or private high school in this state or received the equivalent of a high school diploma in this state; and

(B) maintained a residence continuously in this state for:

(i) the three years preceding the date of graduation or receipt of the diploma equivalent, as applicable; and

(ii) the year preceding the census date of the academic term in which the person is enrolled in an institution of higher education.

(b) 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).

If you are not a Permanent Resident or U. S. Citizen, you must complete an affidavit stating that you will file an application to become a permanent resident at the earliest opportunity you are 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,” page 86.)

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.

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:

1. 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.

2. The two institutions and the student shall attempt to resolve the transfer of the course credit in accordance with Board rules and/or guidelines.

3. 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.

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 HSC 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, HSC may permit drop(s) in excess of the six (6) drops for the following reasons:

a) a severe illness or other debilitating condition that affects the student’s ability to satisfactorily complete a course;

b) 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;

c) the death of a person who:
   1) is considered to be a member of the student’s family;
   or
   2) is otherwise considered to have a sufficiently close relationship that demonstrates good cause;

d) 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;

e) 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

f) other good cause as determined by the HSC

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 HSC 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. The Dean’s Office will issue the student an official university 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, he/she must schedule an Exit Interview through the Student Financial Aid Office.

• See Financial Aid Process 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” and an exit interview for students who are receiving financial aid are part of this process.

Withdrawal for military service

According to 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 for 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 Following Active Military Service
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 the Texas National Guard; however, it does not apply to students who withdraw solely to perform one or more training exercises as members of the Texas National Guard.

Satellite Campuses Procedures for Completing and Submitting Student Clearance Form
Administrators for satellite locations will act as the Registrar designee.

1. Contact the appropriate Assistant/Associate Dean of the respective school in San Antonio (Dental, Graduate, Health Professions, Medicine, or Nursing) by e-mail to provide notice of student’s request for withdrawal/leave of absence/etc.

2. Complete the duplicate short Financial Aid Copy form and tear off; scan form, and e-mail immediately to Ellen Nystrom in Financial Aid (Nystrom@uthscsa.edu) for handling. Also e-mail a copy to the Registrar’s Office (Registrar@uthscsa.edu). Retain the original completed short form for mailing later (see Step 10). You may keep the duplicate short form copy for your records.

3. Have the student complete Section A of the triplicate Student Clearance Form. Be sure the student signs at the bottom of that section. (Make copy of original page for interim tracking.)

4. Under Section B, have the student obtain the signature of the appropriate Assistant/Associate Dean or designee at the satellite site, along with indication of the date of the last class day attended.

5. E-mail the appropriate student affairs Assistant/Associate Dean of the respective school in San Antonio to confirm the form was signed and is in the process of being circulated. Include the date of the last class day attended within the e-mail.

6. Have the student obtain the necessary signatures in Section C and return to you within 48 hours, per form instructions. (If there is no comparable office at the satellite site for signature, contact the Registrar’s Office for further assistance with that particular office/department.)

7. Discard your copy (see Step 3) upon receipt of the original completed form from the student.

8. Scan and e-mail a copy of the original completed form to the Registrar’s Office (McGilvrayA@uthscsa.edu) and to the same student affairs Dean(s) you contacted in Item 5. Make a copy of the completed original Student Clearance Form for your records.
   a. Provide the yellow copy to the student.
   b. Mail the original white and pink copies, along with the short, original Financial Aid Copy form (from Step 2), to:
      Amy McGilvray, Registrar
      UT Health Science Center San Antonio
      Registrar’s Office-MSC 7702
      7703 Floyd Curl Dr.
      San Antonio, TX 78229-3900

9. Upon receipt of the above mailed forms, the Registrar’s Office will provide the appropriate San Antonio-based Assistant/Associate Dean with her/his pink copy. This eliminates the need to send the forms to two different locations.

10. The Dean’s Office in San Antonio will notify affected course directors. The Registrar’s Office will provide official notice to Financial Aid, Bursar’s Office, and Mail Services, as needed.

Excessive Credit Hours
An undergraduate student who entered the Health Science Center beginning in the Fall 2008 semester or later, and has reached or exceeded 170 semester credit hours without earning a baccalaureate degree, will be required to pay non-resident tuition, beginning in the Fall 2008, regardless of residency status.

Graduate Students: A student who has earned more than ninety-nine semester hours of credit at the doctoral level (130 semester 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. This policy, sometimes called the ninety-nine-hour rule, is authorized by section 54.012 of the Texas Education Code.

Certain Doctoral Students: The governing board of an institution of higher education may charge a resident doctoral student who has more semester credit hours of doctoral work than allowed for purposes of state funding for the current state fiscal biennium under Section 61.059(1) tuition at the rate charged nonresident doctoral students. Tuition charged at the rate provided by this section shall be accounted for as if collected under Section 54.008.
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 UT Health Science Center San Antonio 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 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.
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.**

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.

Students in the Professional Schools (School of Medicine and Dental School) pay tuition and fees based upon the curriculum for the academic year. Both Undergraduate and Graduate students (Graduate School of Biomedical Sciences, School of Health Professions, and School of Nursing) pay tuition and fees based upon the hours for which they register each semester.

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.

Tuition 2008–2009

Tuition includes state-relegated Statutory Tuition, and Board of Regents-approved Designated and Differential Tuition established by the institution by school and program.

Dental School

Residents $12,125 per academic year
Nonresidents $22,925 per academic year

School of Medicine

Residents $11,970 per academic year
Nonresidents $27,157 per academic year

Graduate School of Biomedical Sciences

Residents $112 per credit hour
Nonresidents $436 per credit hour

School of Health Professions

<table>
<thead>
<tr>
<th>Department</th>
<th>Res. 1</th>
<th>Nonres. 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Laboratory Sciences</td>
<td>$121</td>
<td>$402</td>
</tr>
<tr>
<td>Deaf Education and Hearing Science</td>
<td>$149</td>
<td>$430</td>
</tr>
<tr>
<td>Dental Hygiene</td>
<td>$141</td>
<td>$422</td>
</tr>
<tr>
<td>Dental Laboratory Sciences</td>
<td>$136</td>
<td>$417</td>
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<tr>
<td>Emergency Health Sciences</td>
<td>$101</td>
<td>$382</td>
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<tr>
<td>Occupational Therapy</td>
<td>$146</td>
<td>$427</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>$166</td>
<td>$447</td>
</tr>
<tr>
<td>Physician Assistant Studies</td>
<td>$160</td>
<td>$441</td>
</tr>
<tr>
<td>Respiratory Care</td>
<td>$139</td>
<td>$420</td>
</tr>
</tbody>
</table>

School of Nursing

Residents $164.96 per credit hour
Nonresidents $503.92 per credit hour

Advanced Dental Education

Dental Diagnostic Science

Residents $120.30 per credit hour
Nonresidents $401.30 per credit hour

Endodontics 1st Year

Residents $148.00 per credit hour
Nonresidents $429.00 per credit hour

Endodontics 2nd Year

Residents $160.00 per credit hour
Nonresidents $441.00 per credit hour

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

Payment of tuition and fees in installments may be an option for students. The following alternatives are available:

Medical and Dental Students

Option 1
25% at Registration
25% 8 weeks later
25% 1 week after the midpoint of the academic year
25% 30 days after the 3rd installment

Option 2
50% at Registration
50% 1 week after the midpoint of the academic year

1Per credit hour

2Other rules may apply — see Texas Education Code 54.007.

3Recipients of HEAL loans may not be able to use this option.
Graduate and Undergraduate Students
1. one-half payment of tuition and fees in advance of the beginning of the semester (registration) and
2. one-fourth payments prior to the sixth and eleventh class weeks

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 that 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.

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.

Required Fees
The following required fees, with the exception of the Identification Fee, Professional Liability Insurance premiums, Human Materials Fee, and the Late Registration Fee, are refundable according to the schedule of refunds outlined later in this section.

An Audit Fee of $5 per course is charged (a) HSC students who are not registered for credit in other courses in that semester or session, and (b) HSC employees. Other individuals are charged $10 per course to audit. Students who are enrolled less than full-time in nursing courses may audit additional nursing courses for an audit fee of $5 per course. Individuals who are not enrolled in nursing courses may audit nursing courses for a fee of $25 per course. Students must have permission of the instructor to audit a course.

A Clinical Laboratory Sciences Fee of $30 per semester credit hour for part-time students, or a maximum of $350 per semester for full-time students, is charged to Clinical Laboratory Sciences students.

A Clinical Usage Fee of $500 per year is assessed Dental School students.

A Counseling Fee of $65 is charged Nursing graduate students.

Medical students are assessed a Computer-Use Fee of $110 per year. All Nursing students are assessed a Computer-Use Fee of $5.00 per semester credit hour up to $50 per semester.

All DS1 students purchase an Electronic Media Bundle from the university Computer Store (cost in 2007 was approximately $1,750 including tax).

Each semester Dental Hygiene Certificate students are charged an Equipment Rental Fee of $320. For the first two years of the program, a Physician Assistant Studies Equipment Leasing Fee of $300 per fall and spring semesters will be charged. Physician Assistant Studies students and Dental Laboratory Technology students will be charged $650 maximum per semester. An annual Equipment Leasing Fee of $2,000 is assessed Dental School students.

Excess Hours. Students who have reached or exceeded the maximum number of credit hours, will be required to pay non-resident tuition, starting Fall 2008, regardless of residency status. See “Excess Hours” on page 83.

A Graduation Fee of $60 is paid at the time of registration for the semester or summer session in which the student plans to graduate. The fee covers the cost of the diploma and its related expenses.

A Human Materials Fee of $300 is assessed for any student enrolling in a Gross Anatomy course. This fee is nonrefundable.

An Identification Fee of $10, payable upon registration, is for a student identification card. This fee is not refundable and is required of all students. A fee of $10 will be charged for a replacement card.

The student who expects to defend the dissertation or thesis in this interval should preregister for one credit hour for the next semester. Following the successful defense of the dissertation, the student may submit an add/drop card and register in absentia for the coming semester. Registration in absentia should be designated as zero credit hours on the course card. The fee for In Absentia Registration is $25.00.

An Instructional Technology Fee of $6 per semester credit hour is assessed all incoming Health Professions students.

An Instrumentation Usage Fee of $2,000 per year is assessed residents in the Advanced Education Program in Endodontics to defray costs of advanced specialized instruments.

Laboratory Fees are assessed to defray the cost of materials and supplies provided in the teaching programs. These fees are based primarily upon the amount of laboratory use each year of a program. The maximum fee is $32 per laboratory course per semester. This fee does not include breakage.

A Laptop Fee of $2,500 (from 2007—prices are subject to change) will be assessed all Dental School students.

A Late Registration Fee of $100 will be assessed any student paying tuition and fees on the first class day through the
census day of the term. The fee is not refundable.

A **Leasing Fee** of $650 will be charged to Dental Laboratory Technology students.

A **Library Fee** of $100 per semester will be assessed students in the Graduate School of Biomedical Sciences, School of Health Professions, and School of Nursing. Dental and Medical students will be assessed $200 per year.

A **Medical Service Fee** is assessed all students. The semester rate is $55, summer rate $25, and annual rate $135.

A **Microfilming Fee** of $55, covering the cost of microfilming the Ph.D. dissertation and publication of the abstract in *Dissertation Abstracts International*, is paid when the dissertation is completed. Master's theses may also be microfilmed for a $45 fee, with the same provisions. The student will be responsible for all costs related to mailing their dissertations/theses and accompanying paperwork to Bell and Howell to be microfilmed. Consult with the Graduate Dean's Office for detailed information.

A **Microscope Fee** not to exceed $48 per year is assessed students in courses requiring a microscope. Maintenance is provided by the university. All MS1, MS2, DS1, and DS2 students pay $48 per year.

A **PRACTICUM Fee** of $10 per credit hour for each practicum course is assessed Health Professions students.

A non-refundable **Pre-Matriculation Training Fee** of $2,500 is assessed each accepted student six weeks prior to registration to defray cost associated with preclinical training in the International Dentists Education Program.

Health Professions students are assessed a **Student Assistance Fee** of $50 per semester for full-time students and $25 per semester for part-time students.

The **Student Services Fee** covers the cost of student services. This fee is required of all students. Medical and Dental students are assessed $220 per academic year. Health Professions, Graduate, and Nursing students are assessed $7.50 per semester credit hour, not to exceed $90 per semester or $40 per summer session—$220 maximum per academic year.

To defray the cost of consumable laboratory supplies, equipment, and other expenses associated with the Technical Clinical Skills Laboratory, a **Technical Clinical Skills Fee** of $400 per semester is assessed all Medical students. Undergraduate Nursing student fees are $60 for Semesters 1, 2, and 4, and $30 for Semester 3. Graduate Nursing student fees are $60 for Semester 1 and $90 for all other semesters.

A **Technology Support Fee** of $350 is assessed all Dental students.

**Other Expenses**

Nonrefundable **Application Fees** ranging from $10 to $45 are required by each school at the time the application is submitted to the Office of the Registrar. Fees vary and are listed for applicants in the Health Science Center Viewbook and printed on the application forms. Medical and Dental application fees (payable to Texas Medical and Dental Schools Application Service) are $55 for residents and $90 for nonresidents.

**Visiting Medical Students**

- **AADSAS Supplemental Application (Dental)** $45
- **Challenge Examination Fees** are $25 for each lecture examination and $50 for each laboratory course exam.
- **Computer Adaptive Test (Nursing)** fee is $38/semester.
- **Living expenses** (housing, meals, transportation, etc.) vary according to the individual choices of the student.
- A $165.50 per semester credit hour **Out-of-State Instructional Fee** is charged to all non-resident students who live outside of Texas while they are taking a distance education course. Regular tuition will not be charged for these courses.
- A yearly **Parking Fee** varying from approximately $50 (motorcycles) to $698 (reserved) is assessed students who park vehicles on campus. The amount of the fee varies depending on the location of the space chosen by the student. Commuter permits are $25; bicycles are $12.48.

**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** through the university as a prerequisite to enrollment. The policy extends coverage to the insured only in her or his student role.

Current premiums for students in the various programs are:

- Medical students $25 per year
- Dental students $30 per year
- Nursing students $14.50 per year
- All Nurse Practitioner students $61 per year
- Health Professions students $14.50 per year
- Physician Assistant students $61 per year
- All EMT except bachelor’s students $61 per year

All students are required to have health insurance. **Student Health Insurance** (see page 60) is available through a group plan designed for students by the U. T. System. A student may enroll her or his spouse and/or children at an additional cost. The premiums vary accordingly. The current annual premium, provided by United Healthcare, for a single student is $1,119 (2007–08). If a student does not wish to purchase the United Healthcare policy, he/she must provide proof of major medical health insurance by the published payment due date for the term in which they are enrolled. Once paid, the United Healthcare insurance is nonrefundable.

**Program-specific expenses** include costs such as textbooks,
equipment, uniforms, manuals, instruments, specialty and licensing examination fees, and costs associated with clinical experiences and fieldwork. For details contact your school's associate dean for students.

*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 above 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.*

**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 which 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 54.201)*

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.

**Blind or deaf students**

The [*Texas Education Code*, Section 54.205], 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

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

or a deaf person, issued by the Texas Rehabilitation Commission, the Texas Commission for the Blind, or the Texas Commission for the Deaf and Hearing Impaired, 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 54.204)*

For children under 21 years of age (or 22 if the student was eligible to participate in a special education under Texas Code 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 54.209)*

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/cfbin/tofa2.cfm?id=31](http://www.collegefortexans.com/cfbin/tofa2.cfm?id=31).

**Children of Professional Nursing Program faculty** *(Texas Education Code, Section 54.221)*

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 Exemp-
tion 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 of Texas veterans**
*(Texas Education Code, Section 54.203)*

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 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 54.503(e))*

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

**Educational aides** *(Texas Education Code, Section 54.214)*

The governing board of an institution of higher education shall exempt an eligible educational aide from the payment of tuition and fees, other than class or laboratory fees.

To be eligible for an exemption under this section, a person must:

1. be a Texas resident; 2. pursuing teacher certification; 3. be a school employee who worked as an educational aide at least one year during the five years preceding the semester of exemption; 4. establish financial need; and 5. maintain an acceptable grade point average as determined by Coordinating Board rule.

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.

**Firefighters enrolled in fire science courses** *(Texas Education Code, Section 54.208)*

Firefighters enrolled in a course offered as part of a fire science curriculum may receive exemptions from tuition and laboratory fees.

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*Must have Regental and Texas Higher Education Coordinating Board approval*
Adopted Children formerly in foster or other residential care

(Texas Education Code, Section 54.211)

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 Protective and Regulatory Services on or after the day preceding the individual’s 18th 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.

Foster care or other residential care students

(Texas Education Code, Section 54.211)

A student is exempt from the payment of tuition and fees authorized by this chapter if the student:
1. was adopted; and
2. was the subject of an adoption assistance agreement under Subchapter D, Chapter 162, Family Code, that:
   (A) provided monthly payments and medical assistance benefits; and
   (B) was not limited to providing only for the reimbursement of nonrecurring expenses, including reasonable and necessary adoption fees, court costs, attorney fees, and other expenses directly related to the legal adoption of the child.

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 54.207, 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.

Hazlewood Act

(Texas Education Code, Section 54.203)

The Hazlewood Act of the Texas Education Code provides exemption from the payment of tuition and most fees to eligible Texas veterans or the children of certain deceased/MIA/disabled veterans (see below).

Nursing preceptors and their children

(Texas Education Code, Section 54.222)

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 54.219 of the Texas Education Code provides exemption from tuition and required fees, student housing and food, contract cost, and textbooks 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.

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

(Texas Government Code, 615.0225)

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).

Temporary Assistance for Needy Families (TANF) students

Section 54.212 of the Texas Education Code states that a student is exempt from the payment of tuition and fees authorized by this chapter for the first academic year in which the student enrolls at an institution of higher education if the student:
1. graduated from a public high school in this state;
2. successfully completed the attendance requirements under Section 25.085;
3. during the student’s last year of public high school in this state, was a dependent child receiving financial assistance under Chapter 31, Human Resources Code, for not less than six months;
4. is younger than 22 years of age on the date of enrollment;
5. enrolls at the institution as an undergraduate student not later than the first anniversary of the date of graduation from a public high school in this state;

*Must have Regental and Texas Higher Education Coordinating Board approval
6. has met the entrance examination requirements of the institution before the date of enrollment; and
7. is a Texas resident.

**Texas ex-servicemen**
(Texas Education Code, Section 54.203)
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 bona fide legal resident of Texas at the time entered service
3. 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
4. Received an honorable discharge
5. Not eligible for federal education benefits

**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, Education Code, or a pro rata refund calculated pursuant to Section 484B 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

**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.

<table>
<thead>
<tr>
<th>Refund Percentage</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>Prior to the first day of classes</td>
</tr>
<tr>
<td>80%</td>
<td>During the first five class days</td>
</tr>
<tr>
<td>70%</td>
<td>During the second five class days</td>
</tr>
<tr>
<td>50%</td>
<td>During the third five class days</td>
</tr>
<tr>
<td>25%</td>
<td>During the fourth five class days</td>
</tr>
</tbody>
</table>

No refunds will be made in the case of withdrawal after the fourth five-day period.

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

<table>
<thead>
<tr>
<th>Refund Percentage</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>Prior to the first class day</td>
</tr>
<tr>
<td>80%</td>
<td>During the first, second, or third class day</td>
</tr>
<tr>
<td>50%</td>
<td>During the fourth, fifth, or sixth class day</td>
</tr>
</tbody>
</table>

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](http://www.fafsa.ed.gov).

The Health Science Center may require additional information to complete your application. Please take seriously all correspondence requests for information from the office, as all documents are required by federal regulation to process your application. Only send documents requested by the financial aid office. Do NOT send any other documents. Once all documents are received, your application is considered complete and is ready for awarding. Awards for financial assistance are not made until mid-April for semesters beginning in the subsequent fall term, and may span the entire award year (fall, spring, and summer) if the student indicates on the FAFSA that they plan to enroll all terms.

The Health Science Center has a “priority” deadline of April 1 for applications for financial aid for the subsequent fall semester. Students who are entering a program in what the Health Science Center considers a summer semester (applies only to nursing, health professions, and advanced dental programs) must apply using the current FAFSA and the FAFSA for the next academic year. Students applying for aid after the priority deadline risk not having funds available at registration. However, in most cases, aid will be processed in less than a week, once the student has completed all document requirements. Student loans typically take two to three weeks to process by the state guarantee agency and the chosen lender.

Disbursement of financial aid occurs for students no earlier than 10 days prior to the first class day.

**Selective Service Requirement**

Students subject to selective service registration will be required to file a statement that the student has registered or is exempt from selective service registration in order to be eligible to apply for federal financial aid. In addition, the selective service requirement is also applicable to students applying for financial assistance funded by state revenue.

**Tuition Assistance**

The Texas Education Coordinating Board administers various tuition assistance programs including programs for teachers and vocational nursing students. Further information about these programs may be obtained online at [http://www.collegefortexans.com](http://www.collegefortexans.com).

**Teach for Texas Financial Assistance (Texas Education Code, Section 56.352)**

Purpose of Program; Loan Repayment Authorized

http://www.hhloans.com/borrowers/TFTLTRAPFactSheet.cfm

The purpose of this subchapter is to attract to the teaching profession persons who have expressed interest in teaching and to support the employment of those persons as classroom teachers by providing student loan repayment assistance for service as a classroom teacher in the public schools of this state.

The coordinating board shall provide, in accordance with this subchapter and board rules, assistance in the repayment of eligible student loans for persons who apply and qualify for the assistance.

**Tuition assistance for vocational nursing students agreeing to practice in long-term care facilities (Texas Education Code, Section 61.660)**

http://www.collegefortexans.com/cfbin/tofa2.cfm?ID=104

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.
Policies and Procedures

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 University of Texas Health Science Center at 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 HSC Handbook of Operating Procedures, 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 HSC Handbook of Operating Procedures, 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 Procedure.” 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 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
1. 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 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.

2. 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, the complaint may be filed within thirty (30) calendar days after the end of that semester.

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 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
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 which, 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, such as the on-campus individual school picnics held at the beginning of the academic year and selected on-campus SGA events. 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 “HSC Policy on Alcohol, Drug, and Chemical Abuse” later 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 HSC 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 e-mail 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:
1. Apply for graduation by July 1 for fall; November 1 for spring; and March 1 for summer.
2. Complete and return to the Registrar’s Office the university’s Application for Degree and Diploma Name form in the semester before anticipated graduation.
3. Register in the semester the certificate or degree is to be conferred.
4. Attend an Exit Interview session scheduled by the Student Financial Aid Office for students who have received financial assistance which must be repaid after graduation.
Invitations to commencement ceremonies can be ordered through the Bookstore, which 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 rotations or clinicals 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.aspx](http://www.uthscsa.edu/status.aspx). The local news media usually announces the closure no earlier than 9 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 closing messages from the university.

**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 insure 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, dismissal 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 Office. (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 the Student Academic Services Office; 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 HSC Faculty and Staff Directory on the Web at: [http://adminweb.uthscsa.edu/Directory](http://adminweb.uthscsa.edu/Directory).

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

**HSC 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 Director of Internal Audit who is responsible for coordinating all investigations, both internal and external.

**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 Director of Internal Audit determines that the allegations relate solely to the violation of other policies, the Director of Internal Audit 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 Director of Internal Audit shall meet with the officials responsible for the other policies and together with management develop a plan for conducting the investigation.

Investigation Responsibilities
The Director of Internal Audit has the primary responsibility for the investigation and will issue reports to the appropriate senior management personnel.

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 Director of Internal Audit 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 Director of Internal Audit 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 Director of Internal Audit believes it to be in the best interests, members of the Internal Audit Office 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 Director of Internal Audit immediately. All inquiries from the suspected individual and her or his attorney or representative should be directed to the Director of Internal Audit.

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 discuss the case, facts, suspicions, or allegations with anyone outside unless specifically asked to do so by the Director of Internal Audit or other authorized university officials.
• Do not discuss the case with anyone inside other than the Internal Audit Office or other authorized university officials who have a legitimate need to know.

Administration
The Director of Internal Audit is responsible for the administration, interpretation, and application of this policy.

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.

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 immediately.

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.

Details of the U. T. System and university policies regarding copyrighted materials may be found in the Handbook of Operating Procedures. For additional information, check the U. T. System’s Office of General Counsel home page at http://www.utsystem.edu/OGC/.

Student Publications
A student government association (including classes/class officers) 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. UPDATE is a newsletter for students produced by the Office of Student Life. UPDATE is generally published monthly, September–May (Web site: http://studentservices.uthscsa.edu/SL_Update.aspx).
Student Role in University Decision Making

Much of the university decision making is accomplished through the work and recommendations of committees made up of faculty, students, and staff. Students are appointed to university committees which deal with issues that directly affect students. In addition, many school committees have student representatives.

Students are appointed to HSC committees upon the recommendation of the chief student affairs officer. Those interested in serving on committees make contact with the associate dean for students of the student’s school. The chief student affairs officer shall solicit interested students from all associate deans for students, and submit committee choices to the President, who then makes committee appointments.

The committees’ charges and numbers of students appointed to the committees appears in the “Procedures, Responsibilities, and Requirements” section of the Student Guide.
Students are responsible for knowing and observing the university’s procedures and regulations governing “Student Conduct and Discipline.”

In summary, the procedures and regulations provide that the person acting as associate dean of student affairs 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 “Student Conduct and Discipline,” the associate dean of student affairs 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 of student affairs 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 HSC president.

Penalties which may be imposed include 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; suspension of eligibility for office or other penalty imposed by the hearing officer/adjudicator. The decision may be appealed to the HSC president.

The full text of the regulations should be consulted in reference to questions concerning conduct and discipline.

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 U. T. 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 U. T. System or institutional rules and regulations, specific instructions issued by an administrative official of the institution or the U. T. 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, 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.

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 U. T. 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
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 U. T. System.

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, 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 U. T. 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
5.1 Notice of Hearing. Except in those cases where 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, 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 University of Texas 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 the University of Texas 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 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:
(a) 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.

(b) 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, make objections, or present argument to the Hearing Officer.

(c) 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.

(d) 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 U. T. 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.

3. Definitions

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:

1. A person currently enrolled at an institution of the U. T. System.
2. A person accepted for admission or readmission to an institution of the U. T. System.
3. A person who has been enrolled at an institution of the U. T. System in a prior semester or summer session and is eligible to continue enrollment in the semester or summer session that immediately follows.

4. 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 emergent situations.

4. Relevant Federal and State Statutes

Texas Education Code Section 51.930 – Hazing

5. 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 “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

Students’ academic records and personal information must be kept confidential by the university under federal law. (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.

Directory information is published information and may contain a student’s name, school and class, address, e-mail address, telephone number, date and place of birth, degrees and awards received, and the most recent previous educational institution attended. Students may withhold all or part of the directory information except first and last name, middle initial, school, and class by notifying the Registrar within 12 days after the first day of class for the fall semester. This procedure must be continued each year, if the student wishes to continue to withhold directory information.

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

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.

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 who 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 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 interest are 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) listing item or items of interest. Only records covered by the act will be made available within
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 which exists elsewhere). These copies would be made at the students’ expense at prevailing rates which are listed with the Directory of Records.

Education records do not include: records of instructional, administrative, and educational personnel which 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 in each school; 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 which 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 University of Texas Health Science Center at 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 319.L MED
Amy McGilvray, registrar

**Financial Aid Records**
Office of Student Financial Aid, Room 318.L MED
Bob Lawson, director of Student Financial Aid

**Counseling Records**
Dr. Joseph Kobos, director of Student Counseling Service, Room 101F MED
(Institutional policy prohibits academic and administrative personnel from inspecting individual records.)

**Student Health Records**
Student Health Center, 1st floor, School of Nursing
Becky Gutierrez, manager/Julie Teel, clinical 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

The UT Health Science Center at 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.

The following faculty are available to officially interact with students identified as HIV positive:
- Dental School: Dr. David Cappelli (interim)
- Graduate School: Dr. Larry Barnes
- Biomedical Sciences
- School of Medicine: Dr. Leon Jones
- School of Health Professions: Dr. Douglas Murphy
- School of Nursing: Dr. Linda Porter-Wenzlaff

HSC 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 or employment. 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...
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, Audie L. Murphy Memorial Veterans Hospital, 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 (HOP 8.1.5)

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 an Infection Policy and Education 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 Bloodborne Pathogens (HOP 8.1.6)

As stated in the HSC's Exposure Control Plan, the Health Science Center adheres to the Universal and 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 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 bloodborne pathogens, the participant should be able to:

- Have a basic understanding of HIV, HBV and HCV as a viral disease and its natural history.
- Recognize how the virus is transmitted and contacts that do not transmit the virus.
- Recognize the symptoms of bloodborne pathogens and the degrees/stages of these illnesses.
- Identify precautions one must take in one’s own area of practice or work regarding the bloodborne pathogens.
- Familiarize oneself with institutional policies about bloodborne pathogens as described in the HSC’s Exposure Control Plan.
- Recognize one’s own role in alleviation of anxiety and misinformation.
- Be aware of local policies regarding testing and referral information as described in Policy 8.1.1.
- 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 Health Science Center committee appointed to oversee the develop-
ment and implementation of educational programs related to bloodborne pathogens, and to advise the administration on policies regarding 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 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.

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 meaning of the test result;
• 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 Health (TDH).

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 indicate 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 Health, 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 TDH 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, Tex. Health & 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 Employment Commission (TEC) 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
- if the TEC 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-HC), 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 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 recommend 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 negative 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 the student is both HBsAg negative 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 HSC 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.

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 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 the Student Health Center 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 recommend 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, VBMCI 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.

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 ex-
posure will be reimbursed by HSC, 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 HSC 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 HSC 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 HSC.

7. These guidelines are subject to revision and modification by the Student Health Advisory Committee and the chief student affairs officer of HSC and supersedes 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 HSC 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. HSC 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

In compliance with the Federal Safe and Drug-Free Schools and Communities Act Amendment of 1988 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. See specific references below.

- Code of Ethics and Standards of Conduct—HOP, Chapter 2, Policy 2.4.1
- Policy on Alcohol, Drug, and Chemical Matters—HOP, Chapter 8, Policy 8.2.1
- Policy on Alcohol, Drug, and Chemical Abuse—below

HSC 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 expressly 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 Assistant Vice President of Human Resources within five (5) days.

   b. Students: The Student Conduct and Discipline section in this Catalog (p. 101) define penalties that may be assessed to a student when an individual has violated the Standards of Conduct.

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 Student Conduct and Discipline section in this Catalog (p. 101) define penalties that may be assessed to a student when an individual has violated the Standards of Conduct.

Health Risks of Alcohol, Drugs, and 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 which 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 provides information on private community organizations involved in rehabilitation programs for alcohol and drug impairment. The number for the Association is (210) 226-3391.

**Alcohol on Campus**

The use of intoxicating beverages is prohibited in classroom buildings, laboratories, auditoriums, library buildings, faculty and administrative offices, intramural athletic facilities, and other public campus areas.

With the prior consent of the President, the foregoing provisions may be waived with respect to a specific affair which 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 component 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, provide 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 non-alcoholic beverages, (4) providing food, and (5) requiring picture identification to insure compliance with the Texas Alcoholic Beverage Commission policies. (See regulations governing “Student Conduct and Discipline,” page 101.)
Immunization Requirements

Prior to Registration, all students are required to have completed the immunizations outlined below.

**Hepatitis B Alone or Hepatitis A&B Combo Vaccine**
All health professions, nursing, medicine, and dental students, and any student who will have patient contact or contact with potentially contaminated body fluids, are required to have had the Hepatitis B or Hepatitis A/B combo vaccine series prior to patient contact. The HSC requires written and signed documentation (by a health care provider) showing a complete series of 3 Hepatitis B or A/B vaccines with positive titer results 1-2 months post vaccination. If no post vaccine titer was drawn after the series of 3 vaccines, it is not necessary to obtain a titer prior to admission. If the series was completed 10 or more years ago, a titer is no longer required; however, titers will be necessary only in certain circumstances. Please certify the date and type of vaccine. Please note the date and result of quantitative antibody titer if one was obtained. A positive titer alone is not acceptable to satisfy the Hepatitis B requirements.

**Tuberculosis**
A skin test for tuberculosis is required of all students within 12 months prior to registration. All students are required to be tested on a yearly basis. Students who have not been tested within the last year are restricted from registration. Students testing positive for tuberculosis are required to undergo further medical evaluation which may include retesting, chest X-ray, liver function tests, anti-tuberculin drug therapy, and/or other tests as indicated.

**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. Adults 19-64 years of age should substitute TdaP for one booster of Td. 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.

Proof of a tetanus-diphtheria toxoid immunization within the past 10 years is required prior to registration.

**Polio**
All students under the age of 18 are required to show proof of polio vaccination.

**Measles (Rubeola)**
Prior to registration, all students must submit one of the following:
1) Signed physician’s record documenting two measles immunizations administered on or after the student’s first birthday and at least 30 days apart, or
2) Laboratory report of immune measles antibody titer (IgG).

**Mumps**
Prior to registration, all students must submit one of the following:
1) Signed physician’s record documenting mumps immunization on or after the student’s first birthday, or
2) Laboratory report of immune mumps antibody titer (IgG).

**Rubella**
Prior to registration, all students must submit one of the following:
1) Signed physician’s record documenting rubella immunization on or after the student’s first birthday, or
2) Laboratory report of immune measles antibody titer (IgG).

**Varicella (Chicken Pox)**
Prior to registration, 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).

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 University of Texas Health Science Center at 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 (CDC) and the Bexar County Hospital District 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. If the student has a history of previous positive PPD, a medical evaluation will be required at the Student Health Center. This evaluation may include retesting, a CXR, liver function tests, antituberculin drug therapy, and/or other tests as indicated.

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 any swelling or redness of the site must come to the clinic within 72 hours for further evaluation. These students are medically evaluated, have a chest X-ray performed, and have blood drawn for liver function testing. If the student is without evidence of active tuberculosis, the chest X-ray is determined to be negative, and the liver test is normal, the student may be counseled at the Student Health Center on prophylactic treatment (at the student’s expense), or referred to the City Chest Clinic for further evaluation.

The student should start on prophylactic medication as soon as possible. The usual prophylactic regimen is isoniazid. The recommended duration of treatment is a minimum of six months. Because of the hepato-toxicity of isoniazid, students will be monitored with liver function testing on a monthly basis. The student who has a positive skin test, a negative chest X-ray, and a normal exam, and who is otherwise healthy and receiving preventive treatment for tuberculosis infection, can return to all aspects of clinical care. The student who cannot take or does not accept a complete course of preventive therapy will have her/his work situation evaluated by the associate dean for students of that student’s school to determine whether reassignment is indicated.

All students with a positive skin test or an active case of tuberculosis should be encouraged to have HIV testing.

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 UT Health Science Center San Antonio 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 initial registration as a student at UTHSCSA unless a previously positive reaction, completion of adequate prevention therapy, or adequate therapy for active disease can be documented. Anyone not tested prior to registration will have a PPD placed by the Student Health Center at the time of the initial registration. If the student has a history of a previous positive PPD, a yearly chest X-ray may be performed after medical evaluation.

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 and given the option of a yearly chest X-ray at the student’s...
expense. If the student has no signs or symptoms of tuberculosis, a chest X-ray will be optional.

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 adequate treatment is instituted for at least three weeks, cough is resolved, and sputum is free of bacilli on three consecutive smears. 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. Students who discontinue treatment before the recommended course of therapy has been completed will not be allowed to have patient contact until treatment is resumed, an adequate response to therapy is documented, and they have negative sputum smears on three consecutive days.

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.
Dental School

The introductory section of this Catalog, pages 46–123, applies to all schools. Students are also responsible for all information contained in that section.

Mission and Roles

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 University of Texas Health Science Center, 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.

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, 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.

Degree

Students who meet all program requirements as described in the Catalog are awarded a Doctor of Dental Surgery (DDS) degree.

Curriculum Model and 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 17 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 3–7 educational outcomes which 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 17 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 skills 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 which 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 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 understanding 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 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 which 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 and acquire clinical support skills that allow them to serve as assistants to upper-class students.

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 which 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 upperclass 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.

Summer Session between Years 2 and 3: The summer semester between the sophomore and junior years provides a transitional bridge from the preclinical lab to the environment of direct patient care. Rising junior students are actively involved in the diagnostic phases of patient care and are oriented to the dental school clinic and its group practice structure. Students complete competency exams to demonstrate mastery of core patient assessment skills.

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, representing several dental specialty areas and headed by a general dentist, guide 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 17 curriculum competencies which 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 electives and clinical rotations. Students can continue electives into the senior year.

Senior Year: Students continue their focus on acquisition of clinical competency through extensive patient care experi-
National Board Dental Examination

Part I—Students are eligible to challenge Part I 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 May 20 and July 20 excluding days scheduled for summer clinic. The Dental School policy requires students to pass Part I by May 1 of the year in which they would be considered for promotion to the senior year.

Part II—Students are eligible to challenge Part II of the boards in December of the senior year and students are expected to take the exam in the month of December of the senior year.

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 (effective Jan. 1, 2007).

Student Background Check Policy

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 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. 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 background check review as a condition to admission into all programs designated as requiring a background check. An offer of admission will not be final until the completion of the background check(s) with results is deemed favorable. Admission may be denied or rescinded based on a review of the background check.

Additionally, students who are currently enrolled and who do not have a valid 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 that require a background check.

Students who refuse to submit to a background check or do not pass the background check review may be dismissed from the program.

Applicants or students who are denied admission to or 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 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 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 certain curriculum programs. Students who cannot participate in clinical rotations due to criminal or other adverse activities that are revealed in a 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. Background Check Report
A. Obtaining a Background Check Report. The Dental School will designate approved company(ies) to conduct the 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. 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
- Office of Homeland Security information/report

C. Rights. Students and applicants have the right to challenge the accuracy of the report, and inform them of their rights, how to contact the designated company 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 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. Applicants who are invited to an interview must supplement their application package by requesting and providing the required background check report.
2. The background check report will be submitted to the admissions committee for its review. If the report contains negative findings, the admissions committee may request that the applicant submit additional information relating to the negative finding, such as a written explanation, court documents, and police reports. The admissions committee, 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 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.
3. 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. Background check report will be submitted to the Admissions Committee for its review (or, for Advanced Education, to the Program Director). 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 Admissions Committee (Advanced Ed Program Director) may request that the student submit additional information relating to the negative finding, such as a written explanation, court documents, and police reports. The Admissions Committee (or Advanced Ed Program Director) 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 Admissions Committee (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 permission to re-enroll in clinical lab(s) section(s) only if space is available.

VI. Confidentiality and Record Keeping
A. Background check reports and other submitted information are confidential and may only be re-viewed by university officials and affiliated clinical facilities in accordance with the Family Educational Records and Privacy Act (FERPA).

B. Students. 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. 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 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 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 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.

Attendance, Leave of Absence, Readmission

Class Attendance
Students are expected to attend and actively participate in all regularly scheduled classes, laboratories, and clinical periods. Required attendance at regularly scheduled classes, laboratories, and clinical periods is the option and prerogative of the academic department responsible for that
particular portion of the curriculum. The policy regarding attendance and the consequences for failure to comply will be announced at the beginning of each course. It is the responsibility of the student to arrange with the faculty for making up any work which 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 contact the Office of Student Affairs at 567-3752. The office will maintain a roster of absentees and the reported reasons for absence. Course Directors for these students will be notified.

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.

**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 reenrolling as juniors or seniors will need to demonstrate knowledge and skills consistent with the expectations for other students at the same level.

**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 policies contained in this Catalog concerning attendance, leave of absence, and readmission are those in effect at the time of publication but are subject to change. Students are responsible for inquiring about changes each year.

**Faculty Advisors**

Members of the faculty will be assigned as advisors to dental students and will be available for counseling. Students are urged to become well acquainted with their advisors. While the faculty members are assigned to assist students, the students must be mindful of their own responsibility for seeking help when it is needed and keeping advisors informed of problems they may be encountering.

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.

**Grades**

The academic standards for successful completion of courses and grade assignment are 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 and oral examinations, skills assessments, clinical performance, and competency assessments, when applicable. Noncognitive factors such as performance under stress, integrity, initiative, interpersonal relations, and personal and professional characteristics are the “values” components of competency and also will be considered. A passing grade will not be awarded to the student whose performance in noncognitive areas is unacceptable. Professional development expectations are published on the Dental School intranet [http://dserver.uthscsa.edu](http://dserver.uthscsa.edu). Course directors may emphasize and further define professionalism for individual courses.

A copy of the expectations will be given to the student at the beginning of the course.
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.

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** = Withdrawn passing
- **WF** = Withdrawn failing

*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
- **F** = 0
- **CR** = Not used in calculation of GPA.

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.

If the student’s concerns are not resolved in 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 the case based on the published limitations allowing the original grievance and rendering an appropriate decision. This Dental School policy supersedes any other grievance policies, and decisions made in this process are final.

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, understanding, and ability. Methods for achieving this objective may include:
   a. Randomized assigned seating of students in lecture rooms or laboratories.
   b. Multiple forms of the same examination. (Three forms of the examination are recommended.)
   c. 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. (Two faculty proctors are a minimum; 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 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 during examinations to the Course Director. If misconduct is verified at the department level, it shall be reported to the Associate Dean for Student Affairs in compliance with the procedures and regulations governing “Student Conduct and Discipline” of the HSC.
   f. Schedule and conduct reexaminations whenever there is sufficient evidence to believe an examination has been compromised.
   g. Maintain tight security during preparation, proof-
ing, 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.

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 which detract from a quiet testing environment, such as use of radios, tape players, televisions, loud conversation, etc.

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.

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. Requests for changes in the schedule of examinations may be initiated by students or the Course Director. 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 Schedules must be accompanied by:

• A written reason for the move which must be compelling and academically sound.

• A written statement from the Course Director stating he/she is in agreement with the change.

• 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:

• The request has been submitted within the guidelines.

• The reason for the move is valid.

• The Course Director is in agreement with the move.

• 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.

• An appropriate classroom is available at the proposed time.

Progress Reports

Reporting of Progress and Final Grades

• Progress reports are submitted to the Associate Dean for Academic Affairs at midyear for each student enrolled in a course which extends into the next semester. Progress is reported as:

  S = Satisfactory
  U = Unsatisfactory

The course director or task force administering a course may report unsatisfactory progress to the student at any time throughout the duration of the course.
• Final grades are submitted to the Registrar and the Associate Dean for Academic Affairs for each student enrolled in a course when the course has been completed.

**Academic Warning**

At midyear, a student receives notification from the Associate Dean for Academic Affairs or the course director for one or both of the following reasons:

- Receiving an unsatisfactory report (U) for any course in progress.
- Achieving a grade point average less than 2.0 for either Group A* or Group B** courses completed during the fall semester.

This notification serves as an academic warning.

* Group A - all basic science and dental didactic courses
** Group B - all preclinical laboratory and clinic courses

**Academic Probation**

A student receiving a final grade of F in a course at any time during the academic year is placed on academic probation. 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.

**Academic Probation Criteria**

A student will be placed on academic probation, which prohibits a student from graduation or promotion to the next academic year, if he/she meets one or more of the following conditions:

- Receipt of a final F grade in any course at any time during the academic year.
- For DS1, 2, and 3 students, 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. (See “Dismissal.”)
- For DS4 students, receipt of an overall GPA less than 2.0, unless the student is dismissed. (See “Dismissal.”)
- Failure to pass National Board Dental Examinations, Part I by the end of the junior year.
- Failure to pass National Board Dental Examinations, Part II by the end of the senior year.

A student will remain on academic probation until all academic deficiencies are corrected, unless the student is dismissed.

**Removal from Academic Probation**

To provide an opportunity for the student to correct academic deficiencies, such as F grades and/or a GPA less than 2.0 in Group A and/or Group B courses of the year's curriculum, the Academic Performance Committee may recommend remediation of specific courses or repetition of the year in its entirety.

To provide an opportunity for the student to correct National Board deficiencies, the Academic Performance Committee will recommend completion of an altered curriculum designed for skills maintenance, preparation for retesting, and achievement of a passing grade for the National Board Dental Examinations. All recommendations of the Academic Performance Committee require the approval of the Dean.

A student will be removed from Academic Probation status by the Academic Performance Committee when all academic deficiencies have been corrected. This action will make the student eligible for promotion to the next academic year.

**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:

- **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 course director will not initiate a remediation program for a student unless remediation has been recommended by the Academic Performance Committee and approved by the Dean.
  - The remediation program will be designed by the Course Director and approved by the Curriculum Management Committee.
  - Remediation for seniors may be scheduled during the academic year, but all other remediation will be scheduled during a four-week period in June/July.

- **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.
  - There is no remediation for INTD 7020, PATH 6019 and 6021, and GEND 8077. Failure of these courses will result in repetition of the academic year in its entirety or dismissal.

**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 entire academic record and any extenuating circumstances, the Academic Performance Committee may recommend one of the following actions in lieu of dismissal:

- **Remediation** of one or more courses designated by the Academic Performance Committee which will help raise the deficient GPA to 2.0 or above. 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. (See “Dismissal.”)
  - The remediation program will be designed by the
Course Director and approved by the Curriculum Management Committee.

- Remediation for seniors may be scheduled during the academic year, but all other remediation will occur in a four-week period during the months of June and July.

- **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.

**National Board Dental Examination Deficiency**

Sophomore students are expected to challenge Part I of the National Boards between the end of the spring semester and the beginning of the fall semester of their junior year (mid-May to mid-July).

Senior students are expected to challenge Part II of the National Boards in December of the senior year.

In an effort to help a student correct a National Board deficiency, the Academic Performance Committee will recommend completion of an altered curriculum which includes requirements for skills maintenance, preparation for retesting, and achievement of a passing grade for the National Board Dental Examinations.

- The altered curriculum will be developed by the Associate Dean for Academic Affairs and approved by the Altered Curriculum Committee.
- Eligibility for promotion or graduation will be restored upon satisfactory completion of all requirements of the altered curriculum.
- 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.

Students may retake the NBII examination no sooner than 90 days from the last attempt. Students will not be allowed to graduate with their class if the correction of the NBII deficiency does not occur before the regularly scheduled graduation date.

In that case, students will need to enroll for “Independent Studies” in the Dental School for the remainder of the summer, at no additional fees. This will assure that students continue to have all privileges as a student. After August 31, students must enroll as a “senior student on an altered curriculum” for this same benefit. This will require a prorated registration fee, including tuition and other fees, to be determined by the Registrar’s Office.

**Course Remediation/Repetition**

**Final Grade**

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.

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.

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, the previous grade or grades achieved in each course also will appear on the final transcript.

**Failure to Successfully Remediate or Repeat Year**

A student who fails to correct an F grade deficiency or raise her/his deficient grade point average to 2.0 or above after remediation or repetition of the academic year will be considered for academic dismissal.

The Promotions Committee will review the entire academic record and any extenuating circumstances before making a recommendation for dismissal. Only in exceptional circumstances will the Promotions Committee recommend another correction program in lieu of dismissal. However, no student will be allowed to repeat an academic year more than once.

**Dismissal**

A student can be considered for dismissal from the school for academic deficiencies or violation of university regulations and Dental School Code of Ethics. The Academic Performance Committee is responsible for considering students for academic dismissal and makes its recommendations to the Associate Dean for Academic Affairs.

**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. Before the vote is taken, all non-committee members will be excused.

A student will be considered for academic dismissal if he/she meets any of the following conditions:
**GPA Deficiency**
- Receipt of a GPA less than 2.0 in either Group A or Group B courses of the year’s curriculum.
- 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.

**“F” Grade Deficiency**
- Unsuccessful attempt to remediate a course or courses for which an F grade has been given.
- Receipt of an F grade for a course or courses during the repetition 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 for the National Board Dental Examination, Part I or Part II.

**Academic and Professional Misconduct Dismissal**
A student may be considered for dismissal if he/she fails to demonstrate to the faculty the intellectual, ethical, or behavioral attributes appropriate for members of the dental profession.

**Appeals Process**
A student may appeal a decision by the Academic Performance Committee recommending a) remediation, b) repetition of the year, or c) academic dismissal, by submitting to the Dean’s Office within five (5) days following receipt of written notification of the Committee’s recommendation a written request for an opportunity to appeal to the Dean of the Dental School.

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 in writing to the President of the Health Science Center, in accordance with Health Science Center Policy.

**Disciplinary Probation and Dismissal**
Violation of Health Science Center regulations concerning standards of conduct which compromise professional integrity and/or competence will make a student eligible for either disciplinary probation or dismissal. Procedures for dismissal will be governed by the guidelines contained in the procedures and regulations governing “Student Conduct and Discipline.”

The policies contained in this Catalog concerning grades, promotion, and graduation are those in effect at the time of publication and are subject to change. Students are responsible for inquiring about changes each year.

**Promotion**
Recommendation for promotion to the next year of the curriculum is made by the Academic Performance Committee to the Dean. 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.

**Graduation**
The degree 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 National Board Dental Examinations–Part I and Part II, be of good moral character, and comply with all necessary legal and financial requirements.

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.

**Dental School 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 HSC faculty members may petition the Dean of the Dental School to allow them to present the diploma to their daughter/son during the ceremony.

**Guidelines for 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.
html](http://dserver.uthscsa.edu/OPC%20Manuals/Admin%20Sect%2020/docs/Dress.html). The manual includes general guidelines for attire and grooming, as well as specific requirements that relate to patient and personal safety.

Other Academic Recognition Programs

Teacher Training Honors Program
The Teacher Training Honors Program 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 Honors in Teaching Training on their official transcripts.

Research Honors Program
The Research Honors 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 Honors in Research on their official transcripts.

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.

Scholarship in Basic Sciences
The criterion for selection for this award is achievement of a cumulative GPA of 3.9 for the following courses: biochemistry, gross anatomy, microanatomy, microbiology, physiology, general pathology, neuroscience, and pharmacology. If a course is remediated or repeated, both grades for the course will be included in the calculation of the GPA. Recognition for this award will include a permanent entry on the student’s transcript.

Award for Excellence in Clinical Dentistry
The criterion for this award is achievement of a GPA of 3.8 or above for Group B courses in both the junior and senior years. If a course is repeated or remediated, both grades received in the course will be used in calculating the GPA. Recognition for this award will include a permanent entry on the student’s transcript.

Award for Achievement on National Board Dental Examination, Part I
The criterion for this award is achievement of a score of 90 or above on the National Board Dental Examination, Part I. Recognition for this award will include presentation of a certificate at the annual Dental School Awards Convocation.

Award for Exemplary Achievement on the National Board Dental Examination, Part II
The criterion for this award is achievement of a score of 90 or above on the National Board Dental Examination, Part II. Recognition for this award will include presentation of a certificate at the annual Dental School Awards Convocation.

Dual Degree Programs
Dual degree programs of study at The UT Health Science Center San Antonio 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 HSC 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
Advanced Education Programs
Certificate and Master of Science degree programs, residency programs in General Dentistry, 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. 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 in this Catalog.

International Dentist Education Program (IDEP)
The Dental School offers qualified graduates of foreign dental programs the opportunity to earn a Doctor of Dental Surgery (DDS) degree. Completion of this 2-year advanced standing educational program will allow graduates to take state or regional dental board examinations and be eligible for licensure and practice in the United States.
The IDEP is a full-time, daily program and consists of two months of didactic and preclinical laboratory training in the summer, followed by matriculation through the 3rd and 4th years of the undergraduate dental program, with classroom lectures and direct patient care in the group practices and departmental clinical courses and rotations.
The application requirements for the IDEP are a dental degree from a foreign country; official, school-certified copies of transcripts; official course-by-course dental school transcript evaluation (ECE); a National Board Dental Examination Part I overall score of 80 (within the past 5 years); minimum Test of English as a Foreign Language (TOEFL) examination score of 92 (Internet-based) or 580 (paper-based); three letters of recommendation; and completion of personal statements about applicant's clinical experience, dental-related activities, and professional goals.
Information about admission and application requirements is detailed on the Dental School Web site: http://www.dental.uthscsa.edu/admissions.idep.htm.
Additional information about the IDEP can be obtained by contacting the IDEP office through e-mail at: IDEP@uthscsa.edu.
The Freshman Year

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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.

Course Descriptions

BIOC 5013 Biochemistry
5.5 Semester Credit Hours
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.

COMD 5015 School-Based Prevention
0.0 Semester Credit Hours
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 toothbrushing. The program aims to demonstrate to dental students effective group prevention and to foster more widespread adoptions of such preventive programs in the community.

COMD 5017 Oral Health Promotion & Disease Prevention for Individuals and Populations
1.5 Semester Credit Hours
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.

COMD 5031 Professional Ethics
0.5 Semester Credit Hour
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.

COMD 5046 Cariology
1.0 Semester Credit Hour
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 caries and dental erosion.
CSBL 5016  Gross, Head & Neck Anatomy  
6.0 Semester Credit Hours  
The structure of the human body, with emphasis upon the functional anatomy of the trunk, neck, and head, is the focus of this course. Regional dissection of a human cadaver, by groups of students, is supplemented by individual study of prosections, 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: $300.

CSBL 5032  Dental Histology  
5.0 Semester Credit Hours  
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 included in general lab fee. $48 microscope fee for the Freshman year includes this course.

DIAG 5009  Introduction to Dental Radiology  
1.0 Semester Credit Hour  
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 (DXTR), 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.

DIAG 5014  Physical Evaluation I  
1.5 Semester Credit Hours  
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.

DIAG 5049  Practical Infection Control in Dentistry  
1.0 Semester Credit Hour  
Practical infection control, used by dentists to combat the threat of hepatitis, AIDS, and other infectious diseases to the dentist, dental staff, and patients is presented. Subjects will include patient screening, personal protection, instrument sterilization, surface and equipment disinfection, aseptic technique, and laboratory asepsis. Emphasis will be placed on the major infectious diseases, technique selection, and product evaluation. A review of current infection control guidelines is included. Handouts appropriate for a dental office infection control manual will be used.

EMST 5001  Basic Cardiac Life Support  
0.0 Semester Credit Hours  
Course instruction satisfies AHA guidelines for Basic Cardiac Life Support (BCLS). Successful completion merits AHA BLS Provider course completion card. Topics include basic airway and ventilatory management of the choking and/or unconscious infant, child, or adult victim; cardiac chest compression techniques; and automated external defibrillation (AED). AHA standard written and skills exams administered.

GEND 5001  Foundations of Professional Development  
2.0 Semester Credit Hours  
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.

INTTD 5030  Introduction to Patient Care  
5.0 Semester Credit Hours  
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, and in basic intraoral radiography technique. 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 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.

MICR 5013  Microbiology  
4.0 Semester Credit Hours  
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 included in general lab fee.

PERI 5081  Periodontics I  
1.5 Semester Credit Hours  
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.

**PHAR 5001 Pharmacology**
*4.0 Semester Credit Hours*
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.

**PHYL 5013 Dental Physiology**
*6.5 Semester Credit Hours*
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.

**RESD 5001 Biomaterials I**
*1.0 Semester Credit Hour*
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.

**RESD 5004 Dental Anatomy and Occlusion**
*2.0 Semester Credit Hours*
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 the oral health professions. More specifically, 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.

**RESD 5005 PCL Dental Anatomy and Occlusion**
*3.0 Semester Credit Hours*
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.
### Course Descriptions

**COMD 6025 Nutrition**  
0.5 Semester Credit Hour  
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.

**COMD 6048 Patient-Centered Oral Health Care: Behavioral, Social, and Cultural Dimensions**  
1.0 Semester Credit Hour  
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,

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### The Sophomore Year

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<th>Semester I</th>
<th>Semester II</th>
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</table>

* x = semester(s) present
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.

**DIAG 6011 Clinical Medicine**  
2.0 Semester Credit Hours  
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) my 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.

**DIAG 6035 Physical Evaluation II**  
1.5 Semester Credit Hours  
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.

**DIAG 6132 Dental Radiology I**  
1.0 Semester Credit Hour  
This course offers didactic instruction in fundamental concepts of dental radiology and builds on information learned in DIAG 5009. Instructional content covers radiation physics, x-ray unit components and their function in creating a diagnostic image, radiation biology, radiation hygiene, film and image formation, digital imaging concepts, quality assurance, evaluation of panoramic radiographic errors, and recognition of conventional film processing errors.

**ENDO 6041 Endodontics Lecture**  
1.0 Semester Credit Hour  
This is a lecture course designed to introduce the student to the fundamentals of clinical endodontics.

**ENDO 6142 Preclinical Endodontics**  
1.5 Semester Credit Hours  
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.

**GEND 6001 Professional Development II**  
2.0 Semester Credit Hours  
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.

**INTD 6010 Evidence-Based Dentistry**  
1.0 Semester Credit Hour  
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.

**INTD 6088 Clinic Introduction**  
4.5 Semester Credit Hours  
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 clinic 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.

**INTD 6111 Comprehensive General Dentistry**  
2.0 Semester Credit Hours  
This course will permit rising DS3 students to initiate their clinical training by providing clinical care to assigned patients. Students will be assigned to one of the school’s general practice groups and provide comprehensive care under the guidance of the group’s faculty and additional specialists on a referral basis.

**ORTH 6075 Sophomore Orthodontic Lectures**  
1.5 Semester Credit Hours  
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.

**ORTH 6077 Growth and Development**  
1.5 Semester Credit Hours  
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 are covered. This is a joint presentation by faculty of Pediatric Dentistry and Orthodontics departments.
OSUR 6051  Oral Surgery I
1.5 Semester Credit Hours
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.

OSUR 6056  Local Anesthesia
1.5 Semester Credit Hours
This didactic course deals with aspects of local anesthesia as they relate to dental practice. Neuroanatomy, physiology, and pharmacology of local anesthesia is presented as well as the prevention and management of complications and emergencies encountered in clinical local anesthesia.

PATH 6019  General Pathology
5.0 Semester Credit Hours
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.

OSUR 6058  Implant Prosthodontic Treatment for the Dentate/Partially Dentate Patient
1.0 Semester Credit Hour
A preclinical laboratory course introducing, demonstrating, and exercises in many phases relating to implant dentistry. Participation in this course will provide the student with experience in implant-related procedures.

Peri 6059  Implant Prosthodontic Treatment for the Edentulous Patient
1.0 Semester Credit Hour
This lecture series is 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.

PROS 6012  Preclinical Prosthodontic Treatment for the Dentate/Partially Dentate Patient
4.0 Semester Credit Hours
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.

PERIOD 6015  Case Conferences
0.5 Semester Credit Hour
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.

PERIOD 6016  Periodontics
1.5 Semester Credit Hours
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.

OSUR 6052  Prosthodontic Treatment for the Edentulous Patient
1.0 Semester Credit Hour
A laboratory course introducing, demonstrating, 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. Fee: $500.

OSUR 6057  Implant Prosthodontic Treatment for the Edentulous and Partially Edentulous Patient
0.5 Semester Credit Hour
This lecture series is 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.

OSUR 6054  Removable Prosthodontics for the Partially Edentulous Patient
2.0 Semester Credit Hours
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.
PROS 6095  Preclinical Removable Partial Denture-Lab  
1.0 Semester Credit Hour  
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.

RESD 6001  Operative Dentistry  
2.5 Semester Credit Hours  
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 which provide simulation of clinical conditions.

RESD 6002  Preclinical Operative Dentistry  
3.5 Semester Credit Hours  
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.

RESD 6102  Biomaterials II  
1.0 Semester Credit Hour  
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.

RESD 6108  Temporomandibular Disorders  
1.0 Semester Credit Hour  
This course is designed to provide students with a comprehensive approach to the diagnosis and sequential management of patients with temporomandibular disorders.

The Junior Year

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<th>Course Code</th>
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<tr>
<td>PROS 7019</td>
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<tr>
<td>PROS 7091</td>
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<tr>
<td>RESD 7050</td>
<td>Esthetic Dentistry</td>
<td>B</td>
<td>x</td>
<td></td>
<td>1.5</td>
</tr>
</tbody>
</table>

* x = semester(s) presented  
* A single grade at the end of the year is given for courses which extend through both semesters.

Course Descriptions

COMD 7031  Professional Ethics  
0.5 Semester Credit Hour  
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 dentist's role in addressing social justice issues.

COMD 7050  Preventive Dentistry Practice  
1.5 Semester Credit Hours  
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. Students 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.

DIAG 7036 Radiographic Interpretation
1.0 Semester Credit Hour
This is a comprehensive didactic course in dental radiologic interpretation of diseases of the jaws including differential radiological diagnosis of developmental abnormalities and pathological lesions of the teeth and jaws.

DIAG 7052 Geriatrics
1.5 Semester Credit Hours
Lectures and seminars emphasizing dental management of the geriatric patient cover such topics as normal aging, treatment planning, pharmacologic considerations, management and communication techniques, dementias, dentistry for nursing home and homebound elderly, and clinical care.

DIAG 7055 Oral Medicine
2.0 Semester Credit Hours
Lectures, demonstrations, and visual aids present the fundamentals of diagnosis and treatment in general medicine and surgery as they relate to dentistry. Students have the opportunity to demonstrate skill in physical diagnosis in laboratory sessions.

EMST 7001 Basic Cardiac Life Support
0.0 Semester Credit Hour
Course instruction satisfies AHA guidelines for Basic Cardiac Life Support. Successful completion meets AHA Basic Life Support certification requirements. Topics include basic airway and ventilatory management of the choking and/or unconscious infant, child or adult victim, cardiac chest compression techniques, and automated external defibrillation (AED). AHA standard written and skills exams are administered.

ENDO 7041 Junior Endodontics Lecture
0.5 Semester Credit Hour
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.

ENDO 7043 Endodontics Clinic
1.0 Semester Credit Hour
Students are required to perform endodontic diagnosis and treatment procedures necessary to provide comprehensive care for patients.

GEND 7001 General Dentistry Clinic
4.0 Semester Credit Hours
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 UTHSCSADental 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. A final grade at the end of the junior year will be Pass or Fail. Each component of the course must be passed to receive a passing grade.

GEND 7026 Practice Administration
2.5 Semester Credit Hours
This course presents the various career choices available in dentistry and presents material to aid students in the career decision-making process. This course 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.

INTD 7020 Clinical Patient Management
5.0 Semester Credit Hours
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.

ORTH 7073 Junior Orthodontic Lectures and Case Analysis
1.0 Semester Credit Hour
This advanced lecture/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.

OSUR 7051 Oral & Maxillofacial Surgery
4.0 Semester Credit Hours
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.

PEDO 7041 Pediatric Dentistry
1.0 Semester Credit Hour
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.

PEDO 7091 Pediatric Dentistry Clinic
2.0 Semester Credit Hours
Clinical experience with child patients gives students the opportunity to gain clinical judgement 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.

**PERI 7059 Implantology**  
1.0 Semester Credit Hour  
Through lecture sessions, this introductory course offers students an opportunity to obtain both background and knowledge regarding accepted dental implant systems.

**PERI 7081 Periodontics**  
1.5 Semester Credit Hours  
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.

**PROS 7018 Fixed Prosthodontics**  
1.0 Semester Credit Hour  
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.

**PROS 7019 Fixed Prosthodontics Clinic**  
4.5 Semester Credit Hours  
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.

**PROS 7091 Removable Partial Denture Prosthodontics**  
0.5 Semester Credit Hour  
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 periodontically 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.

**PROS 7092 Removable Partial Denture Prosthodontics Clinic**  
1.5 Semester Credit Hours  
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.

**PROS 7095 Complete Denture Prosthodontics Lecture**  
1.0 Semester Credit Hour  
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.

**PROS 7099 Complete Denture Prosthodontics Clinic**  
2.5 Semester Credit Hours  
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.

**RESD 7008 Temporomandibular Disorders**  
1.0 Semester Credit Hour  
This course is designed to provide students with a comprehensive approach to the diagnosis and sequential management of patients with temporomandibular disorders.

**RESD 7010 Operative Dentistry**  
1.5 Semester Credit Hours  
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 which are of interest to the class as a whole.

**RESD 7011 Operative Dentistry Clinic**  
4.5 Semester Credit Hours  
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.

**RESD 7050 Esthetic Dentistry**  
1.5 Semester Credit Hours  
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.
### Course Descriptions

#### COMD 8014 Oral Health Care Systems

**1.0 Semester Credit Hour**

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 are also discussed.

#### COMD 8032 Jurisprudence

**0.5 Semester Credit Hour**

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.

#### ENDO 8043 Senior Endodontics Lecture

**1.0 Semester Credit Hour**

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.

#### GEND 8026 Practice Administration

**1.5 Semester Credit Hours**

This series of lectures deals with the business aspects of conducting a practice. Consideration of establishing and administering a practice, estate planning, bookkeeping methods, banking, marketing, management and utilization of personnel, and completion of a prospectus and office design project are also presented.

#### GEND 8032 Hospital Dentistry

**2.5 Semester Credit Hours**

A two-week rotation by seniors in the Hospital Dentistry Clinic at University Hospital provides the following activities/clinical experiences:
- thorough orientation to the Hospital Dentistry rotation,
- answering hospital consultation requests,
- making consultation requests of medical health care providers,
- attendance at hospital rounds,
- participation in the care of patients in the operating room,
- care of patients in the Hospital Dentistry Clinic,
- performance of oral surgical procedures, and
- observation of intravenous sedations.

#### GEND 8075 Applied Practice Management

**1.5 Semester Credit Hours**

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.

#### GEND 8077 General Dentistry Clinic

**26.5 Semester Credit Hours**

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.

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### The Senior Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Group</th>
<th>Semester I</th>
<th>Semester II</th>
<th>Credit Hours</th>
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<td>Senior Esthetic Dentistry</td>
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</tr>
</tbody>
</table>

* x = semester(s) presented

* A single grade at the end of the year is given for courses which extend through both semesters.*
Senior Seminars, conducted by the Department of General Dentistry, entail lectures, problem-solving sessions, and presentations of selected cases designed to enhance the students’ knowledge of comprehensive clinical dentistry.

GEND 8078  General Dentistry Seminar
2.0 Semester Credit Hours
This seminar presents topics relevant to clinical practice including application and selection of dental materials, an overview of dental equipment, and clinical techniques. It is intended to reinforce philosophies presented by the specialty disciplines, to provide the opportunity to discuss dental topics of current interest, and to promote dialogue between students and faculty.

OSUR 8055  Advanced Oral and Maxillofacial Surgery
0.5 Semester Credit Hour
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.

PATH 8023  Oral Pathology
2.0 Semester Credit Hours
This didactic course emphasizes refinement of diagnostic skills and the use of the clinical findings as an aid in diagnosis. Clinical or simulated clinical cases are presented and discussed with exercises in differential diagnosis.

PERI 8015  Periodontics
0.5 Semester Credit Hour
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.

PHAR 8009  Pharmacotherapeutics
2.0 Semester Credit Hours
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.

PROS 8001  Dental Implantology
0.5 Semester Credit Hour
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.

RESD 8051  Senior Esthetic Dentistry
0.5 Semester Credit Hour
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.

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:

Pediatric Dentistry Clinic (dentistry for children)
on and off campus
University Hospital Downtown (oral surgery)
off campus
Oral Surgery
Third floor, Oral Surgery Clinic/University Hospital Downtown
Health Education and Prevention
off campus at schools
Geriatric Clinic

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:

Pediatric Dentistry Clinic (dentistry for children)
on and off campus
University Hospital Downtown (oral surgery)
off campus
Oral Surgery
Third floor, Oral Surgery Clinic
Screening (examination of new patients)
Screening Clinic, second floor
Dental Emergency Clinic
Hospital Dentistry (two-weeks experience treating ill and emergency patients in a hospital environment)
University Hospital
Mobile Dental Van
off campus at schools
State Hospital (mentally and physically disabled adults)
Oral Medicine Clinic
South Texas rotation

Dental Selectives
The Dental School has a selective program that allows students to enrich their education through courses of their choosing.

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 levels of students. At this time, there is no requirement to complete a specific number of selectives; however, students are encouraged to participate in as many as they can manage. 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, and etc. can be found online at http://dental.uthscsa.edu/educprog/ddsselectives.htm.

**COMD**
Commissioned Officer Student Training and Extern Program Clinical Assignment (COSTEP) (SELC 7010) Community/ Clinical Externship Program (SELC 7011) Community Service Elective (SELC 7088) Mobile Van Dental Care (SELC 8035) Senior South Texas Rotation (SELC 8032) Preventive Dentistry Outreach (SELC 7120)

**CSBL**
Selected Topics in Head & Neck Anatomy (SELC 7091)

**DIAG**
Geriatric Dentistry (SELC 8175) Senior Selective in Oral Medicine (SELC 8180)

**ENDO**
Endodontics Pain Research Selective (SELC 7106) Endodontic Summer Elective (SELC 7038) Molar Endodontic Selective (SELC 8160) Problem Solving in Endodontics (SELC 8053)

**GEND**
Conversational Spanish for the Dental Clinic–Part I (SELC 7099) Enteral Conscious Sedation and Emergency Procedures (SELC 8094) General Practice Dental Emergency Care (DECC) (SELC 7007) Heroes for the Homeless: Innovative Strategies for Teaching Dental Students about Cultural Competency (SELC 7121)

**INTD**
Honors Program In Teacher Training (requires the following 3 courses):
  a. Special Teaching Elective–Teacher Training (SELC 7094)
  b. Special Teaching Elective–Teaching Experience (SELC 7095)
  c. Special Teaching Elective–Project Summary and Evaluation (SELC 7096)

**ORTH**
Advanced Graduate Clinic Rotation (SELC 8060) Graduate Orthodontic Clinic Rotation (SELC 7109) Orthodontic Literature Review (SELC 8099) Orthodontic Summer Clinic (SELC 7009) Preclinical Orthodontic Techniques (SELC 7097)

**PEDO**
Pediatric Dentistry Clinical Externship Program (SELC 7032)

**PERI**
Basic Periodontal Surgery (SELC 7108) Getting Acquainted With Periodontics (SELC 7100) Periodontal Flap Design (SELC 7107) Wonderful World of Periodontics (SELC 8023)

**PROS**
Intro. to Graduate Prosthodontics (SELC 7130)

**RESD**
CAD-CAM (Cerec 3d) Dentistry (SELC 8117)

**SELC**
Sophomore Transition to Junior Clinic (SELC 5001) Oral and Maxillofacial Surgery (SELC 8528) Heroes for the Homeless (SELC 8221)
# Academic Calendar 2008–2009

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday, July 04, 2008</td>
<td>University Holiday (Offices Closed)</td>
<td>All</td>
</tr>
<tr>
<td>Monday, July 07, 2008</td>
<td>1st Class Day</td>
<td>DDS Years 3 &amp; 4</td>
</tr>
<tr>
<td>Monday, July 14, 2008</td>
<td>Orientation</td>
<td>DDS Years 1</td>
</tr>
<tr>
<td>Monday, July 14, 2008</td>
<td>1st Class Day</td>
<td>DDS Years 1 &amp; 2</td>
</tr>
<tr>
<td>Tuesday, July 22, 2008</td>
<td>Census Day</td>
<td>DDS Years 3 &amp; 4</td>
</tr>
<tr>
<td>Tuesday, July 29, 2008</td>
<td>Census Day</td>
<td>DDS Years 1 &amp; 2</td>
</tr>
<tr>
<td>Saturday, August 16, 2008</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Monday, September 01, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, November 11, 2008</td>
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</tr>
<tr>
<td>Thursday, November 27, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, November 28, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, December 19, 2008</td>
<td>Term Concludes</td>
<td>All</td>
</tr>
<tr>
<td>Saturday, December 20, 2008</td>
<td>Graduation (No Ceremony)</td>
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<td>Wednesday, December 24, 2008</td>
<td>University Holiday</td>
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<td>University Holiday</td>
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<tr>
<td>Friday, December 26, 2008</td>
<td>University Holiday</td>
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</tr>
<tr>
<td>Thursday, January 01, 2009</td>
<td>University Holiday</td>
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</tr>
<tr>
<td>Monday, January 05, 2009</td>
<td>Classes Resume</td>
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<tr>
<td>Monday, January 19, 2009</td>
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<td>All</td>
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<td>Wednesday, January 21, 2009</td>
<td>Census Day</td>
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<td>Monday, February 16, 2009</td>
<td>University Holiday</td>
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<tr>
<td>Monday, March 30, 2009</td>
<td>Spring Break Begins</td>
<td>All</td>
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<td>Friday, April 03, 2009</td>
<td>Spring Break Ends</td>
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<tr>
<td>Thursday, April 23, 2009</td>
<td>Term Concludes</td>
<td>DDS-Year 4</td>
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<td>Friday, April 24, 2009</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, May 15, 2009</td>
<td>Term Concludes</td>
<td>DDS-Years 1, 2, 3</td>
</tr>
<tr>
<td>Saturday, May 23, 2009</td>
<td>Graduation</td>
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<td>Monday, May 25, 2009</td>
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<td>All</td>
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<td>Monday, June 01, 2009</td>
<td>Classes Resume</td>
<td>DDS-Years 2, 3</td>
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<td>Friday, June 26, 2009</td>
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<td>DDS-Years 2, 3</td>
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Note: The 2009–2010 Academic Calendar will be available on the Student Services Web site in the fall.
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.

Certificate and degree programs are offered in Dental Diagnostic Science, Endodontics, Prosthodontics, Periodontics, and Pediatric Dentistry. A certificate program only is available in Pediatric Dentistry and Orthodontics; however, a master's degree option for Pediatric Dentistry students is available in basic sciences and public health.

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.

<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>Endodontics</td>
<td>X</td>
<td>X</td>
<td>24 mos. 30 mos.</td>
</tr>
<tr>
<td>Pediatric Dentistry</td>
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<td>Prosthodontics</td>
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<td>36 mos.</td>
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<tr>
<td>Orthodontics</td>
<td>X</td>
<td></td>
<td>35 mos.</td>
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</table>

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. (See Associated Programs, p. 168).

Advanced Education in General Dentistry
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.

Dental Public Health
The Department of Community Dentistry offers a one-year, full-time or a two-year, part-time Residency in Dental Public Health. 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 HSC. 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. For more information call 210-567-3500 or -3510.

Admission
Certificate Programs
Students are admitted to certificate programs through registration as postdoctoral certificate students in the Dental School. 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 must take the Graduate Record Examination Aptitude Test prior to application and achieve a minimum combined score of 1,000 on the verbal and quantitative portions.

Applicants for whom English is 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 required 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 B in postdoctoral courses, faculty recommendations, a minimum score of 1,000 on the verbal and quantitative portions of the GRE Aptitude Test*, and approval by the Graduate Faculty Council of the Graduate School of Biomedical Sciences.

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 HSC Web site at http://dental.uthscsa.edu/ or by writing:

UT Health Science Center San Antonio
Dental School
Associate Dean for Student Affairs
7703 Floyd Curl Dr.
San Antonio, Texas 78229-3900

General Policies

Degree Programs

Postdoctoral dental students who enter the Graduate School of Biomedical Sciences’ 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. Information regarding admission, registration, grading, continuation, etc., is presented in the Graduate School of Biomedical Sciences section of this Catalog.

Certificate Programs

Postdoctoral dental students in certificate programs are subject to general policies of the Dental School and the Health Science Center 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 and Financial Information sections of this Catalog. 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 H¹ (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 (withdrew passing) and WF (withdrew 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.

¹Supervised Teaching only
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 and the Committee on Postdoctoral Studies. 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 departmental Committee on Postdoctoral Studies. Students will be apprised in writing of any deficiency and, when indicated, placed on probation by the Dean. In such cases that the Committee on Postdoctoral Studies determines that improvement has not been achieved in a particular area cited, dismissal will be recommended.

**Probation and Dismissal**
A student whose average falls below B (3.0) will be placed on academic probation by the Dean upon recommendation of the departmental Committee on Postdoctoral Studies of the appropriate program. Additionally, a student will be placed on academic probation for any one of the following: a final grade of F, D, or U during any one grading period.

A student placed on academic probation will be given written notification by the Dean of such status. This notification will serve as an official warning to the student that her or his academic performance is below standard and continuation in the postgraduate program is in jeopardy. Upon the student’s successful correction of all D, F, and U grades, 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 by the departmental Committee on Postdoctoral Studies.

A student will be subject to dismissal 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. Academic dismissal will be recommended by the Committee on Postdoctoral Studies for consideration by the Advanced Education Committee. The student may request permission to appear before the Advanced Education Committee 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. Failure of the student to demonstrate the intellectual, ethical, and behavioral attributes prerequisite to meeting the responsibilities for patient care are grounds for dismissal from the postgraduate program.

**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.

A written request for readmission must be submitted to the Dean by the student who has withdrawn. The student’s request will be reviewed by the relevant departmental Committee on Postdoctoral Studies for consideration. The student must meet the requirements of the program at the time of the student’s request for readmission. The decision to grant readmission will be made by the Dean in consultation with the relevant academic department.

**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 HSC School of Medicine at the end of the third year of the OMS (Oral & Maxillofacial Surgery) program.

**Financial Information**
Tuition information for resident and nonresident students enrolled in postdoctoral certificate and degree programs, fee information, and information about other expenses is outlined in the “Financial Aid Information” 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 Periodontics, 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 staffs.

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 6 (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 five programs.
## Dental Diagnostic Science

### Certificate Program

#### FIRST YEAR

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<td>DIAG 5012</td>
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<td>DIAG 5044</td>
<td>Radiation Physics Lab</td>
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<tr>
<td>* PATH 5121</td>
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<td>* PATH 5035</td>
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<td>* INTD 5020</td>
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<td>DIAG 5045</td>
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<td>Radiation Physics Lab</td>
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<tr>
<td>DIAG 5091</td>
<td>Case Conference</td>
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<tr>
<td>DIAG 5017</td>
<td>Literature Review</td>
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<td>DIAG 5026</td>
<td>Oral and Maxillofacial Radiology Interpretation</td>
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<td>DIAG 6041</td>
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<td>Research</td>
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<tr>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
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#### THIRD YEAR

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<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>DIAG 6040</td>
<td>Advanced Oral and Maxillofacial Radiology Interpretation</td>
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<tr>
<td>DIAG 6075</td>
<td>Practicum in Clinical Radiology</td>
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*Multidisciplinary course*
Subtotal of Credits for Certificate Program: 73.0
Additional Requirement #1: Hospital Rotations: 7.5
Additional Requirement #2: Tumor Board: 2.0
Total Credits for Certificate Program: 82.5

Note: Unless otherwise specified, 7.5 credit hours of hospital rotations represent 3 months with full-time student participation.

Master of Science Degree Program
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 2 1/2 Years of Program are as listed for the Certificate Program: 82.5

THIRD YEAR continued

Credit Hours

Spring (minimum semester hours: 9.0)
- DIAG 6040: Advanced Oral and Maxillofacial Radiology Interpretation: 2.0
- DIAG 6007: Graduate Oral and Maxillofacial Radiology Clinic: 3.0
- DIAG 6071: Supervised Teaching: 1.0
- DIAG 6018: OMR Case Conference: 1.0
- DIAG 6017: Literature Review: 1.0
- * DIAG 6098: Thesis: 1.0

Total: 9.0

Electives:
- DIAG 6021: Medical Radiology Rotation: 2.5
- DIAG 6075: Practicum in Clinical Radiology: 0–4.0
- DIAG 6020: Tumor Board: 1.0

Total Credits for Master of Science Degree Program: 91.5

Special Electives
The following special electives are available on an individual basis:
- DIAG 5014: Physical Evaluation I: 1.5 Credit Hours
- DIAG 5018: Practicum in Oral Medicine: 4.0 Semester Credit Hours
- DIAG 6005: Clinical Pathology Conference: 1.5 Semester Credit Hours
- DIAG 6008: Orofacial Pain: 1.5 Semester Credit Hours
- DIAG 6009: Noninfectious Diseases of the Oral Mucosa: 1.5 Semester Credit Hours
- DIAG 6016: Pharmacotherapeutics: 1.5 Semester Credit Hours
- DIAG 6019: Chemosensory Disorders and Salivary Gland Dysfunction: 1.5 Semester Credit Hours
- DIAG 6022: Practicum in Oral Medicine: 1.5 Credit Hours
- DIAG 6072: Supervised Teaching: 1.5 Credit Hours
- DIAG 6315: Critical Care Conference: 1.5 Credit Hours
- DIAG 6060: Physical Anthropology: 1.5 Credit Hours
- DIAG 6061: Forensic Anthropology: 1.5 Credit Hours
- DIAG 6062: Advanced Forensic Anthropology Lab: 1.5 Credit Hours
- DIAG 6084: Advanced Forensic Odontology Lab: 1.5 Credit Hours
- DIAG 6085: Forensic Pathology: 1.5 Credit Hours
- DIAG 6086: Forensic Dental Photography Lab: 1.5 Credit Hours

Course Descriptions
Courses unique to the program in Dental Diagnostic Science are listed below. Offerings which are common to one or more programs are described under “Multidisciplinary Courses.” Special Elective courses are described in the next section.

DIAG 5007/6007 Graduate Oral and Maxillofacial Radiology Clinic

3.0 Semester Credit Hours

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.

DIAG 5014 Physical Evaluation I
1.5 Semester Credit Hours

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.

DIAG 5015 Panoramic Radiology
0.5 Semester Credit Hour

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.

DIAG 5016 Head and Neck Anatomy
1.0 Semester Credit Hour

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.

DIAG 5018 Practicum in Oral Medicine
4.0 Semester Credit Hours

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 which 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 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.
DIAG 5019  Digital Imaging
1.0 Semester Credit Hour
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.

DIAG 5024  Plain Film Radiography and Anatomy
1.0 Semester Credit Hour
This course is the first in the series of didactic and clinical courses aimed at providing the student with the opportunity to gain in-depth knowledge of oral and maxillofacial radiographic anatomy, and proficiency in routine and special OMF imaging procedures. The first course has the emphasis in proficiency level learning of the techniques used in conventional plain film radiography and tomography and in the learning of the radiographic anatomy as it appears in these plain films.

The course consists of a complete review of plain film techniques used in OMF radiography and hands-on imaging exercises with radiographic phantoms. The radiographic anatomy displayed on these projections will be reviewed in lecture and exercise format using the practice phantom films and radiographic anatomy review sets. The student will have the opportunity to learn to recognize the changing appearance of anatomical structures with different x-ray projections, and will have the opportunity to learn how to correct for the errors in projections. Bony anatomy and organ-based anatomy will be reviewed.

DIAG 5026  Oral and Maxillofacial Radiology Interpretation
2.0 Semester Credit Hours
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.

DIAG 5092/5093/6090/6091/6092/6093/6094/6095
Diagnostic Science Seminar
Variable
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.

DIAG 5017/6017  Literature Review
1.0 Semester Credit Hour
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 which 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.

DIAG 5045  Radiation Physics
1.0 Semester Credit Hour
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.

DIAG 5044  Radiation Physics Lab
0.5 Semester Credit Hour
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.

DIAG 5070/6071  Supervised Teaching
1.0–2.0 Semester Credit Hours
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 is provided by the graduate faculty.

DIAG 6135  Clinical Case Conference I and II
1.0 Semester Credit Hour
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.

DIAG 5091  Case Conference
1.0 Semester Credit Hour
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.

DIAG 5181  Principles in Forensic Odontology
1.0 Semester Credit Hour
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.)

DIAG 6008  Orofacial Pain
2.0 Semester Credit Hours
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.

DIAG 6009  Noninfectious Diseases of the Oral Mucosa
2.0 Semester Credit Hours
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.

**DIAG 6018 OMR Case Conference**  
1.0 Semester Credit Hour  
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.

**DIAG 6022 Practicum in Oral Medicine**  
6.0 Semester Credit Hours  
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 which 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 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.

**DIAG 6023 Radiology for Graduate Orthodontics**  
1.5 Semester Credit Hours  
The goal of this course is to prepare the Orthodontic graduate student for contemporary practice in the area of radiology.

**DIAG 6025 Oral and Maxillofacial Radiology Interpretation**  
2.0 Semester Credit Hours  
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.

**DIAG 6027 Advanced Imaging Physics**  
1.0 Semester Credit Hour  
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.

**DIAG 6040 Advanced Oral and Maxillofacial Radiology Interpretation**  
2.0 Semester Credit Hours  
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.

**DIAG 6041 Basic Radiation Biology**  
1.0 Semester Credit Hour  
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.

**DIAG 6043 Advanced Radiation Biology**  
1.0 Semester Credit Hour  
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.

**DIAG 6046 Pharmacotherapeutics**  
1.0 Semester Credit Hour  
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.

**PATH 5121 Biostatistics**  
1.0 Semester Credit Hour  
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.

**PEDO 5026 Orthodontics I**  
2.0 Semester Credit Hours  
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.

**Special Elective Course Descriptions**  
Electives are offered on a regular and/or variable basis pending availability of faculty.

**DIAG 5181 Principles in Forensic Odontology**  
1.0 Semester Credit Hour  
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.)

**DIAG 5012/6075 Practicum in Clinical Radiology**

1.0–4.0 Semester Credit Hours

This course will be offered during each semester of the three-year program. The practicum consists of clinical radiology service involving all aspects of Oral and Maxillofacial Radiology and didactic sessions introducing basic concepts of image interpretation and imaging techniques. Patients are seen in the Tertiary Care Radiology Clinic that provides radiology services to the Dental School and surrounding professionals on a referral basis. Proficiency level skills are required in the technical performance and interpretation of all the dental school-based imaging such as intraoral, panoramic and plane film radiography, and OMF tomodraphy. Medical radiology rotations provide the opportunity for students to train to become competent in interpretation of CT and MR images of the OMF region, and to be familiar in interpretation of ultrasonic and nuclear medicine images. Studies in image interpretation and normal radiographic anatomy will be emphasized during this course. During the three years of training, rotations are designed to train the student to become competent in the new OMF imaging techniques and procedures, such as planar and 3-dimensional CT image reformations, direct digital radiographic equipment and procedures, digital subtraction radiography and quantitative digital radiography procedures. The students also will have training in the conventional procedures of darkroom quality assurance and film processing.

**DIAG 6005 Clinical Pathology Conference**

1.0 Semester Credit Hour

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.

**DIAG 6020 Tumor Board**

1.0 Semester Credit Hour

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.

**DIAG 6021 Medical Radiology Rotation**

2.5 Semester Credit Hours

A minimum of 7.5 semester credit hours are required. Each student must enroll in a minimum of three (3) one-month rotations. 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.

**DIAG 6062 Advanced Forensic Anthropology Lab**

0.5 Semester Credit Hour

This 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 Southwest Foundation for Biomedical Research, and other locations. Students are expected to develop selective skills related to their areas of interest within the field.

**DIAG 6084 Advanced Forensic Odontology Lab**

0.0 Semester Credit Hour

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.

**DIAG 6060 Physical Anthropology**

1.0 Semester Credit Hour

This lecture and laboratory course examines the morphology of the human cranial and postcranial skeleton, skeletal biology, osteogenesis, and skeletal cariation. 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.

**DIAG 6061 Forensic Anthropology**

1.0 Semester Credit Hour

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.

**DIAG 6066 Forensic Dental Photography Lab**

0.5 Semester Credit Hour

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.

**DIAG 6063 Forensic Odontology Lab**

1.0 Semester Credit Hour

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.

**DIAG 6085 Forensic Pathology**

0.5 Semester Credit Hour

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.
**Endodontics Certificate Program**

**FIRST YEAR**

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**SECOND YEAR**

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*Multidisciplinary course*
Multidisciplinary course in endodontics. The opportunity to maintain a comprehensive endodontic practice under the supervision of the director and staff of the postdoctoral program is offered on the graduate level. Each student has the opportunity to become active endodontists with emphasis on extracted teeth. The student functions as an instructor side by side with endodontic faculty members who observe and critique the student's performance.

Variable Credit Hours

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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.

*Multidisciplinary course*

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### Course Descriptions

Courses unique to the program in Endodontics are listed below. Offerings which are common to one or more programs are described under "Multidisciplinary Courses."

**ENDO 5015 Dental Photography**

0.5 Semester Credit Hour

This course is designed to expose the student to the principles of effective dental photography. Students are given the opportunity to make clinical photographs which are critiqued in class.

**ENDO 5017/5018 Clinical Seminar I**

2.0 Semester Credit Hours

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.

**ENDO 5020 Introduction to Advanced Endodontics**

2.5 Semester Credit Hours

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.

**ENDO 5052 Endodontic Surgical Anatomy**

1.5 Semester Credit Hours

This course consists of a series of four 4-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.

**ENDO 5071/6071 Supervised Teaching I & II**

1.0 Semester Credit Hour

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**

1.0 Semester Credit Hour

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.

**ENDO 5074/5075 Literature Review I**

4.0 Semester Credit Hours

These courses are 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.

ENDO 5080/5081/5082/6083/6084/6085/6086/6087 Case Presentations I, II, & III

Variable Credit Hours
These courses are 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.

ENDO 5095, 5096 Research

6.0 Semester Credit Hours
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.

ENDO 5097, 5098 Research

2.0 Semester Credit Hours
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.

ENDO 6031/6032 Hospital Endodontics Rotation

1.0 Semester Credit Hour
Conducted at the Audie L. Murphy Memorial Veterans Affairs Hospital, this rotation consists of the diagnosis, treatment planning, and clinical treatment of endodontically involved teeth and supporting structures. This rotation provides the second-year post-doctoral endodontics student the opportunity to diagnose and treat endodontic problems on all types of inpatients and outpatients in the hospital setting.

ENDO 6060 Pulp Biology and Pain Pharmacology

1.5 Semester Credit Hours
This purpose of this course is to provide the solid foundation knowledge in the biology of dental pulp and periradicular tissues that is 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.

ENDO 6073 Literature Review II

1.0 Semester Credit Hour
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.

ENDO 6074 Literature Review II

4.0 Semester Credit Hours
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.

ENDO 6075/6076 Current Literature Review

0.5–1.0 Variable Credit Hours
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.

ENDO 6077 Current Literature Review

1.0 Semester Credit Hour
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.

ENDO 6091 Research

1.0 Semester Credit Hour
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.

ENDO 6092/6093 Research

2.0 Semester Credit Hours
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.

ENDO 6094/6095 Research

4.0 Semester Credit Hours
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.

ENDO 6098 Thesis

4.0 Semester Credit Hours
Pediatric Dentistry
Certificate Program

FIRST YEAR

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**Total Credits for the Certificate Program** 78.5

Course Descriptions

Courses unique to the program in Pediatric Dentistry are listed below. Offerings which are common to one or more programs are described under “Multidisciplinary Courses.”

PEDO 5042 Pediatric Dentistry I
6.0 Semester Credit Hours
This course comprises several seminar series and lectures on a variety of subjects pertinent to advanced pediatric dentistry. Included are conscious sedation, pulpal 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.

PEDO 5043 Pediatric Dentistry II
6.0 Semester Credit Hours
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.

PEDO 5044 Pediatric Dentistry III
6.0 Semester Credit Hours
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.

PEDO 5091 Special Topics
5.0 Semester Credit Hours
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.

PEDO 5095 Independent Study
4.0 Semester Credit Hours
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.

PEDO 6045 Pediatric Dentistry IV
6.0 Semester Credit Hours
A continuation of the case conferences, current literature seminars, and pediatric grand rounds, this course also introduces practice management and topics in clinical genetics.

PEDO 6146 Pediatric Dentistry V
5.0 Semester Credit Hours
This course continues the case conferences, current literature seminars, and pediatric grand rounds of PEDO 6045 Pediatric Dentistry IV, adding craniofacial anomalies seminars.

PEDO 5026 Orthodontics I
2.0 Semester Credit Hours
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.

PEDO 5027/5028/6029/6030 Orthodontics II, III, IV, and V
Variable Credit Hours
These seminars consist of a series of selected orthodontic topics which 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.
The postdoctoral program in pediatric dentistry is designed to provide each resident with clinical experience which 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.

**PEDO 5051 Pediatric Physical Diagnosis**  
*1.5 Semester Credit Hours*  
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.

**PEDO 6083/6084 Investigative Project**  
*1.0 Semester Credit Hour*  
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.

## Periodontics Certificate/Master’s Program

### FIRST YEAR

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**Fall**

| Credit Hours | **PERI 6025** Case Presentation | 0.5 |

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*Multidisciplinary course*
PERI 6011 Clinical Periodontics II
PERI 6074 Current Literature Seminar
PERI 6020 Emergency Care Seminar
PERI 6073 Literature Seminar
PERI 6030 Periodontics Lecture Series
* PERI 6097 Research
* PERI 6070 Supervised Teaching (Audit)
* INTD 6016 The Essence of Pharmacology for Dental Practitioners
* INTD 6014 Interdiscip. II - Peri/Pros/Endo/Ortho
PATH 6026 Surgical Oral Pathology I
PERI 6050 Periodontal Medicine

PERI 6025 Case Presentation
PATH 6027 Surgical Oral Pathology II
PERI 6011 Clinical Periodontics II
PERI 6074 Current Literature Seminar
PERI 6020 Emergency Care Seminar
PERI 6073 Literature Seminar
PERI 6075 Mock Board Exams
PERI 6001 Periodontic Practice Management
PERI 6030 Periodontics Lecture Series
* PERI 6097 Research
* INTD 6014 Interdiscip. II - Peri/Pros/Endo/Ortho
* PERI 6071 Supervised Teaching (Audit)
PERI 6050 Periodontal Medicine

PERI 6025 Case Presentation
PERI 6012 Clinical Periodontics III
PERI 6031 Periodontics Lecture Series
* PERI 6072 Supervised Teaching (Audit)
* INTD 6115 Interdiscip. III - Peri/Pros/Endo/Ortho
* PERI 6098 Thesis
PERI 6050 Periodontal Medicine

The Master's Degree Program
THIRD YEAR

The Master's Degree Program
THIRD YEAR

Spring

PERI 6025 Case Presentation
PERI 6012 Clinical Periodontics III
PERI 6031 Periodontics Lecture Series
* PERI 6097 Research
PERI 6074 Current Literature Seminar
PERI 6073 Literature Seminar
PERI 6031 Periodontics Lecture Series
* INTD 6115 Interdiscip. III - Peri/Pros/Endo/Ortho
* PERI 6072 Supervised Teaching (Audit)
PERI 6050 Periodontal Medicine

The Master's Degree Program
THIRD YEAR

Course Descriptions
Courses unique to the program in Periodontics are listed below. Offerings which are common to more than one program are described under "Multidisciplinary Courses."

PERI 5031/6031/6031 Periodontics Lecture Series
1.0-5.0 Semester Credit Hours
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 5010/5011/5012 Clinical Periodontics I
1.0 Semester Credit Hour
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.

PERI 6011 Clinical Periodontics II
1.0-10.0 Semester Credit Hours
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.

PERI 6012 Clinical Periodontics III
1.0-5.0 Semester Credit Hours
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.

PERI 5073/6073 Literature Seminars
1.0 Semester Credit Hour
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.

PERI 5074/6074 Current Literature
1.0 Semester Credit Hour
Current periodontal literature published during the academic year is discussed in a seminar format.

PERI 6020 Emergency Care Seminar
0.5 Semester Credit Hour
This is a pragmatic course to familiarize the student with the medical emergencies that the clinician may incur while practicing dentis-
Prosthodontics

Certificate Program

FIRST YEAR

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SECOND YEAR

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*Multidisciplinary course
### Third Year

#### Summer

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#### Total Credit Hours for the Certificate Program

96.0

#### Total Credit Hours for the Master’s Program

100.0

### The Master’s Degree Program

The curriculum is identical for the Certificate and Master’s programs, with the exception of one course, PROS 6089 Theses, which is taken the spring semester of the third year.

### Course Descriptions

Courses unique to the program in Prosthodontics are listed below. Offerings which are common to one or more programs are described under “Multidisciplinary Courses.”

#### PROS 5031/6032/6033/6034

Clinical Prosthodontics I, II, III, IV

**1.0-5.0 Semester Credit Hours**

The objective of these courses is to provide extensive clinical experience in the broad spectrum of prosthodontics on a graduated basis. Each postdoctoral student will have the opportunity to maintain a comprehensive prosthodontic practice involving fixed, removable, and implant treatment procedures.

#### PROS 5073/6073, 6074/6075, 6076

Literature Seminars I, II, III

**1.0 Semester Credit Hour**

The broad field of prosthodontics literature is systematically reviewed with the objective of providing the postdoctoral student with a background of prosthodontic knowledge and history.

#### PROS 5020/6022/9024 Advanced Prosthodontics I, II, III

**Variable Credit Hours**

These courses are designed to provide the postdoctoral student with the opportunity to gain the prerequisite background and clinical experience in prosthodontic procedures. Fixed, removable, and overdenture concepts and treatment procedures will be emphasized.

#### RESD 5049 Overview to Maxillofacial Prosthodontics

**0.5 Semester Credit Hour**

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.

#### RESD 6021 Advanced Dental Materials

**2.5 Semester Credit Hours**

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.

#### PROS 5053 Implant Prosthodontics

**1.5 Semester Credit Hours**

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.

#### PROS 5015 Concepts of Occlusion

**1.0 Semester Credit Hour**

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-fosa additive wax method and an occlusal equilibration technique.

#### PROS 6046/6047 Oral & Maxillofacial Surgery/Prosthodontics Patient Management Seminar

**2.0 Semester Credit Hours**

A seminar devoted to the discussion and coordination of treatments of patients under joint management of the Oral & Maxillofacial Surgery and Prosthodontics departments.

#### PROS 6043 Clinical Geriatric Dentistry

**1.0 Semester Credit Hour**

This course offers prosthodontic residents didactic and clinical experience treating geriatric patients.

#### PROS 6035 Maxillofacial Prosthodontics

**1.0 Semester Credit Hour**

This clinical course provides experience treating patients on the Maxillofacial Prosthetics Service. Patients with congenital and acquired defects are treated under supervision of the maxillofacial prosthodontic faculty.
Multidisciplinary Courses

The following are basic science and multidisciplinary courses common to the curriculum of two or more programs:

ANES 6081 Anesthesia Rotation
1.5 Semester Credit Hours
The physiology and psychology of pain and its control, along with pharmacology for pain control, is the focus of this rotation. The techniques of general anesthesia, intravenous, and nitrous oxide sedation are presented in lectures, discussed in seminars, and demonstrated. Application of techniques is performed under supervision. Special attention is given to the management of emergencies and the apprehensive patient.

DIAG 5050 Fundamentals of Dental Radiology
1.0 Semester Credit Hour
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.

DIAG, ENDO, PEDO, PERI, PROS 5067/5068/5069/5071/6070/6071/6072 Supervised Teaching
1.0/2.0 Semester Credit Hours
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 is provided by the graduate faculty.

DIAG, ENDO, PATH, PEDO, PERI, PROS 5097/6097 Research
Variable Credit Hours
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 or 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 which must be defended as the culmination of research efforts.

DIAG 5050/6006 Clinical Pathological Conference
2.0 Semester Credit Hours
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 is presented for group discussion with a view toward obtaining a differential diagnosis.

DIAG, ENDO, PATH, PERI, PROS 6098 Thesis
Variable Credit Hours
Prerequisite: Admission to candidacy for the Master of Science degree. 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.

ENDO 5060 Current Concepts in Endodontics
1.0 Semester Credit Hour
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.

GEND 5027 Pain Control and Sedation
3.5 Semester Credit Hours
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.

INTD 5013/6014/6115 Interdisciplinary Courses I, II, III - Peri/Pros/Endo/Ortho
1.0 Semester Credit Hour
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.

INTD 5020/5021 Dental Biomedical Core Courses
1.0/4.0 Semester Credit Hours
A multidisciplinary review of the interaction between basic and dental clinical science is provided in these two courses.

INTD 5067 Introduction to Computational and Systems Biology
1.0 Semester Credit Hour
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, 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, chemo informatics, molecular modeling, and mathematical model building.

INTD 6070 Teaching Skills for Dental Educators
1.5 Semester Credit Hours
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.

ORTH 5094 Research Methodology I
1.5 Semester Credit Hours
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.

PATH 5030 Oral Histopathology
1.0 Semester Credit Hour
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 multi-headed 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.

PATH 5035 Oral Pathology
2.0 Semester Credit Hours
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.

**PATH 6026  Surgical Oral Pathology I**

*1.0 Semester Credit Hour*

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.

**PATH 6027  Surgical Oral Pathology II**

*1.0 Semester Credit Hour*

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.

**PERI 5052  Surgical Anatomy**

*1.0 Semester Credit Hour*

This didactic and laboratory course provides a student with an overview of head and neck anatomy. Specific sessions address concerns in the maxilla and mandible for the placement of osseointegrated implants. A prosection review in human specimen dissection is completed in the anatomy laboratory.

**PROS 5050  Endosseous Dental Implants**

*1.0 Semester Credit Hour*

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.

**RESD 5095  Research Methodology II - Development of a Thesis Proposal**

*0.5 Semester Credit Hour*

This course is a continuation of ORTH 5094 Research Methodology I.

**RESD 6190  Interdisciplinary Seminar**

*1.0 Semester Credit Hour*

This seminar course is designed to relate the various dental specialty fields to each other in relation to patient care. Reinforcement of the basic sciences as they are clinically applied will be provided. Students will have an opportunity to extend their clinical knowledge beyond their own specialty areas of training and to become cognizant of current concepts and developments in other specialized fields.

**SELC 7090  Air Abrasion in Dentistry**

*0.5 Semester Credit Hour*

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.

## Associated Programs

### Advanced Education in General Dentistry

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 clinical, facilities, 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 foundation for dental practice and to develop the residents’ skill in lecture preparation and presentation. In the year of training, the resident spends 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 which 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 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 fulfill 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 website at http://www.dental.uthscsa.edu/educprog/advgpr.html. All residents in the program receive a stipend.

**Dental Public Health Residency**

The Department of Community Dentistry offers a one-year, full-time or a two-year, part-time Residency in Dental Public Health. 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 Health-Austin, 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.tspb.org/list.html). 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 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 Program and this residency, but separate applications to each program are required.

The Department of Community Dentistry has programs in epidemiology, oral disease prevention and health promotion, health services, nutrition, cariology, and sialochemistry, and cooperates in several school, mobile, and community health center clinical primary care programs. Other resources to the program include the Texas Department of Health Bureau of Dental Health, the San Antonio Metropolitan Health District, and The University of Texas School of Public Health, San Antonio Program.

Application deadline is March 31 for the program commencing September 1 each year and ending on August 31 the following 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 Department of Community Dentistry. The following Web site has further information: [http://dental.uthscsa.edu/](http://dental.uthscsa.edu/).

**Oral and Maxillofacial Surgery Residency**

The Oral and Maxillofacial Surgery Residency, a six-year medical degree/certificate program, opens two positions each year. The course of study is designed to integrate the advanced biological sciences into progressive clinical training. Additionally, opportunities and facilities are available for the resident to pursue clinically relevant research. Every resident is required to have a research project published and presented at a national meeting prior to receiving a certificate of residency training.

In the clinical portion of the training program, 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, and interpretation of laboratory data. Other activities that are used to supplement hospital clinical oral and maxillofacial surgery experience and rotations include a dental school assignment, emergency room duty, special clinics, conferences, and teaching rounds. There is an excellent balance between inpatient admissions and outpatient visits encompassing dentoalveolar surgery; maxillofacial trauma; pathology; and orthognathic, preprosthetic, temporomandibular, and reconstructive surgery. Approximately 450 hospital admissions and 10,000 outpatient procedures are performed annually through the oral surgery clinic at University Hospital, South Texas Medical Center.

While assigned to the Oral and Maxillofacial Surgery service, residents rotate for six months in the Dental School’s outpatient surgery suite. The suite is a fully equipped outpatient operating facility with general anesthesia capabilities. The resident participates in an extensive number and variety of cases that are beyond the capability of undergraduate dental students. These cases include, but are not limited to, impactions, tori, biopsies of oral lesions, implants, scar revision, osteotomies, and fractures. An opportunity for clinical teaching experience with dental students and other dental specialties is provided also.

In the first year, the resident is enrolled in the School of Medicine (pathophysiology year) for approximately 10 months. When he/she is not in class, the resident participates in oral and maxillofacial surgery rotations. The second year is comprised of clinical clerkships (49 weeks) which are part of the medical curriculum. During this time, the resident/medical student is assigned to medical and surgical rotations. As time permits, he/she also attends conferences and rounds with the oral and maxillofacial service.

In the third year, as a junior resident in oral and maxillofacial surgery, the resident is given increasing clinical responsibility and participates in major surgical procedures. This year is divided between assignments at the nearby Audie L. Murphy Memorial Veterans Hospital (“V. A. Hospital”) and University Hospital, South Texas Medical Center. Four to six months of inpatient anesthesia is also scheduled this year. Upon successful completion of School of Medicine requirements, the resident is awarded a Doctor of Medicine degree at spring commencement.

During the four-year general surgery internship, residents rotate on general surgery services for an opportunity to learn basic surgery techniques and surgical management — particularly pre- and postoperative care. This experience includes general surgery, thoracic surgery, vascular surgery, head and neck surgery, and neurosurgery. Following the successful completion of the internship, the resident is eligible to take the state licensure examination in medicine.

In the fifth year, the resident receives additional training in oral and maxillofacial surgery, progressively receiving more and more complex cases. In the fifth year, residents are routinely scheduled to work side by side with senior residents and teaching staff on all major surgeries.

Serving as chief resident in the Oral and Maxillofacial Surgery Service during the sixth year of the program, the resident has increasing latitude for independent action commensurate with her/his knowledge and skills. In addition to performing all aspects of oral and maxillofacial surgery, the resident is responsible for running the oral and maxillofacial surgery services at the Audie L. Murphy Memorial Veterans Hospital and University Hospital.

Each resident is required to participate in research activities during training. While clinical research projects
predominate, there is opportunity for basic science research as well. The research effort is expected to result in papers submitted to journals for publication and in abstracts for presentation at professional meetings.

School of Medicine tuition and fees for the second, third, and fourth year of the program are approximately $7,000 per year.

Additional information about this residency is available from the Division of Oral and Maxillofacial Surgery, Department of Surgery.

**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 -3510.

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### Advanced Dental Education

#### Academic Calendar 2008–2009

<table>
<thead>
<tr>
<th>Fall 2008</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Monday, August 25, 2008</td>
<td>1st Class Day</td>
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<tr>
<td>Monday, September 01, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, September 10, 2008</td>
<td>Census Day</td>
</tr>
<tr>
<td>Thursday, November 27, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Friday, November 28, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Friday, December 19, 2008</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Saturday, December 20, 2008</td>
<td>Graduation (No Ceremony)</td>
</tr>
<tr>
<td>Wednesday, December 24, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Thursday, December 25, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Friday, December 26, 2008</td>
<td>University Holiday</td>
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<tr>
<th>Spring 2009</th>
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<tbody>
<tr>
<td>Thursday, January 01, 2009</td>
<td>University Holiday</td>
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<tr>
<td>Monday, January 05, 2009</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Monday, January 19, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, January 21, 2009</td>
<td>Census Day</td>
</tr>
<tr>
<td>Monday, February 16, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, May 20, 2009</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Friday, May 22, 2009</td>
<td>Graduation-UTHSCSA Auditorium 4 p.m.</td>
</tr>
<tr>
<td>Monday, May 25, 2009</td>
<td>University Holiday</td>
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<tr>
<td>Wednesday, May 27, 2009</td>
<td>Term Concludes</td>
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<tr>
<th>Summer 2009</th>
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<tbody>
<tr>
<td>Thursday, May 28, 2009</td>
<td>1st Class Day</td>
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<tr>
<td>Wednesday, June 10, 2009</td>
<td>Census Day</td>
</tr>
<tr>
<td>Tuesday, June 30, 2009</td>
<td>Graduation (No Ceremony)</td>
</tr>
<tr>
<td>Monday, July 06, 2009</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Friday, July 10, 2009</td>
<td>Census Day</td>
</tr>
<tr>
<td>Friday, August 21, 2009</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Saturday, August 22, 2009</td>
<td>Graduation (No Ceremony)</td>
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</tbody>
</table>

Note: The 2009–2010 Academic Calendar will be available on the Student Services Web site in the fall.
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 University of Texas Health Science Center at San Antonio. Over 300 faculty members from the Graduate School of Biomedical Sciences are training approximately 350 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 academic curricula, monitoring its students’ academic progress and conduct of clinical studies. A Master of Science 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 HSC 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 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 administered by the Graduate School of Biomedical Sciences. Detailed information about these programs can be found in the schools’ respective section in this Catalog. In addition, detailed information about each of these graduate programs can be found in the Graduate School of Biomedical Sciences Applicant Viewbook.

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 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. (Students who matriculated before Fall, 2008 may be enrolled in doctoral programs in Biochemistry, Cellular & Structural Biology, Microbiology & Immunology, Pharmacology, or Physiology.)

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 Master of Science in Nursing and Doctor of Philosophy degrees are 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 University of Texas at San Antonio (UTSA). (Students who matriculated before Fall, 2008 may be enrolled in doctoral programs in Biochemistry, Cellular & Structural Biology, Microbiology & Immunology, Pharmacology, or Physiology.)

The introductory section of this Catalog, pages 46–123, applies to all schools. Students are also responsible for all information contained in that section.
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 Associate Deans of the Graduate School, the Associate Dean for Graduate Nursing Program, the Assistant Dean(s) of the Graduate School, and 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, Pharmacy, 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 nonvoting members of the Council.

**Committees on Graduate Studies (COGS)**

**Biomedical Sciences Programs**

**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

**Microbiology**
William Haldenwang, PhD
Chair and Graduate Advisor

**Molecular Medicine**
Barbara Christy, PhD, Chair
Hai Rao, PhD, Graduate Advisor

**Pharmacology**
Thomas Cunningham, PhD
Chair and Graduate Advisor

**Physiology**
James Stockand, PhD
Chair and Graduate Advisor

**Radiological Sciences**
Geoffrey Clarke, PhD
Chair and Graduate Advisor

**Professional Sciences Programs**

**Dental Diagnostic Science**
Robert Langlais, DDS, MS
Chair and Graduate Advisor

**Endodontics**
Karl Keiser, DDS
Chair and Graduate Advisor

**Nursing**
Sara Gill, PhD

**Periodontics**
Brian Mealey, DDS, MS
Chair and Graduate Advisor

**Prosthodontics**
Ronald Verrett, DDS, MS
Chair and Graduate Advisor

**Dental Hygiene**
Juanita Wallace, PhD
Chair and Graduate Advisor

**Application**

Students interested in the Ph.D. programs in the Integrated Multidisciplinary Graduate Program, Molecular Medicine or Radiological Sciences and M.S. programs in Cellular & Structural Biology, Clinical Investigations, 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 or the School of Nursing apply through the Texas Common Application at http://www.applytexas.org.

Students interested in the Biomedical Engineering program apply through UTSA at http://engineering.utsa.
Admissions

Requirements for admission to graduate programs are detailed in the [Applicant Viewbook](http://studentservices.uthscsa.edu/prospects_apply_grad.aspx) of the Graduate School of Biomedical Sciences. In addition, the Viewbook can be accessed online at [http://studentservices.uthscsa.edu/prospects_apply_grad.aspx](http://studentservices.uthscsa.edu/prospects_apply_grad.aspx).

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. 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; in general, a minimum of 1000 for the combined scores on the verbal and quantitative portions of the General (Aptitude) Test is preferred. 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 will be 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 must provide proof of a degree in medicine, dentistry, health professions, or evidence of concurrent enrollment in the Graduate School of Biomedical Sciences.

For students applying to the MD/PhD program, scores from the Medical College Aptitude Test (MCAT) may be substituted for the GRE. In this case, MCAT scores of 25 or higher will be considered.

For students applying to the DDS/PhD program, scores from the Dental Aptitude Test (DAT) may be substituted for the GRE. Scores of 18 or higher will be considered.

For students applying to the Dental Hygiene program and the Nursing doctoral program, satisfactory scores from the Miller's Analogy 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 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 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.

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 Medical 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 interdigitiation 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 Web site: http://gsbs.uthscsa.edu.

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.

Requirements and Regulations
A student enrolled in the Graduate School of Biomedical Sciences is subject to all established requirements and regulations of the HSC, 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 which is missed.

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 at 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 HSC. 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 UT Health Science Center at San Antonio 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."  

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.

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 Requirement  
Directed teaching in the student's major area under the close supervision of one or more faculty members is currently required of each doctoral student. Up to six semester hours of credit toward a degree may be granted to the student who completes at least two semesters of teaching. In order to receive this credit, the student must enroll in a special graduate course in Supervised Teaching in her or his area and receive a grade of S (Satisfactory) or H (Honors).

Quantity-of-Work Rule  
Full-time graduate students may be awarded stipends as teaching or 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, and stipends serve as scholarships to meet financial need.

There may be circumstances under which part-time graduate students 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.

| Graduate Hours Registered for Per Week Permitted to Work |
|---------------------------------------------------------|-----------------|
| 15 | 0 - 0.00% |
| 14 | 3 - 7.50% |
| 13 | 6 - 15.00% |
| 12 | 10 - 25.00% |
| 11 | 13 - 32.50% |
| 10 | 16 - 40.00% |
| 9  | 20 - 50.00% |
| 8  | 23 - 57.50% |
| 7  | 26 - 65.00% |
| 6  | 30 - 75.00% |
| 5  | 33 - 82.50% |
| 4  | 36 - 90.00% |
| 3  | 40* - 100.00% |
| 2  | 40* - 100.00% |
| 1  | 40* - 100.00% |

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, Dissertation, and Supervised Teaching. No student can receive credit for a course for which he or she has not registered.

Consequences for Non-Payment of Tuition and Fees  
Students are responsible for paying their tuition and fees by the census date of each semester for which they are registered. For details on consequences of non-payment of tuition and fees, see "Financial Information" sections Tuition & Fees page 86, and "Refund" page 92. International students must also contact the Office of International Services, page 53. Additional actions may also be taken by the Graduate School. They are:

* Present policy permits an employee to enroll in a 3-semester-hour course without reduction in pay.
A student on academic probation will not be allowed to either drop a course before the initial evaluation period in that course. If a course is dropped before the first evaluation period in that course, or meets for four lecture hours per week in the 17-week fall or 18-week spring semesters, 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, graduate 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 always 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 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 General Policies for 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 (1) to satisfy the course requirements for the Ph.D. degree or (2) to be appropriate to the specific course of study of the individual graduate student.

Registration for Thesis
Students in M.S. programs may register for the Thesis course XXXX 6098 where XXXX represents one of the following: BIOC, CLS, CSBL, DENH, ENDO, MEDI, MICR, MMED, NURS, ORTO, PERI, PHAR, PHYL, PROS, or RADI. Registration for Thesis is only permitted after the following three actions have been taken:

1. Approval of admission to candidacy for the M.S. degree by the Dean;
2. Approval of the thesis research proposal by the Committee on Graduate Studies of the program;
3. Appointment of a Supervising Committee for the thesis research by the Committee on Graduate Studies of the program.

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, CSBL, MICR, MMED, NURS, ORTO, PHAR, PHYL, 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.

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/G1_forms.asp

International Students
Because of requirements dictated by certain types of visas, international students must consult with their COGS Chair prior to registering for final hours.

Any student wishing to enroll in Final Hours must submit a completed Request for Designation of Final Hours form to their COGS Chair for approval. Once programmatic approval is given, the form is to be submitted to the Registrar’s Office for official enrollment in the course.

Registration at Other U. T. 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 field work. 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)
C = 2 (below average graduate work)
D = 1 (failing graduate work)
F = 0 (failing graduate work)

Grades of D and F are not acceptable for graduate credit. If a course is repeated, the last grade earned is used in computing the cumulative grade point average.

A grade of S (satisfactory), U (unsatisfactory), or H (honors) is not included in the computation of the grade point average. These grades are given in the following courses in all programs: Literature Searching, Supervised Teaching, Research, Thesis, and Dissertation. Grades for Thesis or Dissertation hours are reported as “In Progress” (IP) until the work is completed. S/U and/or H (honors) may also be given in specific courses in specific programs.

Other symbols used in reporting the standing of students in their classes are: WP and WF (see “Withdrawal”), W (course dropped while receiving a passing grade with no penalty), and I (incomplete). The course director 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 (withdrew passing) or WF (withdrew failing).

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, at which time the grade of I (Incomplete) will be changed to the appropriate letter grade.

The grading system described above applies to courses in the medical and dental curricula in which graduate students may be enrolled as well as to courses in the graduate programs. Grades for courses taken to satisfy a contingency or condition of admission or those transferred for credit are not included in computation of the grade point average.

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.

The graduate student who has been dismissed may be readmitted for further graduate study by petition from the Committee on Graduate Studies of her or his graduate program. The request will be considered by the Graduate Faculty Council and, according to the recommended action, will be approved or disapproved by the Dean. 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 should complete and sign the upper portion of the Student Clearance Form (available from the Graduate School Office), 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 with an Administrative Clearance Form. The student should then complete and sign the upper portion of this Form, obtain on it the signatures of the COGS Chair and the Graduate School dean, and obtain authorized signature clearance from each area listed on the lower portion of the Form. The student should also drop any courses for which they are currently enrolled.

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.

Nonregistration
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 wish 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.

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 I. (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.)

5. 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.

6. Draft of dissertation research proposal. The can-
candidate shall identify a research question which will serve as a focus for the dissertation research. The candidate shall prepare a draft of a research proposal which 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).

7. Nomination of the 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, 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 dissertation research and to certify to the Committee on Graduate Studies, the supervising professor and Chair of the Supervising Committee; (_____ 7099).

8. 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 the Dissertation course (_____ 7099). 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.

9. 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.

10. 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. A 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 appears to be 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 dissertation in accordance with
11. **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 which 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.

12. **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 signify 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 typed copy of the dissertation 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 both the Report and the dissertation copy in final form have been received and approved, 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. (This procedure is contingent upon the receipt of the final version of the dissertation.) 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 Exams," and "Graduation" previously discussed in this section.)

**Master of Science Degree (Biomedical Sciences Programs)**

**Phase I. (From matriculation to admission to candidacy.)**

1. **Assignment of faculty advisor.** Same as above for Ph.D. degree.
2. **Approval of research advisor.** Same as above for Ph.D. degree.
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.** Same as above for Ph.D. degree except that the Qualifying Examination may be waived. GSBS Form 31 should be submitted to the Dean for approval.

**Phase II. (From admission to candidacy through granting of the degree.)**

5. **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.
6. **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.

* The Sequential Procedures for the thesis-option Master of Science in Nursing degree, the Master of Science degree in dental specialties, and the Master of Science degree in Clinical Investigation 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 the program.
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.

7. **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, 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 but need not necessarily be a member of the graduate faculty.

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 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 investigation of the caliber appropriate for an M.S. thesis and, in their opinion, defended it satisfactorily.

8. **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.

9. **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.

10. **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.

Two copies of the Abstract and the Vita should be submitted with the Request for the candidate's files...
in 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.

11. **Recommendation for granting of the degree.**

If the Committee on Graduate Studies approves the favorable recommendation by the Supervising Committee, the Chairman 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 typed copy of the thesis 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 both the Report and the thesis copy have been received, 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.

(See "Registration for Theses," "Registration for Final Term," and "Graduation" previously discussed in this section.)

**Sequential Procedures Forms**

The following forms, required for the sequential procedures described above, are available online at [http://www.uthscsa.edu/gsbs](http://www.uthscsa.edu/gsbs):

**Form No.** | **Procedure**
--- | ---
31 | Petition for Admission to Candidacy for M.S. Degree
32 | Petition for Admission to Candidacy for Ph.D. Degree
33 | Petition for Admission to Candidacy for M.S. in Nursing Degree
30 | Recommendation for Approval of Dissertation Research Proposal and Supervising Committee (Ph.D.)
40 | Request for Final Oral Examination (Ph.D. or M.S.)
41 | Report on Final Oral Examination (M.S.)
42 | Composition of Supervising Committee (M.S.)
43 | Report on Final Oral Examination (Ph.D.)

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 the Graduate School Dean's Office.

**Instructions for Preparation and Submission of Electronic Theses, Dissertations, and Dissertation Abstracts**

These instructions should be obtained online at [http://www.uthscsa.edu/gsbs](http://www.uthscsa.edu/gsbs) by the candidate before writing the thesis or dissertation.
INTEGRATED MULTIDISCIPLINARY GRADUATE PROGRAM

The Graduate School of Biomedical Sciences offers a doctoral level Integrated Multidisciplinary Graduate Program 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 Integrated Multidisciplinary Graduate Program (IMGP) which provides contemporary, interdisciplinary advanced education and scientific research based on fundamental principles in the biomedical sciences. Effective with admission for Fall 2008, prospective students seeking a PhD degree apply to the IMGP rather than to the former individual, discipline-based doctoral programs.

The IMGP is currently composed of eleven 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 eleven tracks are:

- Biology of Aging
- Cancer Biology
- Cellular & Molecular Biology
- Genetics, Genomics & Development
- Membrane Biology & Cell Signaling
- Metabolism & Metabolic Disorders
- Microbiology & Immunology
- Molecular Biophysics & Biochemistry
- Molecular, Cellular & Integrative Physiology
- Neuroscience
- Pharmacology

Detailed information on the research focus and scholarly activities of participating faculty members of each of these tracks may be found at http://www.uthscsa.edu/gsbs/. 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 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.

Requirements for 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.

Apply Online. To apply online to the IMGP, go to http://www.uthscsa.edu/gsbs/. Application priority deadline is January 15th with a final application deadline of April 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. For more information, please read the Applicant Viewbook available at http://studentservices.uthscsa.edu/prospects_apply_grad.asp.

Supporting Documents Required with Online Application

- Transcripts: one official transcript in a sealed envelope mailed by each college/university attended (no hand-carried copies). If you have attended a non-U.S. college/university, it is strongly recommended that all international transcripts 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 HSC. 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 Registrar’s Office-Graduate Admissions
MSC 7702
7703 Floyd Curl Drive
San Antonio, Texas 78229-3900
USA

Applications are reviewed by an Admissions Committee composed of faculty members representing all 11 tracks in the IMGP. Highly qualified applicants are invited for personal interviews beginning early in the spring semester.
Financial Support for Graduate Students

The Graduate School of Biomedical Sciences offers financial assistance, in the form of teaching assistantships, to full-time students admitted to the IMGP doctoral program. (The annual stipend in the fall semester of 2008 was $26,000, and covered all living and educational expenses, including tuition and fees.) Stipend support is provided by the Graduate School of Biomedical Sciences in year 1 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/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. Funds for short-term and emergency loans as well as traditional Federal Aid Programs are available through the Office for Financial Aid (http://studentservices.uthscsa.edu/financialAid.aspx).

For International Students Only

For questions regarding student visas, required documents, and forms, please refer to the Office of International Services (http://www.uthscsa.edu/ois/index.aspx) or contact their 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 supervising professor and a dissertation supervisory committee. The dissertation supervisory 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.

The following courses are available to students enrolled in the IMGP: 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.

INTD 5000 Fundamentals of Biomedical Sciences
8.0 Semester Credit Hours
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, and organismal and systems biology. The course is designed for first-year students matriculating into the Integrated Multidisciplinary Graduate Program.

INTD 6002 Ethics in Research
0.5 Semester Credit Hour
This course will deal with topics relevant to ethics in scientific research. The course will be 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.

INTD 5008 Laboratory Rotations
1.0–9.0 Semester Credit Hours
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.

BIOC 5077 Presentation of Published Research
1.0 Semester Credit Hour
Prerequisite: Enrolled in INTD 5000 Fundamentals of Biomedical Sciences
In this course, a research article will be chosen for each student by the course director in consultation with selected faculty. The student will have the opportunity to become comprehensively knowledgeable in the specific area covered by the article, to the extent that he/she will be able to critically analyze the experimental design, the techniques/technology used, present the results obtained, and discuss the merit(s) of the research. The student should be able to identify the results that represent credible advances and criticize faulty design and methodology that may have led to invalid conclusions.

BIOC 5091 Special Topics in Biochemistry: Quantitative Biochemistry
1.0 Semester Credit Hour
This course presents procedures for quantitatively analyzing data generated in typical biochemical experiments. Concepts and
procedures related to databases, statistics, error analyses, and graphical analyses will be discussed. Use of software to accomplish such quantitative determinations will be emphasized.

BIOC 5083 Hydrodynamic Methods
2.0 Semester Credit Hours
This course is intended to provide 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. Also covered will be statistical analysis using Monte Carlo and bootstrap methods.

BIOC 5085 Biophysical Methods in Biology
2.0 Semester Credit Hours
Prerequisites: INTD 5005 and INTD 5006
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.

BIOC 5087 Molecular Biochemistry
2.0 Semester Credit Hours
Prerequisites: INTD 5000 Fundamentals of Biomedical Sciences
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.

BIOC 5091 Special Topics in Biochemistry: Nuclear Magnetic Resonance Spectroscopy for Biochemists
2.0 Semester Credit Hours
This course is designed to provide 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.

BIOC 6010 Gene Expression
2.0 Semester Credit Hours
Prerequisites: INTD 5005, INTD 5006, and INTD 5007
This course will cover 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; post-transcriptional 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.

BIOC 6015 Metabolic Disorders
2.0 Semester Credit Hours
This course will be a basic required course for students pursing a Ph.D. in the Metabolism & Metabolic Disorders Track in the graduate program in the Department of Biochemistry. 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. The course will be offered in the spring in alternate years beginning in 2008.

BIOC 6028 Biophysical Chemistry
3.0 Semester Credit Hours
Prerequisite: INTD 5005
Emphasis of the course will be to familiarize the student with: 1) the quantitative aspects of biochemistry, e.g., biochemical calculations, data and error analysis and statistics; 2) the use of computers in data acquisition, data analysis, and fitting of equations to data; and 3) modern biophysical techniques, to give students the opportunity to read and understand recent publications utilizing these methods.

BIOC 6035 Biochemistry of Multimolecular Complexes
2.0 Semester Credit Hours
Prerequisite: INTD 5005 and INTD 5006
This course will cover 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.

INTD 5091 Special Topics in Biochemistry
1.0–4.0 Semester Credit Hours
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; Membrane Biology & Cell Signaling; Metabolism & Metabolic Disorders; Microbiology & Immunology; Molecular Biophysics & Biochemistry; Molecular, Cellular, & Integrative Physiology; Neuroscience; and Pharmacology. The course may be repeated for credit.
INTD 6033  Cellular Signaling Mechanisms

2.0 Semester Credit Hours

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.

INTD 6043  Structure and Function of Membrane Proteins

2.0 Semester Credit Hours

Prerequisites: INTD 5005 and INTD 5007

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 (e.g., K⁺, Na⁺, and Ca²⁺ channels), and the basis of selectivity consistent with high flux rates, gating, and other forms of regulation; Large membrane pores (e.g., gap junctions, VDAC, P2Y, porins, translocons), their selectivity features, regulation, and physiological functions; Membrane transporters (amino acid, neurotransmitter, glucose, aquaporins), their mode of function and regulation; Membrane pumps (proton, ATPases, etc.) and the effects of lipids on membrane protein function; Membrane receptors (GABA, Ach etc.); Membrane fusion events in membrane trafficking.

INTD 5040  Fundamentals of Neuroscience I: Molecular, Cellular, & Developmental Neuroscience

3.0 Semester Credit Hours

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.

INTD 5043  Fundamentals of Neuroscience II: Systems Neuroscience

3.5 Semester Credit Hours

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.

INTD 5067  Introduction to Bioinformatics and Computational Biology

2.0 Semester Credit Hours

This course is 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.

INTD 5007  Advanced Cell and Molecular Biology

3.0 Semester Credit Hours

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.

CSBL 5007  Core Course IV: Methods in Cell Biology

1.0 Semester Credit Hour

Through a combination of lectures and demonstrations, the instructors will introduce students to techniques which 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.

CSBL 6064  Genes and Development

4.0 Semester Credit Hours

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 will be 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.

CSBL 5023  Development

1.0 Semester Credit Hour

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.

CSBL 5024  Genomics

1.0 Semester Credit Hour

The 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 like systems biology, functional genomics and comparative genomics. The students will 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.

CSBL 5025  Genetics
1.0 Semester Credit Hour
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.

CSBL 5026  Stem Cell Biology
1.0 Semester Credit Hour
This course will provide students with 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 and (3) epigenetic regulators of stem cells; (4) stem cells in medicine, including regenerative medicine, cancer and aging; and (5) ethics.

CSBL 5077  Scientific Writing
2.0 Semester Credit Hours
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.

CSBL 5089  Graduate Colloquium
2.0 Semester Credit Hours
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.

CSBL 5095  Experimental Design and Data Analysis
2.0 Semester Credit Hours
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.

CSBL 6048  Biology of Aging
3.0 Semester Credit Hours
Required for Aging Track; elective for others
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 will be offered to students who wish to either specialize in or have a strong background in the interrelated areas of aging and age-related diseases. Faculty from the Departments of Cellular & Structural Biology, Physiology, Pharmacology, 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 aging-related diseases.

CSBL 6068  Cancer Biology Core I
3.0 Semester Credit Hours
This course, which is a Cancer Biology track core course, will provide an overview of current areas of research in the molecular biology of tumor formation. Areas that will be covered include oncogenes, tumor suppressor genes, telomere biology, DNA repair pathways and maintenance of genomic stability. The alteration of normal cellular pathways in the multi-step process of tumorigenesis will be discussed, as well as stem cells in cancer.

CSBL 6069  Cancer Biology Core II
2.0 Semester Credit Hours
Prerequisite: Cancer Biology Core I
This is the second part of the Cancer Biology track core course. This course provides an overview of different cancers including lung, breast, prostate, colorectal, pancreatic, hematological, and tumors of the nervous system. The pathology of the cancers as well as their molecular basis is presented. The basis for therapies and an introduction to clinical trials is discussed as well as chemoprevention. Current experimental approaches that will be presented include animal models, molecular diagnostics, and tumor profiling.

CSBL 6090  Seminar
1.0 Semester Credit Hour
Attendance and participation in the regularly scheduled Department seminar series is required during each fall and spring semester. During the first spring semester, students are required to write a literature review on a topic of their choice and a research grant proposal. During the second fall semester, students must write and orally defend a mock postdoctoral proposal (qualifying exam). During all subsequent spring semesters, students are required to present a seminar covering their progress in research.

CSBL 6094  Independent Study in Neuroanatomy
2.0 Semester Credit Hours
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 will also complete a 20-page paper on a neuroanatomical topic.

CSBL 5011  Gross Anatomy and Human Embryology
7.5 Semester Credit Hours
This course consists of lectures, conferences, and laboratory work covering normal human developmental and gross anatomy. Lectures on
early embryonic development and implantation are presented at the beginning of the course. Lectures and laboratories 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 supervision of the Cellular & Structural Biology 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: $300.

CSBL 5015  History of Anatomy
2.5 Semester Credit Hours
This course meets for two hours each week during the spring semester and offers a survey of the history of anatomy from the time of the Egyptians and Greeks through Anatomy in America. The course is organized around a biographical approach to this history. Each period begins with an overview of the discoveries and state of anatomical knowledge during the specified period. This is followed by short summaries of some of the important anatomists and their writings of that time, and the period ends with a general discussion. In addition, there is an exhibition of rare books from the HSC Special Collections given by the library staff, a presentation on art in anatomy with emphasis on Leonardo da Vinci’s anatomical drawings, and a discussion of the acquisition of human cadavers.

CSBL 5016  Gross, Head and Neck Anatomy
6.0 Semester Credit Hours
The structure of the human body, with emphasis on the functional anatomy of the trunk, neck, head, and nervous system, is the focus of this course. Regional dissection of a human cadaver, by groups of students, is supplemented by individual study of prosections, 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: $300.

CSBL 5019  Gross Human Anatomy for Graduate Students
6.0 Semester Credit Hours
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 prospec ted specimens, models skeletons, and other demonstration materials. Human materials fee: $300.

CSBL 5083  Practical Optical Microscopy
1.0 Semester Credit Hour
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 principals of optical microscopy and to provide them with hands-on experience using the optical instrumentation in the Institutional Imaging Core.

CSBL 6020  Concepts in Vertebrate Development
3.0 Semester Credit Hours
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.

CSBL 6021  Animal Models
3.0 Semester Credit Hours
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.

CSBL 6068  Molecular Oncology
3.0 Semester Credit Hours
This course will provide an overview of current areas of research in the molecular biology of tumor formation. Areas that will be covered include oncogenes, tumor suppressor genes, telomere biology, DNA repair pathways and maintenance of genomic stability. The alteration of normal cellular pathways in the multistep process of tumorigenesis will be discussed, as well as modes of action of chemotherapeutic agents and current strategies in gene therapy of cancer.

CSBL 6165  Medical Genetics
3.0 Semester Credit Hours
Prerequisites: A basic background in genetics, cell biology, and biochemistry
This course provides an introduction to the basic concepts of medical genetics and current areas of medical genetic research. The course reviews basic concepts including the principles of Mendelian and nontraditional inheritance, cytogenetics, molecular genetics, quantitative and population genetics, and discusses 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.

MICR 5003  Core Concepts in Microbiology & Immunology
4.0 Semester Credit Hours
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  
1.0 Semester Credit Hour  
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  Pathogenic Microbiology  
1.0 Semester Credit Hour  
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  
1.0 Semester Credit Hour  
The 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 5051  Introduction to Immunology  
2.0 Semester Credit Hours  
Prerequisites: consent of instructor; courses in General Biology and Genetics recommended  
Lectures only. Study of immune responses with emphasis on experimental strategies for elucidating the 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, transplantation rejection, and tumor immunology).

MICR 5028  Virology  
1.0 Semester Credit Hour  
The 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 5041  Introduction to Virology  
2.0 Semester Credit Hours  
Prerequisites: General Biology, General or Medical Microbiology, General Biochemistry and consent of instructor  
Basic non-medical general virology with emphasis on molecular biology of animal viruses: physical and chemical properties, molecular mechanisms and biology of multiplication, effects on host cells, genetics, and mechanisms of persistence in nature.

MICR 5029  Building Scientific Thinking Skills  
2.0 Semester Credit Hours  
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 qualification 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 qualification examination.

MICR 5030  Microbiology and Immunology Track Journal Clubs  
0.5 Semester Credit Hour  
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.

MICR 6050  Advanced Topics in Tumor Immunology  
0.5 Semester Credit Hour  
This course intends to provide the 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.

MICR 6059  Developing Scientific Writing Skills  
1.0 Semester Credit Hour  
Prerequisite: Introduction to Immunology or consent of instructor  
This course consists of lectures only. The 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. 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 qualification examination.

MICR 6052  Advanced Immunobiology  
2.0 Semester Credit Hours  
Prerequisite: Introduction to Immunology or consent of instructor  
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.

MICR 6024  Advanced Microbial Genetics  
1.0–4.0 Semester Credit Hours  
Prerequisites: Microbial Genetics and consent of instructor  
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.

MICR 6022  Advanced Microbial Physiology  
2.0 Semester Credit Hours  
Prerequisite: Microbial Physiology and consent of instructor  
This course consists of readings and conferences. The course includes current concepts and experimental studies in microbial structure-function relationships and regulatory mechanisms.
MICR 5092  Special Problems in Microbiology  
Credit to be arranged  
Prerequisite: consent of instructor  
This 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.

MICR 5091  Special Topics in Microbiology & Immunology  
Credit to be arranged  
Prerequisite: consent of instructor  
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.

PHAR 5013  Principles of Pharmacology  
3.0 Semester Credit Hours  
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.

PHAR 5014  Therapeutics  
3.0 Semester Credit Hours  
Prerequisite: INTD 5000  
The overall objective of this course is to provide students with a current overview of the therapeutics related to major classes of drugs. The course is required for Pharmacology students as a 3-hour course. Each section is offered separately as a 0.5-hour micro-elective for students from other programs. There is a course director for the overall course while each section is governed by a director responsible for the format of the lectures and examinations for that section. Each section includes at least one examination that determines the overall grade for Pharmacology students taking the 3-hour course. Student performance is evaluated on a lettered grading scale.

PHAR 5020  Basics of Research Design  
1.5 Semester Credit Hours  
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.

PHAR 5090  Seminar  
1.0 Semester Credit Hour  
This course consists of presentation and discussion of recent advances and research by staff, students, and outside scientists.

INTD 5047  Neuroanatomy  
1.5 Semester Credit Hours  
The purpose of this course is to provide students with the opportunity to gain 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.

INTD 6041  Basic Science Resident Lecture Series in Neurology  
1.5 Semester Credit Hours  
This course 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.

PHAR 5091  Pharmacology Micro-electives  
0.5–9.0 Semester Credit Hours  
Micro-electives are courses which 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

PHAR 6020  Molecular and Pharmacological Basis of Therapeutics  
2.0 Semester Credit Hours  
This course provides the graduate student with the opportunity to gain 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.

PHAR 6025  Molecular Pharmacology  
2.0 Semester Credit Hours  
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.
PHYL 5045  Mammalian Physiology  
*4.0 Semester Credit Hours*  
This course begins with the 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, and endocrine/metabolic physiology. Lecture material is enhanced by supplemental discussion of research literature encompassing molecular biology, integrative function, and pathophysiological implications.

PHYL 5080  Experiments in Physiology I  
*1.0 Semester Credit Hour*  
This experimental course is designed to provide practical demonstrations in basic recombinant DNA techniques and to illustrate how the application of these techniques helps in advancing our current understanding of cellular physiology.

PHYL 5081  Experiments in Physiology II  
*1.0 Semester Credit Hour*  
This course includes laboratory exercises in cardiovascular and respiratory physiology as well as autonomic pharmacology and is integrated with PHYS 5081.

PHYL 6071  Supervised Teaching  
*1.0–9.0 Semester Credit Hours*  
**Prerequisite:** PHYS 5081  
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.

PHYL 6090  Seminar  
*1.0 Semester Credit Hour*  
**Prerequisite:** consent of instructor  
The course consists of literature reports and group discussions by students and faculty.

PHYL 6091  Selected Topics of Physiology  
*1.0–4.0 Semester Credit Hours*  
**Prerequisite:** consent of instructor  
- PHYL 6091-01  Cardiovascular  
- PHYL 6091-02  Calcium Signaling  
- PHYL 6091-03  Cell Biology in Neural Science  
- PHYL 6091-04  Endocrine and Metabolism  
- PHYL 6091-05  Molecular Physiology  
- PHYL 6091-06  Physiology in Aging  
- PHYL 6091-07  Ion Channels in Disease  

INTD 6071  Supervised Teaching  
*1.0–9.0 Semester Credit Hours*  
There are different options for completing Supervised Teaching, including, but not limited to, participation in the teaching program of  

1) first-year graduate, medical, dental or health professions curricula in lecture or small-conference format; 2) graduate, medical, and dental laboratory courses. Faculty in each track will determine the specific Supervised Teaching requirement for students in their tracks. The sub-designations for each track are:  
- Biology of Aging (INTD 6071.1-BA)  
- Cancer Biology (INTD 6071.2-CA)  
- Cell & Molecular Biology (INTD 6071.3-CMB)  
- Genetics, Genomics & Development (INTD 6071.4-GGD)  
- Membrane Biology & Cell Signaling (INTD 6071.5-MBCS)  
- Metabolism & Metabolic Disorders (INTD 6071.6-MMD)  
- Microbiology & Immunology (INTD 6071.7-MI)  
- Molecular Biophysics & Biochemistry (INTD 6071.8-MBB)  
- Molecular, Cellular, & Integrative Physiology (INTD 6071.9-MCIP)  
- Neuroscience (INTD 6071.10-NS)  
- Pharmacology (INTD 6071.11-PHA)  

INTD 6090  Seminar  
*1.0 Semester Credit Hour*  
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 6090.1-BA)  
- Cancer Biology (INTD 6090.2-CA)  
- Cell & Molecular Biology (INTD 6090.3-CMB)  
- Genetics, Genomics & Development (INTD 6090.4-GGD)  
- Membrane Biology & Cell Signaling (INTD 6090.5-MBCS)  
- Metabolism & Metabolic Disorders (INTD 6090.6-MMD)  
- Microbiology & Immunology (INTD 6090.7-MI)  
- Molecular Biophysics & Biochemistry (INTD 6090.8-MBB)  
- Molecular, Cellular, & Integrative Physiology (INTD 6090.9-MCIP)  
- Neuroscience (INTD 6090.10-NS)  
- Pharmacology (INTD 6090.11-PHA)  

INTD 6097  Research  
*0.5–9.0 Semester Credit Hours*  
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)  

INTD 7099  Dissertation  
*1.0–9.0 Semester Credit Hours*  
**Prerequisite:** admission to candidacy for the Ph.D. degree  
Registration for at least two terms is required for Ph.D. candidates.
BIOCHEMISTRY

The following description of the doctoral graduate program in Biochemistry is applicable to students admitted prior to the Fall 2008 semester. Effective with admission for Fall 2008, prospective students seeking a Ph.D. degree apply to the Integrated Multidisciplinary Graduate Program (IMGP), as described previously, rather than to the Biochemistry program. Faculty members in Biochemistry actively participate in all elements of the IMGP, and the Committee on Graduate Studies in Biochemistry administratively oversees the Metabolism & Metabolic Disorders and the Molecular Biophysics & Biochemistry tracks in the IMGP. Students are not actively admitted to a M.S. program in Biochemistry.

The graduate program in Biochemistry offers students the training necessary for them to conduct independent biochemical research in an academic, industrial, or clinical environment. Although the Doctor of Philosophy (Ph.D.) program is emphasized, the Master of Science (M.S.) degree is available on a case-by-case basis if circumstances warrant. The Biochemistry curriculum 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 biophysics, microbiology, pharmacology, neuroscience, and physiology to the extent that they will complement their chosen research project.

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 collaborative research programs carried out with faculty members in other basic science and clinical departments at the Health Science Center.

Research Activities

The research directions pursued by faculty in the Biochemistry program cover a wide range of biochemical problems and are supported by grants from both federal and private funding agencies. State-of-the-art instrumentation and facilities are available to study a myriad of biochemical problems using nearly any modern analytical approach. The Department is equipped with a wide variety of instrumentation including a protein sequenator, several analytical ultracentrifuges, several high field NMR spectrometers, several single-crystal X-ray diffractometers, surface plasmon resonance (SPR, BIACORE), dynamic light scattering devices, and a computer suite for molecular modeling. In addition, a wide variety of absorption and emission spectrophotometers including spectrophotofluorimeters and equipment for circular dichroism which can be used for the identification of compounds, the elucidation of macromolecular structures, the characterization of interactions involving macromolecules and for the study of a variety of kinetic phenomena that are important in understanding biological systems. Most forms of contemporary fluorescence digital imaging microscopy are available to investigate the fluorescent properties of isolated cells and membranes. Numerous liquid scintillation counters and a gamma counter are available for use in the many areas of biochemistry in which radioisotopes are used.

Requirements for Admission

At the time of admission, applicants must have earned a bachelor’s degree and have credit for one year’s undergraduate work in the following areas: biology, organic chemistry, physical chemistry, physics, and mathematics through integral calculus. Applicants lacking one of these requirements may receive acceptance contingent upon satisfactory completion of this requirement. In general, the undergraduate grade point average no lower than B (3.0 in a 4.0 system), and combined scores (verbal + quantitative) on the Graduate Record Examination General (Aptitude) Test of at least 1000 are preferred.

Note: Students seeking a doctoral degree should apply to the Integrated Multidisciplinary Graduate Program rather than to the Biochemistry program effective with the Fall 2008 semester.

Financial Support for Graduate Students

Every effort is made by the Department of Biochemistry to provide financial aid to students enrolled in the graduate program. Financial support is provided through teaching assistantships from the department and research assistantships from grants of individual faculty members.

Postgraduate Positions for Program Graduates

Graduates of the Ph.D. program in Biochemistry are expected to be 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 determined by performance in course work and an oral defense of an original research proposition presented at the end of the third academic year. Although no minor area is required, students are encouraged to diversify their programs with courses offered in other departments at the Health Science Center. A dissertation, which represents an original contribution to the field of biochemistry and which is of publishable quality in reputable, scholarly journals, is required of all candidates for the Doctor of Philosophy degree. A minimum of 72 semester credit hours is required.
in order to obtain the Ph.D. degree. The faculty expects students entering the graduate program in Biochemistry to pursue studies leading to a Ph.D. degree. When, however, a student is admitted to pursue a Master of Science degree, the requirements are less rigorous than those for the Ph.D. degree. These requirements are met by coursework and a research thesis which is defended in an oral examination.

Core Courses
Introductory graduate level courses cover fundamental information in biochemistry and molecular and cellular biology required in the education of a modern biomedical scientist. Topics covered in the core courses are organized in a coordinated and non-redundant manner and taught by an interdisciplinary group of faculty.

INTD 5000 Fundamentals of Biomedical Sciences
8.0 Semester Credit Hours
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, and organismal and systems biology. The course is designed for first-year students matriculating into the Integrated Multidisciplinary Graduate Program.

INTD 5005 Core Course I: Biochemistry
4.0 Semester Credit Hours
A basic biochemistry survey course for first-year graduate students in the biomedical sciences. Topics 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.

BIOC 5077 Presentation of Published Research
1.0 Semester Credit Hour
Prerequisite: Enrolled in INTD 5005 Core Course I
In this course, a research article will be chosen for each student by the course director in consultation with selected Biochemistry faculty. The student will have the opportunity to become comprehensively knowledgeable in the specific area covered by the article, to the extent that he/she will be able to critically analyze the experimental design, the techniques/technology used, present the results obtained, and discuss the merit(s) of the research. The student should be able to identify the results that represent credible advances and criticize faulty design and methodology that may have led to invalid conclusions.

INTD 5006 Core Course II: Molecular Biology
4.0 Semester Credit Hours
A study of the molecular aspects of prokaryotic and eukaryotic genome structure and expression. Lectures will examine the current understanding of chromosome structure, gene organization, regulation of transcription; RNA structure and function, translation, and replication.

INTD 5007 Advanced Cell and Molecular Biology
3.0 Semester Credit Hours
Prerequisite: INTD 5006 or special permission from instructor
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.

BIOC 5081 Biochemical Techniques Lab
Credit to be arranged
This course is designed to introduce first-year graduate students in biochemistry to use of modern biochemical techniques and instruments and to research. The course is based on rotations in the laboratories of faculty members in the Department of Biochemistry.

BIOC 5083 Hydrodynamic Methods
1.0 Semester Credit Hour
This course will provide the opportunity for students 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. Also covered will be statistical analysis using Monte Carlo and bootstrap methods.

BIOC 5074 Orientation to Biochemistry
1.0 Semester Credit Hour
Prerequisite: consent of instructor
This course is designed to give first-year graduate students in biochemistry experience in critically reading the biochemical literature. The use of the library, verbal presentation of research findings to small groups, and formulation and defense of research proposals will be emphasized.

BIOC 5091 Special Topics in Biochemistry
1.0–9.0 Semester Credit Hours
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").

BIOC 5091 Special Topics in Biochemistry: Quantitative Biochemistry
1.0 Semester Credit Hour
This course presents procedures for quantitatively analyzing data generated in typical biochemical experiments. Concepts and procedures related to databases, statistics, error analyses, and graphical analyses will be discussed. Use of software to accomplish such quantitative determinations will be emphasized.

INTD 6002 Ethics in Research
0.5 Semester Credit Hour
This course will deal with topics relevant to ethics in scientific research. The course will be 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 graduate students.
BIOC 6015  Metabolic Disorders
2.0 Semester Credit Hours
This course will be a basic required course for students pursing a Ph.D. in the Metabolism & Metabolic Disorders Track in the graduate program in the Department of Biochemistry. 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. The course will be offered in the spring in alternate years beginning in 2008.

BIOC 6071  Supervised Teaching
1.0–9.0 Semester Credit Hours
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.

BIOC 6097  Research
1.0–9.0 Semester Credit Hours
This course consists of independent, original research under the direction of a faculty advisor.

BIOC 6069  Contemporary Biochemistry Student Review
1.0 Semester Credit Hour
Prerequisites: must have passed Advancement to Candidacy Examination
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.

BIOC 6098  Thesis
1.0–9.0 Semester Credit Hours
Prerequisite: admission to candidacy for the M.S. degree
Registration for at least one term is required of M.S. candidates.

BIOC 7099  Dissertation
1.0–9.0 Semester Credit Hours
Prerequisite: admission to candidacy for the Ph.D. degree
Registration for at least two terms is required for Ph.D. candidates.

BIOC 6028  Biophysical Chemistry
3.0 Semester Credit Hours
Prerequisite: INTD 500
Emphasis of the course will be to familiarize the student with: 1) the quantitative aspects of biochemistry, e.g., biochemical calculations, data and error analysis and statistics; 2) the use of computers in data acquisition, data analysis and fitting of equations to data; and 3) modern biophysical techniques, to give students the opportunity to read and understand recent publications utilizing these methods.

BIOC 5085  Biophysical Methods in Biology
2.0 Semester Credit Hours
Prerequisites: INTD 5005 and INTD 5006
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.

BIOC 5087  Molecular Biochemistry
2.0 Semester Credit Hours
Prerequisites: INTD 5005 and 5006
The objective of this course it 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 mutation, 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.

Advanced Courses
Eight credits of advanced courses are required for the Ph.D. degree. Prerequisites for the advanced courses are indicated for each course.

BIOC 5091  Special Topics in Biochemistry: Nuclear Magnetic Resonance Spectroscopy for Biochemists
2.0 Semester Credit Hours
This course is designed to provide 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.

BIOC 5097  Research
1.0–9.0 Semester Credit Hours
This course consists of writing a progress report describing research results for the semester. Required of all graduate students beginning in the first semester after selection of a supervising professor.
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; post-transcriptional 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.

**BIOC 6033 Cellular Signaling Mechanisms**  
*2.0 Semester Credit Hours*

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.

**BIOC 6035 Biochemistry of Multimolecular Complexes**  
*2.0 Semester Credit Hours*  
*Prerequisite: INTD 5005 and 5006*

This course will cover 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.

**INTD 6043 Structure and Function of Membrane Proteins**  
*2.0 Semester Credit Hours*  
*Prerequisite: INTD 5005 and 5007 or equivalent*

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 (e.g. K+, Na+ and Ca++ channels), and the basis of selectivity consistent with high flux rates, gating, and other forms of regulation; large membrane pores (e.g. gap junctions, VDAC, P2Y, porins, translocons), their selectivity features, regulation, and physiological functions; membrane transporters (amino acid, neurotransmitter, glucose, aquaporins), their mode of function and regulation; membrane pumps (proton, ATPases, etc.) and the effects of lipids on membrane protein function; membrane receptors (GABA, Ach etc.); and membrane fusion events in membrane trafficking.

**Electives**

**BIOC 1005 Cell and Molecular Biology**  
*5.0 Semester Credit Hours*  
*Prerequisite: general chemistry, organic chemistry and physics*

The fundamental aspects of biochemistry are presented as they apply to medicine. The topics considered include pH and dissociation, protein structure, the properties of enzymes, biological oxidation and bioenergetics, the expression of genetic information and the mechanism of protein synthesis, the chemistry and metabolism of carbohydrates, lipids, and nitrogen containing compounds. Emphasis is given to biochemical mechanisms relevant to medicine. This course is designed for medical students and may be taken for graduate credit only under unusual circumstances.

**BIOC 5013 Dental Biochemistry**  
*5.5 Semester Credit Hours*  
*Prerequisite: organic chemistry, biology, and consent of instructor*

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.

**INTD 5043 Fundamentals of Neuroscience II – Systems Neuroscience**  
*3.5 Semester Credit Hours*

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.

**INTD 5067 Introduction to Bioinformatics and Computational Biology**  
*2.0 Semester Credit Hours*

This course is an introduction to methods and tools for working with DNA sequences, protein families, learning basic UNIX networking, overview 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.
BIOMEDICAL ENGINEERING

The Ph.D. in Biomedical Engineering* program is jointly offered between The UT Health Science Center San Antonio (HSC) 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.

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, Lab Rotation, 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 HSC 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 HSC and at UTSA. At the HSC, 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 Center 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 550 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 bioengineering, but no formal degree in engineering, physical sciences, or biological sciences. 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 satisfactory GPA during the supported year and are also 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

*A Master of Science in Biomedical Engineering also will be available.
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, Lab Rotation, 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 HSC 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 HSC 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 Mgt.
- MOT 5253 Starting the High-Tech Firm
- MOT 5313 Emerging Technologies
- MOT 5323 Biotechnology Industry

A minimum of 15 hours of Doctoral Dissertation (ORTO 7099), Seminar (ORTO 6090), 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.

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>
</tbody>
</table>

Other:
Dissertation/Research, Seminar, and Teaching

<table>
<thead>
<tr>
<th>Total</th>
<th>Minimum of 81.0</th>
</tr>
</thead>
</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.

**Core Courses**

**The HSC**

**CSBL 5019  Gross Human Anatomy  
6.0 Semester Credit Hours**

*Prerequisite: Graduate standing*

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, models, skeletons, and other demonstration materials. *Human materials fee: $300.* (NOTE: students may elect to substitute PHYL 5013 Physiology for this course.)

**CSBL 5095  Experimental Design and Data Analysis  
2.0 Semester Credit Hours**

*Prerequisite: Graduate standing*

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 non-parametric 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.

**INTD 6002  Ethics in Research  
0.5 Semester Credit Hour**

*Prerequisite: Graduate standing*

This course will deal with topics relevant to ethics in scientific research. The course will be 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.

**ORTO 6003  Introduction to Clinical Practices  
1.0 Semester Credit Hour**

*Prerequisite: open to Biomedical Engineering graduate students*

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.

ORTO 6004  Biology for Bioengineers
3.0 Semester Credit Hours
Prerequisite: permission of the instructor
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.

ORTO 6090  Seminar
1.0 Semester Credit Hour
Prerequisite: Graduate (Ph.D.) student standing; required of all students during full and spring semesters while pursuing doctoral studies.
Students will hear presentations from outside speakers, BME faculty, and their peers. A grade of “S” for satisfactory or “U” for unsatisfactory attendance will be assigned at the conclusion of each semester.

PHYL 5013  Physiology
6.5 Semester Credit Hours
Prerequisite: Graduate standing
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. (NOTE: Students may elect to substitute CSBL 5019 Gross Human Anatomy for this course.)

RADI 5015  Physics of Diagnostic Imaging I (equivalent to BME 6703 at UTSA)
3.0 Semester Credit Hours
Prerequisite: consent of instructor
Introduction to the basic principles and radiological practices using non-invasive 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.

Core Courses

UTSA*

BME 6001  Laboratory Rotation
1.0 Semester Credit Hour
Prerequisite: Graduate standing
Each week a faculty member will make a presentation describing the work being conducted in her/his laboratory. Presentations will be followed by a tour of the faculty member’s lab. The goal of this course is to familiarize the student with the variety of research activities and technical capabilities available in the BME program.

BME 6703  Biomedical Image Processing
3.0 Semester Credit Hours
Prerequisite: Graduate standing
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.

BME 6803  Biomechanics I
3.0 Semester Credit Hours
Prerequisite: permission of the instructor
Fundamentals in applications of engineering mechanics for studying and modeling fluid flow, tissues, organs, and the whole human body.

BME 6903  Biomaterials
3.0 Semester Credit Hours
Prerequisite: permission of the instructor
Fundamentals in applications of biomaterials science and engineering principles and concepts for repairing, replacing, and protecting human tissues and organs. (Cross listed as ME 6813; formerly offered as ORTO 6001 at the HSC.)

BME 6033  BME Engineering Analysis
3.0 Semester Credit Hours
Prerequisite: Graduate standing in engineering or consent of instructor
Advanced methods of applied mathematics, including linear algebra, vector differential calculus, integral theorems, differential equations, and calculus of variations. (NOTE: formerly offered as EGR 6013. Also, with permission, can be replaced with EGR 5093 Special Topics in Engineering Analysis.)

Prescribed Electives

The HSC

INTD 5005  Core Course I: Biochemistry
4.0 Semester Credit Hours
Prerequisite: consent of instructor
A basic biochemistry survey course for first-year graduate students in the biomedical sciences. Topics 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.

INTD 5006  Core Course II: Molecular Biology
4.0 Semester Credit Hours
Prerequisite: consent of instructor
A study of the molecular aspects of prokaryotic and eukaryotic genome structure and expression. Lectures will examine the current understanding of chromosome structure, gene organization, regulation of transcription; RNA structure and function, translation, and replication.

INTD 5041  Neuroscience - Medical
5.0 Semester Credit Hours
Prerequisite: consent of instructor
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.

MICR 5016  Concepts and Techniques in Biotechnology
Credit to be arranged
Prerequisite: consent of instructor
Project approach to understanding and using molecular biology and modern biotechnology for the study of contemporary biology.

* See UTSA Catalog for UTSA official and complete course descriptions. The HSC is not responsible for UTSA courses.
MICR 5051  Introduction to Immunology
2.0 Semester Credit Hours
Prerequisite: consent of instructor. Courses in General Biology and Genetics recommended.
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 immune regulation; and (3) immunopathologies (hypersensitivity, autoimmunity, immunodeficiency, transplantation rejection, and tumor immunology).

ORTO 6005  Biomaterials Surface Science
3.0 Semester Credit Hours
Prerequisites: undergraduate Physical Chemistry; undergraduate Biochemistry
This course provides an introduction to surface science as it is applied in the research, development, and design of biomaterial surfaces. Topics include basic concepts of surface science: surface properties, morphological, chemical and electrical characterization methods, as well as processes and interactions on/with surfaces, including corrosion and protein adhesion. Applications will emphasize cardiovascular implant issues but the principles are applicable to all biomaterials.

PHAR 5013  Principles of Pharmacology
3.0 Semester Credit Hours
Prerequisite: organic chemistry or consent of instructor
Principles of drug action; receptor classification and quantification; 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, bio-transformation and elimination of drugs; pharmacokinetics; experimental approaches to drug action.

PHYL 6091  Selected Topics in Physiology
1.0–4.0 Semester Credit Hours
Prerequisite: consent of instructor
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 6091-04 Endocrine and Metabolism
• PHYL 6091-05 Molecular Physiology
• PHYL 6091-06 Physiology in Aging
• PHYL 6091-07 Ion Channels in Disease

RADI 6014  Physics of Dental Imaging
2.0 Semester Credit Hours
Prerequisite: consent of instructor
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.

RADI 6016  Physics of Diagnostic Imaging II
3.0 Semester Credit Hours
Prerequisite: consent of instructor
Theory of applications of various forms of electronic imaging systems including ultrasound and magnetic resonance imaging; advanced diagnostic imaging principles involving mathematical image analysis, digital image processing, digital image display, and concepts of electronic imaging.

RADI 6017  Human Behavioral Imaging
3.0 Semester Credit Hours
Prerequisite: consent of instructor
This course covers the use of noninvasive brain imaging techniques to study functional organization of the human brain.

RADI 6019  Medical Image Processing
3.0 Semester Credit Hours
Prerequisite: RADI 6016
Introduction to the basic principles of image processing as applied to digital radiography, computed tomography, ultrasound imaging, and magnetic resonance images.

RESD 6102  Advanced Dental Materials
1.0 Semester Credit Hour
Prerequisite: consent of instructor
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.

Prescribed Elective

UTSA

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 exams 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 for students to enhance their ability to critique research proposals, manuscripts, abstracts, and scientific presentations.

BME 6093  Topics in Biomedical Engineering
(3-0) 3 Hours Credit
Prerequisites: Ph.D. student standing and consent of instructor and the Graduate Advisor
May be repeated as topics vary.

BME 6203  Physiology for Engineers
3.0 Semester Credit Hours
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

BME 6713  Biomedical Signal Processing (3-0) 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 6793  Topics in Image and Signal Processing (3-0) 3 Hours Credit
Prerequisite: permission of the instructor
May be repeated for credit when topics vary.

BME 6823  Biomechanics II (3-0) 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, and constitutive equations. Tissues covered may include heart, blood vessels, cartilage, and bone. (Cross-listed as ME 6833.)

BME 6893  Topics in Biomechanics (3-0) 3 Hours Credit
Prerequisite: permission of the instructor
May be repeated for credit when topics vary. (Cross-listed as ME 6893.)

BME 6913  Biomaterials II (3-0) 3 Hours Credit
Prerequisite: permission of the instructor and completion of BME 5903 or BME 6903
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. (Same as BME 6853.)

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.

BME 6893  Topics in Biomechanics (3-0) 3 Hours Credit
Prerequisite: permission of the instructor
May be repeated for credit when topics vary.

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
Prerequisite: 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.)
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 5133   Mechanical System Identification
(3-0) 3 Hours Credit
Prerequisites: ME 4523 and STA 2303 or their equivalents

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 5543. Credit cannot be earned for both ME 5413 and EGR 5543.)

ME 5463   Fracture Mechanics
(3-0) 3 Hours Credit
Prerequisite: 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 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 ME 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 ME 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.)

**ME 5893 Advanced Topics in Sensors and Actuators**
(3-0) 3 Hours Credit  
Prerequisite: ME 5843 or consent of instructor  
Explore advanced microfabrication approaches for a variety of sensors, such as magnetic, acoustic, mechanical, radiation, thermal, chemical and biological. Different actuation schemes are also covered (electrostatic, piezoelectric, thermal, magnetic and shape-memory-alloys). (Same as EE 5493. Credit cannot be earned for both ME 5893 and EE 5493 when the topic is the same.)

**STA 5103 Applied Statistics**
(3-0) 3 Hours Credit  
Prerequisites: 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 HSC**

**ORTO 6071 Supervised Teaching**
1.0 Semester Credit Hours  
Prerequisites: Admitted to candidacy and consent of the supervising professor, program director, and COGS chair  
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, or lecture to orthopaedic/dental residents about implants and materials at the HSC. The exact nature of the teaching will be determined based on each student’s program of study.

**ORTO 6090 Seminar (equivalent to BME 6011 at UTSA)**
1.0 Semester Credit Hour  
Prerequisites: Graduate (Ph.D.) student standing; required of all students during fall and spring semesters while pursuing doctoral studies  
Students will have the opportunity to hear presentations from outside speakers, BME faculty, and peers. A grade of “S” for satisfactory or “U” for unsatisfactory will be assigned at the conclusion of each semester.

**ORTO 6097 Research (equivalent to BME 6953 or 6956 at UTSA)**
1.0–9.0 Variable Semester Credit Hours  
Independent, original research under the direction of a faculty advisor. Credit to be arranged.

**ORTO 7099 Dissertation (equivalent to BME 7993 or 7996 at UTSA)**
1.0–9.0 Variable Semester Credit Hours  
Prerequisite: admission to candidacy for Doctor of Philosophy degree in Biomedical Engineering, and consent of supervising professor, program director, and COGS chair  
Registration for at least two semesters (12 SCH) after they have been admitted to candidacy for the doctoral degree is required for Ph.D. candidates.

**UTSA**

**BME 6011 Research Seminar**
1.0 Semester Credit Hour  
Prerequisites: Ph.D. student standing. Required of all students for all semesters.  
Students will hear presentations from outside speakers, BME faculty, as well as their peers. May be repeated for a maximum credit of 18 hours. The grade report for the course is either “CR” (satisfactory performance) or “NC” (unsatisfactory performance).

**BME 6953 or 6956 Doctoral Research**
3 or 6 Hours Credit  
Prerequisites: Ph.D. student standing and consent of instructor and the Graduate Advisor  
May be repeated for a maximum credit of 18 hours.

**BME 7993 or 7996 Doctoral Dissertation**
3 or 6 Hours Credit  
Prerequisite: consent of the Doctoral Advisor of Record and Dissertation Advisor. Registration for at least two semesters is required for Ph.D. candidates.  
May be repeated for a maximum credit of 18 hours.
CELLULAR AND STRUCTURAL BIOLOGY

The following description of the doctoral graduate program in Cellular and Structural Biology is applicable to students admitted prior to the Fall 2008 semester. Effective with admission for Fall 2008, prospective students seeking a Ph.D. degree apply to the Integrated Multidisciplinary Graduate Program (IMGP), as described previously, rather than to the Cellular and Structural Biology program. Faculty members in Cellular and Structural Biology actively participate in all elements of the IMGP, and the Committee on Graduate Studies in Cellular and Structural Biology administratively oversees the Biology of Aging, Cancer Biology, Cell & Molecular Biology, and Genetics, Genomics & Development tracks in the IMGP. Students may apply for admission to a M.S. degree program in 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. The strength of our program is its diversity; faculty are performing state-of-the-art research in areas of cell and molecular biology, cancer biology, human and molecular genetics, anatomical sciences, reproductive biology, immunology, developmental biology, neurobiology, and the molecular basis of aging. The curriculum and research experience is 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 more than 40 members of the graduate faculty. In addition, in-depth instruction is also provided on effective seminar presentation as well as grant and manuscript preparation. Graduates from the program have been successful in obtaining rewarding research or teaching positions in either academic or industrial settings; however, some have chosen alternative opportunities, such as patent law, medical school, or dental school.

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 two Master's degree programs; one in the anatomical sciences and the other in biotechnology in which both research and academic skills are emphasized. For students in either Master's track, 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, Howard Hughes Medical Institute, Genentech Inc., and other sources. Most Ph.D. students are supported by graduate stipends. All students are encouraged to apply for fellowships and grants and several have been successful in obtaining external funding.

In addition to its diversity and research strengths, state-of-the-art laboratories are equipped for biochemical, cellular, and recombinant DNA research. In addition, there are core facilities for the generation of transgenic mice, tissue culture, optical microscopy and imaging, and quantitative morphological analysis which benefit all students and faculty in the program.

The graduate faculty members collaborate extensively with individuals from the clinical departments in the dental, medical, and nursing schools; such interactions are particularly important in facilitating human-oriented 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

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 February 1 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 combined score (verbal + quantitative) on the GRE Aptitude Test of 1100 are preferred. Applicants must have a bachelor's degree or an equivalent degree and credit for the following courses:

Biology: Two years as required for science majors
Chemistry: One year of general inorganic and a course in organic chemistry
Physics: One year as required for science majors
Mathematics: At least one semester of calculus

In unusual cases, students who do not meet all of the above requirements may be considered for admission.

Note: Students seeking a doctoral degree should apply to the Integrated Multidisciplinary Graduate Program rather than to the Cellular and Structural Biology program effective with the Fall 2008 semester.
The graduate program in Cellular and Structural Biology offers a Master’s Degree in Biomedical Sciences which may follow one of two basic tracks, focusing either on biotechnology or on anatomy. Generally, the biotechnology track is designed for the student who is interested in technical and/or supervisory 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. For students in both Master’s tracks, an independent thesis and 30 hours of coursework are required. There is considerable flexibility in the program in order to accommodate the interests and needs of individual students.

Curriculum for Ph.D. Candidates

The majority of students in the Cellular and Structural Biology graduate program are seeking the Ph.D. degree. 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 cell biology and her/his specialization, and has completed a minimum of 72 semester credit hours of coursework.

The Ph.D. typically requires 4–6 years of training. In the first year of study, Ph.D. students participate in a core curriculum with students from other programs at The UT Health Science Center San Antonio. The core curriculum includes three basic courses in biochemistry, molecular biology, and cell biology. In addition, first-year students in our program are required to take Colloquium, a course designed to familiarize them with reading and presenting scientific literature. In the second year, all students take a statistics course, Experimental Design and Data Analysis. Additional required and elective courses are taken to augment research training; there are several specialized courses from which to choose, including seminar and didactic courses in the areas of aging, cancer biology, genetics, anatomy, developmental biology, animal models, and neurobiology. In addition, Ph.D. students are expected to teach one semester in one of the professional or graduate 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 of Graduate Students

Currently, students pursuing Ph.D. degrees in the Cellular and Structural Biology Graduate Program are supported by training grants from the National Institutes of Health, research grants of faculty, and state stipends. The current stipend is $26,000 per year.

Postgraduate Positions of 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, Upjohn, and world-class universities. Some graduates have chosen alternative opportunities, such as patent law, teaching, or medical/dental school.

Required Courses for the Ph.D. Degree

Required Courses

INTD 5005 Core Course I: Biochemistry
INTD 5006 Core Course II: Molecular Biology
INTD 5007 Core Course III: Cell Biology
INTD (tba) Core Course IV: Methods in Cell Biology
INTD 6002 Ethics in Research
CSBL 5095 Experimental Design and Data Analysis
CSBL 6097 Introduction to Research
CSBL 6071 Supervised Teaching
CSBL 6090 Seminar
CSBL 7099 Research/Dissertation
Two of the following (advanced electives):
CSBL 6020 Concepts in Vertebrate Development
CSBL 6064 Genes and Development
CSBL 6048 Biology of Aging
CSBL 6068 Cancer Biology Core I
CSBL 6021 Animal Models
INTD 5040 Fundamentals of Neuroscience
One of the professional anatomy courses

Required Courses

INTD 5000 Fundamentals of Biomedical Sciences
10.0 Semester Credit Hours
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, and organismal and systems biology. The course is designed for first-year students matriculating into the Integrated Multidisciplinary Graduate Program.

INTD 5005 Core Course I: Biochemistry
4.0 Semester Credit Hours
A basic biochemistry survey course for first-year graduate students in the biomedical sciences. Topics 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.

INTD 5006 Core Course II: Molecular Biology
4.0 Semester Credit Hours
A study of the molecular aspects of prokaryotic and eukaryotic genome structure and expression. Lectures will examine the current understanding of chromosome structure, gene organization, regulation of transcription; RNA structure and function, translation and replication.
INTD 5007  Advanced Cell and Molecular Biology
3.0 Semester Credit Hours
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.

CSBL 5023  Development
1.0 Semester Credit Hour
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.

CSBL 5024  Genomics
1.0 Semester Credit Hour
The Genomics 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 like systems biology, functional genomics and comparative genomics. The students will 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.

CSBL 5026  Stem Cell Biology
1.0 Semester Credit Hour
This course will provide students with 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 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 and (3) epigenetic regulators of stem cells, (4) stem cells in medicine, including regenerative medicine, cancer and aging, and (5) ethics.

CSBL 5074  Introduction to Research
0.5 Semester Credit Hour
This course is required of all Ph.D. students in Cellular & Structural Biology. In this course students will have the opportunity to learn of the research programs in the department. This course will not only introduce students to the research strategies, but also inform them of opportunities for rotations.

CSBL 5077  Scientific Writing
2.0 Semester Credit Hours
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.

CSBL 5089  Graduate Colloquium
2.0 Semester Credit Hours
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.

CSBL 5095  Experimental Design and Data Analysis
2.0 Semester Credit Hours
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, posteriori multiple range tests, tests of the assumptions of parametric analyses, advanced forms of the analysis of variance, linear regression and correlation analysis.

CSBL 6048  Biology of Aging
3.0 Semester Credit Hours
Required for Aging Track; elective for others
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 will be offered to students who wish to either specialize in or have a strong background in the interrelated areas of aging and age-related diseases. Faculty from the Departments of Cellular & Structural Biology, Physiology, Pharmacology 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.

CSBL 6064  Genes and Development
4.0 Semester Credit Hours
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 cytotgenetics, 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 will be 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.

CSBL 6068  Cancer Biology Core I
2.0 Semester Credit Hours
This course will provide an overview of current areas of research in the molecular biology of tumor formation. Areas that will be covered include oncogenes, tumor suppressor genes, telomere biology, DNA repair pathways, and maintenance of genomic stability. The alteration of normal cellular pathways, in the multi-step process of tumorigenesis will be discussed, as well as stem cells in cancer.

CSBL 6071  Supervised Teaching
1.0-9.0 Semester Credit Hours
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.

CSBL 6090  Seminar
1.0-9.0 Semester Credit Hours
Attendance and participation in the regularly scheduled department seminar series is required during each fall and spring semester. During the first spring semester, students are required to write a literature review on a topic of their choice and a research grant proposal. During the second fall semester, students must write and orally defend a mock postdoctoral proposal (qualifying exam). During all subsequent spring semesters, students are required to present a seminar covering their progress in research.

CSBL 6094  Advanced Neuroanatomy
2.0 Semester Credit Hours
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.

CSBL 6097  Research
1.0-9.0 Semester Credit Hours
Independent, original research under the direction of a faculty advisor.

CSBL 6098  Thesis
1.0-9.0 Semester Credit Hours
Prerequisite: admission to candidacy for Master of Science degree
Instruction in the preparation of the thesis. Registration for at least one term is required of M.S. candidates.

CSBL 7099  Dissertation
0.5-9.0 Semester Credit Hours
Prerequisite: admission to candidacy for Doctor of Philosophy degree
Registration for at least two terms is required of Ph.D. candidates.

Electives

CSBL 5011  Gross Anatomy and Human Embryology
7.5 Semester Credit Hours
This course consists of lectures, conferences, and laboratory work covering normal human developmental and gross anatomy. Lectures on early embryonic development and implantation are presented at the beginning of the course. Lectures and laboratories 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 supervision of the Cellular & Structural Biology 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: $300.

CSBL 5015  History of Anatomy
2.5 Semester Credit Hours
This course meets for two hours each week during the spring semester and offers a survey of the history of anatomy from the time of the Egyptians and Greeks through Anatomy in America. The course is organized around a biographical approach to this history. Each period begins with an overview of the discoveries and state of anatomical knowledge during the specified period. This is followed by short summaries of some of the important anatomists and their writings of that time and the period ends with a general discussion. In addition, there is an exhibition of rare books from the HSC Special Collections given by the library staff, a presentation on art in anatomy with emphasis on Leonardo da Vinci’s anatomical drawings, and a discussion of the acquisition of human cadavers.

CSBL 5016  Gross, Head and Neck Anatomy
6.0 Semester Credit Hours
The structure of the human body, with emphasis on the functional anatomy of the trunk, head, neck, and nervous system, is the focus of this course. Regional dissection of a human cadaver, by groups of students, is supplemented by individual study of prosections, 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: $300.

CSBL 5019  Gross Human Anatomy for Graduate Students
6.0 Semester Credit Hours
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, models skeletons, and other demonstration materials. Human materials fee: $300.
CSBL 5020 Dental Neuroscience
1.5 Semester Credit Hours
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.

CSBL 5031 Histology
5.0 Semester Credit Hours
This course consists of a series of lectures and laboratory sessions which cover current concepts in cell biology and human histology. Basic information on the structure and function of cells and tissues is presented in the lectures; this is followed by staff-supervised laboratory sessions emphasizing the recognition of cells and the fundamental tissues. Each student is provided with a box of microscopic slides of human tissues. The laboratory sessions are accompanied by microscopic slide demonstrations and/or television tapes of tissues under study. Supplemental study material such as films, television tapes, and transparent photomicrographs are available upon request through the Audiovisual Department and the Learning Resources Center. The general purpose of this course is to offer the student the opportunity to become acquainted with basic cytotology and histology of normal human tissues, thereby developing a firm foundation of knowledge for the understanding of normal and disease processes. Laboratory and microscope fees will apply.

CSBL 5032 Dental Histology
5.0 Semester Credit Hours
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, cytotology, 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 included in general lab fee. $48 microscope fee for the Freshman year includes this course.

INTD 5040 Fundamentals of Neuroscience I: Molecular, Cellular, & Developmental Neuroscience
4.0 Semester Credit Hours
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: 1) Biochemical & Cellular Properties of Nervous System Cells, 2) Development of Neuronal Systems, and 3) Neurotransmission & Neuromodulation. Current topics and concepts are discussed in Discussion Sessions which include student participation.

INTD 5041 Neuroscience–Medical
5.0 Semester Credit Hours
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 and microscope fees will apply.

INTD 5043 Fundamentals of Neuroscience II: Systems Neuroscience
4.0 Semester Credit Hours
This course, the second component of our broad survey of the basics of neuroscience, begins at the level of the neural circuit, and guides 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.

CSBL 5083 Practical Optical Microscopy
1.0 Semester Credit Hour
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 principals of optical microscopy and to provide them with hands-on experience using the optical instrumentation in the Institutional Imaging Core.

CSBL 6020 Concepts in Vertebrate Development
3.0 Semester Credit Hours
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 midblasto phase 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.

CSBL 6021 Animal Models
3.0 Semester Credit Hours
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.

CSBL 6165 Medical Genetics
3.0 Semester Credit Hours
Prerequisites: A basic background in genetics, cell biology, and biochemistry
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.

CSBL 7010  Current Topics in the Biology of Aging
2.0 Semester Credit Hours
Prerequisites: interdisciplinary core course and permission of course director
This course, consisting of seven independent modules, will cover recent developments and current controversies in the biology of aging. Module topic determined by student demand with a minimum of five students requesting a specific module. Topics include: Modulation of Longevity: Genetics & Epigenetics, Modulation of Longevity: Nutrition, Age-Related Diseases & Pathobiology, Oxidative Stress & Mitochondrial Physiology; Modulation of Longevity: Interventions, Modulation of Longevity: Endocrine Impacts, and Cellular Homeostasis.

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. Enrollees in the MSCI Program will complete a mentored research project over two years while participating in a highly integrated set of ten didactic courses leading to the MSCI degree. The proposed courses are:

• Responsible Conduct of Patient-Oriented Clinical Research
• Research Methodology (3 semesters)
• Biostatistics (3 semesters)
• Integration of Molecular Biology with Clinical Research (1 semester)
• Data Management, Quality Control, and Regulatory Issues
• Scientific Writing
• 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.

MEDI 5070  Responsible Conduct of Patient-Oriented Clinical Research
2.0 Semester Credit Hours
This course will be cross-listed as INTD 5070.
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.

MEDI 5071  Patient-Oriented Clinical Research Methods-I
2.0 Semester Credit Hours
This course will be cross-listed as INTD 5071.
This interdisciplinary course is the first in a three-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.

MEDI 5072  Patient-Oriented Clinical Research
Biostatistics-1
2.0 Semester Credit Hours
This course will be cross-listed as INTD 5072.
This interdisciplinary course is the first in a three-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.

MEDI 5073  Integrating Molecular Biology with Patient-Oriented Clinical Research
2.0 Semester Credit Hours
This course will be cross-listed as INTD 5073.
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.

MEDI 5074  Data Management, Quality Control, and Regulatory Issues
2.0 Semester Credit Hours
This interdisciplinary course is designed to train participants in the necessary data management and quality control required for 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) develop a data management plan integrated with computer technology for a research project; (2) develop a manual of operations to document coding decisions, quality control methodology, and personnel training for a research project; (3) describe the steps of preparation for a site visit, data audit, or review by quality control committees to comply with institutional, state, and federal regulations; (4) implement a pilot project simulating actual study and data management techniques, and modify the study protocol when appropriate; and (5) develop a budget for a research project.

MEDI 5075  Scientific Communication
2.0 Semester Credit Hours
This course will be cross-listed as INTD 5075.
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
1.0 Semester Credit Hour
This course is designed to serve the interests of practicing clinicians who are pursuing a career in clinical investigations. Students will be introduced to widely available tools—online and university resources. Students will have the opportunity to become familiar with some of the guiding principles and current issues in informatics. The students will have the opportunity to occasionally participate in practicum sessions that will give them hands-on experience with the resources discussed in class as well as have an opportunity to discuss ethical, social, and legal issues (ESLI) surrounding informatics today.

MEDI 6060  Patient-Oriented Clinical Research Methods-2
2.0 Semester Credit Hours
Prerequisite: Patient-Oriented Clinical Research Methods-1; this course will be cross-listed as INTD 6060.
This interdisciplinary course is the second in a three-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 metaanalysis.

MEDI 6061  Patient-Oriented Clinical Research
Biostatistics-2
2.0 Semester Credit Hours
Prerequisite: Patient-Oriented Clinical Research Biostatistics-1; this course will be cross-listed as INTD 6061.
This interdisciplinary course is the second in a three-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) perform a two-way Analysis of Variance and explain the results; (2) prepare a life table and graph the results; (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.

MEDI 6064  Grantsmanship and Peer Review
1.0 Semester Credit Hour
This course will be cross-listed as INTD 6064.
This elective course is offered under the auspices of the Masters of Clinical Investigation (MSCI) Degree Program. The purpose of the course is to provide participants training in the peer review process and grant management procedures. Delivered in eight two-hour sessions, topics include: (1) Funding Agencies/Missions/Deadlines/Instructions, (2) Institutional Grantsmanship Issues, (3) National Institutes of Health (NIH) Organization (Institutes/Councils/Centers/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.

MEDI 6065  Health Services Research
2.0 Semester Credit Hours
This course focuses on concepts and methods used in research focusing on health care quality, utilization, access, costs, 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:
1. Articulate underlying concepts and basic methods of health services research
2. Identify relevant databases and data sources for health services research
3. Critically appraise and interpret published reports of health services research
4. Incorporate health services concepts, methods, or tools, into current research
5. Identify funding sources for health services research.

MEDI 6066  Instrument Development and Validation
1.0 Semester Credit Hour
This course will be cross-listed as INTD 6066.
This course introduces methods to develop and evaluate self-report measures. The semester 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.

MEDI 6067  Genetics and Genetic Epidemiology
1.0 Semester Credit Hour
This course will be cross-listed as INTD 6067.
This course focuses on concepts and methods used in patient-oriented genetic studies. Delivered in eight two-hour sessions, topics include: (1) Genetic Epidemiologic Studies, (2) Applications of Microarray Technologies, and (3) Pharmacogenetics.

MEDI 6068  Cross-Cultural Adaptation of Research Instruments
1.0 Semester Credit Hour
This course will be cross-listed as INTD 6068.
This course guides students through the multiple steps necessary to successfully cross-culturally adapt research instruments. Delivered in 8 two-hour sessions focuses on how to assure content, semantic, technical, conceptual, and criterion equivalence of individual items and scales.

MEDI 6097  Research
3.0 Semester Credit Hours
This course will be cross-listed as INTD 6097.
The Research Course is set up for the student to conduct their Mentored Research Project with their faculty advisor. 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 papers and/or a thesis. Students will take three semester credit hours of research during each semester of the Master of Science in Clinical Investigation Degree Program.

INTD 5000  Fundamentals of Biomedical Sciences
10.0 Semester Credit Hours
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, and organismal and systems biology. The course is designed for first-year students matriculating into the Integrated Multidisciplinary Graduate Program.

INTD 5043  Fundamentals of Neuroscience II: Systems Neuroscience
3.5 Semester Credit Hours
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.

INTD 6021  Animal Models
3.0 Semester Credit Hours
This course is designed for graduate students who need a greater understanding of how to utilize various animal models including C. elegans, drosophila, xenopus laevis oocytes, mouse, rat, naked mole rat, marmoset, and other non-human primates to study aging, human diseases, animal behavior, and various biological problems.
MICROBIOLOGY & IMMUNOLOGY

The following description of the doctoral graduate program in Microbiology & Immunology is applicable to students admitted prior to the Fall 2008 semester. Effective with admission for Fall 2008, prospective students seeking a PhD degree apply to the Integrated Multidisciplinary Graduate Program (IMGP), as described previously, rather than to the Microbiology & Immunology program. Faculty members in Microbiology & Immunology actively participate in all elements of the IMGP, and the Committee on Graduate Studies in Microbiology & Immunology administratively oversees the Microbiology & Immunology track in the IMGP. Students are not actively admitted to an M.S. program in Microbiology & Immunology.

The graduate program in Microbiology & Immunology provides many opportunities for students seeking the Ph.D. degree. Faculty-sponsored research includes studies in immunobiology, microbial physiology and genetics, molecular and cell biology, viral biochemistry and biology, mechanisms of microbial and parasitic disease pathogenesis, and host-parasite interactions.

The objective of the program is to prepare the student for a rewarding career as an independent researcher and teacher. The program is designed to provide students with the opportunity to acquire an in-depth knowledge of problem-solving skills, including methods of communicating scientific data and methods of using advanced research technology. An interdisciplinary approach to problem solving exists which involves experimental technologies from several areas in addition to microbiology. Students also have the opportunity to acquire basic teaching skills through required participation in departmental courses offered in the medical, dental, and graduate curricula; in departmental seminars; and in journal club meetings.

Several courses are required of every student so that a broad background in microbiology may be developed. However, the program is flexible in meeting the specific needs of individual students in order to give them the opportunity to satisfy their intellectual interests and career goals. Students who successfully complete all requirements for the degree of Doctor of Philosophy in Microbiology & Immunology will have the opportunity to develop the background required to initiate a successful and rewarding career in academic and research pursuits at universities or health science centers, in industrial research, or in government research institutes.

Requirements for Admission

Students normally begin graduate studies during the fall semester. Completed applications for the Ph.D. program, including scores on the Graduate Record Examination General (Aptitude) Test, should be received before January 10 in order for the applicant to be considered for admission into the program. Applicants with undergraduate grade point average and GRE scores below the stated minimum of the Graduate School of Biomedical Sciences will be evaluated. Students are accepted for admission on a competitive basis and only a limited number of positions are available each year.

Candidates for admission to the Microbiology & Immunology Ph.D. program should possess a broad general education, including a B.S. or B.A. degree in science. A minimum of 12 semester hours in advanced biology courses (microbiology, immunology, biochemistry, or genetics) is a prerequisite to admission to the program. Satisfactory completion of the following undergraduate courses is also a prerequisite, although applicants who lack one of the following requirements may be accepted contingent upon satisfactory completion of this requirement:

Chemistry: Two years. One year of general chemistry and one year of organic chemistry; a course in biochemistry is strongly recommended.
Physics: One year of general physics
Mathematics: A minimum of one semester of calculus
Past academic performance should be of sufficiently high
quality to warrant further progress in scholarly activity.
An average of B or better in all science courses is needed
for the applicant to be highly competitive. Potential for
future academic and career success as well as leadership
will be considered.

Note: Students seeking a doctoral degree should apply
to the Integrated Multidisciplinary Graduate Program
rather than to the Microbiology & Immunology program
effective with the Fall 2008 semester.

Financial Support for Graduate Students
Teaching and graduate assistantships are awarded annually
to Ph.D. students on the basis of academic qualifications. After one or two years as a teaching assistant, the
students may be awarded an assistantship from research
grants, some of which are conducted jointly with faculty
of other departments.

Postgraduate Positions of Program
Graduates
Graduates who have received Ph.D. degrees from this
program have continued their professional activities. Some
are in postdoctoral training; others are now in positions in
research institutes, industrial or government laboratories,
or academic institutions.

Curriculum
For the Doctor of Philosophy degree, a minimum of 72
semester credit hours is required. Admission to candidacy
is contingent upon satisfactory performance in required
coursework and on the written and oral qualifying exami-
nation. The qualifying examination, conducted during the
second year of the student's program, will involve the prepa-
rati on of an original research proposal which subsequently
will be defended by the student in an oral examination. This
exam will focus on specific and general aspects of the pro-
posal. The Committee on Graduate Studies will recommend
the student to candidacy for the Ph.D. degree following the
student's completion of all required courses, satisfactory
performance in the qualifying examination, and proficiency
in independent laboratory work and research skills.

Following the student's admission to candidacy, a carefully
selected Supervising Committee, chaired by the student's
supervising professor, will review the student's choice of
a research problem and proposals for its solution. The
student will submit periodic written and oral reports and
will meet with the Supervising Committee at least twice
a year to review progress on the dissertation research
problem. Following her/his completion of the dissertation
and certification by the Supervising Committee of the
suitability of the dissertation for the final examination,
the candidate will present a public seminar and defense
of the dissertation and will continue its defense in session
with the Supervising Committee.

The awarding of the Ph.D. degree is based on evidence of
the candidate's ability to conduct independent and original
research, as judged by the Committee on Graduate Stud-
ies and by the Supervising Committee for each student, as
well as her/his knowledge and skills in the general area
of microbiology and in a selected field of specialization
within microbiology.

For the Master of Science degree, a student must submit
an acceptable research proposal, conduct the research, and
then successfully defend a thesis in order to complete the
requirements for the M.S. degree.

Required Courses for the Ph.D. Degree

MICR 5003 Core Concepts in Microbiology &
Immunology
4.0 Semester Credit Hours
This course will provide an integrated view of the microbial world
and the mammalian immune response. Students will receive a foun-
dation 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
1.0 Semester Credit Hour
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 ma-
jor 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 Pathogenic Microbiology
1.0 Semester Credit Hour
Pathogenic Microbiology 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. Spe-
cific concepts, strategies, and mechanisms used by human bacterial
pathogens to cause disease will be illustrated.

MICR 5027 Immunology
1.0 Semester Credit Hour
The 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 signal-
ing, antigen recognition and presentation, the genetics of immune
receptors and the major histocompatibility complex, immunity to
infection, and immunopathology (e.g. hypersensitivity, autoimmu-
nity, immunodeficiency, etc.).
MICR 5028  Virology
1.0 Semester Credit Hour
The 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
2.0 Semester Credit Hours
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 course 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 qualification 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 qualification examination.

MICR 5030  Microbiology and Immunology Track Journal Clubs
0.5 Semester Credit Hour
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.

MICR 6050  Advanced Topics in Tumor Immunology
0.5 Semester Credit Hour
This course intends to provide the 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.

MICR 5090  Acquiring Presentation Skills
1.0 Semester Credit Hour
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.

MICR 5031  Pathogenic Microbiology
4.0 Semester Credit Hours
Prerequisites: Biochemistry and Molecular Biology
This course integrates different disciplines (immunology, cell biology, genetics, biochemistry, molecular biology, physiology, and medical microbiology) with a central theme focused on molecular mechanisms of microbial pathogenesis in man.

MICR 5041  Introduction to Virology
2.0 Semester Credit Hours
Basic nonmedical general virology with emphasis on molecular and cellular biology of animal viruses: physical and chemical properties, molecular mechanisms and biology of multiplication, effects on host cells, genetics, and interferon.

MICR 5051  Introduction to Immunology
2.0 Semester Credit Hours
Prerequisites: consent of instructor; courses in General Biology and Genetics recommended
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 (hypersensitivities, autoimmunity, immuno-deficiency, transplantation rejection, and tumor immunology).

INTD 5000  Fundamentals of Biomedical Sciences
10.0 Semester Credit Hours
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, and organismal and systems biology. The course is designed for first-year students matriculating into the Integrated Multidisciplinary Graduate Program.

INTD 5005  Core Course I: Biochemistry
4.0 Semester Credit Hours
A basic biochemistry survey course for first-year graduate students in the biomedical sciences. Topics 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.

INTD 5006  Core Course II: Molecular Biology
4.0 Semester Credit Hours
(Lectures only.) This course is a study of the molecular aspects of prokaryotic and eukaryotic genome structure and expression. Lectures will examine the current understanding of chromosome structure, gene organization, regulation of transcription; RNA structure and function, translation and replication.

INTD 5007  Core Course III: Cellular Biology
4.0 Semester Credit Hours
Lectures only; this course offers students the opportunity to gain the fundamentals of molecular cell biology necessary to read, understand and evaluate the current research on each of the topics covered. The topics include: plasma membrane, intracellular sorting, nucleus-chromatin, energy conversion, cytoskeleton movements, cell signaling, cell growth and division, cell adhesion and extracellular matrix meiosis, germ cells/fertilization and social behavior of cells. Topics are presented through lectures, demonstrations, text, current literature readings and student presentations.

INTD 6002  Ethics in Research
0.5 Semester Credit Hour
This course will deal with topics relevant to ethics in scientific research. The course will be 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 issues relevant to human and animal research. This course is required of all graduate students.
MICR 6071  Supervised Teaching
1.0–9.0 Semester Credit Hours
Different options for completing the course include, but are not
limited to, participation in the teaching program of: 1) first-year
graduate, medical, dental, or health profession curricula in lecture or
small-conference format; 2) graduate, medical, and dental laboratory
courses. Faculty in each track will determine the specific Supervised
Teaching requirements for students in their tracks.

MICR 6097  Research
1.0–9.0 Semester Credit Hours
Independent, original research under the direction of faculty
advisor. May be conducted in bacteriology, virology, mycology, para-
sitology, and immunology.

MICR 7099  Dissertation
1.0–9.0 Semester Credit Hours
Prerequisite: admission to candidacy for the Doctor of Philosophy de-
gree
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.

M.S. Courses

MICR 6097  Research
1.0–9.0 Semester Credit Hours
Independent, original research under the direction of faculty
advisor. May be conducted in bacteriology, virology, mycology, para-
sitology, and immunology.

MICR 6098  Thesis
1.0–9.0 Semester Credit Hours
Prerequisite: admission to candidacy for the Master of Science degree
Registration for at least one term is required of M.S. candidates.

Electives

MICR 6043  Advanced Topics in Virology
2.0 Semester Credit Hours
In-depth study of selected topics in animal virology at the molecular
level.

MICR 6052  Advanced Immunobiology
2.0 Semester Credit Hours
Prerequisite: Introduction to Immunology or consent of instructor

MICR 6024  Advanced Microbial Genetics
1.0–4.0 Semester Credit Hours
Prerequisites: Microbial Genetics and consent of instructor
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.

MICR 6022  Advanced Microbial Physiology
2.0 Semester Credit Hours
Prerequisite: Microbial Physiology and consent of instructor
This course consists of readings and conferences. The course includes
current concepts and experimental studies in microbial structure-
function relationships and regulatory mechanisms.

MICR 6026 Advanced Mycology
1.0 Semester Credit Hour
This course will cover the major research methods and techniques
used to study human fungal pathogens.
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 Molecular Medicine, Biochemistry, Cellular and Structural Biology, Medicine, Surgery, Pathology, and Physiology. 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 tumorogenesis, mechanisms of cancer metastasis, animal models of disease, transcriptional regulation, development of antitumor 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 Institute for Drug Development 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:

- **Biology***: Two years as required for science majors
- **Chemistry***: One year of general inorganic and a course in organic chemistry. Analytical and physical chemistry are recommended.
- **Physics***: One year as required for science majors
- **Mathematics**: A minimum of one semester of calculus

Electives*

- Biochemistry
- Current Topic in Cancer Biology
- Human Cytogenetics
- Advanced Human Genetics
- Molecular Developmental Biology
- Introduction to Virology
- Introduction to Immunology
- Advanced Topics in Virology
- Advanced Molecular Tumor Biology
- Advanced Biochemistry of Nucleic Acids and Proteins
- Biostatistics
- Basic Pathology
- Principles of Physiology
- Advanced Pharmacology I
- Independent Study

Required Courses for the Ph.D. Degree

**MMED 6016 Advanced Molecular Cell Biology**

* 5.0 Semester Credit Hours

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.

* The exact electives will be determined by student’s advisory committee.
MMED 5001 Molecular Medicine
3.0 Semester Credit Hours
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.

MMED 6091 Seminars in Molecular Medicine
1.0 Semester Credit Hour
Registration every term in residence is required of all Molecular Medicine students.

MMED 5015 Modern Methods in Cell and Molecular Biology
1.0 Semester Credit Hour
A course 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.

MMED 5019 Graduate Colloquium
1.0 Semester Credit Hour
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.

INTD 6002 Ethics in Research
0.5 Semester Credit Hour
This course will deal with topics relevant to ethics in scientific research. The course will be 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 graduate students.

MMED 6021 Molecular Pathogenesis
2.0 Semester Credit Hours
The objectives of this course are: (1) to bring awareness of the standard clinical care, underlying molecular mechanisms, and promising new therapies for some of the common human diseases; (2) to broaden the scope of graduate education to include basic, translational, and clinical research; (3) to cultivate and stimulate critical thinking and rational design towards deeper understanding and better treatment of human diseases. The format consists of weekly meetings with informal didactic presentation by both clinical and basic-science faculty, as well as student-led discussion of journal articles on a specific disease topic. Clinical faculty will focus on pathobiology, clinical manifestations, patient care, and major clinical challenges and promises. Basic-science faculty will focus on the current understanding of the molecular, biochemical, cellular, and genetic basis for human disease. Students will present the most recent papers that illuminate the etiology and/ or innovative therapies. In the final session, students will work in groups to collectively come up with proposals that translate findings from bench work to clinical advances.

MMED 6071 Supervised Teaching
1.0 Semester Credit Hours
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.

MMED 6097 Research
1.0–9.0 Semester Credit Hours
Independent, original research under the direction of faculty advisor.

MMED 6098 Thesis
1.0–9.0 Semester Credit Hours
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.

MMED 7099 Dissertation
1.0–9.0 Semester Credit Hours
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.

Electives

INTD 5005 Core Course I: Biochemistry
4.0 Semester Credit Hours
A basic biochemistry survey course for first-year graduate students in the biomedical sciences. Topics 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.

CSBL 5046 Molecular Pathogenesis of Disease
1.0 Semester Credit Hour
This course is designed to illustrate the ways medical scientists investigate basic mechanisms of disease. Students will meet in seminar groups throughout the semester and will have the opportunity to develop confidence in critically evaluating literature and in devising hypotheses that exploit and consolidate the student's understanding of cellular and molecular biology as it applies to human disease. The course will emphasize neoplasia, inflammation, genetic disorders, development disorders, and neuropathology.

CSBL 5046 Human Cytogenetics
2.0 Semester Credit Hours
A lecture and student seminar course concerning human cytogenetics and the organization of the human genome. Emphasis will be placed on clinical aspects and a molecular approach to the human genome. Topics will include clinical disease, cancer genetics, and gene mapping.

MICR 5041 Introduction to Virology
2.0 Semester Credit Hours
Basic nonmedical general virology with emphasis on molecular and cellular biology of animal viruses: physical and chemical properties, molecular mechanisms and biology of multiplication, effects on host cells, genetics, and interferon.

MICR 5051 Introduction to Immunology
2.0 Semester Credit Hours
This course is a study of immune responses with emphasis on experimental strategies for elucidating cellular and molecular mechanisms. Three phases of study: (1) immunoochemistry 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, transplantation rejection, and tumor immunology).
MICR 6043 Advanced Topics in Virology
2.0 Semester Credit Hours
In-depth study of selected topics in animal virology at the molecular level.

MMED 6017 Cellular Response to DNA Damage
1.0 Semester Credit Hour
This advanced course will cover recent advancements in the molecular and cellular aspects of cellular responses to DNA damage. Topics include new insights into DNA repair mechanisms, interactions between DNA repair and tumor suppressor genes, and DNA damage-activated cell cycle checkpoints.

MMED 6030 Current Topics in Cancer Biology
2.0 Semester Credit Hours
This advanced course will cover recent advancements in molecular and cellular aspects of cancer biology. Topics to be covered include identification of cancer-related genes, new insights of gene function of previously identified cancer-related genes, and new approaches to the study of cancer.

PATH 2005 Basic Pathology
11.5 Semester Credit Hours
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. $24 microscope fee for the Sophomore year; $32 laboratory fee for the Sophomore year.

PATH 5021 Biostatistics
3.0 Semester Credit Hours
(See Coordinate Graduate Courses at the end of the Graduate School section.)

Electives

PHAR 5013 Principles of Pharmacology
3.0 Semester Credit Hours
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.

INTD 5043 Fundamentals of Neuroscience II: Systems Neuroscience
3.5 Semester Credit Hours
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.

**JOINT PHARM.D. PROGRAM**

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 HSC campus, the student has the opportunity to increase her/his knowledge and comprehension of pathophysiology, applied pharmacokinetics, pharmacoeconomics, patient assessment techniques, 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 which 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 HSC Graduate School of Biomedical Sciences, the HSC School of Medicine, and The UT-Austin College of Pharmacy collaborate on the development of Joint Program policies and procedures. The faculty of The University of Texas College of Pharmacy Pharmacotherapy Division also hold appointments in the School of Medicine at the HSC. The Pharmacotherapy Division Head reports jointly to the Dean of the College of Pharmacy, and reports as a center director to the Dean, HSC 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 prepharmacy 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.

**Curriculum**

Capitalizing on the strengths of preclinical science studies in medicinal chemistry, biopharmaceutics, pharmacology, and other biomedical courses, the Pharm.D. student spends the third professional year in doctoral courses to become proficient in the application of pharmacotherapeutics,
pharmacokinetics, pharmacoeconomics, drug literature evaluation, and patient assessment. Opportunities for review, repetition, and reinforcement of scientific principles fundamental to the student's clinical effectiveness are provided in a subsequent 42-week experiential component. This year consists of four required clerkships (two acute care, one institutional, and one ambulatory care) and three elective or selective clerkships. Through the careful selection of practice sites and preceptors, a student can acquire a wide variety of challenging professional practice experiences as well as pursue areas of special interest.

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 HSC 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 February 2004 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](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](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

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**PHarmacology**

The following description of the doctoral graduate program in Pharmacology is applicable to students admitted prior to the Fall 2008 semester. Effective with admission for Fall 2008, prospective students seeking a Ph.D degree apply to the Integrated Multidisciplinary Graduate Program (IMGP), as described previously, rather than to the Pharmacology program. Faculty members in Pharmacology actively participate in all elements of the IMGP, and the Committee on Graduate Studies in Pharmacology administratively oversees the Neuroscience and Pharmacology tracks in the IMGP. Students are not actively admitted to a M.S. program in Pharmacology.

In the broadest sense, pharmacology is the study of how chemical agents, both natural and synthetic (i.e., drugs), affect biological systems. This encompasses investigation of the derivation, chemical properties, physiological and behavioral effects, mechanisms of action, biological transformations, and the therapeutic and nontherapeutic 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. Since a key objective of pharmacology is to further the understanding of both the cause and treatment of disease, knowledge of pathophysiology also becomes an essential feature of pharmacological training. Studies currently in progress range in use from molecular biological techniques and model cell approaches to whole animal studies in which electrophysiological, neurochemical, and behavioral techniques are utilized.

The first two years include coursework in basic biomedical sciences, graduate pharmacology, exposure to faculty research through individual projects in various laboratories, and participation in journal clubs and departmental seminars. After satisfactory completion of a comprehensive qualifying examination at the end of the second year, the student chooses a dissertation research topic and a faculty advisor. Subsequent years are spent primarily in performing doctoral research. Students also attend seminars given by faculty members, guest speakers, and peers. They interact with these lecturers during special student luncheons. They also give brief presentations about their research projects and discuss and analyze scientific literature in a journal club. They travel to meetings of scientific societies (an expense allowance is provided) and have the opportunity to gain teaching experience.
Research Activities

The faculty of the Pharmacology Graduate Program is composed of 33 scientists from the Pharmacology Department as well as several other departments at the Health Science Center. Current 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, and cardiovascular pharmacology.

• Current investigations in the area of neuropharmacology focus upon the role of serotonergic and adrenergic receptors as mediators of various behaviors and the action of anxiolytic and antidepressant drugs. These include the following: investigation of the interactions between serotonin receptor subtypes and their role in the action of psychotropic drugs; the biological aspects of antidepressant drugs; quantitative autoradiographic characterization of serotonin and adrenergic receptor subtypes in the brain; pharmacokinetic modeling of serotonin receptor ligands; regulation of central beta-adrenergic and serotonin receptor subtypes; the role of the central noradrenergic system in response to stress and immunocytotoxic and in situ hybridization studies of the effect of stress on the expression of the α1 adrenoceptor.

• The cellular and molecular mechanisms which underlie pain and neurogenic inflammation are being investigated at the level of the primary sensory neurons. The role of presynaptic neurotransmitter receptors in modulating neurosecretion from nociceptive sensory neurons as well as the endogenous ligands, drugs, or other substances which activate these receptors are being studied. Of special interest is the role of nicotine and nicotine agonists in activating neurosecretory mechanisms in sensory neurons. At the level of the spinal cord, the role of monoamines and excitatory amino acids in modulating afferent transmission of pain is also being investigated.

• Additional areas of investigation include the role of G proteins in signal transduction and interactions between receptors signal transduction systems; the neuropharmacology of receptor-mediated regulation of neurotransmitter release and the coupling of calcium channels and second messenger systems; electrophysiology and biochemistry of brain slices and cell cultures; the effect of chronic administration of benzodiazepines, barbiturates, alcohol and neurosteroids on regulation of GABAs receptor binding, function and gene expression, and the effects of alcohol on NMDA function and gene expression.

• Research in molecular pharmacology includes investigations on the following topics: receptor mechanisms involved in regulation of tyrosine hydroxylase gene expression and how the expression of this gene is affected by aging; the use of site-directed mutagenesis, phosphopeptide mapping and kinase assays to characterize the human insulin, its mechanism of receptor signal transduction, and its role in the induction of insulin resistance; molecular evolutionary and molecular modeling studies of vasopressin and oxytocin receptor subtypes; cell cycle regulation of P70 S6 kinase and signal transduction pathways involved in its activation; receptor mechanisms involved in regulating tyrosine hydroxylase gene expression and the various signal transduction mechanisms that mediate the effects of selected neurotransmitters and neuromodulators on tyrosine hydroxylase gene expression.

• Cardiovascular research focuses on the role of the CNS in the regulation of cardiovascular function; the role of various neurotransmitters in the central regulation of sympathetic nervous system function and vasopressin release; the role of estrogen in the regulation of sympathetic nerve function; the mechanism of action, the hemodynamic and neuroendocrine effects and the interactions of antihypertensive drugs. In addition, studies are in progress that focus on the cellular and molecular responses of the vascular endothelium to hemodynamic stress and the vascular cellular mechanisms involved in arterial restenosis.

• Other investigations include the following: the mechanisms of ethanol-induced fetal neuro- and hepatotoxicity and the role of reactive metabolites in oxidative damage to fetal cell membranes; the investigation of rapid metabolic processes in the CNS utilizing rapid inactivation techniques and chemical and pharmacological characterization of extracts from Oriental folk medicines as potential therapeutic agents.

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 and Communicative 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

Applicants for admission must have a B.A. or B.S. degree in a related field. It is suggested that students have completed two semesters of general biology, organic chemistry, general physics, and calculus. In addition, a minimum score (verbal + quantitative) of 1000 on the Graduate Record Examination General (Aptitude) Test and a minimum 3.0 GPA are preferred. Foreign applicants must have a minimum score on the TOEFL examination of 560 on the paper-based exam or 68 on the Internet-based test. Completed applications will be considered beginning January 15th of each year.
Financial Support for Graduate Students
Financial support is awarded on an annual basis to all students enrolled in the Pharmacology Ph.D. program. Stipend support is awarded for at least five years as long as students are enrolled full-time and remain in good academic standing in graduate school. Nonresident students receiving a teaching assistant stipend are eligible for resident tuition rates.

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 comprehensive background in the basic biological sciences through coursework in biochemistry, molecular biology, physiology, and neuroscience. Initially, students obtain laboratory experience through a series of laboratory rotations in different research laboratories of the faculty.

Upon successful completion of the required coursework, students are required to pass a comprehensive qualifying examination in pharmacology. The qualifying examination is given when the student has completed the required courses and has met any additional departmental requirements. The Committee on Graduate Studies guides the initial program of study and makes a recommendation for candidacy for the Ph.D. degree based upon the student’s performance on the qualifying examination, in graduate courses, and laboratory rotations.

Following admission to candidacy for the Ph.D. degree, students develop a dissertation research proposal and conduct research under the direction of a faculty advisor 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.

Required Courses for the Ph.D. Degree
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.

PHAR 5013 Principles of Pharmacology
3.0 Semester Credit Hours
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.

PHAR 5014 Therapeutics
3.0 Semester Credit Hours
Prerequisite: INTD 5000
The overall objective of this course is to provide students with a current overview of the therapeutics related to major classes of drugs. The course is required for Pharmacology students as a 3-hour course. Each section is offered separately as a 0.5-hour micro-elective for students from other programs. There is a course director for the overall course while each section is governed by a director responsible for the format of the lectures and examinations for that section. Each section includes at least one examination that determines the overall grade for Pharmacology students taking the 3-hour course. Student performance is evaluated on a lettered grading scale.

PHAR 5020 Basics of Research Design
1.5 Semester Credit Hours
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.

PHAR 5090 Seminar
1.0–9.0 Semester Credit Hours
Presentation and discussion of recent advances and research by staff, students, and outside scientists.

PHAR 5092 Special Problems in Pharmacology — Research Practicum
1.0–9.0 Semester Credit Hours
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.

PHAR 6071 Supervised Teaching
1.0–9.0 Semester Credit Hours

PHAR 6097 Research
0.5–9.0 Semester Credit Hours
Independent, original research under the direction of a faculty advisor.

PHAR 7099 Dissertation
1.0–9.0 Semester Credit Hours
Prerequisite: Admission to candidacy for Doctor of Philosophy degree
Registration for at least two terms is a Graduate School requirement for all Ph.D. candidates.
Other Required Courses

CSBL 5095  Experimental Design and Data Analysis  2.0 Semester Credit Hours

INTD 5000  Fundamentals of Biomedical Sciences  8.0 Semester Credit Hours
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, and organismal and systems biology. The course is designed for first-year students matriculating into the Integrated Multidisciplinary Graduate Program.

INTD 5005  Core Course I: Biochemistry  4.0 Semester Credit Hours
Prerequisite: consent of instructor
A basic biochemistry survey course for first-year graduate students in the biomedical sciences. Topics 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.

INTD 5006  Core Course II: Molecular Biology  4.0 Semester Credit Hours
Prerequisite: consent of instructor
A study of the molecular aspects of prokaryotic and eukaryotic genome structure and expression. Lectures will examine the current understanding of chromosome structure, gene organization, translation of transcription; RNA structure and function, translation, and replication.

INTD 5007  Advanced Cell and Molecular Biology  3.0 Semester Credit Hours
Prerequisite: INTD 5006 or special permission from instructor
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.

INTD 6002  Ethics in Research  0.5 Semester Credit Hour
This course will deal with topics relevant to ethics in scientific research. The course will be 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 graduate students.

INTD 6045  Clinical Practicum in Neuroscience  1.0 Semester Credit Hour
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.

Electives

INTD 6033  Cell Signaling Mechanisms  2.0 Semester Credit Hours
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 inter-cellular mechanism for regulating mediator action.

CSBL 6048  Molecular Biology of Aging  3.0 Semester Credit Hours
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 will be offered to students who wish to either specialize in or have a strong background in the interrelated areas of aging and age-related diseases. Faculty from the Departments of Cellular & Structural Biology, Physiology, Pharmacology, 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. This course is an elective for all departments.

INTD 5040  Fundamentals of Neuroscience I: Molecular, Cellular, and Developmental Neuroscience  3.0 Semester Credit Hours
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.

INTD 5043  Fundamentals of Neuroscience II: Systems Neuroscience  3.5 Semester Credit Hours
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.

INTD 5047  Neuroanatomy  2.0 Semester Credit Hours
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 vari-
uous 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.

INTD 6041 Basic Science Resident Lecture Series in Neurology
1.5 Semester Credit Hours
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.

PHAR 5091 Pharmacology Micro-electives
0.5–9.0 Semester Credit Hours
Micro-electives are courses which 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 Neuroptides
5091.011 Fundamentals of Behavioral Pharmacology
5091.012 Therapeutics: Autonomic Pharmacology
5091.013 Therapeutics: Cardiovascular-Renal Pharmacology
5091.014 Therapeutics: Central Nervous System Pharmacotherapeutics
5091.015 Therapeutics: Chemotherapy
5091.016 Therapeutics: Endocrine Pharmacology
5091.017 Therapeutics: Pharmacological Management of Pain

PHAR 6020 Molecular and Pharmacological Basis of Therapeutics
2.0 Semester Credit Hours
This course provides 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.

PHAR 6025 Molecular Pharmacology
2.0 Semester Credit Hours
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.
The following description of the doctoral graduate program in Physiology is applicable to students admitted prior to the Fall 2008 semester. Effective with admission for Fall 2008, prospective students seeking a PhD degree apply to the Integrated Multidisciplinary Graduate Program (IMGP), as described previously, rather than to the Physiology program. Faculty members in Physiology actively participate in all elements of the IMGP, and the Committee on Graduate Studies in Physiology administratively oversees the Membrane Biology & Cell Signaling and the Molecular, Cellular and Integrative Physiology tracks in the IMGP. K–12 teachers may apply for admission to a M.S. degree program in Physiology.

The graduate program in Physiology provides students with the opportunity to develop academic and experimental skills necessary to pursue careers in scientific research. The program emphasizes the Ph.D. degree, but a Master of Science Degree is offered on a case-by-case basis for students with specific goals that require such training. A Master of Science degree program designed specifically for K–12 teachers is also offered.

Through formal coursework in broad areas of physiology, as well as cognate areas such as molecular and cellular biology, biochemistry, and pharmacology, students in the early stages of training may gain knowledge about mechanisms of body function. Students are expected to participate in the research programs of the faculty. This background experience is designed to help students determine a particular area of scientific interest and to select an original research project. The successful completion of this research endeavor culminates in the thesis or dissertation that represents an original contribution to scientific knowledge.

**Research Activities**

Research conducted by Program faculty and students is funded by both private and government agencies.

**Molecular Physiology and Biophysics**

Research in molecular physiology and biophysics is focused on the relationship between the structure of biological molecules and their function in living organisms. This area makes particular use of quantitative measurements and analysis, combining the methods of chemistry, physics, biology, and mathematics, to study how living organisms work. Techniques include combinations of patch-clamp electrophysiology (including single-channel recording), molecular cloning, and site-directed mutagenesis of proteins, fluorescence measurements, and spectroscopy. Specific research areas under investigation include molecular sites of protein-protein interactions and mechanisms of ion channel gating and permeation.

**Cellular Physiology**

Regulation of physiological functions is an important focus of Program faculty. A combination of confocal ion imaging, electrophysiology, as well as recombinant DNA techniques, focus on understanding how a family of endoplasmic reticulum luminal lectin chaperones modulate intracellular calcium oscillations, a principal determinant of cell signaling. Research on the cellular mechanisms and intracellular signaling pathways controlling sodium ion and water handling by the kidney are performed to better understand how humans maintain body fluid homeostasis and blood pressure. A combination of electrophysiological techniques (whole cell and single channel patch clamp recordings) in addition to biochemical and molecular biological tools are used to investigate the role and regulation of ion channels in specific physiological processes.

**Cardiovascular Physiology**

Program research in cardiovascular physiology is diverse and directed toward understanding mechanisms that regulate organ blood flow, thermoregulation, cardiac fibrosis/remodeling, and the activity of sympathetic-regulatory neurons in the brain. Research approaches include cultured cells, isolated organs, brain slice preparations, intact animals, transgenic and gene-targeted mice, and human studies.

**Gastrointestinal Physiology**

Studies focus on the regulation, expression, and physiological significance of newly discovered gastrointestinal regulatory luminal peptides. Relationships between these luminal peptides and the release of other gastrointestinal hormones and enzymes involved in gastric function, pancreatic function, and in the regulation of food intake are being investigated.

**Neurophysiology and Autonomic Neuroscience**

Studies focus on the physiology of specific neuronal populations that control autonomic nervous system activity and how these neurons regulate cardiovascular, neurological, and psychiatric/mental disease. Current studies focus on how forebrain, hypothalamic, and brainstem neurons contribute to autonomic disturbances that accompany angiotensin II- and sodium-sensitive models of hypertension as well as congestive heart failure. Other studies focus on G-protein and tyrosine kinase signaling pathways that act on the M-type neuronal K+ channel that is modulated by muscarinic acetylcholine receptors. Additional studies focus on genetically modified large conductance K+ (BK+) channels and the impact these channels have on homeostatic functions of the heart and brain.

**Physiology of Aging**

The role of genes and hormonal changes in aging and extending life span is being studied using transgenic and knockout mouse models as well as mammalian cell models of cellular senescence. Unique animal models are being developed to study the effect of altering the expression of genes involved in the antioxidant defense system or DNA
repair on life span and age-related pathologies. In addition, special transgenic/knockout animal models with alterations in specific hormonal systems, e.g., IGF1, insulin, growth hormone, and glucocorticoids, are being used to study the role of hormones in the aging process. In addition, cell/tissue therapies are being developed as potential treatments for age-related diseases.

**Endocrine Physiology**

The role of peptides regulating the hypothalamic-pituitary-adrenal and hypothalamic-pituitary-reproductive axes are being developed and studied. Other studies focus on the effects of age and food restriction on intracellular proteolytic mechanisms and insulin receptor signal transduction and insulin internalization. Studies to understand the factors regulating decreased bone mass in the pathogenesis of osteoporosis are being explored.

**Renal Physiology**

Research into Renal Physiology focuses on understanding the role of the two functional units of the kidney: the renal corpuscle and the renal tubule. The renal corpuscle is a highly vascularized element that controls filtration of the blood. The renal tubule is comprised of epithelial cells that vectorially transport solute and electrolytes to fine-tune plasma volume and content. This research program is primarily at the cellular and molecular level with strong emphasis on the functional role of ion channels in modulation of filtration and transport. This research program entails use of several different but complimentary scientific methodologies, including contemporary cell biology, biochemistry, molecular biology, fluorescence microscopy and electrophysiology, as well as sophisticated model systems. Kidney function impacts numerous aspects of human health, including blood pressure regulation and cardiovascular wellness, and thus, this area of investigation is directly relevant to many common diseases.

**Musculoskeletal Physiology**

Studies focus on molecular mechanisms that regulate growth and development of the craniofacial, appendicular, and axial skeleton. The role of blood vessel- and cartilage-derived peptides on endochondral ossification and chondrocyte proliferation and hypertrophy is being determined using specialized genetic animal models. Other studies are investigating the impact of transgenic modification of anti-oxidant defense enzymes on cardiac and skeletal muscle performance in response to physiological and pathophysiological stresses.

**Requirements for Admission**

Applicants for admission to the program must have earned a Bachelor’s degree in a related field from an accredited institution or provide proof of an equivalent degree from a foreign institution. A minimum score (verbal + quantitative) of 1000 on the Graduate Record Examination (GRE) and a minimum GPA of 3.0 is preferred. In addition, students will be expected to have completed the following undergraduate courses:

<table>
<thead>
<tr>
<th>Biology</th>
<th>One year of general biology</th>
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<tr>
<td>Chemistry</td>
<td>One year of organic chemistry; physical chemistry (recommended)</td>
</tr>
<tr>
<td>Physics</td>
<td>One year of general physics</td>
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<tr>
<td>Mathematics</td>
<td>Differential and integral calculus</td>
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Applicants with deficiencies in required undergraduate courses may be admitted contingent upon such deficiencies being removed prior to, or during, the first year of graduate study. Foreign applicants must have a minimum score on the Test of English as a Foreign Language (TOEFL) of 560 on the paper-based exam or 68 on the Internet-based exam. Applicants to the K–12 M.S. program may take the Miller’s Analogy Test instead of the GRE. Applications and supporting documents should be submitted to the Graduate Admissions Office by February 15 for priority fall admissions and April 1 for the second admissions cycle (space available basis).

**Financial Support for Graduate Students**

All full-time students in good academic standing receive assistantships in the amount of $26,000 per year. Assistantships are renewed annually based on demonstration of satisfactory progress in meeting degree requirements. Graduate Students/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.

**Curriculum**

Students pursuing the Ph.D. degree are expected to develop a comprehensive knowledge of physiology, which will be assessed by their performance in coursework. Introductory level graduate courses cover fundamental information in biochemistry; statistics; experimental technique; and molecular, cellular, and systems-level physiology. Advanced graduate physiology courses emphasize interpretation of the current primary literature. In addition, a student must pass a comprehensive qualifying examination at the end of her/his second year. A public defense of the dissertation, which represents an original contribution to biomedical science and which is of publishable quality in reputable, scholarly journals, is required of all candidates for the Ph.D. A minimum of 72 semester credit hours is required in order to obtain a Ph.D.

For more information about our department and graduate program please visit [http://www.physiology.uthscsa.edu](http://www.physiology.uthscsa.edu).

**Required Courses for the Ph.D. Degree**

**PHYL 5045**  Mammalian Physiology  
4.0 Semester Credit Hours  
This course begins with the fundamental processes that govern membrane transport, membrane potential, and excitation-contraction coupling. The course then proceeds to coverage of organ system
INTD 5006 Core Course II: Molecular Biology
Prerequisite: consent of instructor
A study of the molecular aspects of prokaryotic and eukaryotic genome structure and expression. Lectures will examine the current understanding of chromosome structure; gene organization; regulation of transcription; and RNA structure and function, translation, and replication.

INTD 5007 Advanced Cell and Molecular Biology
3.0 Semester Credit Hours
Prerequisite: INTD 5006 or special permission from the instructor
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 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.

PATH 5021 Biostatistics
3.0 Semester Credit Hours
or
CSBL 5095 Experimental Design & Data Analysis
2.0 Semester Credit Hours

PHYL 6097 Research
1.0–9.0 Semester Credit Hours
Research under supervising professors’ direction.

PHYL 7099 Dissertation
1.0–9.0 Semester Credit Hours
Prerequisite: admission to candidacy for Doctor of Philosophy degree
Registration for at least two terms is required of Ph.D. candidates.

Electives
PHYL 6091 Selected Topics of Physiology
1.0–4.0 Semester Credit Hours
Prerequisite: consent of instructor
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 6091-04 Endocrine and Metabolism
- PHYL 6091-05 Molecular Physiology
- PHYL 6091-06 Physiology in Aging
- PHYL 6091-07 Ion Channels in Disease

M.S. DEGREE TRACK FOR K–12 TEACHERS
The Graduate Program in Physiology offers a specific track of study for primary and secondary science teachers that 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 track in Physiology for K–12 teachers requires enrollment in both 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 is required for the M.S. Degree.

PHYL 5011 Discovery of Physiological Principles I
2.0 Semester Credit Hours
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.

**PHYL 5014 Discovery of Physiological Principles II**
**2.0 Semester Credit Hours**
Prerequisite: concurrent enrollment in PHYL 5024
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.

**PHYL 5017 Discovery of Physiological Principles III**
**2.0 Semester Credit Hours**
Prerequisite: concurrent enrollment in PHYL 5025
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.

**PHYL 5021 Cell Structure and Function**
**4.0 Semester Credit Hours**
Prerequisite: concurrent enrollment in PHYL 5011
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.

**PHYL 5024 Organ Systems Physiology I**
**4.0 Semester Credit Hours**
Prerequisites: PHYL 5011 & 5021, and concurrent enrollment in PHYL 5014
A study of the mechanisms that produce and control the functions of about one-half of the body's organ systems.

**PHYL 5025 Organ Systems Physiology II**
**4.0 Semester Credit Hours**
Prerequisites: PHYL 5011, 5014, 5021, & 5024
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.

**PHYL 5026 Physiology in Everyday Life and Medicine**
**3.0 Semester Credit Hours**
Prerequisites: PHYL 5011, 5014, & 5021
Application of physiological principles to the understanding of selected issues related to life cycle, well being, and disease.

**PHYL 6097 Research**
**1.0–9.0 Semester Credit Hours**
Research under supervising professors' direction.

**PHYL 6098 Thesis**
**1.0–9.0 Semester Credit Hours**
Prerequisite: admission to candidacy for Master of Science degree Registration for at least one term is required of M.S. candidates.

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**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, microwave 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 Biology)

**Chemistry:** Two semesters of general chemistry (through biochemistry for Radiation Biology)

**Physics:** Two years of general physics (two semesters for Radiation Biology)

**Mathematics:** Through calculus and ordinary differential equations

**Computer Science:** Introduction to Computer Science (one semester)
Additional Prerequisites for Medical Physics Applicants:
1. Math: Four semesters of calculus. 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 E&M, two additional upper-level courses such as modern physics, classical mechanics, introductory quantum mechanics, or thermodynamics.

Although students may be admitted with deficiencies which 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 which 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 the students’ studies emphasize medical imaging physics and technologies, or Radiation Therapy Physics, in which the 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. The Radiation Biology track includes curricula in Radiation Biophysics, in which students’ studies emphasize investigation of the effects of radiation on biological processes and a combined MD residency/PhD Human Imaging degree program, which provides for research in clinical departments geared toward the next steps in the evolution of human imaging-based diagnosis and therapy. The Human Imaging program 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 third and newest program in the Radiation Biology track is the Imaging Neurosciences curriculum, in which biology students’ 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
8.0 Semester Credit Hours
This core course covers the fundamentals of biochemistry, molecular biology, cell biology, and organismal and systems biology. The course is designed for first-year students matriculating into the Integrated Multidisciplinary Graduate Program.

RADI 5007  Statistics in the Radiological Sciences
1.0 Semester Credit Hour
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.

INTD 6002  Ethics in Research
0.5 Semester Credit Hour
This course will deal with topics relevant to ethics in scientific research. The course will be 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 graduate students.

RADI 5015  Physics of Diagnostic Imaging I
3.0 Semester Credit Hours
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.

RADI 5025  Basic Radiation Biology
1.5–3.0 Semester Credit Hours
Prerequisite: consent of instructor
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.

RADI 5090  Seminars in Radiological Sciences
1.0–9.0 Semester Credit Hours
Each student is required to register a minimum of two terms if following an M.S. degree plan or four terms if following a Ph.D. plan. Seminars will review current findings in the field.

RADI 6024  Radiological Anatomy and Physiology
3.0 Semester Credit Hours
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
RADI 6071 Supervised Teaching  
1.0–9.0 Semester Credit Hours  
This course is a presentation of lectures and supervised teaching under the direction of faculty.

RADI 6097 Research  
1.0–9.0 Semester Credit Hours  
This course is supervised research under the guidance of a faculty member.

RADI 6098 Thesis  
1.0–9.0 Semester Credit Hours  
Prerequisite: Admission to candidacy for the Master of Science degree. Registration for at least two terms is required for M.S. candidates.

RADI 7099 Dissertation  
0.5–9.0 Semester Credit Hours  
Prerequisite: Admission to candidacy for Doctor of Philosophy degree. Registration for at least one term is required for Ph.D. candidates.

Electives

INTD 5046 Mind & Brain: Metaanalysis in Human Brain Mapping  
2.5 Semester Credit Hours  
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 metaanalysis of a set of studies using similar tasks. The students are graded under four categories: Mid-Term Test (25%), Final Paper (25%), Final Oral Presentation (25%), and overall Class Participation (25%).

BIOC 5011 General Biochemistry  
5.0 Semester Credit Hours  
Prerequisites: general chemistry, organic chemistry and physics. This course is a survey of the field of biochemistry.

CSBL 5035 Cellular Biology  
5.0 Semester Credit Hours  
This course is an introduction to the cell, the molecular organizations of cells, and their development into multicellular organisms.

RADI 0001 Object-Oriented Programming for Physicists  
3.0 Semester Credit Hours  
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.

RADI 5001 Basic Radiation Safety in the Laboratory  
1.0 Semester Credit Hour  
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 HSC training requirements in order to use radioactive materials on campus. Successful participants will earn three HSC safety certificates of completion: Basic Radiation Safety Training, Basic Laser Safety Training, and Basic Laboratory Safety Training.

RADI 5005 Fundamentals of Radiation Dosimetry  
3.0 Semester Credit Hours  
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.

RADI 5010 Medical Biophysics  
3.0 Semester Credit Hours  
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.

RADI 5011 Radiation and Nuclear Physics  
3.0 Semester Credit Hours  
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.

RADI 5018 Physics Measurements in Imaging  
2.0 Semester Credit Hours  
Prerequisite: concurrent enrollment in RADI 5015. This is a laboratory course focusing on performance of measurements used in quality assurance (QA), system characterization, and acceptance testing of medical imagers.

RADI 5020 Principles of Health Physics I  
3.0 Semester Credit Hours  
This course covers the basic principles of protection dealing with the major forms of ionizing radiation.

RADI 5030 Neuroscience Imaging Laboratory  
1.0 Semester Credit Hour  
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.

RADI 5050 Human Neuroelectrophysiology  
3.0 Semester Credit Hours  
Prerequisites: BLO 4813 (or PSY 4183 and PSY 3103) and BIO 3433, or consent of instructor. 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.

RADI 6012 Physics of Nuclear Medicine  
3.0 Semester Credit Hours  
Prerequisite: RADI 5011. This course is a study of physical principles of planar, SPECT and PET radionuclide imaging; instrument theory; dosimetry; computer uses; and safety considerations.

RADI 6014 Physics of Dental Imaging

RADI 5020 Medical Biophysics  
3.0 Semester Credit Hours  
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.
2.0 Semester Credit Hours
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.

RADI 6016 Advanced Diagnostic Imaging
3.0 Semester Credit Hours
Prerequisite: RADI 5015
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.

RADI 6017 Neuroimaging Methods
3.0 Semester Credit Hours
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, magnetoencephalography, 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.

RADI 6018 Foundations of Neuroscience Imaging
3.0 Semester Credit Hours
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.

RADI 6019 Medical Image Processing
3.0 Semester Credit Hours
Prerequisite: RADI 6016
This course is an introduction to the basic principles of image processing as applied to digital radiography, computed tomography, ultrasound, and magnetic resonance images.

RADI 6020 Advanced Topics in Cognitive Neuroscience
3.0 Semester Credit Hours
This course will explore several advanced topics in cognitive neuroscience. It includes exhaustive study of a brain function in normals and in disease states. Brain functions include but are not limited to sensation, perception, action, language, motion, and cognition.

RADI 6023 Clinical Medical Physics Laboratory
1.0–9.0 Variable Semester Credit Hours
This course offers the opportunity for medical physics students to work directly with professional medical physicists in a clinical setting.

RADI 6028 Advanced Molecular Radiobiology
3.0 Semester Credit Hours
Prerequisite: RADI 5025
This course assesses the types of molecular damage which occur after radiation exposure of cells, and the methods used to detect such damage.

RADI 6030 Physics of Radiotherapy
3.0 Semester Credit Hours
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.

RADI 6031 Physics Measurements in Radiotherapy I
3.0 Semester Credit Hours
Performance of measurements on radiation therapy equipment used to determine therapy treatment parameters is the opportunity for study in this course.

RADI 6033 Advanced Radiotherapy Physics
3.0 Semester Credit Hours
This course includes the coverage of advanced radiation therapy special topics: intensity modulated radiation therapy, advanced brachytherapy, and radiation therapy shielding.

RADI 6035 Physics Measurements in Radiotherapy II
3.0 Semester Credit Hours
Prerequisite: RADI 6030
Students have the opportunity to participate in calibration measurements and procedures for a wide variety of radiotherapy units while receiving clinical training at participating institutions under the supervision of a clinical physicist.

RADI 6042 Non-ionizing Radiation Biology
1.0–3.0 Semester Credit Hours
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.

RADI 6049 Introduction to Magnetic Resonance
2.0 Semester Credit Hours
Prerequisite: RADI 6049
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.

RADI 6050 Magnetic Resonance Imaging
2.0 Semester Credit Hours
Prerequisite: RADI 6049
This course explores the physics of magnetic resonance image formation through discussion of imaging problems, reviews of current research topics, and hands-on experience in MRI laboratories.

RADI 6051 Statistical Parametric Mapping
3.0 Semester Credit Hours
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.

RADI 6060 Biophotonics and Optical Imaging
3.0 Semester Credit Hours
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
RADI 6062  Cognitive Neuroscience
3.0 Semester Credit Hours
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.

RADI 6072  Critical Skills in Writing Research Papers and Grant Applications
2.0 Semester Credit Hours
This course provides a linkage and critical new information for students who are now or will soon be preparing research papers for publication and submitting grant or other extramural funding proposals. It provides a linkage between courses dealing with study design and statistical analyses and their practical application in writing research documents. Using the standard PHS 398 application form, the various elements of research writing and grant submission will be presented and knowledge of rules of usage are presented. Each student is expected to complete a full PHS 398 application on a topic of her or his choice.

RADI 6091  Current Topics in Radiological Sciences
1.0–9.0 Semester Credit Hours
This course covers topics of special interest which may include emerging and new modalities in radiological sciences relating to x-ray, nuclear, or magnetic imaging.

RADI 7005  Treatment Planning Techniques in Radiation Therapy
3.0 Semester Credit Hours
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.

RADI 7010  Motor Learning and Brain Imaging
3.0 Semester Credit Hours
This course is designed for the advanced student (doctoral or post-doctoral) 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.

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
3.0 Semester Credit Hours
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.

PATH 5025  Individual Study in Biometry
1.0–9.0 Semester Credit Hours
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.

CLINICAL LABORATORY SCIENCES
The Master of Science degree in Clinical Laboratory Sciences (described in the School of Health Professions section of this Catalog) is administered by the Graduate School. Students in the program follow procedures and policies of the Graduate School of Biomedical Sciences.

DENTISTRY
Master’s degree programs in Dental Diagnostic Science, Endodontics, Periodontics, and Prosthodontics (described in the Dental School section of this Catalog) are administered by the Graduate School. Students in these programs follow procedures and policies of the Graduate School of Biomedical Sciences.

DENTAL HYGIENE
The Master of Dental Hygiene program (described in the School of Health Professions section of this Catalog) is administered by the Graduate School of Biomedical Sciences.

NURSING
Graduate programs leading to the Master of Science in Nursing and the Doctor of Philosophy degrees (described in the School of Nursing section of this Catalog) are administered by the Graduate School. Students in these programs follow procedures and policies of the Graduate School of Biomedical Sciences.
# Graduate School of Biomedical Sciences
## Academic Calendar 2008–2009

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<thead>
<tr>
<th>Fall 2008</th>
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<tbody>
<tr>
<td>Monday, August 25, 2008</td>
<td>1st Class Day</td>
<td>All</td>
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<tr>
<td>Monday, September 01, 2008</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Wednesday, September 10, 2008</td>
<td>Census Day</td>
<td>All</td>
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<tr>
<td>Thursday, November 27, 2008</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Friday, November 28, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, December 17, 2008</td>
<td>Term Concludes</td>
<td>All</td>
</tr>
<tr>
<td>Saturday, December 20, 2008</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
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<tr>
<td>Wednesday, December 24, 2008</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Thursday, December 25, 2008</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Friday, December 26, 2008</td>
<td>University Holiday</td>
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<tr>
<th>Spring 2009</th>
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<tbody>
<tr>
<td>Thursday, January 01, 2009</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Monday, January 12, 2009</td>
<td>1st Class Day</td>
<td>All</td>
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<tr>
<td>Monday, January 19, 2009</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, January 28, 2009</td>
<td>Census Day</td>
<td>All</td>
</tr>
<tr>
<td>Monday, February 16, 2009</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Monday, March 09, 2009</td>
<td>Spring Break Begins</td>
<td>All</td>
</tr>
<tr>
<td>Friday, March 13, 2009</td>
<td>Spring Break Ends</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, May 12, 2009</td>
<td>Term Concludes</td>
<td>All</td>
</tr>
<tr>
<td>Friday, May 22, 2009</td>
<td>Graduation-HSC Parman Auditorium 4 pm</td>
<td>All</td>
</tr>
<tr>
<td>Monday, May 25, 2009</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<th>Summer 2009</th>
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<tbody>
<tr>
<td>Thursday, May 28, 2009</td>
<td>1st Class Day</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, June 09, 2009</td>
<td>Census Day</td>
<td>All</td>
</tr>
<tr>
<td>Friday, August 14, 2009</td>
<td>Term Concludes</td>
<td>All</td>
</tr>
<tr>
<td>Saturday, August 22, 2009</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
</tbody>
</table>

Note: The 2009–2010 Academic Calendar will be available on the Student Services Web site in the fall.
School of Medicine

The introductory section of this Catalog, pages 46–123, applies to all schools. Students are also responsible for all information contained in that section.

Mission
The mission of the HSC 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: 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.

Admission and Application
Information about specific admission requirements are detailed in the Applicant Viewbook of the School of Medicine. 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 October of the year preceding anticipated matriculation and direct that scores be sent to The Texas Medical and Dental Schools Application Service in Austin, which is also the source of the Web-based application forms. The cut-off date for reporting MCAT scores is December 1 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
Candidates for admission are evaluated not only on the basis of their academic background and preparation for medical school, but also for integrity, maturity, motivation, judgment, and resourcefulness. The Committee on Admissions evaluates each candidate’s application to make an assessment of the individual’s academic background, performance on the Medical College Admission Test (MCAT), the recommendation of the premedical advisor, and the person’s nonacademic achievements. 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.

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 conducted on February 1. Results of this match will be available on February 15. 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.

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.

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 a 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 increase to greater than ten percent the percentage of nonresidents enrolled in the class of which the student would be a member.

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 which 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

Five 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 Group Leaders, and the HSC 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 Counseling Office 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 background check(s) with results deemed as satisfactory. Admission may be denied or rescinded based on a review of the background check.

Additionally, students who are currently enrolled and who do not have a valid background check must submit to, and satisfactorily complete, a background check review as a condition to enrolling or participating in educational experiences at affiliated sites as required.

Students who refuse to submit to a background check or do not pass the 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 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 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 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 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 background check service.

B. Scope. Background checks include the following and cover at least the past seven years:

- Criminal history search, including convictions, deferred adjudications or judgments, and pending criminal charges involving felonies, Class A, Class B, and Class C violations.
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 as required.

2. 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

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. 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: 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: 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 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 background check. A student who has a break in enrollment is required to complete a new 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 Rights 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 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 health-care facility upon its request.

2. Requests for Information: Request for background check reports must be submitted in writing by the affiliated health-care 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 their 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 redisclosed 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, 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 Dean if such absence is considered to be in the best inter-
ests of the student. To reach this decision, the 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.

Students who fail to register and pay tuition and fees within the specified dates will be considered to 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**

Attendance at each class session is not mandatory for all courses in the medical curriculum. The option lies with the course director. If the course director establishes a policy, that policy must be explained during the first meeting of the class. Attendance is mandatory for examinations.

Students who are absent from a class requiring attendance or who miss an examination should attempt to notify the Associate Dean for Student Affairs in advance of her/his absence if possible. Absences must be explained to the Associate Dean for Student Affairs who, by memorandum to the course director, indicates whether an absence is excused. Junior and senior students in clinical training are required to notify the clerkship director when they must be absent.

**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.

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.

**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), only the pre-remediation Grade Point Average 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 Clinical Promotions Committee will monitor the performance of those students in the third and fourth years of the School of Medicine curriculum. The Pre-Clinical Promotions Committee will monitor the performance of students in the first and second 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, both from a grade-received perspective and from a 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 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 courses in which deficiencies 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 courses in which failing grades have been incurred, a promotion committee may require that a student repeat courses that have already been passed.

**Dismissal** will be warranted in some instances.

**Procedure**

Students who have incurred one or two failing grades may request that the promotion committee grant them an opportunity to remediate grade deficiencies. This request must be in writing and it should delineate those factors, both academic and personnel that, in the student's view, would justify such action by a promotion committee. The respective promotion committee may grant such a request if, from their review, such consideration is appropriate to facilitate student learning and progress. A promotion committee may also recommend either course repetition or dismissal.

A student who has incurred three (3) academic deficiencies may request, in writing, that the promotion committee grants that student an opportunity to repeat all or part of an academic year. Those students with three (3) deficiencies who are not granted the privilege of repetition will be dismissed from the School of Medicine.

Students who incur four (4) or more academic deficiencies during any one academic year will be dismissed from the School of Medicine. The criteria as stated 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.

**United States Medical Licensing Examination (USMLE)**

Medical students must pass the Step I examination of the United States Medical Licensing Examination (USMLE) 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. Medical students must take the Step II CK and Step II CS examinations of the United States Medical Licensing Examination (USMLE), 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.

**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;**

4. **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. A further appeal may be made by the student to the President of the HSC, but only on issues of procedural irregularity.
Graduation
The degree of Doctor of Medicine is awarded by the Board of Regents 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 University of Texas 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
This dual degree program is accomplished in seven-years. Students complete two years of the School of Medicine and then embark full-time on their PhD dissertation research for three years. It is anticipated that the requirements for the PhD degree, including dissertation research, will be completed during the following three years, after which students will complete the final two years of the School of Medicine. Flexibility has been built into the program in several areas. For example, students will conduct laboratory rotations during their first two years of the School of Medicine and it is anticipated that many of the School of Medicine basic science courses will satisfy graduate school course requirements. In addition, students will participate in a Bench-to-Bedside course throughout the program, which is designed to engage them functionally in the major premise of this dual degree program, which is to educate and provide a rich experiential learning environment for the next generation of physician-scientists. Towards the end of the graduate school years, students will take a six-month long course to provide for a smooth transition into their clinical training years. Time is provided during the fourth year of the School of Medicine should students require additional time to complete their dissertation research, including defense of their dissertation. Tuition reimbursement will be provided for all years in the program.

In addition, a yearly stipend of $21,000 plus a fringe benefit will be provided from the dual degree program budget and from supervising professors’ funds.

MD/MPH
This program allows for students to accomplish the Doctor of Medicine (M.D.) and Masters of Public Health (MPH) in four years; however, students may decide to take five 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-Houston Health Science Center. 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. Degree with Distinction in Research
The MD with Distinction in Research Program provides HSC 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, weekends) in addition to other academic activities.

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 HSC and the community in general. Students are subject to the procedures and regulations governing “Student Conduct and Disciplinary of the HSC. Throughout the medical curriculum, medical students are governed by the Code of Professional Conduct of this School of Medicine.

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 HSC. (See the HSC Student Guide for the Code of Professional Conduct for Students.)
Section II: Grading

Each course or clerkship director may develop written expectations of professional conduct specific to her or 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.

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 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 parallel those outlined in this Catalog under Section IV of the procedures and regulations governing “Student Conduct and Discipline” of the HSC.

- 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

The nature of penalties for unprofessional conduct are in accordance with Section IV of the procedures and regulations governing “Student Conduct and Discipline” as outlined in this Catalog.

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.

Student Organizations

Descriptions of the School of Medicine organizations as well as those of all registered HSC student groups are in the Student Guide.

Required Attire

During the first two years of medical school, students spend most of their time in lectures, laboratories, or other activities which 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 patch 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 patch 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.

Curricular Design

The four-year medical curriculum is designed to provide a core of scientific knowledge and clinical skills that will provide the opportunity for successful students to progress to the necessary postgraduate training which ultimately enables a physician to care for patients. In addition to specific knowledge, the school offers an environment in which students can develop a professional and ethical attitude, and a sense of responsibility for patients that characterize the true physician. Each course, including electives and selectives, has been deemed essential in providing the training and experience that every physician must have.

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

Second Year

The second year builds on knowledge gained in the first year. Disease processes are taught in organ system modules with an integration of clinical sciences, pathology, pharmacology, and clinical skills. Listed below are the required courses:

- Advanced Clinical Examination Skills
- Introduction to the Clinical Sciences
- Pathology
- Pharmacology
- Psychopathology

Third Year

The third year begins with a preclinical course followed by clerkships in six specialties.

Up to 24 third-year medical students can choose to complete their clinical training (third and/or fourth years) within the Regional Academic Health Center facilities in Harlingen, Texas (see “Size and Location”). Beginning with the entering class of 2008, preference for completing the third and fourth year in Harlingen will be made at the time of the application process to medical school.

- Clinical Foundations
- Family Practice Clerkship
- Medicine Clerkship
- Obstetrics & Gynecology Clerkship
- Pediatrics Clerkship
- Psychiatry Clerkship
- 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
  - Elective Didactic Courses (students must choose three)
- Required Selectives - 8 weeks
- Vacation/Travel Periods - 10 weeks

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.

Course Descriptions

First Year

BIOC 1005  Biochemistry
5.0 Semester Credit Hours
Department of Biochemistry
The fundamental aspects of biochemistry are presented as they apply to medicine. The topics considered include pH and dissociation, protein structure, the properties of enzymes, biological oxidation and bioenergetics, the expression of genetic information and the mechanism of protein synthesis, the chemistry and metabolism of
carbohydrates, lipids, and nitrogen containing compounds. Emphasis is given to biochemical mechanisms relevant to medicine. This course is designed for medical students and may be taken for graduate credit only under unusual circumstances.

CSBL 1005  Histology
4.5 Semester Credit Hours
Department of Cellular & Structural Biology
Current concepts in cell biology and human histology are covered by means of a series of lectures and laboratory sessions. Basic information on the structure and function of cells and tissues is presented in the lectures; this is followed by staff-supervised laboratory sessions emphasizing the recognition of cells and the fundamental tissues. Each student is provided with a box of microscopic slides of human tissues. The laboratory sessions are accompanied by microscopic slide demonstrations and/or television tapes of tissues under study. Supplemental study material, such as films, television tapes, and transparent photomicrographs are available upon request through the Office of Educational Resources and the Teaching and Learning Center. The general purpose of this course is to acquaint the student with basic cytology and histology of normal human tissues, thereby offering a firm foundation of knowledge for the understanding of normal and disease processes.**/*

CSBL 1010  Gross Anatomy and Embryology
7.5 Semester Credit Hours
Department of Cellular & Structural Biology
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: $300.

INTD 1005  On Becoming a Doctor—Foundations
7.5 Semester Credit Hours
Interdisciplinary
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 professional behavior encouraging 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.

INTD 1041  Neuroscience
5.0 Semester Credit Hours
Interdisciplinary
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.**/*

MICR 1005  Microbiology
7.5 Semester Credit Hours
Department of 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.**/*

PHYL 1005  Physiology
7.5 Semester Credit Hours
Department of Physiology
The course in Medical Physiology is designed to introduce students to concepts dealing with the major cellular processes and organ systems of the normal person; to explore the homeostatic mechanisms that regulate and control their behavior; and to develop skills in group problem solving. The course begins with cellular physiology with emphasis on membrane transport, excitable tissues, and muscle function. It then proceeds with the sequential coverage of the cardiovascular system, respiratory system, renal system, digestive system, endocrine and reproductive systems. The teaching/learning program de-emphasizes lectures, thereby providing time for individual, independent self-study from a modern textbook. It is the textbook that defines the essential core material and learning outcomes for subsequent offerings. The course considers the 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.**/*

Enrichment Electives
A series of elective courses are offered to first- and second-year students. These electives meet outside of the required course schedule, usually over the noon hour. Students receive credit on their transcript for successful completion of an enrichment elective, but no grade is given and they are not included in the official credit hour total or the calcula-

* $48 microscope fee for the Freshman year includes these courses.
** $32 laboratory fee for the Freshman year includes these courses.
tion of the grade point average (GPA). A list of enrichment electives is available in the “Enrichment Elective Catalogue” from the School of Medicine.

First/Second Year

ELEC 5040  Trauma Enrichment
0.0 Semester Credit Hours
Interdisciplinary
This course is designed to give first- and second-year medical students an introduction to the exciting field of trauma and trauma surgery. It will offer students the opportunity to observe how attendings, residents, medical students, and hospital staff work towards caring for patients who suffer from traumatic injury. Students may also have the opportunity to observe the surgeries if approved by the attending on duty.

Second Year

INTD 2006  Advanced Clinical Examination Skills (ACES)
6.0 Semester Credit Hours
Interdisciplinary
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 will have opportunities to use these concepts throughout the year. To prepare for the clinical clerkships, students will have the opportunity to practice skills of writing a complete history and physical, writing patient progress notes, writing prescriptions, and giving oral presentations.**

INTD 2001/2002  Introduction to the Clinical Sciences (ICS), I & II
8.0 Semester Credit Hours, ICS I
10.0 Semester Credit Hours, ICS II
Interdisciplinary
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. ICS II, second semester, will include gastrointestinal, musculoskeletal, neuroscience, special senses, reproductive and endocrine systems, plus trauma and toxicology.**/*

PATH 2005  Pathology
11.5 Semester Credit Hours
Department of 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.**/*

PHAR 2005  Pharmacology
6.0 Semester Credit Hours
Department of Pharmacology
This course is designed to provide the student 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, chemotherapy, neuropharmacology, toxicology, endocrine pharmacology and special topics such as GI and respiratory tract pharmacology, and prescription writing. This will be taught in an integrated fashion with ICS, ACES, and Pathology in the organ system modules.

PSYC 2005  Psychopathology
3.5 Semester Credit Hours
Department of Psychiatry
This course is designed to provide fundamental knowledge about descriptive and psychodynamic aspects of mental disorders. The 46 hours of classroom presentations focus on understanding basic concepts of psychopathology, diagnosing each of the mental disorders, identifying psychopathology through use of the psychiatric interview, and recognizing emotional problems commonly seen in patients with other medical disorders. Video and film recordings are used extensively in the classroom to demonstrate the mental disorders. In each of the seven 2-hour periods of small-group instruction, patients are interviewed and students have the opportunity to learn to write accurate mental status reports.

Third Year

Preclinical Didactics
The first two weeks of the Third Year are devoted to the Clinical Foundations Course.

INTD 3030  Clinical Foundations
2.0 Semester Credit Hours
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.

Clerkships***

FAPR 3005  Family Practice Clerkship
6 weeks—7.0 Semester Credit Hours
Department of Family and Community Medicine
The family practice clerkship introduces students to the principles,

* $24 microscope fee for the Sophomore year includes these courses.
** $32 laboratory fee for the Sophomore year includes these courses.
*** Successful completion of all required preclinical courses is prerequisite to enrollment in any of the clinical clerkships.
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. Successful completion of all required preclinical courses is prerequisite to enrollment in any of the clinical clerkships.

MEDI 3105 Medicine Clerkship
12 weeks—14.0 Semester Credit Hours
Department of Medicine
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 evaluation, to contribute to the care of selected patients, and to participate in the 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.

OBGY 3005 Obstetrics and Gynecology Clerkship
6 weeks—7.0 Semester Credit Hours
Department of Obstetrics and Gynecology
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.

PEDI 3005 Pediatric Clerkship
6 weeks—7.0 Semester Credit Hours
Department of Pediatrics
The pediatric clerkship is intended to introduce the student to the infant, child, and adolescent as a developing and growing organism. The effects of developmental, psychosocial, and environmental factors on the child's growth and health status are emphasized. Students spend variable lengths of time on inpatient teaching services, in the newborn nursery, and in various general and subspecialty outpatient clinics. Students participate along with house staff in care of patients and are responsible for taking a history and doing a complete physical examination. After analyzing these data, the student is expected to establish a working diagnosis and to recommend appropriate laboratory studies and a course of management. Students also participate in house staff and attending rounds, grand rounds, and departmental conferences as well as student discussion groups.

The objectives of the clerkship are: (1) to provide students with an opportunity to gain skills and insight into the more unique features of history taking and physical examination performance in infants and children, (2) to provide students with an exposure to infants and children with both common minor illnesses and with serious and more unusual acute and chronic illnesses, (3) to impress students with the necessity to consider not only the infant or child patient, but the entire family constellation, its cultural background and socioeconomic status, (4) to give students the opportunity to participate in the diagnostic workup and treatment of infants and children, and (5) to encourage students to refer to appropriate textbooks and journal articles as they undertake the diagnostic workup and treatment of their assigned patients.

PSYC 3005 Psychiatry Clerkship
6 weeks—7.0 Semester Credit Hours
Department of Psychiatry
The psychiatric clinical clerkship is designed to familiarize the student with the personality traits, illnesses, and emotional disturbances that affect health and productivity. It is an opportunity for the student to develop and strengthen clinical skills in interviewing patients, formulating treatment plans, and carrying out treatment with patients who have psychiatric illness. The clerkship is arranged so the student may select the assignment area on the basis of particular interest, i.e., an inpatient/outpatient setting. The student's role in the clerkship is arranged to allow for considerable experience in the working relationship between patient and "physician" in the treatment process. Seminars have been developed to allow the student an in-depth appreciation of the various psychiatric states and emotional problems which affect the general practice of medicine. The student-staff ratio allows for small groups of students to meet with faculty, thereby enhancing learning. The clerkship is an opportunity for the students to look at their personal feelings and values and understand how they influence patient care, to learn how to deal with psychiatric disease, and to become more comfortable in dealing with the personalities of patients with organic disease.

SURG 3005 Surgery Clerkship
12 weeks—14.0 Semester Credit Hours
Department of Surgery
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 which should be encompassed by every practicing physician.
Fourth Year

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
1.0 Semester Credit Hour
Department of Emergency Medical Technology
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.

PATH 4105  Evidence-Based Medicine in Everyday Practice
0.5 Semester Credit Hour
This course includes theory and methodological foundation, definitions and overview of evidence-based medicine, practical considerations, and reporting in evidence-based medicine.

PEDI 4425  Community for Children – At the Border and Beyond
4.0 Semester Credit Hours
This is a four-week elective rotation in International Children's Health and Community Pediatrics located in the Lower Rio Grande Valley and Northern Mexico. The purpose of this initiative is to educate future physicians to provide compassionate and effective international leadership within community collaborations addressing children's rights and the social determinants of disease and health in resource-poor communities worldwide, and to provide opportunities to develop skills necessary for effective advocacy.

PATH 4290  Clinically Applied Laboratory Medicine (CALM)
0.5 Semester Credit Hour
Department of Pathology
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. Each group meets with an instructor for interactive discussion of three to four patient cases per two-hour session. On any particular day, all groups meet during the same time slot but in different rooms. Patient cases are selected to emphasize important laboratory medicine points pertinent to a particular specialty. The grading scale is Pass/Fail based upon attendance/participation.

INTD 4105  Medical Jurisprudence
0.5 Semester Credit Hour
The course will center around the Texas Medical Practice Act and applicable federal laws.

INTD 4106  On Becoming a Doctor
0.5 Semester Credit Hour
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.

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 “Current Students, 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 the Electives Brochure. The courses offered vary according to student demand, faculty capabilities, and time availability. The catalog describing electives is available on the School of Medicine Web site, Senior Academic Year Catalog at http://som.uthscsa.edu under “Current Students, Academic Affairs.”

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 which may be offered, titles of electives available in 2008–2009 are listed below.

Electives

Academic Enhancement

Beginning Medical Spanish
Intermediate Medical Spanish
Advanced Medical Spanish

Anesthesiology

Clinical Anesthesiology
Critical Care Anesthesia*
Anesthesiology Research
Obstetrical Anesthesiology
Pain Management*

Biochemistry

Biochemistry Research
(See current Elective brochure for areas of research.)

Cellular and Structural Biology

Advanced Anatomy
Advanced Anatomy of the Head and Neck (with Dental course)
Advanced Anatomy of the Trunk (with Dental course)
Advanced Neuroanatomy
Anatomy of the Newborn
History of Anatomy in Situ: the Reawakening and Development of Anatomy in 14th–18th Century Italy
Human Genetics Research
Molecular Immunological Research
Regional Anatomy
Selected Research Projects

*Selective
Emergency Medicine
Introduction to Emergency Medical Services — Ambulance

Family and Community Medicine
Community Geriatrics*
Preceptorship in International Health
Environmental Border Health
Family Medicine Preceptorship with Clinical Faculty*
Family Medicine Preceptorship-External
Hopelessness, Addiction, and How to Better Care for Patients
Medical Informatics
MS4 Tutor Elective
Office Procedures Elective
Public Health at the U.S.-Mexico Border
Research in Family Medicine
Clinical Experience in Spanish-Speaking Only Setting
Sub-Internship in Family Medicine In-Patient Services—San Antonio or RAHC*
Public Health at the U.S.-Mexico Border

Humanities & Ethics
Literature and Medicine I
Literature and Medicine II

Interdisciplinary
Community Service Learning Course
Humanism in Medicine Fellowship
Improving Patient Outcomes

Medicine
AHEC Clinic Experience*
AHEC Medicine Preceptorship
Allergy-Immunology Clinic and Consultation Service—WHMC
Cardiology Consultation—WHMC
Cardiology Care Unit—Subinternship—BAMC
Cardiology Intensive Care Unit/Ward-Subinternship—WHMC*
Cardiovascular Research
Clinical Cardiology*
Clinical Chest Disease Consultation Service
Clinical Dermatology
Clinical Endocrinology*
Clinical Endocrinology—WHMC
Clinical Gastroenterology
Clinical Hematology
Clinical Infectious Diseases
Clinical Nephrology*
Clinical Nutrition
Clinical Preceptorship in General Internal Medicine*
Clinical Rheumatology
Coronary Intensive Care Unit Subinternship—UH*
Coronary Care Unit - Subinternship—VA*
Coronary Care Unit - Subinternship—BAMC*
EKG Elective-BAMC
EKG Interpretation
Electrocardiogram Interpretation—RAHC
Emergency Department—RAHC
Gastroenterology—WHMC
Gastroenterology Service—BAMC
Gastrointestinal Research
General Medicine Ward Subinternship—UH/VA*
General Medicine Ward Subinternship—BAMC*
Geriatrics/End-of-Life Rotation—RAHC
Geriatrics Medicine*
Hematology/Oncology Consultation—WHMC
HIV/AIDS Inpatient Service
Infectious Diseases—WHMC
Infectious Disease Service—BAMC
International Medicine Elective
International Medicine Internship Readiness Elective
Literature and Medicine
Medical Ethics for the Clinician
Medical ICU Subinternship—UH/VA*
Medical ICU Subinternship—BAMC*
Medical ICU Subinternship—WHMC*
Molecular Genetics Research in Breast Cancer
Nephrology Service—BAMC
Nephrology Service—WHMC
Neurology Consultation Service*
Neurology Service—BAMC
Neurology Subinternship—UH/VA Hospitals*
Office Cardiology—RAHC*
Office Endocrinology—RAHC*
Office Gastroenterology—RAHC
Office General Medicine—RAHC*
Office Hematology-Oncology—RAHC*
Office Nephrology—RAHC*
Office Pulmonary Medicine—RAHC
Office Rheumatology—RAHC
Oncology Consultation Service
Poverty, Health, and Disease
Preceptorship in Indian Health Care*
Pulmonary Disease—WHMC
Pulmonary Medicine—BAMC
Renal Research
Research in Aging
Research in Calcium and Bone Metabolism
Research in Clinical Epidemiology
Research in General Internal Medicine
Research in Infectious Diseases
Research in Hematology
Research Neurology
Rheumatology—WHMC
Valley AIDS Council—RAHC*

Microbiology
Basic Aspects of Immunology and Microbial Infections
Advanced Medical Microbiology

Obstetrics and Gynecology
Advanced Sonography
Clinical Obstetrics & Gynecology—RAHC*
Endo-Infertility
Obstetrical Externship
Obstetrics and Gynecology Research
Women's Reproductive Health and Gynecological Surgery

Ophthalmology
Clinical Ophthalmology
Research in Clinical Ophthalmology
Ophthalmic Research

Orthopaedics
Adult Reconstruction Surgery*
Hand Surgery
Musculoskeletal Oncology
Pediatric Surgery—SRCH/University Hospital
Preceptorship
Primary Care (Outpatient Orthopaedics)*
Research
Sports Medicine
Trauma, Fracture, and Clinical Care*

*Selective
Otolaryngology
Otolaryngology Head and Neck Surgery*
Otorhinolaryngology Research

Pathology
Anatomic Pathology
Anatomic Pathology: Fine Needle Aspiration
Blood Banking
Hematology—Univ. Hospital
Hematology/Blood Banking
Naturopathic Medicine: Evidence-Based Critique
Research in Pathology

Pediatrics
AHEC Clinic Experience
Community Pediatrics—RAHC*
Evidence-Based Pediatrics—RAHC
Neonatology—RAHC*
Neonatal Research
Neonatal Intensive Care Externship—UH-NICU*
Orthopedics
Pediatric Cardiology*
Pediatric Cardiology—RAHC*
Pediatric Critical Care Externship—UH*
Pediatric Critical Care Externship— CSR Children’s*
Pediatric Endocrinology—RAHC*
Pediatric Hematology-Oncology Course 1*
Pediatric Hematology-Oncology Course 2
Pediatric Immunology & Infectious Diseases
Pediatric Inpatient Service—RAHC (Valley Baptist Medical Center/Harlingen)*
Pediatric Endocrinology*
Pediatric Gastroenterology—RAHC*
Pediatric Genetics*
Pediatric ICU—RAHC*
Pediatric Inpatient Service—RAHC (Harlingen)
Pediatric Nephrology*
Pediatric Neurology—RAHC*
Pediatric Pulmonology*
Pediatric Developmental Disabilities (C.A.M.P.)
Pediatrics
Primary Ambulatory Care Preceptorship - Pediatrics*
Clinical Preceptorship in Ambulatory Pediatrics

Pharmacology
Clinical Pharmacology

Physiology
Ion Channel Research in Excitable and Non-excitable Cells
Research in the Endocrinology of Aging
Naturopathic Medicine; Evidence-Based Critique

Psychiatry
Child and Adolescent Psychiatry
Clinical Biological Psychiatric Research
Clinical Psychiatry—HSC and RAHC*
Consultation-Liaison*
Neuropsychiatry—VA Hospital
Psychotic Disorders
Psychiatry Emergency Service (PES)*

Radiation Oncology
Radiation Oncology

Radiology
Diagnostic Radiology Clerkship—WHMC
Diagnostic Radiology Clerkship—BAMC
General Diagnostic Radiology
General Diagnostic Radiology—RAHC
Pediatric Radiology

Rehabilitation Medicine
Clinical Rehabilitation Medicine (outpatient and consultative)
Combined: Clinical Rehabilitation Medicine, Intro. to Inpatient Rehabilitation, Intro. to Pediatric Rehabilitation, and Intro. to Spinal Cord Injury Rehabilitation
Hyperbaric Medicine & Wound Care
Introduction to Inpatient Rehabilitation
Introduction to Pediatric Rehabilitation
Introduction to Spinal Cord Injury Rehabilitation
Rehabilitation Engineering

Surgery
Cardiothoracic Surgery*
General Surgery—Harlingen*
Clinical Anesthesiology—Harlingen*
Congenital Cardiology and Cardiac Surgery*
Emergency Medicine
Emergency Medicine Rotation—BAMC
General Surgery A*
General Surgery B*
General Surgery—VA*
General Surgery—BAMC/Burn Unit*
General Surgery—Wilford Hall Medical Center*
Neurosurgery*
Oral Maxillofacial Surgery*
Pediatric Surgery*
Plastic Surgery*
Rural Surgery*
Supervised Basic Science Research
Supervised Clinical Science Research
Surgical Critical Care*
Surgical Internship Readiness
Surgical Oncology*
Transplant Surgery*
Trauma/Emergency Surgery*
Urology*
Vascular Surgery—UH/VA*

*Selective
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Class Year(s)</th>
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</thead>
<tbody>
<tr>
<td>Monday, June 23, 2008</td>
<td>1st Class Day</td>
<td>MD Year 3</td>
</tr>
<tr>
<td>Friday, July 04, 2008</td>
<td>University Holiday (offices closed)</td>
<td>All</td>
</tr>
<tr>
<td>Monday, July 07, 2008</td>
<td>1st Class Day</td>
<td>MD Years 2 &amp; 4</td>
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<tr>
<td>Mon.–Fri., July 21–25, 2008</td>
<td>Orientation</td>
<td>MD Year 1</td>
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<tr>
<td>Tuesday, July 22, 2008</td>
<td>Census Day</td>
<td>MD Years 2 &amp; 4</td>
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<tr>
<td>Monday, July 28, 2008</td>
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<td>MD Year 1</td>
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<tr>
<td>Tuesday, August 12, 2008</td>
<td>Census Day</td>
<td>MD Year 1</td>
</tr>
<tr>
<td>Saturday, August 16, 2008</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
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<tr>
<td>Monday, September 01, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, November 11, 2008</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Thursday, November 27, 2008</td>
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<tr>
<td>Friday, November 28, 2008</td>
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<td>All</td>
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<tr>
<td>Friday, December 12, 2008</td>
<td>Term Concludes</td>
<td>MD Years 1 &amp; 2</td>
</tr>
<tr>
<td>Friday, December 19, 2008</td>
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<td>MD Years 3 &amp; 4</td>
</tr>
<tr>
<td>Saturday, December 20, 2008</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
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<tr>
<td>Wednesday, December 24, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, December 25, 2008</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Friday, December 26, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, January 01, 2009</td>
<td>University Holiday</td>
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<tr>
<td>Monday, January 05, 2009</td>
<td>Classes Resume</td>
<td>MD Years 1 &amp; 2</td>
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<tr>
<td>Monday, January 12, 2009</td>
<td>Classes Resume</td>
<td>MD Years 3 &amp; 4</td>
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<td>Monday, January 19, 2009</td>
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<tr>
<td>Wednesday, January 21, 2009</td>
<td>Census Day</td>
<td>MD Years 1 &amp; 2</td>
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<td>Wednesday, January 28, 2009</td>
<td>Census Day</td>
<td>MD Years 3 &amp; 4</td>
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<td>Monday, February 16, 2009</td>
<td>University Holiday</td>
<td>All</td>
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<tr>
<td>Monday, March 09, 2009</td>
<td>Spring Break Begins</td>
<td>MD Years 1 &amp; 2</td>
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<tr>
<td>Friday, March 13, 2009</td>
<td>Spring Break Ends</td>
<td>MD Years 1 &amp; 2</td>
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<td>Friday, April 24, 2009</td>
<td>University Holiday</td>
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<td>Friday, May 01, 2009</td>
<td>Term Concludes</td>
<td>MD Year 2</td>
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<tr>
<td>Friday, May 08, 2009</td>
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<td>MD Years 1 &amp; 4</td>
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<tr>
<td>Sunday, May 24, 2009</td>
<td>Graduation</td>
<td>Graduating Students</td>
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<tr>
<td>Monday, May 25, 2009</td>
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<tr>
<td>Friday, June 26, 2009</td>
<td>Term Concludes</td>
<td>MD Year 3</td>
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</tbody>
</table>

Note: The 2009–2010 Academic Calendar will be available on the Student Services Web site in the fall.
### MS3 Clerkship Dates

**Academic Year 2008–2009**

<table>
<thead>
<tr>
<th>Date</th>
<th>Clerkship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, June 23, 2008</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Monday, June 23, 2008</td>
<td>Didactics Begin</td>
</tr>
<tr>
<td>Thursday, July 03, 2008</td>
<td>Didactics End</td>
</tr>
<tr>
<td>Monday, July 07, 2008</td>
<td>Clerkship 1 Begins</td>
</tr>
<tr>
<td>Wednesday, July 09, 2008</td>
<td>Census Day</td>
</tr>
<tr>
<td>Friday, August 15, 2008</td>
<td>Clerkship 1 Ends</td>
</tr>
<tr>
<td>Monday, August 18, 2008</td>
<td>Clerkship 2 Begins</td>
</tr>
<tr>
<td>Friday, September 26, 2008</td>
<td>Clerkship 2 Ends</td>
</tr>
<tr>
<td>Monday, September 29, 2008</td>
<td>Clerkship 3 Begins</td>
</tr>
<tr>
<td>Friday, November 07, 2008</td>
<td>Clerkship 3 Ends</td>
</tr>
<tr>
<td>Monday, November 10, 2008</td>
<td>Clerkship 4 Begins</td>
</tr>
<tr>
<td>Friday, December 19, 2008</td>
<td>Clerkship 4 Ends</td>
</tr>
<tr>
<td>Monday, January 12, 2009</td>
<td>Clerkship 5 Begins</td>
</tr>
<tr>
<td>Friday, February 20, 2009</td>
<td>Clerkship 5 Ends</td>
</tr>
<tr>
<td>Monday, February 23, 2009</td>
<td>Clerkship 6 Begins</td>
</tr>
<tr>
<td>Friday, April 03, 2009</td>
<td>Clerkship 6 Ends</td>
</tr>
<tr>
<td>Monday, April 06, 2009</td>
<td>Clerkship 7 Begins</td>
</tr>
<tr>
<td>Friday, May 15, 2009</td>
<td>Clerkship 7 Ends</td>
</tr>
<tr>
<td>Monday, May 18, 2009</td>
<td>Clerkship 8 Begins</td>
</tr>
<tr>
<td>Friday, June 26, 2009</td>
<td>Clerkship 8 Ends</td>
</tr>
<tr>
<td>Friday, June 26, 2009</td>
<td>Term Concludes</td>
</tr>
</tbody>
</table>

### MS4 Rotation Dates

**Academic Year 2008–2009**

<table>
<thead>
<tr>
<th>Date</th>
<th>Period Begins/Ends</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, July 07, 2008</td>
<td>Period 1 Begins</td>
</tr>
<tr>
<td>Friday, August 01, 2008</td>
<td>Period 1 Ends</td>
</tr>
<tr>
<td>Monday, August 04, 2008</td>
<td>Period 2 Begins</td>
</tr>
<tr>
<td>Friday, August 29, 2008</td>
<td>Period 2 Ends</td>
</tr>
<tr>
<td>Tuesday, September 02, 2008</td>
<td>Period 3 Begins</td>
</tr>
<tr>
<td>Friday, September 26, 2008</td>
<td>Period 3 Ends</td>
</tr>
<tr>
<td>Monday, September 29, 2008</td>
<td>Period 4 Begins</td>
</tr>
<tr>
<td>Friday, October 24, 2008</td>
<td>Period 4 Ends</td>
</tr>
<tr>
<td>Monday, October 27, 2008</td>
<td>Period 5 Begins</td>
</tr>
<tr>
<td>Friday, November 21, 2008</td>
<td>Period 5 Ends</td>
</tr>
<tr>
<td>Monday, November 24, 2008</td>
<td>Period 6 Begins</td>
</tr>
<tr>
<td>Friday, December 19, 2008</td>
<td>Period 6 Ends</td>
</tr>
<tr>
<td>Monday, January 12, 2009</td>
<td>Period 7 Begins</td>
</tr>
<tr>
<td>Friday, February 06, 2009</td>
<td>Period 7 Ends</td>
</tr>
<tr>
<td>Monday, February 09, 2009</td>
<td>Period 8 Begins</td>
</tr>
<tr>
<td>Friday, March 06, 2009</td>
<td>Period 8 Ends</td>
</tr>
<tr>
<td>Monday, March 09, 2009</td>
<td>Didactics Begin</td>
</tr>
<tr>
<td>Friday, April 10, 2009</td>
<td>Didactics End</td>
</tr>
<tr>
<td>Monday, April 13, 2009</td>
<td>Period 9 Begins</td>
</tr>
<tr>
<td>Friday, May 08, 2009</td>
<td>Period 9 Ends</td>
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</tbody>
</table>
School of Health Professions

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" stand for the largest group of health care providers in the United States. According to the American Medical Association, there are 52 verifiable allied health disciplines. This diversity is inclusive and creates a large, powerful group of allied health professionals. Collectively, allied health professionals are over 3-million-people strong and constitute more than 60 percent of the entire health care workforce. In Texas, there are more than 270,000 allied health professionals. In 2000–2001, there were 12,841 allied health students enrolled and 6,913 graduates from 363 different programs representing 42 different professions within the state.

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 conditions, while educating the public on prevention, wellness, and self-management for healthful lifestyles. Here at the School of Health Professions we provide educational programs in:

- Clinical Laboratory Sciences
- Cytogenetics
- Deaf Education and Hearing Science
- Dental Hygiene
- Dental Laboratory Sciences
- Dietetics and Nutrition (anticipated 2009)
- Emergency Health Sciences
- Occupational Therapy
- Physical Therapy
- Physician Assistant Studies
- Respiratory Care

We continually monitor the state's requirements for allied health professionals and adapt our programs to meet emerging needs of new allied health professionals. Feel free to contact us if you are interested in a professional program that we do not offer currently, and we can refer you to the nearest program.

Allied health education takes place in many different educational institutions, including community colleges, four-year colleges and universities, comprehensive universities, hospitals, and health science centers. Each institution has educational programs that reflect the overall mission of that learning environment. Here at the Health Science Center, we do much more than prepare allied health professionals to enter their chosen field — we aim to prepare professionals who will be the leaders, educators, and scholars in their disciplines. We provide the level of education that is not always available at other colleges and universities. Our 30-year history provides a strong foundation for faculty and students to expand beyond the expected.

For further information about School of Health Professions departments and educational programs, use the following telephone numbers and Web site addresses.

**Health Professions Welcome Center**

- (210) 567-8744
- (210) 567-8569
- (866) 802-6288

E-mail: SHPwelcome@uthscsa.edu

Web: http://SHPwelcome.uthscsa.edu

**Clinical Laboratory Sciences**

- (210) 567-8860
- http://www.uthscsa.edu/sah/cls/cls.htm

**Dean's Office**

- (210) 567-8800
- http://www.uthscsa.edu/sah/

**Deaf Education and Hearing Science**

- (210) 832-2429
- http://www.uthscsa.edu/sah/deh/

**Dental Hygiene**

- (210) 567-8820
- http://www.uthscsa.edu/sah/dh/

**Dental Laboratory Sciences**

- (210) 567-3056
- http://www.uthscsa.edu/sah/dl/

**Emergency Health Sciences**

- (210) 567-8760
- http://www.uthscsa.edu/emt/

**Occupational Therapy**

- (210) 567-8880
- http://www.uthscsa.edu/ot/

**Physical Therapy**

- (210) 567-8750
- http://www.uthscsa.edu/sah/pt/

**Physician Assistant Studies**

- (210) 567-8810
- http://www.uthscsa.edu/sah/pastudies/

**Respiratory Care**

- (210) 567-8850
- http://www.uthscsa.edu/respiratorycare

Educational Programs

All certificate and degree programs offered through the School of Health Professions combine Texas Core Curriculum and/or prerequisite courses in biological, physical, and social/behavioral sciences taken at regionally accredited colleges or universities. Specific prerequisites vary by program and may be found in each department’s section of this Catalog.

**Undergraduate Certificate Programs**

**Department of Emergency Health Sciences** — Certificate programs in EMT-Basic and EMT-Paramedic are offered
through the Department of Emergency Health Sciences. The EMT-Basic program consists of 6 semester credit hours, and the EMT-Paramedic program consists of 33 semester credit hours. Students who successfully complete the certificate programs are eligible to take state or national certification examinations.

Degree and Post-Baccalaureate Certificate Programs

Department of Clinical Laboratory Sciences — Several post-baccalaureate certificate and degree options in clinical laboratory sciences and related fields are offered. The Bachelor of Science in Clinical Laboratory Sciences (CLS) is available at the HSC and through a joint degree program with The University of Texas at San Antonio (UTSA). For further information about the joint degree program, see the Clinical Laboratory Sciences section of this Catalog and the Undergraduate Catalog of UTSA.

Two tracks are available in the CLS bachelor’s degree program: General and Pre-medical. The tracks differ in science, mathematics, and other prerequisites; the professional phase coursework is the same. The General track consists of a minimum of 130.5 semester credit hours, including 69 semester credit hours of core curriculum and program prerequisites and 63.5 semester credit hours in professional phase courses completed at the Health Science Center. The Pre-medical track consists of a minimum of 141.5 semester credit hours, including 81 semester credit hours in core curriculum and program prerequisites and 60.5 semester credit hours in professional phase courses completed at the HSC. Core curriculum and program prerequisites must be completed at another regionally accredited college or university.

The CLS post-baccalaureate certificate program is open to students who hold a bachelor’s degree from a regionally accredited college or university. Science requirements for the certificate not completed as part of the bachelor’s degree may be completed as part of the post-baccalaureate certificate curriculum. The curriculum requires approximately 18 to 24 months to complete, and consists of 63.5 semester credit hours completed at the HSC. Graduates of the CLS bachelor’s degree and post-baccalaureate certificate programs are eligible to take the national certification examinations given by the National Credentialing Agency for Medical Laboratory Personnel.

The Bachelor of Science in Molecular Diagnostics program consists of a minimum of 120.5 semester credit hours, including 81 semester credit hours of core curriculum and program prerequisites completed at another accredited college or university, and 39.5 semester credit hours in molecular diagnostics courses completed at the HSC. The HSC phase of the program consists of approximately 12 months of full-time study. A Post-Baccalaureate Certificate in Molecular Diagnostics program 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.) The program consists of 39.5 semester credit hours completed at the Health Science Center. The HSC coursework is the same for both programs. Graduates of the bachelor’s degree and certificate programs are eligible to take the Clinical Laboratory Specialist in Molecular Biology examination (CLS-MB) given by the National Credentialing Agency for Medical Laboratory Personnel and the certification examination for Technologist in Molecular Pathology (MP) given by the American Society for Clinical Pathology.

Categorical certificate programs in a subdiscipline of clinical laboratory sciences are open to students who hold a bachelor’s degree in biology, chemistry, or another closely related field. Categorical certificates are available in microbiology, clinical chemistry, immunohematology, and hematology. Curricula for these programs may be completed in 12 to 18 months, and consist of the following:

<table>
<thead>
<tr>
<th></th>
<th>Prerequisites</th>
<th>CLS Coursework</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology</td>
<td>23.0</td>
<td>32.0</td>
<td>55.0</td>
</tr>
<tr>
<td>Clinical Chemistry</td>
<td>28.0</td>
<td>30.0</td>
<td>58.0</td>
</tr>
<tr>
<td>Immunohematology</td>
<td>28.0</td>
<td>29.0</td>
<td>57.0</td>
</tr>
<tr>
<td>Hematology</td>
<td>31.0</td>
<td>25.0</td>
<td>56.0</td>
</tr>
</tbody>
</table>

The Master of Science in Clinical Laboratory Sciences is a graduate degree program administered by the Graduate School of Biomedical Sciences (GSBS). The program offers tracks in forensic/analytic toxicology and immunohematology. Both tracks require a common core of graduate courses, clinical practicums, electives, and completion of a project. The results of the project must be submitted as a publication-quality paper or alternatively as a thesis. All coursework is completed at the Health Science Center, except for a maximum of 6 semester credit hours of transfer courses. 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.
Deaf Education and Hearing Science — The Master of Deaf Education and Hearing Science degree program is open to students who have completed a bachelor’s degree in elementary, special, or deaf education; deaf studies; communication disorders; nursing; or a related field. The program consists of 36 semester credit hours that can be completed at the HSC in four semesters under the full-time option, or six semesters under the part-time option. Graduates of the program are eligible to take the Texas Examinations of Educator Standards (TExES) given by the State Board for Educator Certification and may apply for certification as a teacher of the deaf and hard of hearing through the Council of Education of the Deaf.

Department of Dental Hygiene — Degree requirements for the entry-level Bachelor of Science in Dental Hygiene include approximately two years of Texas Core Curriculum and program prerequisites and two years of dental hygiene courses. The program consists of a minimum of 123 semester credit hours, including 60 semester credit hours of core curriculum and program prerequisites and 63 semester credit hours of dental hygiene courses completed at the HSC. Core curriculum and program prerequisites must be completed at another regionally accredited college or university before matriculating into the entry-level bachelor’s degree program.

The Bachelor of Science in Dental Hygiene degree completion program is open to graduates of the HSC dental hygiene certificate program (previously offered), graduates of other entry-level dental hygiene programs in Texas, and U.S. Registered dental hygienists who are not graduates of the HSC certificate program. The program consists of a minimum of 123 semester credit hours, including 93 semester credit hours of Texas Core Curriculum, program prerequisites, and previous dental hygiene courses, and 30 semester credit hours of dental hygiene courses completed at the HSC. Core curriculum and program prerequisites must be completed at another regionally accredited college or university before matriculating into the bachelor’s degree completion program.

The Master of Science in Dental Hygiene is a graduate degree program administered by the Graduate School of Biomedical Sciences (GSBS). The program consists of 36 semester credit hours, including thesis. All coursework is completed at the Health Science Center, except for a maximum of 6 semester credit hours of transfer courses. Students in the program follow procedures and policies of the GSBS. For further information, see the Graduate School of Biomedical Sciences section of this Catalog.

Department of Dental Laboratory Sciences — An Advanced Certificate in Dental Laboratory Science is offered through the Department of Dental Laboratory Sciences. The certificate consists of 20 semester credit hours selected from one of three tracks: (1) Theory and Practice, (2) Laboratory Operations, and (3) Advanced Technology Applications. Admission requirements vary for the three tracks; see the Department of Dental Laboratory Sciences section of this Catalog for information about admission requirements.

The Bachelor of Science in Dental Laboratory Sciences is designed for individuals with backgrounds in either dental technology or science (i.e., basic sciences, computer science, or engineering). Dental technicians gain education and experience in advanced techniques, laboratory management, business and training skills, and professional communications. Scientists utilize their scientific knowledge and skills in dental laboratory applications such as advanced technologies, research, and sales. The program requires a minimum of 120 semester credit hours, including 90 semester credit hours of Texas Core Curriculum and program prerequisites, and at least 30 semester credit hours of coursework in dental laboratory sciences at the HSC.

Department of Emergency Health Sciences — The Bachelor of Science in Emergency Health Sciences program is designed for certified paramedics who wish to extend their education in the areas of pre-hospital emergency medical technology, emergency medical care, administration, teaching, or advanced level practice. The program consists of 124 semester credit hours, including 72 semester credit hours of Texas Core Curriculum and emergency health sciences certificate prerequisites (EMT-Basic and EMT-Paramedic certificates) and 52 semester credit hours of advanced courses completed at the HSC. Core curriculum courses must be completed at another regionally accredited college or university. Emergency health sciences certificate prerequisites may be completed at any accredited college or university.

Department of Occupational Therapy — The Master of Occupational Therapy (MOT) program is an entry-level professional degree program that consists of a minimum of 186 semester credit hours, including 80 semester credit hours of Texas Core Curriculum and program prerequisite courses and 106–110 semester credit hours of occupational therapy courses completed at the Health Science Center. Students who have already completed a bachelor’s degree at a Texas public college or university may request that core curriculum requirements be waived. The program includes 20 semester credit hours (6 months) of full-time clinical fieldwork. Graduates of the MOT program are eligible to take the Occupational Therapist Registered OTR certification examination given by the National Board for Certification in Occupational Therapy, Inc.

A BS-to-MOT Advanced Transfer option is open for registered occupational therapists who hold a bachelor’s degree. Students who select the option complete 30 semester credit hours at the HSC on a full-time or part-time basis.

Department of Physical Therapy — The Master of Physical Therapy (MPTh) program is an entry-level professional degree program that consists of a minimum of 186.5 semester credit hours, including 90 semester credit hours of Texas Core Curriculum and program prerequisite courses and 98.5 semester credit hours of physical therapy courses completed at the Health Science Center. Students who have already
completed a bachelor's degree at a Texas public college or university may request that core curriculum requirements be waived. The professional phase is a 30-month program that includes 24 weeks of full-time clinical experiences. Additional clinical experiences may be included on an elective basis. Graduates of the MPT program are eligible to take the National Physical Therapy Examination given by the Federation of State Boards of Physical Therapy.

NOTE: The Department of Physical Therapy has received approval from the Texas Higher Education Coordinating Board to offer the Doctor of Physical Therapy (DPT) degree. The DPT replaces the current Master of Physical Therapy (MPT) program. Admission requirements and prerequisites for the DPT program will be the same as those posted for the MPT program.

Department of Physician Assistant Studies — The Master of Physician Assistant Studies is an entry-level professional degree program that consists of 214 semester credit hours, including 90 semester credit hours of core curriculum and program prerequisite courses and 124 semester credit hours of physician assistant courses completed at the HSC. Students who have already completed a bachelor's degree at a Texas public college or university may request that core curriculum requirements be waived. The professional phase is a 33-month program that includes 21 months of coursework at the Health Science Center and other academic facilities in San Antonio, and 12 months of supervised clinical practice at various settings in South Texas. Graduates of the program are eligible to take the Physician Assistant National Certifying Exam given by the National Commission on Certification of Physician Assistants.

Department of Respiratory Care — The Bachelor of Science in Respiratory Care consists of a minimum of 147.5 semester credit hours, including 56 semester credit hours of core curriculum and program prerequisite courses and 91.5 semester credit hours of respiratory care courses completed at the HSC. The two-year professional phase of the program at the HSC includes more than 1000 hours of in-hospital clinical practice. Graduates are eligible to take the Certification Examination for Entry Level Respiratory Therapists (CRT) and the Registry Examination for Advanced Respiratory Therapists (RRT) given by the National Board for Registry Care.

Bachelor of Science in Health Care Sciences

Students entering the Master of Occupational Therapy, Master of Physical Therapy, and Master of Physician Assistant Studies programs will 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 Registrar 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 Master's program.

A student who withdraws from the Master's degree program may be awarded the Bachelor of Science in Health Care Sciences 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.

Laredo Campus Extension

The School of Health Professions offers two degree programs in Laredo as part of the Laredo Campus Extension: Bachelor of Science in Respiratory Care and Master of Physician Assistant Studies. Coursework is provided by distance learning, Web-supported courses, and local faculty. Educational partnerships with Laredo Community College and Texas A&M International University allow students to complete core curriculum and program prerequisite courses in preparation for admission to the professional curriculum. Laredo area hospitals and health agencies provide excellent sites for clinical education.

The Respiratory Care baccalaureate degree program offered in Laredo is designed to prepare individuals to become advanced level respiratory therapists. Students who have completed program prerequisites may begin their respiratory care course work in their junior year. An advanced standing, career-ladder option is available for individuals who have already completed an Associates Degree in Respiratory Care or who hold the certified (CRT) or registered respiratory therapist (RRT) credentials. The regular and advanced standing programs are identical to those being offered in San Antonio.

The Master of Physician Assistant Studies program selects six students each year to be in a Laredo cohort. Applicants must meet the same requirements for selection as candidates for the San Antonio program and are selected during the regular application period. Laredo cohort students reside and attend classes in Laredo for the first three semesters of the program. Students then go to the Health Science Center campus in San Antonio for two semesters, and return to Laredo for the Supervised Clinical Practice year. Most Supervised Clinical Practice rotations are provided in the Laredo area; some rotations may be at other locations in South Texas.

For further information about the Laredo Campus Extension program, contact the Health Professions Welcome Center at (210) 567-8744 or (866) 802-6288 (toll free).

Coordinated Program in Dietetics

The Coordinated Program in Dietetics (CPD) is designed to meet 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 positively impact the nutritional status and health of individuals and the community, particularly those living in South Texas, through a solid academic education, service, and scholarship.

The pre-professional phase of the program consists of the 67 semester credit hours (SCH) including Texas Core Curriculum requirements and program prerequisites. Core curriculum and program pre-requisites must be taken at an accredited college or university. The professional phase includes 83 SCH of coursework with a minimum of 1200 contact hours of practicum and service-learning experiences. The CPD leads to a Bachelor of Science in Nutrition and Dietetics and a Master of Dietetics Studies. Graduates of the CPD are eligible to take the Commission on Dietetics Registration (CDR) national examination to become a Registered Dietitian (RD).

The professional phase includes didactic coursework in nutrition and dietetics delivered to and from San Antonio or the Laredo Campus Extension via distance technology. A minimum of 1200 hours of supervised experiences will be offered at different affiliations throughout South Texas to meet the competencies for an entry-level practitioner. The program concentration for the supervised experiences will focus on Health Promotion/Disease Prevention and Treatment.

The HSC CPD has applied for 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
312/899-0040, ext. 5400
Fax: 312/899-4817
E-mail: cade@eatright.org
URL: http://www.eatright.org/cade

General Policies and Regulations

Academic Advising
Students in Health Professions programs are assigned a faculty advisor for the purpose of aiding the student’s progress in the program. The faculty advisor may address the student’s academic and professional issues and may meet with students on a periodic basis. It is the student’s responsibility to meet with the advisor when difficulties are encountered. Further information about the department’s polices and practices regarding faculty advisors are provided in the department’s section of this Catalog.

Academic Integrity
Students in the School of Health Professions are expected to be above reproach in all professional and academic activities. Policies on scholastic dishonesty will be strictly enforced; students who fail to conform to standards of academic integrity and scholastic honesty are subject to disciplinary actions. Scholastic 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. For further information on procedures in regard to academic integrity, see procedures and regulations governing “Students Conduct and Discipline” in this Catalog.

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.

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 each department’s Committee on Allied Health Studies (CAHS). Failure to meet the standards may result in the student’s being placed on probation or dismissed from the program.

Students who do not adhere to professional behavior standards may be dismissed from the certificate or degree program. General standards for professional behavior are provided under "Professional Conduct” later in this section. Other standards and policies may be set by the CAHS. In addition, professional behavior and ethics standards from professional organizations may be applied.

When the CAHS determines that a student’s violation of professional behavior standards or ethics does not merit dismissal, the student may be placed on probation. While on probation, the student is expected to exhibit specified professional behaviors in order to continue in the program. Expectations are defined in writing by the CAHS on a case-by-case basis, depending on the specific behaviors the student must correct. Should there be further violations of standards, the student may be subject to immediate review and possible dismissal from the program. Policies and procedure regarding probation, dismissal, and student appeals may be found in the sections “General Regulations and Requirements” and “Grades, Promotion, and Advancement.” 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.

Appeal Procedures
Purpose of Appeals 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’s Committee on Allied Health Studies (CAHS), submit information not previously available to the CAHS, 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 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.

Appeal of Program-Related Penalties
At times, the Committee on Allied Health Studies (CAHS) may judge that it is in the best interests 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 CAHS assesses one or more penalties. It is recommended that the CAHS 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 CAHS 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 CAHS’s decision. The Department Chair will notify the student in writing of the CAHS’s decision and the rationale, and inform the student about appeal procedures. Copies of the CAHS 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 CAHS’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

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1 Time frames in the appeal procedures are recommended intervals and may be modified as a result of weekends, holidays, vacation periods, and other circumstances.

2 “Dean” may refer to the Dean or another person designated by the Dean, e.g., the Associate Dean.
b. student’s name
c. specific reasons that the penalty assessed by the CAHS is deemed inappropriate, e.g., extenuating circumstances affecting the student’s performance or behavior that the CAHS 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 CAHS’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:

a. Selecting a hearing panel of at least five SAGC members to hear the appeal on behalf of the SAGC.
b. 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.
c. Conducting the hearing in a fair, unbiased manner.
d. Recording the testimony at the hearing in audio or video format. The hearing panel’s deliberation following testimony is not recorded.
e. Providing the Dean with a written summary of the hearing and the hearing panel’s decisions.
f. Maintaining a file of all evidence accumulated in the appeal process.
g. 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 a spokesperson for the Committee on Allied Health Studies (CAHS). 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 CAHS representative wishes to call witnesses, the CAHS 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

1. 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, CAHS representative, CAHS’s witnesses, and university’s counsel. Witnesses may be present only during their testimony and questioning.

2. 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.

3. The student presents the issues and rationale for the appeal. The hearing panel may question the student. The student and CAHS representative may question each other, at the discretion of the Hearing Officer.

4. The Hearing Officer will call witnesses as desired by the student and the CAHS, and the hearing panel may question the witnesses. The student and the CAHS representative may question the witnesses at the discretion of the Hearing Officer.

5. 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.

6. 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.

7. The Hearing Officer notifies the Dean of the hearing
panel's decision within five business days of its final meeting on the appeal.

8. The Dean notifies the student and the Department Chair in writing of the hearing panel's decision within five business days of the decision.

Application and Admission
Information about admission requirements is provided in the Applicant Viewbook of the School of Health Professions and Viewbook inserts for each program.

All programs, except for the EMT/Basic and EMT/Paramedic certificate programs, require that prerequisite coursework be successfully completed at another regionally accredited college or university before admission. Programs that award a Bachelor of Science or Bachelor of Science in Health Care Sciences degree require applicants to complete the Texas Core Curriculum in addition to other program prerequisites at another regionally accredited college or university.

Applicants to Master of Science degree programs in Clinical Laboratory Sciences or Dental Hygiene follow application procedures under the Graduate School of Biomedical Sciences section of this Catalog.

Applicants from countries where English is not a native language are required to submit scores on the Test of English as a Foreign Language (TOEFL). A minimum score of 560 on the paper-based test or 68 on the Internet-based test is required.

Attendance in Class and Clinic
Attendance requirements for classes, laboratories, and clinic periods are the option and prerogative of the course instructor. Attendance policies may be found in the department's student manual or handbook, the course syllabus, and they should be announced by the instructor at the first class meeting.

Unexcused absences in courses in which attendance is required may be considered sufficient cause for failure. Excused absences may be granted by the instructor in such cases as illness or personal emergency and are considered on an individual basis; verification of the reason for the absence may be required. It is the student's responsibility to make arrangements to make up work that is missed due to absences.

Auditing Courses
Permission to audit courses in the School of Health Professions is sometimes granted. Auditing conveys only the privilege of observing and excludes handing in papers or taking part in class discussion, laboratory experiences, or fieldwork. No grade is given and no credit is recorded. Students must obtain permission to audit a course from the instructor and the Department Chair of the program in which they are enrolled.

Background Checks
All students offered admission to Health Professions certifi- cate and degree programs must pass a background check. An offer of admission will not be final until the completion of the background check(s) with results deemed favorable. Students must pay costs for the background check. Information on how to order and pay for the background check is included in the offer of admission letter.

CLEP (College Level Examination Program)
Course credit for specified general education and elective prerequisites may be accepted without a letter grade in School of Health Professions professional 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 Registrar.
• 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 University of Texas Health Science Center at San Antonio transcript.

Core Curriculum
Students receiving their first baccalaureate degree from The University of Texas Health Science Center at San Antonio must successfully complete the Texas Core Curriculum requirements. Detailed information about the HSC curriculum is provided in this Catalog, page 78.

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 HSC or any other college or university.

Academic credit is awarded only to officially enrolled students or former students. Additional eligibility requirements may be established by each department, with the approval of the Dean. Information about additional requirements is available from the department office or the Registrar.

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 only when the student requests that the department report to the Registrar that the examination was passed. At the department’s request, the Registrar 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.

The student’s official transcript does not reflect unsuccessful attempts to earn credit by examination. If a student fails a test for credit by examination, the student may earn credit for the course only by enrolling and taking the course.

All tests administered for credit by examination require the payment of a fee, determined by the department and the Registrar. 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.

DANTES (Defense Activity for Non-Traditional Education Support)
Course credit for specified core curriculum requirements and program prerequisites may be accepted without a letter grade in 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. (See table.)

Conditions and Limitations
- Applicants and students are responsible for requesting that official DANTES scores be sent by DANTES to the registrar.
- 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.

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. Grade point averages for Clinical Laboratory Science students...
### 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 Score&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Maximum Credit Granted&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>Principles of Financial Accounting</td>
<td>49</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Accounting</td>
<td>Business Law II</td>
<td>52</td>
<td>3</td>
</tr>
<tr>
<td>Business Law</td>
<td>Fundamentals of College Algebra</td>
<td>47</td>
<td>3</td>
</tr>
<tr>
<td>College Algebra, or higher</td>
<td>Technical Writing</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td>Communication</td>
<td>Introduction to Computing</td>
<td>45</td>
<td>3</td>
</tr>
<tr>
<td>Computer Literacy</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>Electives&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Note: Many DANTES examinations may satisfy credits for electives.</td>
<td></td>
<td>Varies</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>Management Science</td>
<td>Human/Cultural Geography</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Mathematics (Algebra and Statistics)</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>Statistical Sciences</td>
<td>Introduction to Business</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td>Management Science</td>
<td>Human Resource Management</td>
<td>48</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (Algebra and Statistics)</td>
<td>Principles of Supervision</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (Algebra and Statistics)</td>
<td>Fundamentals of College Algebra</td>
<td>47</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics (Algebra and Statistics)</td>
<td>Principles of Statistics</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>Astronomy</td>
<td>48</td>
<td>9</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Environment and Humanity:</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Race to Save the Planet</td>
<td></td>
<td></td>
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<tr>
<td>Social and Behavioral Sciences</td>
<td>Principles of Physical Science I</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Physical Geology</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td>Lifespan Developmental Psychology</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>General Anthropology</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Organizational Behavior</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Introduction to Law Enforcement</td>
<td>45</td>
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</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Criminal Justice</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Fundamentals of Counseling</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Principles of Public Speaking</td>
<td>47</td>
<td>3</td>
</tr>
</tbody>
</table>

<sup>1</sup> Minimum scores are based on American Council on Education (ACE) recommendations.

<sup>2</sup> Three semester credit hours per DANTES examination may be awarded.

<sup>3</sup> 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.

Who are enrolled concurrently at The University of Texas at San Antonio are calculated as a combination GPA.

## 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. If a student is enrolled in only one course and wishes to drop that course, the student must withdraw from the School of Health Professions or apply for a leave of absence.

With the approval of the instructor, a student may drop a course at any time before the last official class day in any semester, and a grade of **W** will be assigned. A grade of **W** is not used in calculating the grade point average.

In accordance with Texas Education Code 51.907, undergraduate students may not drop more than six courses. See "Adding/Dropping Courses" under "General Academic Policies" in this Catalog for further information.

## Essential Functions

Most 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. These statements may include cognitive, psychomotor, and affective dimensions. For further information, contact the department office.
Grades and Grade Point Average
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.

Although a grade of D may be earned in a required Health Professions course, certain courses in the curriculum must be completed with a grade of C or higher in order for the student to progress in the program. Those courses in which a D is not an acceptable grade are specified in each program description.

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. 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 which is a prerequisite for another course, the I must be removed before the student is allowed to enroll in the next sequential 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.

Course Drop/Withdrawal
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 Committee on Allied Health Studies (CAHS) 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 CAHS 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.

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

Graduates of the certificate programs in Dental Hygiene and Dental Laboratory Sciences with a cumulative GPA of 3.5 or better will be awarded the certificate “With Honors.”

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.

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 for the paper test or 68 for the Internet-based test.

Official copies of the transcript evaluation and TOEFL score must be submitted directly to the Registrar from the service provider.

Leave of Absence
Under unusual circumstances, such as prolonged illness or injury, a student may request a leave of absence from a certificate or degree program for up to a year. The request must be made in writing to the Department Chair. On recommendation from the department's Committee on Allied Health Studies (CAHS), 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 
if 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 CAHS. Specific 
procedures for requesting a leave of absence may be established 
by each department within the above guidelines. Consult the 
department's section of this Catalog for details.

Professional Conduct
Health Professions students are regarded as professional 
persons and are expected to conduct themselves in a profes-

sional 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 insti-
tution at clinical sites and community activities. A breach 
of professional conduct may be considered grounds for 
disciplinary action or dismissal from the program.

The basic guide for professional conduct is found below. In 
addition, students are responsible for knowing and adhering 
to the following regulations and guidelines on professional 
conduct and discipline:

- HSC's procedures and regulations governing “Student 
  Conduct and Discipline,” found in this Catalog
- Rules and Regulations, The University of Texas System 
  Board of Regents
- Additional guides for professional conduct may be is-
sued by Health Professions departments or professional 
organizations. Copies may be available through the 
departmental office.

Guide for Professional Conduct
Professionalism relates to the intellectual, ethical, behav-
ioral, and attitudinal attributes necessary to perform as a 
health care provider. Examples of professional behavior are 
given below, but are not limited to these examples.

The student will be expected to:
1. Demonstrate sound judgement commensurate with 
  the level of training and experience.
2. Serve all patients without discrimination.
3. Recognize and respect the role and competencies of 
  other professionals and cooperate with them to provide 
effective health care.
4. Exhibit concern primarily for the patient’s welfare 
  rather than for a grade.
5. Exhibit an attitude of respect, concern, and coopera-
tiveness toward peers, staff, and faculty.
6. Hold in confidence the details of professional services 
  rendered and the confidences of any patient.
7. Achieve the highest degree of honesty and integrity 
  by communicating and behaving in an honest, ethi-
  cal manner.
8. Accept responsibility for own work and results; 
  demonstrate willingness to accept suggestions for 
  improvement.
9. Maintain physical, mental, and emotional composure 
in all situations.
10. Abide by the regulations and policies of the program 
    and clinical training sites.
11. Practice personal grooming and hygiene.
12. Practice appropriate safety and aseptic techniques.
13. Provide the patient with relevant information to en-
    able the patient to participate in making decisions 
    regarding her/his condition, prognosis, and treat-
    ment options.
14. Refuse to participate in or conceal any unlawful, in-
    competent, or unethical practice.

Readmission
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 peti-
tioning the Committee on Allied Health Studies (CAHS). 
Whether readmission will be considered at the entry level 
or an advanced level will be determined on an individual 
basis. All such requests will be considered by the Allied 
Health Faculty Council and, according to the recommen-
dation of the Council, will be approved or disapproved by 
the Dean.

Special 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, 
or special, student. In general, a special student will have an 
an academic background similar to those ordinarily admitted to 
Health Professions programs: course prerequisites and mini-
mum grade point averages (GPA) are generally consistent 
with the published admissions criteria for each program. 
Permission to enroll as a special student may be granted by 
the Dean, Associate Dean, or Department Chair. Special 
students will be enrolled only if space is available.

Students seeking “special student” status must receive ap-

proval for registration each semester by the Dean, Associate 
Dean, or Department Chair and the instructor of each 
course; must 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 dur-
ing the summer session.

Course grading policies and standards for special students 
are the same as those for regular students. All grades received 
by a special student will be included on the student’s tran-
script 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 computa-
tion of the GPA to determine academic probation, the Dean 
or Associate Dean may grant exceptions to this policy.

Withdrawal
Permission for withdrawal from a certificate or degree 
program in the School of Health Professions may be granted 
by the Dean or Associate Dean upon the concurrence of the
The student who wishes to withdraw must complete the Administrative Clearance Form, 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 will arrange for an exit interview with the Associate Dean.

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.

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.

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The University of Texas Health Science Center at San Antonio
School of Health Professions
Academic Calendar 2008–2009

<table>
<thead>
<tr>
<th>Fall 2008</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, July 07, 2008</td>
<td>1st Class Day</td>
<td>PA Year 2</td>
</tr>
<tr>
<td>Tuesday, July 22, 2008</td>
<td>Census Day</td>
<td>PA Year 2</td>
</tr>
<tr>
<td>Monday, August 25, 2008</td>
<td>1st Class Day</td>
<td>All</td>
</tr>
<tr>
<td>Monday, September 01, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, September 10, 2008</td>
<td>Census Day</td>
<td>All</td>
</tr>
<tr>
<td>Monday, September 29, 2008</td>
<td>1st Class Day</td>
<td>OT Year 3</td>
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<tr>
<td>Thursday, October 09, 2008</td>
<td>Census Day</td>
<td>OT Year 3</td>
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<tr>
<td>Thursday, November 27, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, November 28, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, December 17, 2008</td>
<td>Term Concludes</td>
<td>All</td>
</tr>
<tr>
<td>Friday, December 19, 2008</td>
<td>Term Concludes</td>
<td>PA Year 3, PT Year 3, OT Year 3</td>
</tr>
<tr>
<td>Saturday, December 20, 2008</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Wednesday, December 24, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, December 25, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Friday, December 26, 2008</td>
<td>University Holiday</td>
<td>All</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring 2009</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, January 01, 2009</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Monday, January 05, 2009</td>
<td>1st Class Day</td>
<td>PA Years 2,3; OT Year 3</td>
</tr>
<tr>
<td>Monday, January 12, 2009</td>
<td>1st Class Day</td>
<td>All</td>
</tr>
<tr>
<td>Thursday, January 15, 2009</td>
<td>Census Day</td>
<td>OT Year 3</td>
</tr>
<tr>
<td>Monday, January 19, 2009</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, January 21, 2009</td>
<td>Census Day</td>
<td>PA Years 2 &amp; 3</td>
</tr>
<tr>
<td>Wednesday, January 28, 2009</td>
<td>Census Day</td>
<td>All</td>
</tr>
<tr>
<td>Monday, February 16, 2009</td>
<td>University Holiday</td>
<td>All</td>
</tr>
<tr>
<td>Monday, March 09, 2009</td>
<td>Spring Break Begins</td>
<td>All</td>
</tr>
<tr>
<td>Friday, March 13, 2009</td>
<td>Spring Break Ends</td>
<td>All</td>
</tr>
<tr>
<td>Friday, March 27, 2009</td>
<td>Term Concludes</td>
<td>OT Year 3</td>
</tr>
<tr>
<td>Friday, May 01, 2009</td>
<td>Term Concludes</td>
<td>PA Year 2</td>
</tr>
<tr>
<td>Tuesday, May 12, 2009</td>
<td>Term Concludes</td>
<td>All</td>
</tr>
<tr>
<td>Friday, May 22, 2009</td>
<td>Term Concludes</td>
<td>PA Year 3</td>
</tr>
<tr>
<td>Saturday, May 23, 2009</td>
<td>Graduation at Trinity University</td>
<td>Graduating Students</td>
</tr>
<tr>
<td>Monday, May 25, 2009</td>
<td>University Holiday</td>
<td>All</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer 2009</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, May 28, 2009</td>
<td>1st Class Day</td>
<td>All</td>
</tr>
<tr>
<td>Tuesday, June 02, 2009</td>
<td>Census Day</td>
<td>PA Year 2</td>
</tr>
<tr>
<td>Tuesday, June 09, 2009</td>
<td>Census Day</td>
<td>All</td>
</tr>
<tr>
<td>Wednesday, June 10, 2009</td>
<td>Census Day</td>
<td>PA Year 3, PT Year 3</td>
</tr>
<tr>
<td>Friday, July 03, 2009</td>
<td>Term Concludes</td>
<td>PA Year 2</td>
</tr>
<tr>
<td>Friday, August 14, 2009</td>
<td>Term Concludes</td>
<td>All</td>
</tr>
<tr>
<td>Friday, August 21, 2009</td>
<td>Term Concludes</td>
<td>PA Year 3, PT Year 3</td>
</tr>
<tr>
<td>Saturday, August 22, 2009</td>
<td>Graduation (No Ceremony)</td>
<td>Graduating Students</td>
</tr>
</tbody>
</table>

Note: The 2009–2010 Academic Calendar will be available on the Student Services Web site in the fall.
### CLINICAL LABORATORY SCIENCES

**Programs in the Department of Clinical Laboratory Sciences**

Clinical laboratory sciences (CLS) is the study and practice of diagnostic medicine. Three areas of CLS can be pursued at the HSC: Clinical Laboratory Science, Cytogenetics, and Molecular Diagnostics. 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. Molecular diagnostic technologists work in clinical, research, and forensic laboratories where they utilize molecular techniques to provide precise information.

The Department of Clinical Laboratory Sciences offers both undergraduate and graduate degree programs and post-baccalaureate certificate programs in the three areas of study described above (see table below).

Programs in Clinical Laboratory Sciences and Cytogenetics are accredited by The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 West Bryn Mawr Avenue, Suite 670, Chicago, IL 60631-3415, (773) 714-8880; e-mail info@naacls.org; Web site [http://www.naacls.org](http://www.naacls.org). The Molecular Diagnostics Program is in the process of seeking initial accreditation from NAACLS.

Graduates of the bachelor's degree program 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, the clinical laboratory scientist has additional career options, including research, teaching, and management.

### 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 degree, and who is certified as a CLT by the National Credentialing Agency (NCA) or MLT by the American Society for Clinical Pathology (ASCP). Students must apply and be accepted into the Bachelor of Science degree program at the HSC. Core curriculum and program prerequisite courses must be completed before advancing to the senior year. Advanced professional clinical laboratory sciences courses may be offered by the HSC via distance learning. Students who successfully complete the advanced standing program will receive a Bachelor of Science in Clinical Laboratory Sciences from the HSC.

**Bachelor of Science in Clinical Laboratory Sciences**

The Bachelor of Science in Clinical Laboratory Sciences degree program is an integrated four-year program that combines core curriculum, basic science, and level one clinical laboratory sciences courses throughout the first three years. The fourth year of the program comprises level two clinical laboratory courses and clinical practicums. Students may choose from two tracks in the bachelor's degree program: general clinical laboratory sciences and premedical. Core curriculum and program prerequisite courses for the bachelor’s degree may be taken at any regionally accredited community college or university; the upper-level science courses to include biochemistry must be taken at a four-year university. Generally, all professional clinical laboratory science courses are taken at the HSC.

**Joint HSC/UTSA Degree**

Students pursuing the Bachelor of Science in Clinical Laboratory Science may earn their degree from the HSC or through a joint degree program from both the HSC and The University of Texas at San Antonio (UTSA). Students interested in the joint degree must apply to UTSA for admission, complete a minimum of 25% of degree hours at UTSA, and complete UTSA core curriculum requirements in addition to the science prerequisites and HSC clinical laboratory sciences courses. UTSA students may enroll as early as the freshman year to determine their interest and aptitude in clinical laboratory sciences as a career.

**Additional Tracks**

The bachelor's degree program offers two additional tracks: Cytogenetics and Molecular Diagnostics. These two tracks are available for students who have completed specific core curriculum and program prerequisite courses at another regionally accredited college or university. The

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### 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 Certificate</th>
<th>Post-Baccalaureate Categorical Certificate</th>
<th>Master of Science²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Laboratory Science</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cytogenetics</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molecular Diagnostics</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 tracks include forensicanalytical toxicology and immunohematology.
last year of these programs comprises prescribed didactic courses and clinical practicums.

**Post-baccalaureate Certificate in Clinical Laboratory Sciences**
The post-baccalaureate certificate program is designed for students who hold a bachelor's degree. The curriculum includes 63.5 semester hours of professional clinical laboratory sciences coursework. Science requirements not completed as part of the bachelor's degree program may be taken 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.

**, Post-baccalaureate Certificate in Cytogenetics; Post-baccalaureate Certificate in Molecular Diagnostics**
These post-baccalaureate certificate programs address the same purposes as the bachelor's degree tracks in cytogenetics and molecular diagnostics (above). They are available for students who hold a bachelor's degree in biology, chemistry, microbiology, clinical laboratory sciences, or other closely related field and have completed prerequisite courses. Program curricula include 39.5 semester credit hours for the Molecular Diagnostics program and 40.5 semester credit hours for the Cytogenetics program.

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.

**Post-baccalaureate Categorical Certificates**
Categorical certificate programs in a subdiscipline of clinical laboratory sciences are open to students who hold a bachelor's degree in biology, chemistry, or another closely related field. Categorical certificates are available in microbiology, clinical chemistry, immunohematology, and hematology. Curricula for these programs may be completed in 12 to 18 months, and consist of the following:

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Prerequisites</th>
<th>CLS Coursework</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology</td>
<td>23.0</td>
<td>32.0</td>
<td>55.0</td>
</tr>
<tr>
<td>Clinical Chemistry</td>
<td>28.0</td>
<td>30.0</td>
<td>58.0</td>
</tr>
<tr>
<td>Immunohematology</td>
<td>28.0</td>
<td>29.0</td>
<td>57.0</td>
</tr>
<tr>
<td>Hematology</td>
<td>31.0</td>
<td>25.0</td>
<td>56.0</td>
</tr>
</tbody>
</table>

**Master of Science in Clinical Laboratory Sciences**
The Master of Science in Clinical Laboratory Sciences program is designed for students who hold a bachelor's degree in clinical laboratory sciences, biology, chemistry, or other related discipline from an accredited institution in the United States. The program offers tracks in forensic/analytic toxicology and immunohematology. Both tracks require a common core of graduate courses, clinical practicums, electives, and the completion of a project. The results of the project must be submitted as a publication-quality paper or alternatively as a thesis. The minimum number of semester credit hours for graduation is 38.5 for the forensic/analytical toxicology track and 39 for the immunohematology track. Research opportunities in specialized laboratories are available at the HSC and throughout Texas.

**Application and Admission**
Applications for admission to the Clinical Laboratory Sciences programs may be completed at https://wwwapplytexas.org/adappc/commonapp.WBX. Detailed information about application and admission is available from the Health Professions Applicant Viewbook and the Health Professions Welcome Center (866) 802-6288 (toll-free) or (210) 567-8744. Application materials for the CLS program, application fee, official transcripts, and supporting documents must be submitted to the Registrar by June 1 for fall admission or by October 1 for spring admission. Application materials for the cytogenetics and molecular diagnostics programs must be submitted by July 1 for fall admission.

Applicants who are enrolled in college courses at the time of application should submit an official transcript showing courses in progress. An updated transcript should be submitted upon completion of the courses. Conditional admission may be granted contingent on satisfactory completion of the courses in progress.

**Admission Factors**
The following factors are considered for selecting students for all Clinical Laboratory Sciences programs:
- Academic achievement
- Prerequisite coursework completed
- Work experience, non-health sciences related
- Work experience in the health sciences
- Texas resident status
- Race/ethnicity
- Bilingual ability
- Volunteer activities
- Leadership positions held
- Prior experience in the clinical laboratory
- Community service
- Recommendations by references
- Communication skills
- Motivation for a career in clinical laboratory sciences
- Interpersonal skills
Admission Requirements

Bachelor of Science in Clinical Laboratory Sciences
(General and Pre-medical Tracks)

- Completion of at least 50 semester credit hours of core curriculum and program prerequisite courses (total of 67 semester credit hours of core curriculum and program prerequisite courses required for the degree; see program prerequisites below)
- Overall grade point average (GPA) of 2.5 (on a 4-point scale)
- Two reference forms completed by former instructors (preferably science instructors)
- Test of English as a Foreign Language (TOEFL) – International applicants only: minimum scores 560 (paper) or 68 (Internet-based)
- Official transcripts sent from each college and university attended

Program Prerequisites for Bachelor of Science in Clinical Laboratory Sciences (General and Pre-medical Tracks)

Students are not required to complete all math and science requirements before being admitted to the Bachelor of Science in Clinical Laboratory Sciences program. Science and math requirements may be taken concurrently with Clinical Laboratory Science courses. Applicants without a baccalaureate degree must complete the Texas Core Curriculum that consists of 42 semester credit hours. Information about the HSC core curriculum is provided in this Catalog. Some courses that satisfy core curriculum requirements may also be used to satisfy program prerequisites. Applicants are encouraged to seek advisement from the Health Professions Welcome Center about program prerequisites that may fulfill the HSC’s core curriculum requirements.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Clinical Laboratory Sciences*</td>
<td>3.0</td>
</tr>
<tr>
<td>Biology I and Laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Biology II</td>
<td>3.0</td>
</tr>
<tr>
<td>General Chemistry I and Laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>General Chemistry II and Laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Biochemistry (upper division)</td>
<td>3.0</td>
</tr>
<tr>
<td>Organic Chemistry and Laboratory</td>
<td>5.0</td>
</tr>
<tr>
<td>General Physiology or Human Physiology (upper division)</td>
<td>3.0</td>
</tr>
<tr>
<td>Genetics</td>
<td>3.0</td>
</tr>
<tr>
<td>Genetics Laboratory (recommended)</td>
<td>2.0</td>
</tr>
<tr>
<td>Microbiology and Laboratory</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Science Requirements Total 34.0

*Introduction to Clinical Laboratory Sciences may be fulfilled by successfully completing CLSC 2000 (see Course Descriptions).
Post-Baccalaureate Certificate in Clinical Laboratory Sciences

- Completion of a bachelor's degree in biology, chemistry, or other closely related field
- Completion of program prerequisites (see below)
- Overall grade point average (GPA) of 2.5 (on a 4-point scale)
- Two reference forms completed by former instructors (preferably science instructors)
- Test of English as a Foreign Language (TOEFL) – International applicants only: minimum scores 560 (paper) or 68 (Internet-based)
- Official transcripts sent from each college and university attended

Program Prerequisites for Post-Baccalaureate Certificate in Clinical Laboratory Sciences

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>Introduction to Clinical Laboratory Sciences*</td>
</tr>
<tr>
<td>4.0</td>
<td>Biology I and Laboratory</td>
</tr>
<tr>
<td>3.0</td>
<td>Biology II</td>
</tr>
<tr>
<td>3.0</td>
<td>Genetics</td>
</tr>
<tr>
<td>2.0</td>
<td>Genetics Laboratory (recommended)</td>
</tr>
<tr>
<td>3.0</td>
<td>General Physiology or Human Physiology (upper division)</td>
</tr>
<tr>
<td>3.0</td>
<td>Biochemistry (upper division)</td>
</tr>
<tr>
<td>5.0</td>
<td>Microbiology and Laboratory (upper division)</td>
</tr>
<tr>
<td>4.0</td>
<td>General Chemistry I and Laboratory</td>
</tr>
<tr>
<td>4.0</td>
<td>General Chemistry II and Laboratory</td>
</tr>
<tr>
<td>5.0</td>
<td>Organic Chemistry and Laboratory</td>
</tr>
<tr>
<td>3.0</td>
<td>Precalculus</td>
</tr>
<tr>
<td>3.0</td>
<td>Statistics</td>
</tr>
</tbody>
</table>

Science Requirements Total: 40.0

*C Introduction to Clinical Laboratory Sciences may be fulfilled by successfully completing CLSC 2000 (see Course Descriptions).

Cytogenetics

Bachelor of Science in Clinical Laboratory Sciences – Cytogenetics Track, and Post-Baccalaureate Certificate in Cytogenetics

- Minimum of 80 semester credit hours in core curriculum, science, and math program prerequisite courses (for bachelor’s degree program applicants) or bachelor’s degree in biology, chemistry, or closely related science (for post-baccalaureate certificate program applicants)
- Completion of program prerequisites with a grade of C or better (all applicants); see prerequisites below
- Minimum cumulative grade point average (GPA) of 2.5 (on a 4-point scale)
- Completion of Texas Core Curriculum with a grade of C or better (42 semester credit hours – for bachelor’s degree program applicants only); some program prerequisites will satisfy core curriculum requirements
- Two reference forms completed by former instructors (preferably science instructors)

Program Prerequisites for Cytogenetics Program

- Minimum of 80 semester credit hours in core curriculum, science, and math program prerequisite courses (for bachelor’s degree program applicants) or bachelor’s degree in biology, chemistry, or closely related science (for post-baccalaureate certificate program applicants)
- Completion of program prerequisites with a grade of C or better (all applicants); see prerequisites below
- Minimum cumulative grade point average (GPA) of 2.5 (on a 4-point scale)
- Completion of Texas Core Curriculum with a grade of C or better (42 semester credit hours – for bachelor’s degree program applicants only); some program prerequisites will satisfy core curriculum requirements
- Two reference forms completed by former instructors (preferably science instructors)
- Test of English as a Foreign Language (TOEFL) – International applicants only: minimum scores 560 (paper) or 68 (Internet-based)
- Official transcripts sent from each college and university attended

Program Prerequisite Total: 45.0

Core Curriculum and/or other elective courses*: 35.0

Core Curriculum and Program Prerequisite Total: 80.0

*M Introduction to Clinical Laboratory Sciences may be taken concurrently with program courses.

**The Texas Core Curriculum consists of 42 semester credit hours, and some program prerequisites may satisfy core curriculum requirements. Completion of the Texas Core Curriculum is required for applicants to the Bachelor of Science degree program only; Post-baccalaureate certificate applicants are not required to complete the Texas Core Curriculum.

Molecular Diagnostics

Bachelor of Science in Clinical Laboratory Sciences – Molecular Diagnostics Track, and Post-Baccalaureate Certificate in Molecular Diagnostics

- Minimum of 80 semester credit hours in core curriculum, science, and math program prerequisite courses (for bachelor’s degree program applicants) or bachelor’s degree in biology, chemistry, or closely related science (for post-baccalaureate certificate program applicants)
• Completion of program prerequisites with a grade of C or better (all applicants)
• Minimum cumulative grade point average (GPA) of 2.5 (on a 4-point scale)
• Completion of Texas Core Curriculum with a grade of C or better (42 semester credit hours – for bachelor's degree program applicants only); some program prerequisites will satisfy core curriculum requirements
• Two reference forms completed by former instructors (preferably science instructors)
• Test of English as a Foreign Language (TOEFL) – International applicants only: minimum scores 560 (paper) or 68 (Internet-based)
• Official transcripts sent from each college and university attended

Program Prerequisites for Molecular Diagnostics Programs
Applicants without a baccalaureate degree must complete the Texas Core Curriculum that consists of 42 semester credit hours. Information about the HSC's core curriculum is provided in this Catalog. Some courses that satisfy core curriculum requirements may also satisfy program prerequisites. Applicants are encouraged to seek advisement from the Health Professions Welcome Center about program prerequisites that may fulfill the HSC's core curriculum requirements.

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Statistics (recommended), or one course beyond College Algebra 3.0</td>
</tr>
<tr>
<td>Biological Science Prerequisites from the following: 17.0</td>
</tr>
<tr>
<td>General Biology with laboratory</td>
</tr>
<tr>
<td>Genetics</td>
</tr>
<tr>
<td>Microbiology with laboratory</td>
</tr>
<tr>
<td>Cell Biology</td>
</tr>
<tr>
<td>Immunology</td>
</tr>
<tr>
<td>Upper-division courses from the following or similar courses: 6.0</td>
</tr>
<tr>
<td>Embryology</td>
</tr>
<tr>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>Histology</td>
</tr>
<tr>
<td>Virology</td>
</tr>
<tr>
<td>Human Genetics</td>
</tr>
<tr>
<td>Molecular Biology</td>
</tr>
<tr>
<td>Chemistry Prerequisites from the following: 16.0</td>
</tr>
<tr>
<td>General Chemistry with laboratory</td>
</tr>
<tr>
<td>Organic Chemistry I with laboratory</td>
</tr>
<tr>
<td>Biochemistry with laboratory</td>
</tr>
</tbody>
</table>
| Program Prerequisite Total 42.0
| Core Curriculum and/or other elective courses* 39.0
| Core Curriculum and Program Prerequisite Total 81.0
| * The Texas Core Curriculum consists of 42 semester credit hours, and some program prerequisites may satisfy core curriculum requirements. Completion of the Texas Core Curriculum is required for applicants to the Bachelor of Science degree program only; post-baccalaureate certificate applicants are not required to complete the Texas Core Curriculum. |

Post-Baccalaureate Categorical Certificates in Clinical Laboratory Sciences
• Bachelor's degree in biology, chemistry, or other closely related field

Prerequisites for the Microbiology Categorical Certificate: 23 semester credit hours of biological sciences from the courses listed below, which may be taken concurrently with courses from the Microbiology Categorical Certificate program, with approval from the faculty advisor:
• Genetics
• Microbiology with laboratory for biology/microbiology majors
• Biochemistry
• Physiology
• Statistics
• Precalculus
• Immunology (upper division or CLSC 3065)

Prerequisites for the Clinical Chemistry Categorical Certificate: 28 semester credit hours of biology and chemistry, from the courses listed below, which may be taken concurrently with courses from the Clinical Chemistry Categorical Certificate program, with approval from the faculty advisor:
• Chemistry (at least 16 semester credit hours in chemistry including General Chemistry I with laboratory, General Chemistry II with laboratory, Organic Chemistry I with laboratory, Biochemistry)
• Human Physiology
• Statistics
• Precalculus
• Immunology (upper division or CLSC 3065)

Prerequisites for the Immunohematology Categorical Certificate: 28 semester credit hours of biology and chemistry, from the courses listed below, which may be taken concurrently with courses from the Immunohematology Categorical Certificate program, with approval from the faculty advisor:
• General Chemistry I with laboratory
• General Chemistry II with laboratory
• Organic Chemistry I with laboratory
• Biochemistry
• Genetics
• Immunology (upper division or CLSC 3065)

Prerequisites for the Hematology Categorical Certificate: 23 semester credit hours of biological sciences from the courses listed below, which may be taken concurrently with courses from the Hematology Categorical Certificate program, with approval from the faculty advisor:
• General Chemistry I with laboratory
• General Chemistry II with laboratory
• Organic Chemistry I with laboratory
• Biochemistry
• Physiology
• Immunology (upper division or CLSC 3065)
• Statistics
• Precalculus

Master of Science in Clinical Laboratory Sciences – Immunohematology Track and Forensic/Analytical Toxicology Track

Admission requirements for the Master of Science degree programs include:
• 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 grade point average (GPA) of 3.0 (on a 4.0 point scale)
• Graduate Record Examination; scores must not be older than 5 years
• Prerequisite courses for the chosen track
• Test of English as a Foreign Language (TOEFL) – International applicants only: minimum scores 560 (paper) or 68 (Internet-based)
• Two reference forms (forms are mailed to applicants after the application is received by the Registrar)

Immunohematology Track Prerequisites

Applicants to the Immunohematology Track must be certified as a Clinical Laboratory Science (CLS) or Immunohematologist (CLS/I) by NCA, or as a medical technologist (MT) or blood bank technologist (BB) by ASCP. Foreign certification is not recognized as equivalent. In addition, a minimum of one-year post-baccalaureate clinical experience acceptable to the medical director of the Specialist in Blood Banking program is required. In addition to the requirements above, the following prerequisites are required for the Immunohematology Track.

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>Mathematics (Precalculus or higher)</td>
</tr>
<tr>
<td>3.0</td>
<td>Statistics</td>
</tr>
<tr>
<td>16.0</td>
<td>Biological Science: Must include one semester of immunology and one semester of microbiology</td>
</tr>
<tr>
<td>16.0</td>
<td>Chemistry: Must include one semester of organic chemistry or biochemistry</td>
</tr>
</tbody>
</table>

Forensic/Analytic Toxicology Track Prerequisites

In addition to the admission requirements for the Master of Science, the following prerequisites are required for the Forensic/Analytic Toxicology Track.

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>8.0</td>
<td>Biology, including Physiology</td>
</tr>
<tr>
<td>4.0</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>4.0</td>
<td>General Chemistry II</td>
</tr>
<tr>
<td>3.0</td>
<td>Instrumental Analysis or Clinical Chemistry</td>
</tr>
<tr>
<td>4.0</td>
<td>Organic Chemistry I with laboratory</td>
</tr>
<tr>
<td>4.0</td>
<td>Organic Chemistry II with laboratory</td>
</tr>
<tr>
<td>3.0</td>
<td>Physics I with laboratory</td>
</tr>
<tr>
<td>3.0</td>
<td>Physics II with laboratory</td>
</tr>
<tr>
<td>3.0</td>
<td>Calculus</td>
</tr>
<tr>
<td>3.0</td>
<td>Immunology (highly recommended)</td>
</tr>
<tr>
<td>3.0</td>
<td>Statistics (highly recommended)</td>
</tr>
<tr>
<td>3.0</td>
<td>Demonstrated computer literacy</td>
</tr>
</tbody>
</table>

General Policies and Information

Advancement, Probation, and Dismissal

Advancement requires that the student complete scheduled program requirements each semester with a minimum grade of C in all basic science and clinical laboratory science courses. Grades of D or F must be remediated before the student may begin clinical practicums during the senior year. Failure to remediate these grades to C or better after repeating the course will result in the student’s forfeiting her/his position in the program. If there is not sufficient time for grades to be remediated before clinical practicums are scheduled to begin, the practicums may be postponed.

A student will be placed on probation if the student fails to meet specified requirements and/or conditions imposed at the time of her/his acceptance. A student who earns a D or F will be placed on probation until the grade is remediated. Should remediation require that the student retake the course when it is offered the following year, graduation will be delayed. A second D or F in a CLS course will result in review and probable dismissal. A student receiving a combination of two Ds or Fs in senior course work will be dismissed from the program.

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
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 coursework at another college or university are urged to seek advisement about coursework that will fulfill program requirements well in advance of applying to the HSC. Students attending the University of Texas at San Antonio (UTSA) should choose Clinical Laboratory Sciences as their major and follow the UTSA curriculum for the major.

Attendance
Students are expected to be prompt and attend scheduled lectures and laboratories. If a student is unable to attend class, he/she should call the Department office to advise faculty of the absence. No make-up tests are given except under unusual circumstances. If the student is unable to attend clinical practicum or will be late, the program faculty and laboratory supervisor must be notified each day the student is out.

Certification
Students who successfully complete a certificate or degree in Clinical Laboratory Sciences, Cytogenetics, or Molecular Diagnostics are eligible to take the national certification examinations given by the National Credentialing Agency for Laboratory Personnel (NCA) or the American Society for Clinical Pathology (ASCP). Awarding of the degree or certificate is not contingent on passing an external certification or licensing examination.

Clinical Practicums
During the senior year, CLS students are required to obtain clinical experience through a series of clinical practicums. The clinical practicum sites are located within the San Antonio area and at various health care facilities in South Texas, including Laredo, Del Rio, Kerrville, and Uvalde. Students will rotate through a combination of sites.

During the second and third semesters, students in the cytogenetics and molecular diagnostics programs are required to obtain their clinical experience 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.

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.

Graduation Requirements
Degree- and certificate-seeking students must complete all courses listed as required core curriculum, program prerequisite, or professional education courses in order to graduate. Certificate students with current certification in a clinical laboratory sciences discipline, e.g., cytogenetic technology, clinical laboratory sciences, etc., may petition for exemption from didactic courses taken within the last seven years for which they can demonstrate content equivalency.

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 and molecular diagnostics programs must complete all HSC coursework within three years from the time of entry.

Immunizations/Safety and Protection Requirements
In laboratories, students are expected to wear laboratory coats, closed-toe shoes, and latex gloves. Safety goggles are available. In affiliate clinical laboratories, students may be required to adhere to additional safety precautions and dress codes.

Students are required to attend a laboratory safety orientation, read all safety procedures contained in laboratory manuals, and pass a written safety examination before they are allowed to work in departmental or clinical affiliate laboratories. Hepatitis immunizations are required before students are allowed to work with specimens in the department laboratories and/or in affiliate clinical laboratories.

International Applicants
See “International Applicants” in the Health Professions section of this Catalog.

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 are awarded credits for equivalent level-one clinical laboratory professional courses. Placement examinations may be given to determine areas of strengths and weaknesses. These individuals may also enroll in senior-level Web-based courses.

Professional Behavior
A. Cheating and other forms of scholastic dishonesty are not tolerated.
B. Attendance

1. Lecture courses are coordinated by the Clinical Laboratory Sciences faculty in cooperation with pathologists and other clinical faculty as guest lecturers. These lectures are designed to present information not always available in textbooks and to provide students the opportunity to develop interpretation and problem-solving skills. Therefore, promptness and attendance at all lectures are expected. Lateness is defined as entrance into the classroom any time after class has begun. Each individual faculty member will discuss their policy for attendance and lateness.

2. Clinical practicums are scheduled individually, based on facility work schedules. Students are required to be in attendance the entire time scheduled.

3. If the student is unable to attend clinical practicum or will be late, CLS department faculty and the laboratory supervisor of the section must be notified each day.

4. Regardless of absence in lecture or clinical practicum, all required work must be completed. Absence in the practicum will require make-up time for the number of hours missed. Make-up time will be arranged with the Education Coordinator and clinical instructor to assure appropriate supervision of learning activities. Extended illness may require enrollment in an additional semester. Absence in lecture may require additional oral or written assignments.

C. Dress Code

Students will not be allowed in the clinical laboratories or lecture without appropriate attire. The student will be required to make up all time lost due to violation of the dress code.

1. The following dress code is prescribed during practicum to assure safety and to maintain a professional image. Students must adhere to the dress code of the affiliate clinical sites.
   a. Students are expected to wear a uniform or a clean lab coat over street clothes. Street clothes should be conservative and professional.
   b. Shoes must be closed-toe and closed-heel.
   c. Blue jeans, T-shirts, sandals, high-heeled shoes, and shorts will not be permitted.
   d. Hair should be neat and tied back, if long.
   e. Jewelry, if worn, should be conservative.

2. Dress for lecture may be informal, but not distracting.

3. Students are expected to be neat, clean, and professional at all times.

D. Breach of professional conduct, as described in the “Clinical Laboratory Sciences Student Code of Ethics” and School of Health Professions “Guide for Professional Conduct,” will result in warnings, disciplinary measures, and/or dismissal.

E. A student may not be allowed to continue in the program at any time based upon recommendation of the Committee on Allied Health Studies in Clinical Laboratory Sciences. The recommendation may be made upon evidence that the student has not exhibited the physical, moral, or mental qualities necessary for a clinical laboratory scientist. This action is independent of the student’s cumulative or semester grade point average or of grades earned in any academic subject.

F. Since both clinical instructors and students are under considerable stress, an occasional personality conflict may occur. If a conflict arises, the student should seek to discuss the problem with the clinical instructor when appropriate. The Education Coordinator also should be advised by the student of this occurrence. The Coordinator will attempt to solve the problem by discussions with any or all of the following persons: clinical instructors, student, and Program Director/Department Chair. If a resolution cannot be achieved, the student may be reassigned. Repeated conflicts with clinical faculty will be reviewed by the Committee on Allied Health Studies in Clinical Laboratory Sciences. Conflicts may be considered as reason for counseling of the student by the appropriate Program Director and possible review by the Committee on Allied Health Studies in Clinical Laboratory Sciences. (See section “E.”)

G. Professional and community service forms must be completed and submitted to the program directors before the end of the semester. Grades will not be released to students not completing this requirement. This is a 4-semester requirement for Clinical Laboratory Sciences and 2-semester requirements for Cytogenetics and Molecular Diagnostics.

The student will receive a revised copy of the Program Philosophy and Policies as these policies are reviewed and updated each year. The student will be responsible for reviewing the updated copy of the program policies and signing the appropriate form indicating that they have read and understood the policies.

Program Costs

Total HSC costs for resident tuition and fees, health and liability insurance, parking permit, etc., are approximately $13,000 for the two years in the Bachelor of Science in Clinical Laboratory Sciences program, $8,100 for one year in Cytogenetics programs, $7,800 for one year in Molecular Diagnostics programs, and $8,400 for Master of Science programs. In addition, costs for other expenses such as textbooks, course manuals, equipment, uniforms or scrubs, and supplies are approximately $1,900 for the Bachelor of Science in Clinical Laboratory Sciences, $800 for Cytogenetics programs, $500 for Molecular Diagnostics programs, and $1,400 for Master of Science programs.
Travel and living expenses for local and out-of-town clinical practicums are not included in this estimate. Non-resident students are subject to additional tuition costs (see “Financial Information” in this Catalog).

Student Code of Ethics
As a student of Clinical Laboratory Sciences at the HSC, I hereby pledge to conduct myself in the following manner:

1. Conduct myself with the highest degree of honesty and integrity and never betray the trust placed in me by my instructors.
2. Accept responsibility for my own work and results.
3. Conduct myself in a professional manner both on and off campus, and thus help reflect a positive image for my school.
4. Assume a professional manner in attire and conduct.
5. Practice good safety habits in the laboratory and when handling biologically hazardous materials.
6. Safeguard the dignity and privacy of patients and confidentiality of patient information.
7. Treat all body fluids and specimens with great respect; and always remember that they are collected from fellow human beings in order to help improve their quality of life.
8. Establish a rapport with other health professionals.
9. Establish confidence of the patient through kindness and empathy.
10. Hold colleagues and profession in high esteem.
11. Avoid plagiarism and follow copyright guidelines.
12. Contribute to the general well being of the community.

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.

Program Curricula
Bachelor of Science in Clinical Laboratory Sciences

Post-baccalaureate Certificates in Clinical Laboratory Sciences
The courses listed below constitute the curriculum for the bachelor’s degree and post-baccalaureate certificates in clinical laboratory sciences. All students receiving a bachelor’s degree from a Texas public college or university must complete the Texas Core Curriculum. Bachelor’s degree students in clinical laboratory sciences program may fulfill the HSC’s core curriculum or the core curriculum of another Texas public college or university. Students in the post-baccalaureate programs are not required to complete the core curriculum; however, they must complete program prerequisites.

HSC Core Curriculum — Information on the HSC’s core curriculum is provided in this Catalog. Students are encouraged to seek advisement from the Health Professions Welcome Center about program prerequisites that may fulfill the HSC core curriculum requirements.

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.

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>63.5</td>
<td>Clinical Laboratory Sciences – Total</td>
</tr>
</tbody>
</table>

Bachelor of Science in Clinical Laboratory Sciences — Cytogenetics Track

Post-baccalaureate Certificate in Cytogenetics

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 2000</td>
<td>Introduction to Clinical Laboratory Sciences 3.0</td>
</tr>
<tr>
<td>CLSC 4035</td>
<td>Introduction to Molecular Diagnostics 1.5</td>
</tr>
<tr>
<td>CLSC 4040</td>
<td>Human Genetics 1.0</td>
</tr>
<tr>
<td>CLSC 4041</td>
<td>Clinical Cytogenetics 4.0</td>
</tr>
<tr>
<td>CLSC 4042</td>
<td>Hematology for the Geneticist 1.0</td>
</tr>
<tr>
<td>CLSC 4043</td>
<td>Cytogenetics Techniques 2.5</td>
</tr>
</tbody>
</table>
Clinical Laboratory Sciences — School of Health Professions

CLSC 4044 Current Topics in Genetics 1.0
CLSC 4092 Management I 1.0

Semester Total 15.0

Spring Semester
CLSC 4045 Clinical Cytogenetics Laboratory I 6.0
CLSC 4046 Clinical Cytogenetics Laboratory II 6.0
CLSC 4047 Clinical Cytogenetics Laboratory III 6.0

Semester Total 18.0

Summer Semester
CLSC 4048 Clinical Cytogenetics Laboratory IV 6.0
CLSC 4049 Cytogenetics Laboratory Practices 1.5

Semester Total 7.5
Program Total 40.5

Bachelor of Science in Clinical Laboratory Sciences — Molecular Diagnostics Track

Post-baccalaureate Certificate in Molecular Diagnostics

Fall Semester
CLSC 2000 Introduction to Clinical Lab Sciences 3.0
CLSC 4034 Advanced Molecular and Laboratory Diagnostics – Lab 2.0
CLSC 4035 Introduction to Moleculardiagnostics 1.5
CLSC 4036 Advanced Molecular and Laboratory Diagnostics – Lecture 3.0
CLSC 4040 Human Genetics 1.0
CLSC 4042 Hematology for the Geneticist 1.0
CLSC 4044 Current Topics in Genetics 1.0
CLSC 4092 Management I 1.0

Semester Total 13.5

Spring Semester
CLSC 4010 Advanced Molecular Diagnosics Practicum I 6.0
CLSC 4011 Advanced Molecular Diagnosics Practicum II 6.0
CLSC 4012 Advanced Molecular Diagnosics Practicum III 6.0

Semester Total 18.0

Summer Semester
CLSC 4013 Advanced Molecular Diagnosics Practicum IV 6.0
CLSC 4014 Molecular Diagnosics Laboratory Practices 2.0

Semester Total 8.0
Program Total 39.5

Successful completion of all courses, including core curriculum (for Bachelor of Science degree students) and program prerequisites, is required for graduation. Post-baccalaureate certificate students with current certification in a clinical laboratory sciences discipline (cytotechnology, clinical laboratory science, etc.) may petition for exemption from didactic courses for which they can demonstrate content equivalency within the last seven years. All coursework offered at the HSC must be completed within three years after entering the program.

Post-baccalaureate Categorical Certificates

Microbiology Categorical Certificate

Summer Semester
CLSC 3010 Body Fluids 2.0

Semester Total 2.0

Fall Semester
CLSC 2000 Introduction to Clinical Laboratory Sciences or 3.0
AHS 1883 Introduction to Clinical Lab. Sciences (UTSA)
CLSC 3001 Phlebotomy Practicum 0.5
CLSC 3003 Parasitology and Mycology Laboratory 1.0
CLSC 3004 Parasitology and Mycology 2.0

Semester Total 6.5

Spring Semester
CLSC 3011 Quality Assurance in the Clinical Laboratory 1.0
CLSC 3033 Medical Microbiology 3.0
CLSC 3034 Medical Microbiology Laboratory 2.0
CLSC 4093 Management II Techniques for 2.0
Clinical Laboratory Sciences
INTD 4006 Professional Issues 1.0

Semester Total 9.0

Summer Semester
CLSC 4038 Microbiology Categorical Practicum 10.0

Semester Total 10.0

Fall Semester
CLSC 4033 Advanced Medical Microbiology 2.0
CLSC 4035 Introduction to Molecular Diagnostics 1.5
CLSC 4092 Management I 1.0

Semester Total 4.5

Microbiology Categorical Certificate Total 32.0

Clinical Chemistry Categorical Certificate

Summer Semester
CLSC 3010 Body Fluids 2.0
CLSC 3081 Clinical Chemistry 2.5
CLSC 3082 Clinical Chemistry Laboratory 1.5

Semester Total 6.0

Fall Semester
CLSC 3000 Introduction to Clinical Laboratory Sciences or 3.0
AHS 1883 (UTSA)
CLSC 3001 Phlebotomy Practicum 0.5
CLSC 4035 Introduction to Molecular Diagnostics 1.5
CLSC 4088 Clinical Chemistry Categorical Practicum 6.0
CLSC 4092 Management I 1.0

Semester Total 12.0

Spring Semester
CLSC 3011 Quality Assurance in the Clinical Laboratory 1.0
CLSC 3051 Hematology 3.0
CLSC 3052 Hematology Laboratory 2.0
CLSC 4083 Advanced Clinical Chemistry 3.0
CLSC 4093 Management II Techniques for 2.0
Clinical Laboratory Sciences
INTD 4006 Professional Issues 1.0

Semester Total 12.0

Clinical Chemistry Categorical Certificate Total 30.0
Immunohematology Categorical Certificate

Fall Semester  Credit Hours
CLSC 2000 Introduction to Clinical Laboratory Sciences or AHS 1883 Introduction to Clinical Lab. Sciences (UTSA) 3.0
CLSC 3060 Immunohematology 2.0
CLSC 3064 Immunohematology Laboratory 2.0
CLSC 3070 Diagnostic Immunology Lecture 1.5
CLSC 3071 Diagnostic Immunology Laboratory 0.5
CLSC 4035 Introduction to Molecular Diagnostics 1.5
CLSC 4092 Management I 1.0
Semester Total 11.5

Spring Semester
CLSC 3001 Phlebotomy Practicum 0.5
CLSC 3011 Quality Assurance in the Clinical Laboratory 1.0
CLSC 3051 Hematology 3.0
CLSC 3052 Hematology Laboratory 2.0
CLSC 4055 Advanced Immunohematology 2.0
CLSC 4093 Management II Techniques for Clinical Laboratory Sciences 2.0
INTD 4006 Professional Issues 1.0
Semester Total 11.5

Summer Semester
CLSC 4068 Immunohematology Categorical Practicum 6.0
Semester Total 6.0

Immunohematology Categorical Certificate Total 29.0

Hematology Categorical Certificate

Spring Semester
CLSC 2000 Introduction to Clinical Laboratory Sciences or AHS 1883 Introduction to Clinical Lab. Sciences (UTSA) 3.0
CLSC 3011 Quality Assurance in the Clinical Laboratory 1.0
CLSC 3051 Hematology 3.0
CLSC 3052 Hematology Laboratory 2.0
CLSC 4093 Management II Techniques for Clinical Laboratory Sciences 2.0
INTD 4006 Professional Issues 1.0
Semester Total 12.0

Summer Semester
CLSC 3010 Body Fluids 2.0
CLSC 3001 Phlebotomy Practicum 0.5
Semester Total 2.5

Fall Semester
CLSC 4035 Introduction to Molecular Diagnostics 1.5
CLSC 4053 Advanced Hematology 2.0
CLSC 4058 Hematology Categorical Practicum 6.0
CLSC 4092 Management I 1.0
Semester Total 10.5
Hematology Categorical Certificate Total 25.0

Master of Science in Clinical Laboratory Sciences — Immunohematology Track

Project — All Master of Science students are required to complete a project for the degree. The project must be relevant to forensics or analytical toxicology or to a clinical problem related to immunohematology, including transfusion services or paternity testing. A research mentor will be selected to assist the student in completing the research project.

Immunohematology Track — During the first year, the student participates in the Specialist in Blood Banking Program offered jointly by the HSC and University Hospital. Students enroll in lectures and practicums designed to provide specialized knowledge for transfusion services, donor services, and HLA testing. Practicums are at University Hospital and other facilities throughout San Antonio and the state. Continuation in the program is contingent on passing the Specialist in Blood Banking examination given by the American Society for Clinical Pathology (ASCP).

The Specialist in Blood Banking Program is accredited by the American Association of Blood Banks (AABB), 8101 Glenbrook Road, Bethesda, Maryland 20814-2749; phone (301) 907-6977; fax (301) 907-6895; e-mail aabb@aabb.org, in cooperation with the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 35 East Wacker Drive, Suite 1970, Chicago, Illinois 60601, phone (312) 553-9355.

Any remaining core graduate courses (above) must be completed in the second year. Electives will be used to complement the student’s career objectives and provide the requisite knowledge to complete the research project.

Applicants who have successfully completed an accredited Specialist in Blood Banking program and passed the national certification examination should consult with the graduate program advisor for options available to them.

Suggested Course Sequence for the Immunohematology Track

First Year*

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 5001</td>
<td>2.0</td>
</tr>
<tr>
<td>CLSC 5002</td>
<td>2.0</td>
</tr>
<tr>
<td>CLSC 5003</td>
<td>4.0</td>
</tr>
<tr>
<td>CLSC 5012</td>
<td>2.0</td>
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<tr>
<td>CLSC 5013</td>
<td>8.5</td>
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<tr>
<td>CLSC 5022</td>
<td>0.5</td>
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<tr>
<td>CLSC 5023</td>
<td>3.0</td>
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<tr>
<td>CLSC 5004</td>
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<tr>
<td>CLSC 5005</td>
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<tr>
<td>MICR 5051</td>
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</table>

*First year includes summer semester.

Second Year

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>CLSC 6097</td>
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<tr>
<td>CLSC 6098</td>
<td>3.0</td>
</tr>
<tr>
<td>INTD 5005</td>
<td>4.0</td>
</tr>
<tr>
<td>INTD 5064</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Electives — Electives are selected to complement the student’s career objectives and provide requisite knowledge to complete the research project. Suggested courses include CLSC 5036 and CLSC 5037.
INTD 6002 Ethics in Research 0.5

Immunohematology Track Total 39.0

Toxicology Track — In addition to advanced clinical laboratory science courses, the student enrolls in specified courses offered by the Graduate School of Biomedical Sciences and the School of Nursing. Practicums are scheduled at various toxicology laboratories in San Antonio and the state of Texas.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 5007</td>
<td>Toxicology Practicum</td>
<td>5.0</td>
</tr>
<tr>
<td>CLSC 5014</td>
<td>Principles and Applications in Analytical Toxicology</td>
<td>5.5</td>
</tr>
<tr>
<td>CLSC 5017</td>
<td>Toxicology Seminar</td>
<td>1.0</td>
</tr>
<tr>
<td>CLSC 5018</td>
<td>Special Topics in Medical/Forensic Toxicology</td>
<td>5.0</td>
</tr>
<tr>
<td>CLSC 5020</td>
<td>Topics in Applied Toxicology</td>
<td>2.0</td>
</tr>
<tr>
<td>CLSC 5085</td>
<td>Biochemistry</td>
<td>4.5</td>
</tr>
<tr>
<td>CLSC 6097</td>
<td>Research</td>
<td>3.0</td>
</tr>
<tr>
<td>CLSC 6098</td>
<td>Thesis</td>
<td>3.0</td>
</tr>
<tr>
<td>INTD 5064</td>
<td>Applied Statistics</td>
<td>3.0</td>
</tr>
<tr>
<td>INTD 6002</td>
<td>Ethics in Research</td>
<td>0.5</td>
</tr>
<tr>
<td>NURS 5338</td>
<td>Pathophysiology or equivalent</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAR 6006</td>
<td>Pharmacology or equivalent such as BIO 5543</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Toxicology Track Total 38.5

CLSC 5090, Independent Study in Clinical Laboratory Sciences, is available for students who wish to undertake specific enrichment experiences.

Course Descriptions

CLSC 2000 Introduction to Clinical Laboratory Sciences 3.0 Semester Credit Hours
This 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 is included. The third area is laboratory mathematics and quality assurance. This Web-based course is offered through the UT Telecampus. Enrollment is open to laboratory science students at other universities both in state and out of state. Texas residents and non-residents living in Texas pay applicable tuition and fees of the HSC.

CLSC 2005 Special Topics in Parasitology and Mycology 1.0–3.0 Semester Credit Hours
Prerequisites: permission from course director required to enroll; proficiency exam
This course is designed for students who have completed a course which 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 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.

CLSC 2053 Special Topics in Hematology 1.0–5.0 Semester Credit Hours
Prerequisites: permission from course director required to enroll; proficiency exam
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.

CLSC 3001 Phlebotomy Practicum 0.5 Semester Credit Hour
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 anytime 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.

CLSC 3003 Parasitology and Mycology Laboratory 1.0 Semester Credit Hour
Prerequisite: concurrent enrollment in CLSC 3004
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: $16.

CLSC 3004 Parasitology and Mycology 2.0 Semester Credit Hours
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.

CLSC 3010 Body Fluids 2.0 Semester Credit Hours
This is a study of selected body fluids including urine, amniotic fluid, cerebrospinal fluid, pleural fluid, peritoneal fluid, pericardial 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: $16.

CLSC 3011 Quality Assurance in the Clinical Laboratory 1.0 Semester Credit Hour
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 assurance program, the rules that are necessary for interpreting the quality control results, and the role of quality 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.

CLSC 3020 Special Topics in Clinical Immunology 1.0–2.0 Semester Credit Hours
Prerequisites: permission from course director required to enroll; proficiency exam
This course is designed for students who have completed a course which 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 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.

CLSC 3022 Special Topics in Body Fluids 1.0–2.0 Semester Credit Hours
Prerequisite: permission from course director required to enroll; proficiency exam
This course is designed for students who have completed a course which 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 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.

CLSC 3032 Special Topics in Body Fluids 1.0–2.0 Semester Credit Hours
Prerequisite: permission from course director required to enroll; proficiency exam
This course is designed for students who have completed a course which 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 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.

CLSC 3033 Medical Microbiology 3.0 Semester Credit Hours
Prerequisites: BIO 3713 and 3722
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.

CLSC 3034 Medical Microbiology Laboratory 2.0 Semester Credit Hours
Prerequisite: concurrent enrollment in CLSC 3033
This is a laboratory course emphasizing diagnostic clinical microbiology. Examination of samples from different body sites provide 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 applications of quality control procedures are practiced. Lab fee: $30. Microscope fee: $16.

CLSC 3035 Special Topics in Medical Microbiology 1.0–5.0 Semester Credit Hours
Prerequisites: permission from course director required to enroll; proficiency exam
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 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.

CLSC 3051 Hematology 3.0 Semester Credit Hours
Prerequisite: AHS 1883
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.

CLSC 3052 Hematology Laboratory 2.0 Semester Credit Hours
Prerequisite: concurrent enrollment in CLSC 3051
This is a clinical laboratory course emphasizing manual and semiautomated 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: $16.

CLSC 3060 Immunohematology 2.0 Semester Credit Hours
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.

CLSC 3063 Special Topics in Immunohematology 1.0–4.0 Semester Credit Hours
Prerequisites: permission from course director required to enroll; proficiency exam
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 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.

CLSC 3064 Immunohematology Laboratory 2.0 Semester Credit Hours
Prerequisite: concurrent enrollment in CLSC 3060
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: $16.

CLSC 3065 Clinical Immunology 3.0 Semester Credit Hours
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.

CLSC 3070 Diagnostic Immunology Lecture 1.5 Semester Credit Hours
Prerequisite: Immunology
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 immunochromatography assays will be presented.

CLSC 3071 Diagnostic Immunology Laboratory 0.5 Semester Credit Hour
This laboratory course will offer the opportunity for students to perform immunologic procedures commonly used in the diagnosis of infectious and autoimmune diseases. This course is designed for students who have completed an immunology course.
of infectious and autoimmune diseases. Principles and applications of quality control procedures are practiced. Lab fee: $30. Microscope fee: $16.

CLSC 3072 Molecular and Immunological Diagnostics 4.0 Semester Credit Hours
Prerequisite: BIO 2313 Genetics
This didactic course presents the principles of molecular biology and an in-depth review of immunology. Molecular and immunological techniques such as PCR, western blotting, flow cytometry, and immunohistochemistry assays will be discussed with an emphasis on the diagnosis of disease states. Clinical applications in forensics, paternity testing, diagnosis of infectious disease states, inherited conditions and neoplasms will be presented.

CLSC 3073 Molecular and Immunological Diagnostics Laboratory 1.0 Semester Credit Hour
Prerequisite: concurrent enrollment in CLSC 3072
This laboratory course will offer the opportunity for students to perform both molecular and immunologic techniques. Students will perform molecular diagnostic techniques such as PCR and gel electrophoresis that are used in the investigation of inherited conditions and neoplasms and become familiar with potential sources of error. Students will also perform immunologic procedures commonly used in the diagnosis of infectious and autoimmune diseases. Principles and applications of quality control procedures are practiced.

CLSC 3081 Clinical Chemistry 2.5 Semester Credit Hours
Prerequisites: CHE 2604/2612 and BIO 3513
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.

CLSC 3082 Clinical Chemistry Laboratory 1.5 Semester Credit Hours
Prerequisites: BIO 3513, AHS 3463, and concurrent enrollment in CLSC 3081
This is a laboratory course emphasizing biochemical analysis of body fluids utilizing manual procedures and semiautomated 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.

CLSC 3083 Special Topics in Clinical Chemistry 1.0–4.0 Semester Credit Hours
Prerequisites permission from course director required to enroll; proficiency exam
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 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.

CLSC 3085 Principles of Biochemistry 3.0 Semester Credit Hours
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.

CLSC 4010 Advanced Molecular Diagnostics Practicum I 6.0 Semester Credit Hours
Under the direction of a qualified instructor, the student will have the opportunity to gain expertise and confidence working with general molecular biology and molecular-based diagnostic and identification techniques. The specific laboratories will include any and all molecular-based laboratories with an emphasis on the clinical laboratory and clinical diagnosis. In addition, students will have the opportunity to acquire expertise in the pathology laboratory, research laboratory, forensics laboratory, biotechnology laboratory, and company-based R&D laboratory. Students will have the opportunity to become proficient at clinical specimen processing for molecular diagnostics as well as non-clinical processing. Specific techniques will be emphasized and performed in the various laboratories.

CLSC 4011 Advanced Molecular Diagnostics Practicum II 6.0 Semester Credit Hours
Under the direction of a qualified instructor, the student will have the opportunity to gain expertise and confidence working with general molecular biology and molecular-based diagnostic and identification techniques. The specific laboratories will include any and all molecular-based laboratories with an emphasis on the clinical laboratory and clinical diagnosis. In addition, students will have the opportunity to acquire expertise in the pathology laboratory, research laboratory, forensics laboratory, biotechnology laboratory, and company-based R&D laboratory. Students will have the opportunity to become proficient at clinical specimen processing for molecular diagnostics as well as non-clinical processing. Specific techniques will be emphasized and performed in the various laboratories.

CLSC 4012 Advanced Molecular Diagnostics Practicum III 6.0 Semester Credit Hours
Under the direction of a qualified instructor, the student will have the opportunity to also gain expertise and confidence working with general molecular biology and molecular-based diagnostic and identification techniques. The specific laboratories will include any and all molecular-based laboratories with an emphasis on the clinical laboratory and clinical diagnosis. In addition, students will have the opportunity to acquire expertise in the pathology laboratory, research laboratory, forensics laboratory, biotechnology laboratory, and company-based R&D laboratory. Students will have the opportunity to become proficient at clinical specimen processing for molecular diagnostics as well as non-clinical processing. Specific techniques will be emphasized and performed in the various laboratories.

CLSC 4013 Advanced Molecular Diagnostics Practicum IV 6.0 Semester Credit Hours
Under the direction of a qualified instructor, the student will have the opportunity to gain expertise and confidence working with general molecular biology and molecular-based diagnostic and identification techniques. The specific laboratories will include any and all molecular-based laboratories with an emphasis on the clinical laboratory and clinical diagnosis. In addition, students will have the opportunity to acquire expertise in the pathology laboratory, research laboratory, forensics laboratory, biotechnology laboratory, and company-based R&D laboratory. Students will have the opportunity to become proficient at clinical specimen processing for molecular diagnostics as well as non-clinical processing. Specific techniques will be emphasized and performed in the various laboratories.

CLSC 4014 Advanced Molecular Laboratory Practices 2.0 Semester Credit Hours
This is an advanced course designed to review basic principles and reinforce previous work and experiences. Students will review all
course work, specific techniques, problem situations, and unique experiences acquired during the practicum portion of instruction. The advanced diagnostic experience acquired by the student will be correlated with clinical case studies, problems in biotechnology, problems in forensics, and unique research situations. An in-depth exploration of the problem-solving process and strategies for resolving difficult cases is a main focus of the course. The students will be tested and will have the opportunity to prepare for the certification examination as a specialist in molecular biology.

**CLSC 4020 Issues in Health Care**  
*1.0–3.0 Semester Credit Hours*  
Special topics in health care and clinical laboratory science are offered and may vary.

**CLSC 4033 Advanced Medical Microbiology**  
*2.0 Semester Credit Hours*  
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 HSC.

**CLSC 4034 Advanced Molecular and Laboratory Diagnostics — Lab**  
*2.0 Semester Credit Hours*  
The laboratory is offered in conjunction with CLSC 4036 as a senior-level course. Direct hands-on experience will be included in sample preparation, DNA purification, RNA purification, tissue culture, viral culture, electrophoresis, restriction enzyme manipulation, blotting technology, Southern/Northern/Western Blot, PCR, PT-PCR, LCR, NASBA, probe design, primer design, and advanced instrumentation. DNA sequencing, cloning, DNA fingerprinting, and protein purification and analysis will be included. Cases related to genetic disease, forensic analysis, and molecular-based diagnosis and design will be discussed.

**CLSC 4035 Introduction to Molecular Diagnostics**  
*1.5 Semester Credit Hours*  
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 HSC. The cost for non-Texas residents living outside of Texas is $165.50 per semester credit hour. Lab fee: $30.

**CLSC 4036 Advanced Molecular and Laboratory Diagnostics — Lecture**  
*3.0 Semester Credit Hours*  
The course is offered as an undergraduate, senior-level course in the Department of Clinical Laboratory Science. The design is intended to give senior students an understanding of the use of advanced technology in the diagnosis, treatment, and monitoring of the disease process. Students will have the opportunity to acquire experience in clinical laboratory diagnostic design and detailed hands-on experience in the laboratory. The course will include molecular diagnostic techniques, amplification and micro-array technology, Southern/Northern/Western blotting, advanced clinical virology, tissue culture techniques, and advanced instrumentation. Students will be required to participate in an analysis and presentation of clinical cases relevant to new and innovative laboratory technology.

**CLSC 4037 Microbiology Practicum**  
*4.0 Semester Credit Hours*  
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.

**CLSC 4038 Microbiology Categorical Practicum**  
*10.0 Semester Credit Hours*  
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.

**CLSC 4039 Selected Practicum Experience in Medical Microbiology**  
*3.0–5.0 Semester Credit Hours*  
Prerequisite: permission from course director required to enroll. 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.

**CLSC 4040 Human Genetics**  
*1.0 Semester Credit Hour*  
Prerequisite: admission to Cytogenetics Program or consent of instructor  
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 1 hour/week viewing slide, tape, or computer presentations. Most slide presentations have study guides provided as an aid for the student to master the material.

**CLSC 4041 Clinical Cytogenetics**  
*4.0 Semester Credit Hours*  
Prerequisite: CLSC 4040 or consent of instructor  
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 syndromes, 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.

**CLSC 4042 Hematology for the Geneticist**  
*1.0 Semester Credit Hour*  
Prerequisite: concurrent enrollment in CLSC 4041 or consent of the instructor  
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.

CLSC 4043 Cytogenetics Techniques
2.5 Semester Credit Hours
Prerequisite: concurrent enrollment in CLSC 4041 or consent of the instructor
This is an advanced laboratory course designed to cover all aspects of cytogenetic laboratory practice including specimen evaluation, culture initiation, culture maintenance, harvesting, slide making, 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: $16.

CLSC 4044 Current Topics in Genetics
1.0 Semester Credit Hour
Prerequisite: CLSC 4041 or concurrent enrollment
This is an advanced seminar course which 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 HSC and surrounding area. Each student is required to make a short presentation on a topic of interest selected with the aid of the coordinator.

CLSC 4045 Clinical Cytogenetics Laboratory I
5.0 Semester Credit Hours
Prerequisites: CLSC 4041, 4043, and 4042
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.

CLSC 4046 Clinical Cytogenetics Laboratory II
5.0 Semester Credit Hours
Prerequisite: CLSC 4045
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.

CLSC 4047 Clinical Cytogenetics Laboratory III
5.0 Semester Credit Hours
Prerequisite: CLSC 4046
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 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.

CLSC 4048 Clinical Cytogenetics Laboratory IV
5.0 Semester Credit Hours
Prerequisite: CLSC 4047
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 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.

CLSC 4049 Cytogenetics Laboratory Practices
1.5 Semester Credit Hours
Prerequisite: CLSC 4048 or consent of instructor
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.

CLSC 4050 Research in Cytogenetics
1.0 Semester Credit Hour
Prerequisites: CLSC 4047 and consent of the Program Director and Instructor
This is an advanced course which 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.

CLSC 4053 Advanced Hematology
2.0 Semester Credit Hours
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.
CLSC 4054 Advanced Hematology/Web-Based
2.0 Semester Credit Hours
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 HSC.

CLSC 4055 Advanced Immunohematology
2.0 Semester Credit Hours
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. 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 HSC.

CLSC 4056 Selected Practicum Experience in Hematology
3.0–5.0 Semester Credit Hours
Prerequisite: permission from course director
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.

CLSC 4057 Hematology Practicum
4.0 Semester Credit Hours
Under the direction and supervision of a clinical instructor, the student will have the opportunity to gain expertise and confidence 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.

CLSC 4058 Hematology Categorical Practicum
6.0 Semester Credit Hours
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.

CLSC 4067 Immunohematology Practicum
4.0 Semester Credit Hours
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.

CLSC 4068 Immunohematology Categorical Practicum
6.0 Semester Credit Hours
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.

CLSC 4069 Selected Practicum Experience in Immunohematology
3.0–5.0 Semester Credit Hours
Prerequisite: permission from course director
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.

CLSC 4070 Immunology Practicum
2.0 Semester Credit Hours
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.

CLSC 4083 Advanced Clinical Chemistry
3.0 Semester Credit Hours
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. Texas residents and non-residents living in Texas pay applicable tuition and fees of the HSC.

CLSC 4087 Chemistry Practicum
4.0 Semester Credit Hours
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.

CLSC 4088 Clinical Chemistry Categorical Practicum
6.0 Semester Credit Hours
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 preventive 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 which 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 multitask environment will be emphasized. The student will be encouraged to present interesting and unusual case studies in an academic environment.

CLSC 4089 Selected Practicum Experience in Clinical Chemistry
3.0–5.0 Semester Credit Hours
Prerequisite: permission from course director
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.

CLSC 4090 Management for Clinical Laboratory Sciences
3.0 Semester Credit Hours
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. Texas residents and non-Texas residents living in Texas pay applicable tuition and fees of the HSC.

CLSC 4091 Independent Study
1.0–12.0 Semester Credit Hours
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.

CLSC 4092 Management I
1.0 Semester Credit Hour
This course is designed to present the principles of communication skills and group dynamics. Topics in verbal communication concentrate on interviewing techniques. Writing of resumés and developing and designing presentations are included. Learning principles, objectives, and use of audiovisual aids are presented. Development and use of evaluation tools are covered.

CLSC 4093 Management II: Techniques for Clinical Laboratory Sciences
2.0 Semester Credit Hours
Students will have the opportunity to become involved in a project or other activity that will allow application of course principles. Class topics will vary depending on the project assigned, but will generally include ethics, leadership styles, planning, financial analysis in the laboratory, laboratory information systems (data management, analysis, selection), research techniques, and writing procedure manuals. Current issues in managed care are considered. Other timely topics in health care are 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. Texas residents and non-residents living in Texas pay applicable tuition and fees of the HSC.

CLSC 4101 Honors CLS Course
2.5–5.0 Semester Credit Hours
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.

CLSC 4102 Honors CLS Practicum
1.0–5.0 Semester Credit Hours
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.

CLSC 5001 Basic Concepts in Immunohematology
2.0 Semester Credit Hours
Topics covered include the essential concepts of primary and secondary hemostasis, the application of principles of genetics and immunology to immunohematology. Selected areas of hematology pathology and the relationship to the transfusions service will be discussed.

CLSC 5002 Immunohematology I: The Donor
2.0 Semester Credit Hours
Topics in this course will include: (1) principles and applications for the preparation, storage, and handling of blood components; (2) regulations and quality assurance for the laboratory and donor area; (3) donor qualifications and preparation for routine, autologous, directed, and hemapheresis, as well as the principles and applications, will be discussed; and (4) routine testing of donor units including testing for agents of infectious disease.
CLSC 5003 Immunohematology Practicum I
4.0 Semester Credit Hours
During this practicum the student will have the opportunity to gain experience in all aspects of blood procurement and preparation of components. Donor selection, serologic testing of units for infectious diseases, processing, and component preparation, as well as the quality assurance procedures and criteria, will be covered. Experience in hemapheresis will be included.

CLSC 5004 Transfusion Medicine
1.0 Semester Credit Hour
Immune mediated and drug induced hemolytic anemias, leukemias, and other clinical conditions which require specialized workup, transfusion therapy and clinical management will be discussed in this course. Diagnosis, treatment, and prevention on hemolytic disease of the newborn will be discussed. In addition, the general indications for transfusion therapy, the benefits and adverse effects of component transfusion, and special transfusion problems are included.

CLSC 5005 Seminar in Education and Management
0.5 Semester Credit Hour
The key concepts of effective management including planning, employee selection and orientation, productivity, and performance evaluation will be covered. Students also will have the opportunity to study the education theory and techniques necessary for teaching in the clinical environment and for small-group teaching. Lecturing in the undergraduate Clinical Laboratory Science program will be required.

CLSC 5007 Toxicology Practicum
5.0 Semester Credit Hours
One semester rotation through different types of toxicology laboratories including medical examiners, clinical, and drug testing. Practicums will be supervised by faculty.

CLSC 5012 Immunohematology II: Human Blood Group Systems
2.0 Semester Credit Hours
Course topics will include discussion and application of genetic, immunologic, and biochemical characteristics of the major blood group systems, as well as high and low frequency and HLA antigens. The relationship and significance of these systems to transfusion, transplantation, anthropology, studies, and disease association will be covered. Special techniques and problem-solving methods for identification and resolution of typing discrepancies and alloantibody and autoantibody problems will be presented.

CLSC 5013 Immunohematology Practicum II
8.5 Semester Credit Hours
During this practicum the student will have the opportunity to gain experience in all areas/applications of compatibility testing and antibody identification. The use of special techniques for solving complicated immunohematologic problems and multiple antibodies, workup of suspected transfusion reaction, hemolytic disease of the newborn, and resolution of problems caused by autoantibodies will be included. Special transfusions practices for selected patient groups will be included.

CLSC 5014 Principles and Applications in Analytical Toxicology
5.5 Semester Credit Hours
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 toxicity 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.

CLSC 5017 Toxicology Seminar
1.0 Semester Credit Hour
This course includes formal exchange of scientific information and ideas through presentations from recent scientific literature and from faculty and student research.

CLSC 5018 Special Topics in Medical/Forensic Toxicology
5.0 Semester Credit Hours
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, psychotrophic agents, industrial chemical disasters, and poison management. Requirements for toxicology laboratory certification and design will be included. Selected topics may include laboratory demonstration.

CLSC 5020 Topics in Applied Toxicology
2.0 Semester Credit Hours
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.

CLSC 5022 Immunohematology III: New Approaches
0.5 Semester Credit Hour
In this course students will have the opportunity to apply genetic, immunological, and biochemical principles to the study of HLA, platelet, and granulocyte antigens. The relationship of these systems to transfusion, transplantation, disease association, paternity testing, and family studies will be covered. Techniques and use of stem cells, DNA technology, and their application to selected areas of transfusion medicine will be included.

CLSC 5023 Immunohematology Practicum III
3.0 Semester Credit Hours
During this practicum the student will have the opportunity to gain experience in specialized applications and areas associated with transfusion medicine including histocompatibility testing for paternity or family studies and for transplantation, cytokogenetics, coagulation, and molecular biology.

CLSC 5036 Advanced Molecular and Laboratory Diagnostics — Lecture
3.0 Semester Credit Hours

CLSC 5037 Advanced Molecular and Laboratory Diagnostics — Lab
2.0 Semester Credit Hours
The course is offered as a graduate-level course in the Master of Science Program in the Department of Clinical Laboratory Science. The design is intended to give students an in-depth understanding of the role of advanced technology in the diagnosis, treatment, and monitoring of the disease process. Students will have the opportunity to acquire detailed experience in molecular-based diagnostic design and extensive hands-on laboratory experience. The course will include molecular diagnostic techniques, amplification and micro-array technology, Southern/Northern/Western blotting, advanced clinical virology, tissue culture techniques, and advanced instrumentation. Students will have the opportunity to participate in an analysis of clinical cases relevant...
to the new and innovative technology, individual presentations, and written papers.

CLSC 5040 Laboratory Medicine
3.0 Semester Credit Hours
This course is offered to students in the Physician Assistant Studies Program at the HSC. 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.

CLSC 5041 Laboratory Medicine Laboratory
1.0 Semester Credit Hour
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.

CLSC 5085 Biochemistry
4.5 Semester Credit Hours
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.

CLSC 5090 Independent Study in Clinical Laboratory Sciences
1.0–4.0 Semester Credit Hours
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.

CLSC 6097 Research
3.0 Semester Credit Hours
Supervised research under direction of faculty.

CLSC 6098 Thesis
3.0 Semester Credit Hours
Prerequisite: admission to candidacy for the Master of Science degree
Instruction in the preparation of a thesis. Registration for at least one term is required of MS candidates.

INTD 4006 Professional Issues
1.0 Semester Credit Hour
Using a workshop format, this interdisciplinary course will provide an overview of ethical issues in health care professions. Topics to be discussed include responsibilities of the health care practitioner; life and death decisions; ethics issues in managed care; legal issues in several areas such as patient confidentiality, sexual harassment and informed consent; ethics in research; and other critical issues related to health care practice. Problem cases will be used to stimulate discussion among students.

INTD 5064/OCCT 5023 Applied Statistics for Health Care Practitioners
3.0 Semester Credit Hours
This course focuses on the application of descriptive and inferential statistics in research studies in the health sciences. Students are provided the opportunity to gain a base of knowledge that will enable them to understand, interpret, and evaluate statistical results; work with a consultant statistician; and use statistical software to enter, analyze, and summarize data. Teaching methods include lecture, Web-supported technology, and problem-based learning groups.
DEAF EDUCATION AND HEARING SCIENCE

The Master of Deaf Education and Hearing Science program is offered by the School of Health Professions in partnership with the Sunshine Cottage School for Deaf Children. Sunshine Cottage serves as the primary teaching laboratory and physical facility for faculty, students, and staff for the program. Sunshine Cottage School for Deaf Children is an auditory-oral school whose mission is to teach children with hearing impairment 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; however, sign language is recognized as a second language if already used.

Students graduate as specialists in providing to children and their families training that enhances spoken communication and listening skills. Advances in hearing-aid technology and surgical procedures, such as the cochlear implant, 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, deaf studies, communication disorders, 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 can be completed through full-time studies (4 semesters) or through a part-time program (7 semesters) to accommodate MDEHS students who are employed.

The program consists of 36 semester credit hours of coursework that includes observations, seminars, demonstrations, research opportunities, field trips, and practicum. Practicum assignments are scheduled at Sunshine Cottage, the HSC, and partnership schools and clinics in the San Antonio area. To accommodate working professionals, classes are offered in the evenings and during summers, with some classes using Web-supported instruction.

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, phone (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 sometime during the educational years, it is desirable that a hearing-impaired child attend school with her/his hearing peers;
- Applicants with a baccalaureate degree in special education, deaf education, deaf studies, communication disorders, 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 hearing-impaired child 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 hearing-impaired child but also the normally hearing assigned to the group.

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 Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8744, and online at https://studentservices.uthscsa.edu/prospects/apply_ah.asp. Completed application, application fee, official transcripts, and supporting documents must be submitted to the Registrar between September 1 and March 15. All required admissions information and documents must be submitted to the Office of the Registrar 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 allied health 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” related activities
- “Volunteer” activities in educational-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
- Applicant’s 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
- Texas resident status, or permanent Texas resident alien
- 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, special education, deaf education, deaf studies, communication disorders, or a related field. Students must have taken the Texas Higher Education Assessment (THEA), complete 50 hours of classroom observation, and complete 25 hours of field experience with children under the age of 10. Depending on the applicant’s background, collateral coursework in Curriculum and Instruction from another college or university 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 Committee of Allied Health Studies (CAHS). The CAHS meets regularly to review students’ performance and progress. The CAHS 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” (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 background check completed before admission, students are subject to background checks that may be required by clinical or practicum sites, such as Sunshine Cottage 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 HSC Library and the Allied Health/Research 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 $10,500. 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**

Full-time and part-time 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; krautwein@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 4 semesters for the full-time option, or 6 semesters for the part-time option. 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 6 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 Committee on Allied Health Studies (CAHS) only with demonstration of justifiable cause.

**HSC/UTSA Cooperative Agreement**

Through a cooperative agreement with The University of Texas at San Antonio (UTSA), students may be admitted to the DEHS program and then take preparatory/background coursework at UTSA at the undergraduate or graduate level. UTSA courses may include: Basic Statistics, Principles of Learning and Classroom Management, Introduction to Exceptionality, Language and Cognitive Development (and Dysfunction), Early Literacy Learning EC-4 (U)/Reading and Writing Development in Early Childhood (G), and Reading Comprehension EC-4 (U)/Integrating Reading and the Language Arts (G). Contact the Program Director for further information.

**Master of Deaf Education and Hearing Sciences Curriculum**

**Full-time Option**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>Summer Semester</td>
<td>DEHS 5001</td>
<td>Foundations of Education for the Deaf</td>
<td>2.5</td>
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<tr>
<td></td>
<td>DEHS 5005</td>
<td>Factors in Child Language Acquisition</td>
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<td></td>
<td>DEHS 5007</td>
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<td>DEHS 5011</td>
<td>Language Development and Hearing Ability</td>
<td>4.0</td>
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<tr>
<td></td>
<td>INTD 5064</td>
<td>Applied Statistics for Health Care Practitioners</td>
<td>3.0</td>
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<tr>
<td></td>
<td>DEHS 6010</td>
<td>Mainstream Services for Children with Hearing Loss</td>
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<td>Teaching/Management Apprenticeship</td>
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<td>DEHS 6002</td>
<td>Comprehensive Assessment, Counseling and Management</td>
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<tr>
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<td>DEHS 6004</td>
<td>Curriculum Modifications for Children with Hearing Loss</td>
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<td>DEHS 6006</td>
<td>Auditory-Verbal Principles &amp; Practices in Early Intervention</td>
<td>2.5</td>
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<td>DEHS 6008</td>
<td>Speech for Hearing-Impaired Students</td>
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<tr>
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<td>DEHS 5009</td>
<td>Introduction to Sign (ASL and Signed English)</td>
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<td>DEHS 6022</td>
<td>Teaching/Management Apprenticeship</td>
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### Part-time Option

#### First Year

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<td>Summer Semester</td>
<td>DEHS 5005 Factors in Child Language Acquisition</td>
<td>2.5</td>
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<td>DEHS 5007 Introduction to Audiology</td>
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<td>DEHS 5003 Speech Mechanisms - Anatomy, Physiology, Acoustics</td>
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<td>DEHS 5011 Language Development and Hearing Ability</td>
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<td>DEHS 5021 Teaching/Management Apprenticeship I</td>
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<td>DEHS 6004 Curriculum Modifications for Children</td>
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<td>DEHS 6008 Speech for Hearing-Impaired Students</td>
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#### Second Year

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<td>Summer Semester</td>
<td>DEHS 5001 Foundations of Education for the Deaf</td>
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<td>DEHS 5009 Introduction to Sign (ASL and Signed English)</td>
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<td>DEHS 6010 Mainstream Services for Children with Hearing Loss</td>
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<td>DEHS 6002 Comprehensive Assessment, Counseling and Management</td>
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<td>DEHS 6006 Auditory-Verbal Principles &amp; Practices in Early Intervention</td>
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<td>DEHS 6099 Comprehensive Examination</td>
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<table>
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<tr>
<th>Course Descriptions</th>
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<tbody>
<tr>
<td>DEHS 5005 Factors in Child Language Acquisition</td>
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<tr>
<td>2.5 Semester Credit Hours</td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

| DEHS 5007 Introduction to Audiology |
| 2.0 Semester Credit Hours |
| 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 assitive technology. Practicum included. |

| DEHS 5009 Introduction to Sign (ASL and Signed English) |
| 2.5 Semester Credit Hours |
| 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. |

| DEHS 5011 Language Development and Hearing Ability |
| 4.0 Semester Credit Hours |
| 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. |

| DEHS 5021 Teaching/Management Apprenticeship I |
| 2.0 Semester Credit Hours |
| 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. |

| DEHS 5090 Independent Study |
| 0.5–4.0 Semester Credit Hours |
| 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. |

| DEHS 6002 Comprehensive Assessment, Counseling, and Management |
| 2.5 Semester Credit Hours |
| 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. |
DEHS 6004  Curriculum Modifications for Children with Hearing Loss
2.5 Semester Credit Hours
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 context 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.

DEHS 6006  Auditory-Verbal Principles & Practices in Early Intervention
2.5 Semester Credit Hours
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.

DEHS 6008  Speech for Hearing-Impaired Students
2.5 Semester Credit Hours
This course addresses: 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.

DEHS 6010  Mainstream Services for Children with Hearing Loss
1.5 Semester Credit Hours
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.

DEHS 6022  Teaching/Management Apprenticeship II
3.5 Semester Credit Hours
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.

DEHS 6099  Comprehensive Examination
0.0 Semester Credit Hours
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.

INTD 5064  Applied Statistics for Health Care Practitioners
3.0 Semester Credit Hours
This course focuses on the application of descriptive and inferential statistics in research studies in the health sciences and health professions education. Students are provided the opportunity to gain a base of knowledge that will enable them to understand, interpret, and evaluate statistical results; work with a consultant statistician; and use statistical software to enter, analyze, and summarize data. Teaching methods include lecture, Web-supported technology, and problem-based learning groups.
DENTAL HYGIENE

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, and 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 commitment to working with diverse groups of people to meet their oral health needs. Further, they should be dedicated to delivering competent and compassionate health care. The 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), and a state Jurisprudence Exam. The National Board Examination, given during the spring semester of the second year, is a comprehensive written examination covering dental and 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 Jurisprudence Exam, and payment of appropriate fees to the State Board of Dental Examiners.

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. The last site evaluation was conducted in 2005 and the program was granted a status of APPROVAL without reporting requirements.

Program Descriptions

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 degree prepares the graduate to become a licensed registered dental hygienist and work as part of a professional health care delivery team. The program requires the completion of Texas Core Curriculum and program prerequisite courses before entering the dental hygiene major. Graduates of the entry-level bachelor’s degree program are eligible to take the National Board Examination, the Western Regional Examining Board, and the Texas state Jurisprudence Exam for eligibility to practice.

Entry-Level Bachelor of Science in Dental Hygiene Program

The entry-level bachelor’s degree consists of a minimum of 123 semester credit hours, including 60 semester credit hours of Texas Core Curriculum and program prerequisite courses and 63 semester credit hours of dental hygiene courses taken over two academic years of full-time study. Core curriculum and program prerequisite courses must be completed before entry into the program. Courses in the 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.

Bachelor of Science in Dental Hygiene Degree Completion Program

The Bachelor of Science Degree Completion Program is designed to allow a registered Dental Hygienist (RDH) who has completed a certificate or associate’s degree program in dental hygiene that is accredited by the Commission on Dental Accreditation (CODA), 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.

Coursework for the degree completion program includes the arts, humanities, basic and behavioral sciences, and the advanced professional curriculum. Emphasis is on the basic principles of problem solving and decision-making, critical thinking, communication skills, and ethical behavior with a particular focus on lifelong learning skills that can be applied to multiple roles and career settings.

All students must complete 123 credit hours to earn the BS degree, including 42 semester credit hours of Texas Core Curriculum. The Bachelor of Science Degree Program Director will evaluate applicant’s transcripts to determine the number of credit hours required to complete the degree.

Master of Science in Dental Hygiene Degree Program

The Master of Science in Dental Hygiene degree program prepares registered dental hygienists who have earned a bachelor’s degree for advanced education in dental hygiene teaching, administration, research, and other related areas. This program requires 36 semester credit hours of graduate work, including a research-based thesis.

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.

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.

Application and Admission
Application for admission to Dental Hygiene degree programs may be completed at https://www.applytexas.org/adappc/commonapp.WBX. Detailed information about application and admission is available from the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8744, or http://SHPwelcome.uthscsa.edu and online at http://studentservices.uthscsa.edu/prospects_apply_ab.aspx. Completed application, application fee, official transcripts, and supporting documents must be submitted to the Registrar by February 1 for fall semester enrollment. Transcripts for prerequisite courses completed after that date must be submitted to the Registrar by July 1.

Admission Factors
In addition to the academic admission factors described under each program, the following non-academic factors are considered when selecting students for admission to all Dental Hygiene programs:

- Bilingual ability
- Hometown or county of residence that has been designated a medically underserved and/or health professions shortage area, with particular emphasis on South Texas
- Employment history, especially as it occurred simultaneously with undergraduate academic preparation
- Public/community service in volunteer-related areas
- Awards and honors
- Experience in providing healthcare-related services, e.g., prior military training and experience, other health-related fields, dental assisting experience
- Graduation from another accredited healthcare-related curriculum
- References or recommendations
- Race/ethnicity
- Knowledge of and preparation to enter the profession of dentistry gained through observing or volunteering in a dental practice
- Communication skills
- Future professional goals
- Previously selected as an alternate for the HSC dental hygiene program

Entry-Level Bachelor of Science in Dental Hygiene Program
A maximum of 30 qualified students are admitted to the bachelor of science degree programs. Admission requirements for the entry-level bachelor's degree program include 42 semester credit hours of Texas Core Curriculum requirements (see Texas Core Curriculum in this Catalog, page 78) and 36 semester credit hours of program prerequisites (listed below). A total of 60 semester credit hours of core curriculum and program prerequisites must be completed with a minimum 2.7 grade point average (on a 4-point scale). Note that courses that satisfy program prerequisites may also satisfy core curriculum requirements. These courses must be completed with a grade of C or better. 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, or e-mail SHPwelcome@uthscsa.edu.

Program Prerequisites: In addition to the Texas Core Curriculum requirements (see Texas Core Curriculum in this Catalog, page 78), the following program prerequisites must be completed:

<table>
<thead>
<tr>
<th>Program Prerequisite Total</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy with laboratory or Anatomy and Physiology I with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>English Composition</td>
<td>3.0</td>
</tr>
<tr>
<td>Introductory Chemistry with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Microbiology with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Physiology with laboratory or Anatomy and Physiology II with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Computer Applications or equivalent</td>
<td>3.0</td>
</tr>
<tr>
<td>Nutrition</td>
<td>3.0</td>
</tr>
<tr>
<td>Psychology</td>
<td>3.0</td>
</tr>
<tr>
<td>Sociology</td>
<td>3.0</td>
</tr>
<tr>
<td>Statistics</td>
<td>3.0</td>
</tr>
<tr>
<td>Elective(s)</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Courses listed above must be completed by July 1 for anticipated fall enrollment.

Bachelor of Science in Dental Hygiene Degree Completion Program
Twelve students may be admitted to the bachelor's degree completion program each year. Applications are accepted at any time. Applications and official transcripts should be submitted to the Registrar by June 1 for fall entry, and by October 1 for spring entry.
Information about application and admission to the bachelor’s degree completion program is detailed in the Applicant Viewbook of the School of Health Professions. All applicants are required to complete the Texas Core Curriculum requirements (see Texas Core Curriculum in this Catalog, page 78) before entering the program. Admission requirements include:

- Graduation from an ADA/CODA-accredited dental hygiene program in the U.S. or Canada; applicants who have completed at least one year of an accredited program may apply before graduation, but must be scheduled to graduate before beginning the program of study and meet all prerequisite requirements.
- Grade point average (GPA) of at least 2.5 for all college courses taken
- Dental hygiene GPA of at least 2.5 in the entry-level program

In addition to Texas Core Curriculum requirements, noted above, and completion of an accredited dental hygiene program, the following prerequisites must be completed for admission:

<table>
<thead>
<tr>
<th>Course</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Applications, or equivalent</td>
<td>3.0</td>
</tr>
<tr>
<td>Statistics</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**Master of Science in Dental Hygiene Degree Program**

Information about admission and application to the Master of Science in Dental Hygiene program is detailed in the Applicant Viewbook of the School of Health Professions. Admission requirements include:

- Bachelor’s degree from a regionally accredited college or university, or proof of equivalent degree and training in a foreign country
- 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 Dental Hygiene National Board Examination
- Current licensure as a Registered Dental Hygienist from any state in the U.S. or Canada
- Graduate Record Examination with a minimum score of 1000 (combined Verbal and Quantitative subtests), or a scaled score of 400 on the Miller Analogies Test; tests must have been taken within 5 years of admission
- Three completed recommendation forms available at [studentservices.uthscsa.edu/prospects_apply_ah.asp](http://studentservices.uthscsa.edu/prospects_apply_ah.asp)
- Personal interview with representatives of the graduate program may be required.

Applications should be submitted to the Registrar by June 1 for the fall semester enrollment and October 1 for spring semester enrollment. 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.

**General Policies and Information**

**Academic Advising**

The department chair and faculty serve as student advisors. Advisors have the role of assisting students to solve problems and/or find 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.

**Advancement, Probation, and Dismissal**

A satisfactory rate of progress toward the degree is determined by the Committee on Allied Health Studies (CAHS) for the bachelor’s degree, or the Committee on Graduate Studies (COGS) for the master’s degree, according to the following standards. 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 an action.

**Performance Review:** Each student’s performance is reviewed at the middle and end of every term by the CAHS/COGS. At midterm the CAHS/COGS determines whether the student is progressing satisfactorily or whether a warning letter is indicated. Warning letters specify each course in which the student is performing unsatisfactorily and suggest 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.

**Promotion Recommendations:** At semester’s end, the CAHS/COGS determines the student’s promotion status. The CAHS/COGS evaluates other aspects of the student’s performance: (1) course grade(s), (2) attendance record, (3) professional behaviors, (4) and psychomotor skill development. The CAHS/COGS also may assess extenuating circumstances that might have affected student progress on an individual basis. Recommendations are forwarded to the department chair for final approval. A student performing at an unsatisfactory level will receive written notification of her/his status from the department chair.

The policies below apply to students in the bachelor’s degree programs (entry-level and degree completion). Students in the Master of Science degree program follow policies of the Graduate School of Biomedical Science, found in this Catalog.

**Unconditional Advancement** — A student may be considered for Unconditional Advancement if the student:

- Achieves a minimum grade point average of 2.0 each semester,
- Successfully completes all prescribed courses and semester requirements, and
• Earnings a satisfactory grade in each course taken.

In addition, the CAHS will consider all areas listed above under Promotion Recommendations.

Probationary Advancement – A student may be considered for Probationary Advancement if the student:
• Withdraws from a prescribed course with the approval of the department chair but meets all other conditions for Unconditional Advancement,
• Receives an unsatisfactory grade in a single course; or
• Receives an I (Incomplete) grade in any course(s).

A student who receives an unsatisfactory grade in any course may be required to repeat all or part of the academic year. When repeating any portion of the academic year the student must earn a satisfactory grade in each course or be subject to dismissal from the program.

Dismissal – Dismissal from the program may be recommended if a student receives an unsatisfactory grade(s) in:
• One or more courses in one semester,
• A course being repeated,
• A course being remediated,
• Any course taken while repeating any portion of the academic year, or
• Any course taken while on probation.

Remediation – Remediation of a course in which an unsatisfactory grade was earned may be considered by the CAHS/COGS if recommended by the course director and/or CAHS/COGS. Methods for remediation are determined by the CAHS/COGS in consultation with the individual course instructor, and specified in writing to the student. The student is expected to complete the course(s) within the time frame specified by the CAHS/COGS.

In addition, the CAHS will consider all areas listed above under Promotion Recommendations. The CAHS reserves the right to make alternate recommendations as deemed appropriate.

Appeal Procedures
Student appeals and grievances are handled through established policies and procedures for the School of Health Professions, outlined in School of Health Professions section of this Catalog.

Attendance
Because of the nature and complexity of the dental hygiene programs, prompt attendance is expected at all scheduled classes, laboratories, and clinic sessions. Other attendance requirements for regularly scheduled classes, laboratories, and clinic sessions are established by the instructor for that particular portion of the curriculum. The policy regarding attendance for each course is outlined in the course outline/syllabus.

Unexcused absences may be considered sufficient cause for failure. Excused absences may be granted by the course 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. The student is responsible for arranging with the course director to make up missed work.

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 students are required to buy a laptop computer from the HSC’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 $2000, including all software and memory requirements. In addition, high-speed Internet access is strongly recommended.

Dropping Courses
See “Adding/Dropping Courses” under General Academic Policies in this Catalog for information on limitations on dropping courses.

Grades
Courses may be graded using letter grades, Satisfactory/Unsatisfactory, Pass/Fail, or Incomplete. In the bachelor’s degree programs (entry-level and degree completion), letter grades of A, B, C, S, and Pass are considered satisfactory in all courses. The grade of C, S, or Pass is the minimum acceptable grade for all courses. Grades of D, F, U, or Fail are considered unsatisfactory grades in all courses. Students
Students who demonstrate excellence in scholarship and professional leadership potential may be selected for the national dental hygiene honor society Sigma Phi Alpha. The faculty select honorees from the top 10% of the class, determined by cumulative GPA.

Additional Awards: Individual program awards are presented at graduation. A description of these awards is provided to students during orientation.

International Applicants
Guidelines for international applicants are provided under “International Applicants” in the School of Health Professions section of this Catalog.

Program Costs
Total program costs for dental hygiene degree programs are shown in the table “Dental Hygiene Program Costs.” All figures are approximate and based on full-time enrollment. Non-resident students are subject to additional costs that may be found under “Financial Information” in this Catalog.

Student Conduct
Students are responsible for knowing and observing the university’s procedures and regulations governing Student Conduct and Discipline, described in this Catalog and the Rules and Regulations of the Board of Regents of The University of Texas System.

Dental hygiene students are considered 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. Examples of professional behaviors are given under “Guide for Professional Conduct” in the School of Health Professions section of this Catalog.

Students are expected to perform at a professional level when interacting with peers, patients, faculty, and staff when representing the HSC at clinical rotation sites or other community activities. A breach of professional conduct may be considered grounds for dismissal from the program, to be determined by the Committee on Allied Health Studies or Committee on Graduate Studies.

Dental Hygiene Professionalism: Students in the dental hygiene programs are expected to abide by ethical standards set forth in policies of the Department of Dental Hygiene, School of Health Professions, and the HSC. Representative examples of professional behaviors, traits, and qualities are given below, but are not all-inclusive.*

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* Adapted from Papadakis (2001). Early Detection and Evaluation of Professional Deficiencies in Medical Students: One School’s Approach. Academic Medicine, Vol. 76(11), p. 1102. From the University of California – San Francisco School of Medicine.
Reliability and Responsibility
- Fulfilling responsibilities in a reliable manner
- Learning how to complete assigned tasks
- Managing time in a responsible manner to avoid tardiness, absence, or late assignments
- Providing thorough and complete documentation of clinical activities
- Adhering to clinic or course protocol

Self-improvement and Adaptability
- Accepting constructive feedback
- Recognizing limitations and seeking help
- Being respectful of colleagues and patients
- Incorporating feedback in order to make changes in behavior
- Adapting to change

Relationships with Students, Faculty, Staff, Patients, and Guests
- Establishing rapport
- Being sensitive to the needs of patients
- Establishing and maintaining appropriate boundaries in work and learning situations
- Extending professional courtesy and attentiveness to fellow students in a learning environment
- Extending professional courtesy and attentiveness to staff in a learning environment
- Extending professional courtesy and attentiveness to faculty in a learning environment
- Extending professional courtesy and attentiveness to faculty and guests in an academic or professional setting

Professional Behaviors in Class
Students should display appropriate professional behaviors while attending classes, laboratories, or clinic sessions:
- Respect for the instructor or guest speaker by attending class on time. If the student is 15 minutes late to any class, it is considered an absence.
- Refrain from talking to classmates while class is in session.
- Refrain from eating inside the classroom.
- Remain in class until the official end of the class period or dismissal by the instructor.
- Keep cell/digital phones and pagers on silent mode during classes, laboratories, and clinic sessions.
- Refrain from non-academic activity on electronic devices (e.g., Internet surfing, checking e-mail, etc.).

Withdrawal
Permission to withdraw from a course(s) may be granted by the department chair. Students wishing to withdraw for any reason must submit a written request in writing to the department chair, including a reason for the request, and meet with the department chair to discuss the withdrawal process. The symbol W is recorded for each course that the student did not complete. Students may not withdraw from any course after the final examination period has begun.

Program Curricula
Entry-Level Bachelor of Science in Dental Hygiene Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Tuition and Fees</th>
<th>Health Insurance</th>
<th>Other Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level Bachelor's Degree</td>
<td>$12,100</td>
<td>$2,040</td>
<td>$6,940</td>
</tr>
<tr>
<td>Bachelor's Degree Completion – HSC Graduates</td>
<td>$1,800</td>
<td>$470</td>
<td>$0</td>
</tr>
<tr>
<td>Bachelor's Degree Completion – Other Graduates</td>
<td>$6,000</td>
<td>$920</td>
<td>$0</td>
</tr>
<tr>
<td>Master of Science Degree*</td>
<td>$6,400</td>
<td>$1,840</td>
<td>$250</td>
</tr>
</tbody>
</table>

* Students who provide proof of health insurance that meets state requirements are not required to pay the health insurance fee.

Other Costs include textbooks, computer, and other miscellaneous expenses.

Based on completion of the program in 4 semesters

Dental Hygiene Program Costs

<table>
<thead>
<tr>
<th>Program</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td></td>
</tr>
<tr>
<td>Fall Semester</td>
<td></td>
</tr>
<tr>
<td>DENH 3004 Oral Anatomy</td>
<td>2.0</td>
</tr>
<tr>
<td>DENH 3006 Preclinical Dental Hygiene</td>
<td>2.0</td>
</tr>
<tr>
<td>DENH 3018 Dental Radiography</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 3019 Oral Health Promotion/Disease Prevention</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 3023 Introduction to Clinical Theory</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 3033 Structures of the Head and Neck</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16.0</strong></td>
</tr>
<tr>
<td>Spring Semester</td>
<td></td>
</tr>
<tr>
<td>DENH 3020 Clinic I Seminar</td>
<td>2.0</td>
</tr>
<tr>
<td>DENH 3021 Clinic I</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 3034 Periodontics</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 3035 Pharmacotherapeutics</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 3040 Histology/Embryology</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14.0</strong></td>
</tr>
<tr>
<td>Summer Session</td>
<td></td>
</tr>
<tr>
<td>DENH 3022 Dental Materials</td>
<td>3.0</td>
</tr>
</tbody>
</table>
DENH 4018 Introduction to Research 3.0

**Second Year**

**Fall Semester**
- DENH 4012 Oral Pathology 3.0
- DENH 4020 Clinic Seminar II 2.0
- DENH 4021 Community Oral Health 3.0
- DENH 4022 Clinic II 3.0
- DENH 4025 Advanced Periodontics 3.0

**Spring Semester**
- DENH 4011 Current Issues in Dental Hygiene 3.0
- DENH 4015 Clinic III 3.0
- DENH 4016 Clinic III Seminar 2.0
- DENH 4017 Community Oral Health Practicum 2.0
- DENH 4019 Practice Management 2.0
- DENH 4026 Healthcare Ethics 1.0

Program Total for Entry-Level Bachelor of Science 63.0

**Bachelor of Science in Dental Hygiene Degree Completion Program**

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 that are offered at the HSC.

Registered Dental Hygienists who are not graduates of the HSC entry-level program are required to take a minimum of 30 semester credit hours on the HSC campus to earn the bachelor's degree.

Individualized degree plans are formulated from the following courses depending upon the student's interests.

**Master of Science in Dental Hygiene**

**Core Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENH 5007</td>
<td>Preclinical Teaching Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 5011</td>
<td>Current Issues in Dental Hygiene</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5015</td>
<td>Public Health Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 5017</td>
<td>Clinical Teaching Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 4007</td>
<td>Clinical Administration Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 4018</td>
<td>Introduction to Research</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 4023*</td>
<td>Special Topics</td>
<td>1.0–3.0</td>
</tr>
<tr>
<td>DENH 4024</td>
<td>Concepts and Practice in Teaching</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 4091*</td>
<td>Independent Study</td>
<td>1.0–3.0</td>
</tr>
<tr>
<td>DENH 4103</td>
<td>Health Promotion</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 4415</td>
<td>Advanced Public Health Practicum</td>
<td>4.0</td>
</tr>
</tbody>
</table>

* May be repeated for one to three credit hours, depending on student's course of study

**Master of Dental Hygiene Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENH 5003</td>
<td>Current Issues in Dental Hygiene</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5007</td>
<td>Clinical Administration Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 5010</td>
<td>Teaching Internship</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5015</td>
<td>Public Health Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 5017</td>
<td>Clinical Teaching Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 5036</td>
<td>Health Promotion</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5091</td>
<td>Special Topics</td>
<td>1.0–3.0</td>
</tr>
<tr>
<td>DENH 5903</td>
<td>Organizational Leadership</td>
<td>3.0</td>
</tr>
<tr>
<td>DENH 5926</td>
<td>Preclinical Teaching Practicum</td>
<td>4.0</td>
</tr>
<tr>
<td>DENH 6091</td>
<td>Independent Study</td>
<td>1.0–3.0</td>
</tr>
</tbody>
</table>

Total for Core Courses 21.5

**Course Descriptions**

**DENH 3004 Oral Anatomy**

2.0 Semester Credit Hours

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.

**DENH 3006 Preclinical Dental Hygiene**

2.0 Semester Credit Hours

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. This course must be taken concurrently with DENH 3023. Includes eight (8) clinical hours per week. Lab fee: $10.

**DENH 3007 Preclinical Teaching Practicum**

4.0 Semester Credit Hours

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.

**DENH 3011 Current Issues in Dental Hygiene**

3.0 Semester Credit Hours

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, workplace issues, quality assurance, access to care for special patient populations, and the cost of health care.

DENH 3015 Public Health Practicum
4.0 Semester Credit Hours
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.

DENH 3017 Clinical Teaching Practicum
4.0 Semester Credit Hours
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.

DENH 3018 Dental Radiography
3.0 Semester Credit Hours
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, radiology 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. Lab fee: $25.

DENH 3019 Oral Health Promotion/Disease Prevention
4.0 Semester Credit Hours
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 four (4) lecture hours per week.

DENH 3020 Clinic I Seminar
2.0 Semester Credit Hours
Prerequisite: all fall DH I courses and concurrent with DENH 3021
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.

DENH 3021 Clinic I
3.0 Semester Credit Hours
Prerequisite: all fall courses
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.

This course must be taken concurrently with DENH 1045. Includes twelve (12) clinic hours per week. Lab fee: $30.

DENH 3022 Dental Materials
3.0 Semester Credit Hours
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. Lab fee: $25.

DENH 3023 Introduction to Clinical Theory
3.0 Semester Credit Hours
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. This course must be taken concurrently with DENH 3006. Includes three (3) lecture hours per week.

DENH 3033 Structures of the Head and Neck
2.0 Semester Credit Hours
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) clinical hours per week.

DENH 3034 Periodontics
3.0 Semester Credit Hours
Prerequisite: Preclinic (course should be taken in same semester as DENH 3021)
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.

DENH 3035 Pharmacotherapeutics
4.0 Semester Credit Hours
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. Lab fee: $10.
DENH 3040  Histology/Embryology
2.0 Semester Credit Hours
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.**

DENH 4007  Clinical Administration Practicum
4.0 Semester Credit Hours
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.

DENH 4012  Oral Pathology
3.0 Semester Credit Hours
Prerequisite: DENH 3033
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.**

DENH 4015  Clinic III
3.0 Semester Credit Hours
Prerequisites: DENH 4012, 4022, 4014, and concurrent with DENH 4020
A continuation of DENH 4022 Clinic II, 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. Lab fee: $30.**

DENH 4016  Clinic III Seminar
2.0 Semester Credit Hours
Prerequisites: DENH 4012, 4022, 4014, and concurrent with DENH 4020
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 Preclinical, 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.**

DENH 4017  Community Oral Health Practicum
2.0 Semester Credit Hours
Prerequisite: DENH 4021
This course is the continuation of the fall Community Oral Health Course 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.**

DENH 4018  Introduction to Research
3.0 Semester Credit Hours
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.**

DENH 4019  Practice Management
2.0 Semester Credit Hours
Prerequisites: DENH 3022, 3035, 3021, 3034, and concurrent with DENH 4022
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, resumé 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.**

DENH 4020  Clinic II Seminar
2.0 Semester Credit Hours
Prerequisites: DENH 3022, 3035, 3021, 3034, and concurrent with DENH 4022
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 Preclinical 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.**

DENH 4021  Community Oral Health
3.0 Semester Credit Hours
Community Oral Health is a two-semester course. It is the intent of the course to teach the important role of the dental hygienist in the community, and to describe the relationship of community oral health to public health. The course prepares the student to promote oral health and prevent oral disease in the community. The concepts of assessment, planning, implementation, and evaluation phases of community-based programs are taught. During the first semester, the student plans a community oral health education program that is implemented and evaluated during the second semester of this course. Cultural differences, socioeconomic factors, and barriers to health care
are discussed in relation to developing preventive programs. Federal and state public health programs are discussed as well as current public health issues. Community oral health programs for vulnerable populations such as indigent, geriatric, and special-needs patients are included. Includes three (3) lecture hours per week.

DENH 4022 Clinic II
3.0 Semester Credit Hours
Prerequisites: DENH 3022, 3035, 3021, 3034 and concurrent with DENH 4020
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. Lab fee: $30.

DENH 4023 Special Topics
1.0–3.0 Semester Credit Hours
Students will be given an opportunity to gain an in-depth understanding of selected topics through seminars, conferences, projects, or other appropriate learning methods.

DENH 4024 Concepts and Practice in Teaching
3.0 Semester Credit Hours
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.

DENH 4025 Advanced Periodontics
3.0 Semester Credit Hours
Prerequisite: completion of first-year Dental Hygiene coursework
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.

DENH 4026 Healthcare Ethics
1.0 Semester Credit Hour
This interdisciplinary course will provide students with an overview of professional and ethical issues facing 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.

DENH 4091 Independent Study
1.0–3.0 Semester Credit Hours
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.

DENH 4020 Healthcare Ethics
4.0 Semester Credit Hours
Prerequisites: DENH 3022, 3035, 3021, 3034 and concurrent with
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.

DENH 5003 Current Issues in Dental Hygiene
3.0 Semester Credit Hours
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.

DENH 4415 Advanced Public Health Practicum
4.0 Semester Credit Hours
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.

DENH 5007 Clinical Administration Practicum
4.0 Semester Credit Hours
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 clinical administration issues including outcomes assessment, quality assurance, and information technology.

DENH 5010 Teaching Internship
3.0 Semester Credit Hours
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 is provided by the graduate faculty.

DENH 5015 Public Health Practicum
4.0 Semester Credit Hours
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.

DENH 5017 Clinical Teaching Practicum
4.0 Semester Credit Hours
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.
DENH 5022  Research Apprenticeship  
*3.0 Semester Credit Hours*
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.

DENH 5024  Professional Communication  
*3.0 Semester Credit Hours*
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 is 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.

DENH 5026  Research Principles and Applications  
*3.0 Semester Credit Hours*
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.

DENH 5036  Health Promotion  
*3.0 Semester Credit Hours*
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.

DENH 5091  Special Topics in Dental Hygiene  
*1.0–3.0 Semester Credit Hours*
Students will be given an opportunity to gain an in-depth understanding of selected topics through seminars, conferences, projects, or other appropriate learning methods.

DENH 5093  Organizational Leadership  
*3.0 Semester Credit Hours*
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.

DENH 5924  Biostatistics  
*3.0 Semester Credit Hours*
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.

DENH 5926  Preclinical Teaching Practicum  
*4.0 Semester Credit Hours*
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.

DENH 6091  Independent Study  
*1.0–3.0 Semester Credit Hours*
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.

DENH 6098  Thesis  
*Variable Semester Credit Hours*
Prerequisite: admission to candidacy for the M.S. degree  
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.

INTD 6002  Ethics in Research  
*0.5 Semester Credit Hour*
This course will deal with topics relevant to ethics in scientific research. The course will be 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.
DENTAL LABORATORY SCIENCES

Dental Laboratory Sciences is the study and practice of fabricating prosthetic devices used in the treatment and rehabilitation of orally challenged patients. The dental technologist is an integral member of the professional dental team who functions in concert with the dentist to fabricate prosthetic devices used to rehabilitate oral malfunctions.

Dental technologists blend highly developed artistic skills with an extensive knowledge of science, dental materials, and dental anatomy to create prostheses unique to the individual patient’s dental/medical needs. The dental technologist works independently in a laboratory environment, using sophisticated equipment, processing systems, and such materials as gold, porcelain, and acrylics to produce oral appliances that are compliant with the exacting details of the dentist’s prescription and the impressions of the patient’s teeth. Dental technologists fabricate implants, gold crowns, porcelain bridges, removable partial dentures, complete dentures, orthodontic devices, and other appliances. The Department of Dental Laboratory Sciences offers two programs to meet the needs of dental professionals.

Advanced Certificate in Dental Laboratory Sciences

The Advanced Certificate in Dental Laboratory Sciences program is designed to update and/or maintain the proficiency of the competent dental technician to a cutting edge level. It also offers individuals with science, math, engineering, and computer science background the opportunity to focus their knowledge and skills on dental applications. The program offers advanced training in dental laboratory procedures, with equal focus on the dental team concept. Featured is a unique opportunity to participate in clinical observations and lectures with dentists who are associated with the Graduate Prosthodontics Advanced Education Program in Prosthetics. The program provides non-degree seeking students an opportunity to acquire or enhance their skills and knowledge in one of three tracks: (1) Theory and Practice, (2) Laboratory Operations, and (3) Advanced Technology Applications. Each track consists of 20 semester credit hours of prescribed upper-division coursework offered at the HSC.

Bachelor of Science in Dental Laboratory Sciences Program

The Bachelor of Science in Dental Laboratory Sciences degree program is an integrated program that combines general education, basic sciences, laboratory management operations, technical production, and dental sciences and technology. Depending on their background, interests, and career goals, students have a choice of three tracks in completing the degree program. These tracks are (1) Theory and Practice, (2) Laboratory Operations, and (3) Advanced Technology Applications. The program requires a minimum of 120 semester credit hours for completion, including 90 semester credit hours of Texas Core Curriculum and program prerequisites, and 30 semester credit hours of coursework in dental laboratory sciences at the HSC. The curriculum is presented in a flexible format that is supportive of both the traditional on-campus student and the off-campus working technician requiring a distance education format.

The Theory and Practice Track addresses state of the art technologies in the dental industry. The role of the dental technician as a member of the dental health team is changing. The science and technology of the dental laboratory dentistry are in constant change. Dentists have become more dependent on the dental laboratory for advice concerning patient treatment planning. In addition to changes in science and technology, dentists and laboratories are placing a great deal more emphasis on business management. The Laboratory Operations Track blends laboratory production with sound business management principles. This track reinforces the student's understanding and knowledge of laboratory business operations as practiced in the most successful dental laboratories. Specifically, it challenges the student’s abilities in analytical reasoning and problem solving in the extremely competitive dental business environment. Courses include workshops, guest lectures, field trips, individual visits, and evaluations of management strategies practiced by various types of dental clinic and laboratory operations. The Advanced Technology Applications Track focuses on the science and technology of dentistry. Recent innovations in clinical and laboratory dentistry involve the application CAD-CAM, laser, digital imagining, robotic, and computer technology and science. Emerging needs in the clinic and laboratory require scientists and technologists with backgrounds that can be applied to these innovations.

Application and Admission

Application for admission to the Bachelor of Science in Dental Laboratory Sciences and Advanced Certificate in Dental Laboratory Sciences programs may be completed at https://www.applytexas.org/adapp/commonapp.WBX. Detailed information about application and admission is available from the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8740, or online at http://studentservices.uthscsa.edu/prospects_apply.html. Completed application, application fee, official transcripts, and supporting documents must be submitted to the Registrar by June 1 for fall semester admission, and November 15 for spring admission.

Admission Factors

In addition to the admission requirements described below, the following factors are considered for selecting students for the Bachelor of Science in Dental Laboratory Sciences program:

- Completed application
- Application fee
- Official transcripts
- Supporting documents
• Bilingual ability
• Race/ethnicity
• Hometown or county of residence that has been designated an underserved and/or dental professions shortage area, especially South Texas
• Socio-economic history (educationally and/or economically disadvantaged)
• Public/community service or “volunteer” related activities
• Intention to serve a disadvantaged socioeconomic area
• Success in overcoming adverse life conditions/experiences
• Communication skills
• Future goals
• Residential status: Texas residents or permanent Texas resident aliens are given preference
• Preparation to enter other dental professions

Admission Requirements

Advanced Certificate – Theory and Practice Track and Laboratory Operations Track
Admission requirements for the Advanced Certificate Theory and Practice Track and Laboratory Operations Track include:
• Background in dental laboratory technology – This requirement may be met by the completion of a two-year dental laboratory technology program from a recognized institution, or documented credentials from a recognized licensing/certifying organization, or completion of knowledge/skills examinations administered by the Department of Dental Laboratory Sciences.
• Completion of college-level courses in English composition, algebra, and introduction to business or business management from a regionally-accredited college or university with grades of C or better

Advanced Certificate – Advanced Technology Applications Track
Admission requirements for the Advanced Certificate Advanced Technology Applications Track include:
• Background in basic sciences, mathematics, engineering, or computer science – This requirement may be met by successful completion of 30 semester credit hours from among the disciplines listed above.
• Completion of college-level courses in English composition, algebra, and introduction to business or business management from a regionally-accredited college or university with grades of C or better

Bachelor of Science – Theory and Practice Track and Laboratory Operations Track
Admission requirements for the Bachelor of Science Theory and Practice Track and Laboratory Operations Track include:
• Completion of the Texas Core Curriculum with a grade of C or better (42 semester credit hours); detailed information about the Texas Core Curriculum is provided in this Catalog
• Completion of BUSI 1302 Business Principles, or equivalent, with a grade of C or better (3 semester credit hours)
• Background in dental laboratory technology (see detail below for further information about this requirement)

Background in Dental Laboratory Technology – This requirement may be met by the completion of at least 45 semester credit hours of coursework in dental laboratory technology with grades of C or better at a nationally-accredited, two-year certificate or associate degree program in dental laboratory technology. Academic credits earned in such a program may be transferred to satisfy requirements of the Bachelor of Science in Dental Laboratory Sciences. The curriculum must cover the professional areas of:
• Dental sciences, i.e., tooth morphology, dental materials, oral anatomy, and occlusion
• Complete denture prosthodontics
• Fixed restorative prosthodontics (crown & bridge and ceramics)
• Removable partial denture prosthodontics
• Blood-borne infectious diseases
• Knowledge of the dental laboratory profession
• Orthodontic appliances
• Ethics and jurisprudence
• Dental laboratory techniques and practices
• Practical dental laboratory experience

If admitted to the Bachelor of Science program, students who have not earned 45 semester credit hours of dental laboratory sciences prior to matriculating must earn the required number of credit hours by completing additional courses offered by the Department of Dental Laboratory Sciences.

Bachelor of Science – Advanced Technology Applications Track
Admission requirements for the Bachelor of Advanced Technology Applications Track include:
• Completion of the Texas Core Curriculum with a grade of C or better (42 semester credit hours); detailed information about the Texas Core Curriculum is provided in this Catalog
• Completion of at least 30 semester credit hours in basic sciences, mathematics, engineering, or computer science with grades of C or better from a regionally-accredited college or university; these courses are in addition to Texas Core Curriculum requirements
• Completion of college-level courses in English composition, algebra, and statistics from a regionally-accredited college or university with grades of C or better
General Policies and Information

Advancement, Probation, andDismissal
The Committee on Allied Health Studies (CAHS) reviews a student’s rate of progress toward the completion of the program. Students may be suspended, dismissed, or refused re-admission at any time if circumstances of an ethical, moral, social, legal, health, psychomotor skills development, or academic nature are considered to justify such action (see procedures and regulations governing Student Conduct and Discipline in this Catalog).

Performance Review: The CAHS reviews a student’s performance at the middle and end of each term. At midterm the CAHS determines whether the student is progressing satisfactorily or whether a warning letter from the department chair is needed. Warning letters specify each course in which the student is performing unsatisfactorily and require that the student meet with the course director and academic advisor to assist in remediation strategies. Students are responsible for arranging faculty counseling and assistance in remedying academic deficiencies. Failure to meet with the course director and academic advisor may be grounds for dismissal.

Promotion Recommendations: At the end of a semester, the CAHS determines each student’s promotion status. In making these determinations, the CAHS evaluates several aspects of the student’s performance: (1) course grades, (2) attendance record, (3) professional behavior, and (4) psychomotor skills development. The CAHS also may assess extenuating circumstances that might have affected the student’s progress on an individual basis. A student performing at an unsatisfactory level will receive written notification of her/his status from the department chair. The CAHS may recommend one of the following:

Unconditional Advancement – A student must:
- achieve a minimum grade point average of 2.0 each semester,
- successfully complete all prescribed courses and requirements,
- earn a satisfactory grade in each course taken (minimum grade of C, S, or Pass).

In addition, the CAHS will consider all areas listed above under Promotion Recommendations.

Probationary Advancement – A student may be considered for advancement while on probation if the student:
- withdraws from a prescribed course with the approval of the department chair, but has met all other conditions for Unconditional Advancement (see above);
- receives an unsatisfactory grade in any course;
- receives a grade of I (Incomplete);
- earns a semester grade point average below 2.0.

A student who receives an unsatisfactory grade (D, F, U, or Fail) in any course may be required to repeat all or part of the academic year or may be allowed to remediate the areas of deficiency. When repeating any portion of the academic year, the student must earn grades of at least C, S, or Pass in each course to remain in the program. Remediation of a course in which a grade lower than C, S, or Pass was earned may be considered by the CAHS if: (1) such action is recommended by the course director for the course in question, (2) the course is not required for advancement to the next semester or year, or (3) remediation could be completed prior to the beginning of the next semester or year.

Methods for remediation are determined by the CAHS in consultation with the course director and specified in writing to the student. The CAHS will also specify a timeframe for completion of the remediation.

A student who withdraws from a course with the permission of the department chair or who receives an I in any course may advance on probation to the next semester if she/he has maintained a grade point average of at least 2.0. The student will be required to finish incomplete work or enroll in courses that were dropped and may be required to meet special stipulations or conditions determined by the CAHS. A student placed on probation will remain on probation until all deficiencies are corrected.

Dismissal – A student is subject to dismissal from the program if the student:
- receives a failing grade in two or more courses in a semester;
- receives a failing grade in a course being repeated or remediated;
- receives a failing grade in any course while repeating any portion of the academic year;
- receives a failing grade in any course taken while on a part-time status;
- receives a failing grade in any course taken while on probation;
- has a grade point average that falls below 2.0.

The CAHS will consider all areas listed under Promotion Recommendations, above, when evaluating student progress. The CAHS reserves the right to make alternate promotion decisions as deemed appropriate.

Attendance
On-campus students are expected to attend every class, laboratory, conference, demonstration, meeting, clinical assignment, etc., that is a component of the curriculum. 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.

Personal illness, immediate family emergency, and a natural disaster are reasons for absence. However, prolonged absences for any reason may not be remediable.

Attendance is a professional attribute that the faculty expects every student to demonstrate. Repeated or multiple absences,
Credit is granted for a grade of failing grade or they have withdrawn from the course(s) previously completed the course(s) with either a passing or

Students may not take an examination for credit if they have in preparation for a challenge examination.

Credit by examination will not receive tutoring by faculty course syllabi from the course director. Students attempting credit by examination will not receive tutoring by faculty in preparation for a challenge examination.

Students who choose to challenge courses may obtain course syllabi from the course director. Students attempting credit by examination will not receive tutoring by faculty in preparation for a challenge examination.

Students may not take an examination for credit if they have previously completed the course(s) with either a passing or failing grade or they have withdrawn from the course(s). Credit is granted for a grade of C or higher on a challenge examination. Credit earned by examination will be recorded as the actual letter grade achieved and will be used in computing the cumulative grade point average.

Students wishing to challenge a course by examination must submit a written request to the Committee on Allied Health Studies a minimum of 6 weeks prior to the beginning of the semester in which the course is offered. Once approval is granted, the student may schedule the examination with the Department Chair.

Professional Attire

Students are expected to dress in a professional manner. The mandatory attire for students is a traditional V-neck short sleeve, cotton-polyester blend, scrub-style uniform consisting of a scrub top and pant. Closed-toe shoes and university-issued name tags also are mandatory. Students have the option of purchasing a white, short sleeved, lab jacket to be worn with or without the scrubs. The Department’s official guidelines pertaining to student dress is issued to all students during Registration. Any student not complying with the dress code may not be allowed to attend class.

Professional Ethics

The dental laboratory technician must maintain the highest level of professionalism in conduct, aims, and qualities that characterize or mark Dental Laboratory Sciences.

• A technician must always put the welfare of the patient above all other considerations.
• Complete patient confidentiality is practiced at all times.
• A technician must display the knowledge of, and practice the theories of, laboratory safety consciousness and infection control.
• A technician must have integrity in all professional activities.
• A technician must embrace the values of academic excellence by continually participating in continuing dental education courses.
• A technician must contribute to the betterment of the dental community.

Students are expected to learn and practice this code of ethics throughout their academic experience as well as throughout their professional careers.

Program Costs

Total program costs for tuition and fees, parking permits, health and liability insurance, etc., for the Advanced Certificate tracks are approximately $4200. In addition, costs for other expenses such as textbooks, course manuals, equipment lease, uniforms or scrubs, and supplies are approximately $2000.

Total program costs for tuition and fees, parking permits, health and liability insurance, etc., for the Bachelor of Science degree program range from approximately $6000 to $8200, depending on the track. In addition, costs
for other expenses such as textbooks, course manuals, equipment lease, uniforms or scrubs, and supplies are approximately $2000.

Non-resident students are subject to additional costs, which may be found under “Financial Information” in this Catalog. Non-resident students who live outside of Texas while taking a distance education course are charged an Out-of-State Instructional Fee of $165 per semester credit hour instead of regular tuition.

**Remediation**

A student who earns a D or F in any Dental Laboratory Sciences course but who is otherwise in good standing, with the approval of the Committee on Allied Health Studies (CAHS), may be allowed one opportunity to repeat the course under conditions imposed by the CAHS. A maximum grade of C is assigned for successful completion of courses that are repeated. The opportunity to repeat a course depends on space availability and cannot be guaranteed. If, in the judgment of the CAHS, it is impractical for the student to attempt to remediate deficiencies by repeating courses, the student may be required to repeat the academic year in part or in entirety.

**Program Curricula**

**Advanced Certificate – Theory and Practice Track**

The Advanced Certificate Theory and Practice Track consists of 20 semester credit hours, including the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELT 3001</td>
<td>Introduction to Dental Laboratory Operations</td>
<td>3.0</td>
</tr>
<tr>
<td>DELT 3005</td>
<td>Advanced Laboratory Procedures I</td>
<td>4.0</td>
</tr>
<tr>
<td>DELT 3015</td>
<td>Advanced Laboratory Procedures II</td>
<td>4.0</td>
</tr>
<tr>
<td>DELT 4007</td>
<td>QA/QC in the Dental Laboratory</td>
<td>3.0</td>
</tr>
<tr>
<td>DELT 4013</td>
<td>Compliance Issues in the Dental Laboratory Profession</td>
<td>3.0</td>
</tr>
<tr>
<td>DELT 4090</td>
<td>Special Topics</td>
<td>3.0</td>
</tr>
<tr>
<td>or</td>
<td>DLT 4091 Independent Study</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td><strong>Program Total</strong></td>
<td><strong>20.0</strong></td>
</tr>
</tbody>
</table>

**Advanced Certificate – Laboratory Operations Track**

The Advanced Certificate Laboratory Operations Track consists of 20 semester credit hours, including the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELT 3001</td>
<td>Introduction to Dental Laboratory Operations</td>
<td>3.0</td>
</tr>
<tr>
<td>DELT 3013</td>
<td>Development of Education and Training Operations</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**Advanced Certificate – Advanced Technology Applications Track**

The Advanced Certificate – Advanced Technology Applications Track consists of 20 semester credit hours, including the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELT 3013</td>
<td>Development of Education and Training Operations</td>
<td>3.0</td>
</tr>
<tr>
<td>DELT 3041</td>
<td>Innovations in Dental Technology</td>
<td>3.0</td>
</tr>
<tr>
<td>DELT 3043</td>
<td>Current Issues in the Dental Laboratory Profession</td>
<td>3.0</td>
</tr>
<tr>
<td>DELT 3045</td>
<td>Introduction to Dental Research</td>
<td>3.0</td>
</tr>
<tr>
<td>DELT 4090</td>
<td>Special Topics</td>
<td>4.0</td>
</tr>
<tr>
<td>DELT 4091</td>
<td>Independent Study</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td><strong>Program Total</strong></td>
<td><strong>20.0</strong></td>
</tr>
</tbody>
</table>

**Bachelor of Science in Dental Laboratory Sciences**

The Bachelor of Science in Dental Laboratory Sciences consists of 120 semester credit hours including Texas Core Curriculum and prerequisites (see “Admission Requirements” above) and at least 30 semester credit hours of Dental Laboratory Sciences coursework. The curricula for the Theory and Practice Track and the Laboratory Operations Track consist of 18 semester credit hours of required courses and at least 12 semester credit hours of electives (total of 30). The curriculum for the Advanced Technology Applications Track consists of 18 semester credit hours of required courses and at least 30 semester credit hours of electives (total of 48).

**Junior Year**

**Fall Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
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<td>Special Topics</td>
<td>3.0</td>
</tr>
<tr>
<td>or</td>
<td>DLT 4091 Independent Study</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td><strong>Semester Total (Required Courses)</strong></td>
<td><strong>9.0</strong></td>
</tr>
</tbody>
</table>

**Spring Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
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<td>3.0</td>
</tr>
<tr>
<td>DELT 3041</td>
<td>Innovations in Dental Technology</td>
<td>3.0</td>
</tr>
</tbody>
</table>
### Course Descriptions

**DELT 3001 Introduction to Dental Laboratory Operations**

This course introduces students to key theoretical and practical laboratory issues such as management principles, functional activities, and problems related to the operations of a dental laboratory. Class projects focus on planning and organization issues.

**DELT 3005 Advanced Laboratory Procedures I**

This course examines the theoretical foundations underpinning the production of prosthetic devices. Course content includes the study of composition, as well as properties of dental materials and how these materials interact with the environment in which they are used.

**DELT 3013 Development of Education and Training Programs**

This course introduces students to the theoretical and practical aspects of developing educational and training programs. Course topics include analyzing training needs, designing instruction, developing instructional materials, evaluating instructional media, developing training documentation, and educational consulting.

**DELT 3015 Advanced Laboratory Procedures II**

This course is a continuation of Advanced Laboratory Procedures I. Students are provided an opportunity to expand their knowledge, understanding, and skills in the fabrication of advanced laboratory prostheses.

**DELT 3032 Dental Lab Production Systems**

This course will focus on developing fabrication and production systems for the small, medium, and large dental laboratories. Course content will address areas such as facilities layout, cost-reduction strategies, production flow, and problems associated with the economical production of high-quality dental appliances. Emphasis will be placed on ways to blend high quality with high production through the efficient use of technical resources. This Web-based course is offered by distance education technology. Texas residents and non-residents living in Texas pay applicable tuition and fees of the HSC. Non-Texas residents living outside of Texas pay the Out-of-State Instructional Fee.

**DELT 3035 Dental Laboratory Operation Strategies**

This course examines contemporary strategies for the blending of administrative and supervisory theories related to the art and sciences of dental technology. Included is a series of lectures by faculty and laboratory owners, as well as field visits offering in-depth insight into dental laboratory operations. The student is required to conduct a written evaluation of a dental laboratory practice. An additional assignment includes the model design and presentation of a full-service dental laboratory.

**DELT 3037 Internship in Education and Training**

This course provides the student with the opportunity to observe/ work in dental laboratory education and training settings. The institution is required to allow the student to shadow faculty and observe their daily job functions. The site is required to allow the student to present lecture and laboratory lessons based on the institution’s curricula. The site is required to allow the student to complete a pre-approved project.

**DELT 3039 Dental Laboratory Professional Development**

This course exposes the student to issues related to developing professional, productive members of the dental health team. Emphasis is placed on supervisory and leadership training in areas such as work ethics, technical skills, and professionalism. Students are required to conduct on-site visits to dental clinics and dental laboratories to observe the development and utilization of dental staff supervision practices.
DELT 3041  Innovations in Dental Technology  
3.0 Semester Credit Hours  
This course presents the most recent innovations in dental laboratory technology, including innovations in areas of operation and production.

DELT 3043  Current Issues in the Dental Laboratory Profession  
3.0 Semester Credit Hours  
This course presents an overview of current issues facing the dental laboratory profession and dentistry in general. These issues are examined in the context of their cause, effect, and possible solutions.

DELT 3045  Introduction to Dental Research  
3.0 Semester Credit Hours  
This course direction is to equip the dental technician with knowledge and understanding of research concepts that impact the operations of a dental laboratory. These concepts include the understanding scientific literature and basic statistics. Students have the opportunity to utilize these concepts in evaluating laboratory materials, systems, and procedures as well as manufacturer’s claims and sales jargon.

DELT 3047  Case Presentation  
3.0 Semester Credit Hours  
This course direction is to prepare the student in presenting the laboratory portion of a patient case study. The student is required to document, explain, and defend the laboratory options selected for the case. The student is given the opportunity to utilize multimedia presentation methods.

DELT 4005  Advanced Laboratory Procedures III  
4.0 Semester Credit Hours  
This course is the last in the series of Advanced Laboratory Procedures. Primary goals include developing problem-solving skills and enhancing technical proficiency. Laboratory projects reflect the difficulty and time restraints encountered in commercial laboratory settings.

DELT 4007  QA/QC in the Dental Laboratory  
3.0 Semester Credit Hours  
The concept of Total Quality Management is the major focus of this course as it applies to laboratory operations. Special emphasis is placed on the historical, competitive, and economic aspects of TQM in the cycle of dental services.

DELT 4013  Compliance Issues in the Dental Laboratory Profession  
3.0 Semester Credit Hours  
This course presents issues related to laws, regulations, and ethics that impact the dental laboratory profession. Emphasis is placed exposure control, hazard communication, and protection of personal information.

DELT 4021  Internship in Dental Laboratory Production  
8.0 Semester Credit Hours  
This course provides the student the opportunity to observe/work in dental laboratory production settings. The laboratory is required to provide the student with hands-on experience in the various departments involved in the production of dental prostheses. The laboratory is required to allow the student to shadow supervisors and observe their daily job functions.

DELT 4022  Internship in Dental Laboratory Operations  
8.0 Semester Credit Hours  
This course provides the student the opportunity to observe/work in dental laboratory operations settings. The laboratory is required to allow the student to shadow managers and observe their daily job functions. The laboratory is required to allow the student to complete a pre-approved assignment based on the lab’s operations.

DELT 4090  Special Topics  
1.0–8.0 Semester Credit Hours  
This 1-to-8-hour credit course is arranged through department faculty. The course topics vary according to student interest. Semester hours are variable and are assessed per topic. This course is offered in the senior year and may be repeated for credit.

DELT 4091  Independent Study  
1.0–8.0 Semester Credit Hours  
This 1-to-8-hour credit course is arranged through department faculty. The student is required to conduct an independent research and writing project under the direction of faculty. Semester hours are variable and are assessed per topic. This course is offered in the senior year and may be repeated for credit.

DELT 4914  Dental Laboratory Operation and Production Seminar  
3.0 Semester Credit Hours  
This course consists of student participation in problem-oriented discussion sessions designed around simulated and/or actual case experiences. Decision-making, critical thinking, and communication-skills exercises are integrated into these shared-experiences sessions.
EMERGENCY HEALTH SCIENCES

The Profession
Paramedics and 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.

Programs in the Department of Emergency Health Sciences
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), 1248 Harwood Road, Bedford, Texas 76021-4244, and by the Texas Department of Health, Bureau of Emergency Management, 1100 W. 49th Street, Austin, Texas 78756-3199.

EMT-Basic
This 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
This program includes classroom instruction covering anatomy, physiology, patient assessment, advanced airway shock/truma 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.

Note: EMT-Basic certified applicants who have successfully completed the first two semesters of the Paramedic program may apply for state or National Certification at the EMT-Intermediate Level.

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 to practice 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
Application for admission to Emergency Health Sciences certificate and degree programs may be completed at https://www.applytexas.org/adapp/commmonapp.WBM. Detailed information about application and admission is available from the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8744, and online at http://studentservices.uthscsa.edu/prospects_apply_ah.aspx.
Completion of the Texas Success Initiative (TSI) is not required for the EMT-Basic and EMT-Paramedic certificate programs. Requirements are listed below.

**Admission Requirements**

**EMT-Basic**
- 18 years of age or older by the course completion date
- High school diploma from an accredited school, or a GED by the course completion date
- Current CPR certification

**EMT-Paramedic**
- Current Texas or national certificate as an EMT-Basic
- 18 years of age or older by the program completion date
- High school diploma from an accredited school, or a GED by the program completion date
- Current CPR certification

**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 at another Texas public college or university, or 42 semester credit hours of coursework fulfilling the core curriculum with a minimum grade of C in each course (see "HSC Core Curriculum" in this Catalog); some core curriculum courses may be taken concurrently with the degree program, with faculty approval
- Cumulative grade point average of at least 2.0 in all college coursework

**Application Deadlines**
The applications, 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 colleges/universities attended must be submitted to the Registrar by the dates below:
- June 1 for August enrollment (fall semester)
- November 1 for January enrollment (spring semester)
- March 1 for May enrollment (summer semester), EMT-Basic and B.S. degree-seeking applicants only

Applications for certificate and degree programs are reviewed as they are received.

**Application Review**
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.

**General Policies and Information**

**Advancement, Probation, and Dismissal**
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 Committee on Allied Health Studies according to the standards described below and in published course syllabi and course manuals. Students may be suspended, dismissed, and/or refused re-admission 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 curricu-
lum, 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.

Advisement
Program directors, course directors, and faculty serve as student advisors. Advisors assist students in solving problems and/or finding alternative options; provide advice and opinions, facts, or information; and help students understand school and university policies. 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. A student may choose her/his advisor and may change advisors on a yearly basis, or at the discretion of the department chair.

Attendance
Attendance for all classes, lectures, laboratory, and skills are mandatory and attendance will be taken each class. Verification of the reason for the absence may be required. Students are responsible for notifying a course faculty member if they are going to be tardy or absent from class at any time. This notification should be done prior to the beginning of the class or clinical assignment and should be done each day of absence or tardiness. Excused absences are to be handled on an individual basis by the course director, EMS course coordinator, or department chair, but are generally limited to the following: illness, death or illness in the immediate family, or major personal problem/issue. Unexcused absences, excessive excused absences, or excessive tardiness may be considered sufficient cause for failure. Other attendance requirements may be established by the instructor for individual courses and are outlined in course syllabi and course manuals.

Auditing Courses
Certificate and degree program courses are available for audit for the purpose of obtaining continuing education hours for EMT recertification requirements. Auditors are authorized only to sit in on program lectures; they may not attend skills practice labs, clinical, or ambulance internships. Registration is processed through the Registrar’s office. The symbol AU is entered on the student’s official transcript, upon successful completion of the course.

Credit by Examination
The Department of Emergency Health Sciences allows certified/licensed EMS personnel to obtain college credit for their EMT-Basic through EMT-Paramedic coursework obtained from the HSC program prior to its awarding college credit. 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 Health Professions Registrar’s office, 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 Department of Emergency Health Sciences at (210) 567-8760 to verify past enrollment and to schedule examination dates and times.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
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<tr>
<td>EMSP 1334</td>
<td>Introduction to Advanced Practice</td>
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<tr>
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<tr>
<td>EMSP 1356</td>
<td>Patient Assessment &amp; Airway Management</td>
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<tr>
<td>EMSP 1401</td>
<td>EMT-Basic</td>
<td>5.0</td>
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<td>EMSP 2160</td>
<td>Paramedic Clinical III</td>
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<td>Assessment Based Management</td>
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<td>EMSP 2248</td>
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<td>EMSP 2301</td>
<td>Anatomy &amp; Physiology for Paramedic Prac.</td>
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<td>Special Populations</td>
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<tr>
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<td>Medical Emergencies</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.

**Dropping Courses**

See “Adding/Dropping Courses” under “General Academic Policies” in this Catalog for information on limitations on dropping courses.

**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 Committee of Allied Health Studies, School of Health Professions Allied Health Faculty Council, 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 bachelor's of science degree program. Completion of the total unit requirement with passing grades does not necessarily assure candidates a recommendation for graduation. The Faculty Council may refuse to recommend any student who has not:

1. met all financial indebtedness to the HSC;
2. independently done all her/his work in the schools’ facilities;
3. exhibited those physical, ethical, and mental qualities necessary for a career as an EMS professional.

Certificates or diplomas are awarded in formal public ceremonies held by the HSC typically at the end of the spring semester.

In addition to the requirements above, an official Department of Emergency Health Sciences Completion Certificate is required for graduates of the EMT-Basic and EMT-Paramedic program to be eligible for state and/or national EMS certification examinations or for proof of continuing education.

**Professional Attire**

Specific requirements for professional attire are listed in course syllabi and course manuals. HSC identification badges are to be worn while on campus for any reason and in all clinical/field rotations. The following general policies apply:

For both clinical and field internships, watches with a sweep second hand, digital watches, and wedding bands are allowed. NO other jewelry is to be worn. Name tags issued by the HSC are to be worn in clear view at all times. Male students are to be clean-shaven, or beard neatly trimmed. Long hair must be secured and off the collar. Fingernails should be trimmed and plain in appearance.

**Clinical Internship**

All EHS students must observe the following dress code during clinical (hospital) internships. Grey scrubs, purchased by the student, are to be worn during all rotations. Students reporting to rotations inappropriately dressed will be sent home immediately and will have to reschedule the missed rotation.

**Field Internship**

EHS students are to observe the following dress code during field (ambulance) internships. San Antonio Fire Department students will wear SAFD uniforms. All other students wear a buttoned, plain white shirt; dark blue or black trousers; and sturdy, closed-toe, dark-colored shoes, preferably black. No high heels, sandals, tennis shoes, T-shirts, blue jeans, scrubs, or military uniforms are to be worn in the field. Uniforms from other EMS providers are not allowed.

**Program Costs**

Program costs for the certificate and degree programs are shown below. All figures are approximate.

<table>
<thead>
<tr>
<th>Program</th>
<th>Tuition and Fees</th>
<th>Health Insurance*</th>
<th>Other Costs**</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT-Basic</td>
<td>$925</td>
<td>$430</td>
<td>$350</td>
</tr>
<tr>
<td>EMT-Paramedic</td>
<td>$4,650</td>
<td>$1,500</td>
<td>$650</td>
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<tr>
<td>Bachelor of Science</td>
<td>$6,600</td>
<td>$1,500</td>
<td>$475</td>
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</table>

* Students who provide proof of health insurance that meets state requirements are not required to pay the health insurance fee.

** Other costs include textbooks, examination fees, equipment, etc.

An Out-of-State Instructional Fee of $165.50 per semester credit hour is charged to non-resident students living outside of Texas who are enrolled in online courses offered in the Bachelor of Science degree program. Regular tuition is not charged.

**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 to 5 p.m., 3 days per week. In addition, 48 hours of clinical rotations are required during the semester.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1160</td>
<td>EMT-Basic Clinical</td>
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</tr>
<tr>
<td>EMSP 1401</td>
<td>EMT-Basic</td>
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</tr>
<tr>
<td><strong>Program Total</strong></td>
<td></td>
<td><strong>6.0</strong></td>
</tr>
</tbody>
</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).*  
* Class schedules may vary for clinical vs. classroom assignments

### Semester One

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
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<td>EMSP 1162</td>
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</tr>
<tr>
<td>EMSP 1334</td>
<td>Introduction to Advanced Practice</td>
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</tr>
<tr>
<td>EMSP 1356</td>
<td>Patient Assessment &amp; Airway Management</td>
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<tr>
<td>EMSP 2248</td>
<td>Emergency Pharmacology</td>
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<tr>
<td>EMSP 2301</td>
<td>Anatomy &amp; Physiology for Paramedic Practice</td>
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</tr>
<tr>
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**Semester Total** 17.0

### Semester Two

<table>
<thead>
<tr>
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<th>Credit Hours</th>
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<td>EMSP 2161</td>
<td>Paramedic Clinical IV</td>
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<tr>
<td>EMSP 2238</td>
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<td>Special Populations</td>
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</tr>
<tr>
<td>EMSP 2334</td>
<td>Medical Emergencies</td>
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</tr>
</tbody>
</table>

**Semester Total** 16.0

**Program Total** 33.0

### Part-Time Option
- The part-time option consists of 33 semester credit hours. Students may enroll in the full-time courses as part-time students. This option takes four semesters to complete. Courses may be offered in a different sequence than listed below.

- Part-time courses offered to contracted fire department and EMS services off-campus may be open to other students on a space-available basis. These courses generally take one year to complete and meet several weekends a month.

**Semester One**

<table>
<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>EMSP 2301</td>
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**Semester Total** 10.0

**Semester Two**

<table>
<thead>
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<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
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</tr>
<tr>
<td>EMSP 2238</td>
<td>EMS Operations</td>
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**Semester Total** 6.0

**Semester Three**

<table>
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<th>Course Title</th>
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<td>EMSP 2248</td>
<td>Emergency Pharmacology</td>
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</tr>
<tr>
<td>EMSP 2444</td>
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**Semester Total** 7.0

**Semester Four**

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
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<tr>
<td>EMSP 2161</td>
<td>Paramedic Clinical IV</td>
<td>1.0</td>
</tr>
<tr>
<td>EMSP 2243</td>
<td>Assessment Based Management</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**Semester Total** 4.0

**Program Total** 33.0

### Bachelor of Science in Emergency Health Sciences

The program includes courses required for admission (see “Application and Admission” above) and emergency health sciences courses. The entire curriculum consists of 124 semester credit hours.

**Degree Program Total** 124.0

- Part-time courses to contracted fire department and EMS services off-campus may be open to other students on a space-available basis. These courses generally take one year to complete and meet several weekends a month.

**Course Descriptions**

**EMSP 1149 Pre-Hospital Trauma Life Support** 1.0 Semester Credit Hour

This course is an intense skill development in emergency field man-
agreement, systematic rapid assessment, resuscitation, packaging, and transportation of patients. It includes experiences necessary to meet initial certification requirements.

**EMSP 1160 EMT-Basic Clinical**  
*1.0 Semester Credit Hour*  
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site.

**EMSP 1161 Paramedic Clinical I**  
*1.0 Semester Credit Hour*  
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site.

**EMSP 1162 Paramedic Clinical II**  
*1.0 Semester Credit Hour*  
Prerequisite: EMSP 1161  
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site.

**EMSP 1134 Introduction to Advanced Practice**  
*3.0 Semester Credit Hours*  
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.

**EMSP 1355 Trauma Management**  
*3.0 Semester Credit Hours*  
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 pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the trauma patient.

**EMSP 1356 Patient Assessment & Airway Management**  
*3.0 Semester Credit Hours*  
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: At the completion of this module, 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.

**EMSP 1401 EMT-Basic**  
*5.0 Semester Credit Hours*  
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.

**EMSP 2135 Advanced Cardiac Life Support**  
*1.0 Semester Credit Hour*  
Instruction presented provides guidelines published by the American Heart Association for the initial management of the cardiopulmonary arrest patient.

**EMSP 2160 Paramedic Clinical III**  
*1.0 Semester Credit Hour*  
Prerequisite: EMSP 1162

**EMSP 2161 Paramedic Clinical IV**  
*1.0 Semester Credit Hour*  
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.

**EMSP 2238 EMS Operations**  
*3.0 Semester Credit Hours*  
This is a course of study to prepare the paramedic to safely manage medical incidents, rescue situations, hazardous materials, and crime scenes.

**EMSP 2243 Assessment-Based Management**  
*2.0 Semester Credit Hours*  
This 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 pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for patients with common complaints.

**EMSP 2248 Emergency Pharmacology**  
*2.0 Semester Credit Hours*  
This is a comprehensive course covering all aspects of the utilization of medications in treating emergencies. The course is designed to compliment 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.

**EMSP 2301 Anatomy & Physiology for Paramedic Practice**  
*3.0 Semester Credit Hours*  
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.

**EMSP 2330 Special Populations**  
*3.0 Semester Credit Hours*  
This course is 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.

**EMSP 2334 Medical Emergencies**  
*3.0 Semester Credit Hours*  
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.

EMSP 2444 Cardiology  
4.0 Semester Credit Hours  
Prerequisite: EMSP 1244
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.

EMSP 3001 Foundations of Emergency Health Sciences  
3.0 Semester Credit Hours  
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.

EMSP 3003 Critical Care Medicine  
3.0 Semester Credit Hours  
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.

EMSP 3004 Pharmacology I for EMS Providers  
3.0 Semester Credit Hours  
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.

EMSP 3006 Electrocardiology in Emergency Medical Sciences  
3.0 Semester Credit Hours  
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.

EMSP 3007 Human Diseases  
3.0 Semester Credit Hours  
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.

EMSP 3011 Medical Informatics  
3.0 Semester Credit Hours  
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.

EMSP 3012 Behavioral Medicine and Psychopathology  
3.0 Semester Credit Hours  
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.

EMSP 3013 Professional Orientation & Legal Foundations  
3.0 Semester Credit Hours  
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.

EMSP 3031 Directed Study  
1.0–4.0 Variable Semester Credit Hours  
This course is available to the learner to allow for a voluntary course of independent study in a clinical/advanced provider concentration.

EMSP 3041 Current Research in Emergency Health Sciences  
3.0 Semester Credit Hours  
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.

EMSP 3100 Orientation to Online Learning  
1.0 Semester Credit Hour  
This course is designed to provide the student with necessary information, tools, and strategies to enhance and facilitate learning at a distance at the HSC.

EMSP 4001 Physical Examination and History Taking  
3.0 Semester Credit Hours  
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.

EMSP 4002 Pathophysiology for EMS Providers  
3.0 Semester Credit Hours  
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.

EMSP 4003 Flight Medicine  
3.0 Semester Credit Hours  
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.

EMSP 4004 Management of Disasters and Hazardous Materials  
3.0 Semester Credit Hours  
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.

**EMSP 4005 EHS Systems Management and Budgeting**  
*3.0 Semester Credit Hours*  
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.

**EMSP 4006 Educational Issues in Emergency Health Sciences**  
*3.0 Semester Credit Hours*  
This course analyzes educational and training needs relating to EMS agencies. Principles of adult teaching and learning are presented.

**EMSP 4007 Human Resource Development**  
*3.0 Semester Credit Hours*  
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.

**EMSP 4008 Leadership Development**  
*3.0 Semester Credit Hours*  
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.

**EMSP 4009 Pediatric Advanced Life Support (PALS)**  
*1.0 Semester Credit Hour*  
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.

**EMSP 4012 Pharmacology II for EMS Providers**  
*3.0 Semester Credit Hours*  
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.

**EMSP 4021 Internship: Advanced Practitioner in EHS**  
*6.0 Semester Credit Hours*  
Semester internship/capstone experience by arrangement.
OCCUPATIONAL THERAPY

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 which 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

Traditional MOT (Full-time)
The Master of Occupational Therapy (MOT) is a 30-month program that begins in the summer and consists of 106–110 semester credit hours, including 20 semester hours (6 months) of full-time clinical fieldwork. A baccalaureate degree is NOT required for admission to the program. Applicants without a baccalaureate degree must complete 27 semester credit hours of Texas Core Curriculum requirements and 53 semester credit hours of MOT program prerequisites. Some coursework may be waived for students who are Certified Occupational Therapy Assistants (COTAs) and is determined on an individual basis.

MOT (Part-time)
After a student has completed the first full-time semester, he or she may apply for a part-time track to accommodate external commitments or hardships. Acceptance to a part-time track is dependent upon approval by the Committee on Allied Health Studies for Occupational Therapy and must comply with the Part-Time Track Procedures.

BSOT to MOT
The BSOT to MOT (Master of Occupational Therapy) program is an advanced standing option for professional Occupational Therapists (OTR or LOT) who have a Bachelor’s degree in occupational therapy (BSOT) and wish to earn an entry-level MOT degree. Students can select a part-time or full-time plan that may begin at any semester. Courses are taken on the HSC campus and through Web-based technology. Students transfer prerequisite and professional BSOT courses into a program and take an additional 30 credits (core and elective courses).

National Certification
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 which 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
Application for admission to the Master of Occupational Therapy program may be completed at https://www.applytexas.org. Detailed information about application and admission is available from the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 559-8744, and online at http://studentservices.uthscsa.edu/prospects_apply_ah.asp. The completed application, application fee, official transcripts, and supporting documents must be submitted to the Registrar between September 1 and January 7 for summer semester admission into the Master of Occupational Therapy program. Students admitted to the BSOT-to-MOT program option may begin any semester. The application deadline for the BSOT-to-MOT program is one month before the semester begins.

Admission Factors (Non-Academic)
In addition to the academic factors listed above, the following non-academic factors are considered for selecting students for the Master of Occupational Therapy program:
- Bilingual ability
- Race/ethnicity/gender and other diversity factors
- Employment history
- Leadership positions held
- Public/community service or “volunteer” related activities
- Prior experience in providing health care related services
- Extracurricular activities
- Communication skills, as demonstrated in personal interview
- Maturity
- Intellectual curiosity
- Motivation and commitment to being an occupational therapist
- Life experiences
- Knowledge of occupational therapy
Admission Requirements

Application requirements for the MOT program include the following:

- Prerequisite 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 registered occupational therapist
- Two letters of reference
- Completion of Texas Core Curriculum coursework with a grade of C or better (see “Texas Core Curriculum” in this Catalog, page 78.)
- Completion of program prerequisites with a grade of C or better (see prerequisite list below)
- Interviews with occupational therapy faculty

Program Prerequisites

The courses listed below must be completed before initial enrollment. Students who wish to receive the Bachelor of Science in Health Care Sciences (BS HCS) after the first year of coursework must complete the Texas Core Curriculum requirements also. All Core Curriculum and program prerequisite courses must be completed with a grade of C or better. Further information about the BS HCS and the Core Curriculum is available in this Catalog. Some program prerequisites will satisfy Texas Core Curriculum requirements. Applicants may submit transcripts for an unofficial evaluation of core curriculum and program prerequisite coursework to the Health Professions Welcome Center. For further information, contact the Welcome Center at (866) 802-6288 (toll-free), (210) 567-8744, or http://SHPwelcome.uthscsa.edu.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Anatomy with lab or Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>Human Physiology with lab or Anatomy &amp; Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>General Biology with lab</td>
<td>4</td>
</tr>
<tr>
<td>General Chemistry with lab</td>
<td>4</td>
</tr>
<tr>
<td>Physics or Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>Psychology (introduction)</td>
<td>3</td>
</tr>
<tr>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Sociology and/or Anthropology</td>
<td>6</td>
</tr>
<tr>
<td>Statistics</td>
<td>3</td>
</tr>
<tr>
<td>English (technical writing)</td>
<td>3</td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>Electives*</td>
<td>12</td>
</tr>
</tbody>
</table>

Program Prerequisite Total 53

* Recommended elective courses include: Leadership Skills, Public Health, Human Sexuality, Economics, Humanities, Fine Arts, Foreign Language, and Philosophy. Specifically excluded are remediation coursework, work from technical institutions, or programs and other coursework deemed inappropriate by the department.

General Policies and Information

Advancement, Probation, and Dismissal

Continuation as an Occupational Therapy student is dependent on maintenance of a minimum cumulative grade point average of 3.0 (B) for all courses. 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 or continues on probation may also be subject to dismissal. All decisions concerning probation or dismissal will be based on recommendations from the Committee on Allied Health Studies. The Committee 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.

Attendance

Attendance at all lectures, laboratories, field trips, and class-related events is strongly recommended in order for the student to successfully complete this program. However, mandatory attendance for a given course is the prerogative of the instructor who will announce the manner in which absences will affect the student’s grade.

In case of illness, the student should call the Occupational Therapy Office (567-8881) by 8:15 a.m. to leave a message for the instructor that he/she will not be in attendance. Calls to the program office at a time other than office hours may reach voice mail.

Faculty Advisors

Each student in the program is assigned an Academic Advisor. The student has the right to request a different faculty advisor if the student feels it is in her/his best interest.

The Faculty Advisor is available by appointment to discuss academic problems and to suggest possible remedies. (The student will confer with the instructor prior to making an appointment with the advisor.)

The advisor will be able to acquaint students with the available student services and, if appropriate, to refer the student to such services. The advisor will follow the student’s academic progress and be available for consultation at pre-registration and registration.

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 on-site 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 for the affiliation. The student who fails any Level II affiliation may be subject to dismissal from the program.

**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 and evaluates them to ensure optimal consistency with theoretical concepts presented during academic coursework. The coordinator assigns Satisfactory/Unsatisfactory grades for Level II experiences based on the student’s performance, judgement, 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 information packets 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 prerequisite academic coursework, are completed at sites assigned by the Academic Fieldwork Coordinator. Students must write and mail a letter confirming the fieldwork experience assignment dates to the Fieldwork Supervisor at least one month in advance of the starting date and must telephone a confirmation two weeks before the starting day. The student also 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 and objectives. While students are given an opportunity to express their preferences for location of placements, the program cannot grant assurances that students 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.

**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, 2005). The Occupational Therapy Department at the HSC also subscribes to this ethical code and expects the behaviors of matriculating students to be consistent with these principles.

**Professional Attire**

Appropriate professional attire is expected to be worn by students at all times, particularly when visiting fieldwork sites or interacting with visitors or patients. Discretion as to choice of attire is determined by the student. Name tags will be worn in all student roles. Dress codes specified by instructors and fieldwork centers take precedence over general department guidelines.

**Program Costs**

Total costs for in-state tuition and fees, parking permits, health and liability insurance, etc., are approximately $21,200. In addition, costs for other expenses, such as textbooks, course manuals, equipment, uniforms or scrubs, and supplies are approximately $2600 for the entire program. 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.
Non-resident students are subject to additional tuition costs, which may be found under "Financial Information" in this Catalog, page 86.

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.

Program Curricula

Master of Occupational Therapy Curriculum
The Master of Occupational Therapy curriculum (professional phase) consists of 106–110 semester credit hours taken over 9 semesters.

Preprofessional Requirements 80 hours
Professional Requirements 106–110 hours
Total 186–190 hours

First Year

Summer Semester
OCCT 5001 Theoretical Foundations in Occupational Therapy 2.0
CSBL 5013 Gross Anatomy 6.0
Semester Total 8.0
(OCCT 5091 Special Topics or Electives 1.0–6.0 must be taken before Level II fieldwork; may be taken in fall, spring, or summer semesters.)

Fall Semester
OCCT 5007 Occupational Justice and Participation 1.0
OCCT 5010 Human Occupation across the Life Span 3.0
OCCT 5012 Application of Neural and Research Systems to Occupation 4.0
OCCT 5013 Applied Biomechanics of Movement 3.0
OCCT 5014 Professional Communication in Occupational Therapy 2.0
OCCT 5023 Research I: Assessment & Statistics 3.0
OCCT 5070 Level I Fieldwork: Life Span 1.0
Semester Total 17.0

Spring Semester
OCCT 5011 Research II: Intro. to Research & Design 3.0
OCCT 5020 Occupational Therapy Process: Neonate-Preschool 4.0
OCCT 5021 Service Delivery Systems I 2.0
OCCT 5022 Environmental Technologies I 2.0
OCCT 5024 Clinical Medicine I 1.0
OCCT 5071 Level I Fieldwork: Neonatal-Preschool 1.0
OCCT 6026 Psychosocial Components of Occupational Therapy 4.0
Semester Total 17.0

Second Year

Summer Semester
OCCT 5025 General Pathology 3.0
OCCT 6027 Health Care Management 3.0
Semester Total 6.0

Fall Semester
OCCT 6020 Occupational Therapy Process: School Age 4.0
OCCT 6021 Service Delivery Systems II 2.0
OCCT 6022 Environmental Technologies II 3.0
OCCT 6037 Occupational Therapy Process: Adult Neuromuscular Dysfunctions 4.0
OCCT 6045 Clinical Medicine III 1.0
OCCT 6070 Level I Fieldwork: School Age 1.0
Semester Total 15.0

Spring Semester
OCCT 5005 Role of OT in Low Vision Rehabilitation 3.0
OCCT 6024 Clinical Medicine II 1.0
OCCT 6030 Occupational Therapy Process: Adult Biomechanical Dysfunctions 4.0
OCCT 6031 Service Delivery Systems III 3.0
OCCT 6032 Environmental Technologies III 2.0
OCCT 6034 Professional Issues 1.0
OCCT 6072 Level I Fieldwork: Adult & Geriatric Settings 2.0
Semester Total 16.0

Third Year

Summer Semester
OCCT 5072 Level I Fieldwork: Community Agencies 2.0
OCCT 5073 Community Project 4.0
Semester Total 6.0

Fall Semester
(12 weeks)
OCCT 6073 Level II Fieldwork: Developmental Dysfunction 4.0
OCCT 6074 Level II Fieldwork: Adult Disabilities 10.0
Semester Total 14.0

Spring Semester
OCCT 6073 Level II Fieldwork: Developmental Dysfunction 4.0
OCCT 6074 Level II Fieldwork: Adult Disabilities 10.0
Semester Total 14.0
Program Total 106–110.0

BSOT to MOT Curriculum
Students in the BSOT to MOT program transfer prerequisite and professional BSOT courses into the program and complete an additional 16 semester credit hours of occupational therapy core and 14 semester credit hours of elective courses. This program is for Occupational Therapists (OTR or LOT) only. BSOT to MOT core courses are listed below. Elective courses may be selected from other courses included in the MOT curriculum, with approval from faculty.

BSOT to MOT Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>OCCT 5007</td>
<td>Occupational Justice and Participation 1.0</td>
</tr>
<tr>
<td>OCCT 5011</td>
<td>Research II: Intro. to Research &amp; Design 3.0</td>
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### Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCCT 5023</td>
<td>Research I: Assessment &amp; Research Statistics</td>
<td>3.0</td>
</tr>
<tr>
<td>OCCT 5072</td>
<td>Level I Fieldwork: Community Agencies</td>
<td>2.0</td>
</tr>
<tr>
<td>OCCT 5073</td>
<td>Community Project</td>
<td>4.0</td>
</tr>
<tr>
<td>OCCT 6035</td>
<td>Concepts and Practices in Teaching</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td><strong>Core Courses Total</strong></td>
<td><strong>16.0</strong></td>
</tr>
</tbody>
</table>

#### CSBL 5013 Gross Anatomy
**6.0 Semester Credit Hours**

This course will cover dissection and regional study of human gross anatomy with emphasis on arthropology, 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: $300.00.*

#### OCCT 5001 Theoretical Foundations in Occupational Therapy
**2.0 Semester Credit Hours**

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.

#### OCCT 5005 The Role of Occupational Therapy in Low-Vision Rehabilitation
**3.0 Semester Credit Hours**

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.

#### OCCT 5007 Occupational Justice and Participation
**1.0 Semester Credit Hour**

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.

#### OCCT 5010 Human Occupation Across the Life Span
**3.0 Semester Credit Hours**

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.

#### OCCT 5011 Research II: Intro. to Research & Design
**3.0 Semester Credit Hours**

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.

#### OCCT 5012 Application of Neural Systems to Occupation
**4.0 Semester Credit Hours**

This course is a study of the structure and function of the human nervous system, with particular emphasis on the application of theoretical concepts to treatment techniques practiced in occupational therapy. Clinical cases are an integral part of the course, and are discussed using the neuroscience principles being studied.

#### OCCT 5013 Applied Biomechanics of Movement
**3.0 Semester Credit Hours**

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.

#### OCCT 5014 Professional Communication in Occupational Therapy
**2.0 Semester Credit Hours**

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.

#### OCCT 5020 Occupational Therapy Process: Neonate - Preschool
**4.0 Semester Credit Hours**

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.

#### OCCT 5021 Service Delivery Systems I
**2.0 Semester Credit Hours**

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.

#### OCCT 5022 Environmental Technologies I
**2.0 Semester Credit Hours**

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.

#### OCCT 5023 Research I: Assessment and Research Statistics
**3.0 Semester Credit Hours**

This course focuses on the application of descriptive and inferential statistics in research studies in the health sciences. Students are provided the opportunity to gain a base of knowledge that will enable them to understand, interpret, and evaluate statistical results; work with a consultant statistician; and use statistical software to enter, analyze, and summarize data. Teaching methods include lecture, Web-supported technology, and problem-based learning groups.

#### OCCT 5024 Clinical Medicine I
**1.0 Semester Credit Hour**

This course is an overview of the manifestations of developmental disabilities in pediatric patients and their medical and surgical management.
OCCT 5025 General Pathology
3.0 Semester Credit Hours
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.

OCCT 5070 Level I Fieldwork: Life Span
1.0 Semester Credit Hour
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.

OCCT 5071 Level I Fieldwork: Neonatal—Preschool
1.0 Semester Credit Hour
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.

OCCT 5072 Level I Fieldwork: Community Agencies
2.0 Semester Credit Hours
This course provides an opportunity for the student to observe and participate in the ongoing activities of a community agency. The student is responsible for selecting a community agency of interest to her/him, and for collaboratively developing learning experiences with agency personnel.

OCCT 5073 Community Project
4.0 Semester Credit Hours
In conjunction with the community agency selected in OCCT 5072 Level I Fieldwork: Community Agencies, the student will be required to develop a proposal for the provision of occupational therapy services in that setting. This proposal may include a needs assessment, description of service(s), role of OT and others, funding sources, and program evaluation plan.

OCCT 5091 Special Topics
1.0–6.0 Semester Credit Hours
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. Could be offered in fall, spring, or summer sessions.

OCCT 6020 Occupational Therapy Process: School Age
4.0 Semester Credit Hours
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, prehension and handwriting, activities of daily living, school tasks, and transitional skills.

OCCT 6021 Service Delivery Systems II
2.0 Semester Credit Hours
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.

OCCT 6022 Environmental Technologies II
3.0 Semester Credit Hours
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, aids for persons with sensory impairments, and electronic aids to daily living.

OCCT 6024 Clinical Medicine II
1.0 Semester Credit Hour
Clinical manifestations of adult biomechanical disorders will be presented. The medical and surgical management for these conditions will be described.

OCCT 6026 Psychosocial Components of Occupational Therapy
4.0 Semester Credit Hours
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
3.0 Semester Credit Hours
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.

OCCT 6030 Occupational Therapy Process: Adult Biomechanical Dysfunctions
4.0 Semester Credit Hours
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.

OCCT 6031 Service Delivery Systems III
3.0 Semester Credit Hours
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.

OCCT 6032 Environmental Technologies III
2.0 Semester Credit Hours
This course will include the biomechanical and compensatory considerations for the human body and environmental interfacing across the life span. Included are seating and positioning systems, technologies for personal mobility, and work environment interfaces.
OCCT 6034  Professional Issues  
1.0 Semester Credit Hour  
This interdisciplinary course is an overview of professional and ethical issues facing Health Professions 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.

OCCT 6035  Concepts & Practices in Teaching  
3.0 Semester Credit Hours  
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.

OCCT 6037  Occupational Therapy Process: Adult Neuromuscular Dysfunctions  
1.0 Semester Credit Hour  
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.

OCCT 6045  Clinical Medicine III  
1.0 Semester Credit Hour  
Clinical manifestations of adult neuromuscular disorders will be presented. The medical and surgical management for these conditions will be described.

OCCT 6070  Level I Fieldwork: School Age  
1.0 Semester Credit Hour  
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.

OCCT 6072  Level I Fieldwork: Adult & Geriatric Settings  
2.0 Semester Credit Hours  
Students will have the opportunity to observe, participate, and critique the occupational therapy process with adults and older adults within community and rehabilitation settings.

OCCT 6073  Level II Fieldwork: Developmental Dysfunction  
10.0 Semester Credit Hours  
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.

OCCT 6074  Level II Fieldwork: Adult Disabilities  
10.0 Semester Credit Hours  
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.

INTD 5066  Laughter is the Best Medicine: An Interdisciplinary Elective About Humor, Healing, and Healthcare  
1.0 Semester Credit Hour  
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.
Doctor of Physical Therapy Program

The Doctor of Physical Therapy program (DPT) begins in the fall semester and consists of 99.0 semester credit hours taken over 7 semesters (30 months). The program includes 30 weeks of full-time clinical affiliations and a 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.

Application Procedure

The application for admission may be completed at [https://www.applytexas.org](http://www.applytexas.org). Detailed information about the application and admission is available at [http://studentservices.uthscsa.edu/prospects_ah_programs_pt.aspx](http://studentservices.uthscsa.edu/prospects_ah_programs_pt.aspx). Applications for fall 2009 are accepted between September 1, 2008 and November 15, 2008. Applications for fall 2010 will be accepted between August 15, 2009 and November 1, 2009. 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 Registrar by the application deadline (address below). 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 Registrar before the application deadline.

Admission Factors

The following factors are considered when selecting students for the DPT program: academic achievement; employment history; extracurricular activities, and/or community service activities; personal statement; health care field preparation; knowledge of health care environment; preparation for a career in physical therapy; analytical and problem-solving skills; communication and interpersonal skills; personal traits, i.e., maturity, leadership potential, time management skills; writing 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. Application and admission requirements include:

- Completion of Core Curriculum requirements for applicants who have not completed a bachelor’s degree (for exception, see “Bachelor of Science in Health Care Sciences” below)
- Completion of all program prerequisites with overall grade point average (GPA) of at least 3.0 (on a 4-point 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 available at [http://studentservices.uthscsa.edu/prospects_ah_programs_pt.aspx](http://studentservices.uthscsa.edu/prospects_ah_programs_pt.aspx)
- Two letters of reference (at least one letter from a licensed physical therapist using the Reference Form, available at the Web site above)
- Personal 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 a Botany, ecology, or environment exclusively are NOT acceptable.

Separate Human Anatomy and Human Physiology are recommended, but combined A&P I and II courses totaling 8 credit hours is acceptable. An additional upper-level Human Physiology course is recommended if combined A&P is taken.

- Foreign-educated students only: Transcripts from foreign colleges/universities must be evaluated by an approved credentialing organization. Go to [http://www.SHPwelcome.uthscsa.edu](http://www.SHPwelcome.uthscsa.edu) and select “International Students.”
- 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 85.5 semester credit hours of core curriculum requirements, electives, and program prerequisites. The Texas Core Curriculum consists of 42 semester credit hours. Some courses that satisfy core curriculum requirements may also be used to satisfy program prerequisites. All applicants must complete the program prerequisites; some program prerequisites will satisfy core curriculum requirements.

* A Documentation of Experience form and Reference Form may be downloaded from [http://studentservices.uthscsa.edu/prospects_ah.apply_ab.asp](http://studentservices.uthscsa.edu/prospects_ah.apply_ab.asp)
Bachelor of Science in Health Care Sciences

Students admitted to the DPT program will receive a Bachelor of Science in Health Care Sciences (BS HCS) after successful completion of Texas Core Curriculum requirements, program prerequisites, and program curriculum requirements. Students who do not wish to receive the BS HCS must submit a "Request for Waiver of State Required Prerequisites" to the Registrar by the 12th day (census day) of their first term in the program. 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*

Applicants without a baccalaureate degree must complete the Texas Core Curriculum that consists of 42 semester credit hours. Some courses that satisfy core curriculum requirements may also be used to satisfy program prerequisites. For further information see "Texas Core Curriculum" in this Catalog, page 78.

All applicants must complete the program prerequisites below; some program prerequisites will satisfy core curriculum requirements.

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Biology with labs (for science majors)</td>
<td>8</td>
</tr>
<tr>
<td>Human Anatomy with lab (for science majors)</td>
<td>4</td>
</tr>
<tr>
<td>Human Physiology with lab (for science majors)</td>
<td>4</td>
</tr>
<tr>
<td>General Chemistry with lab (for science majors)</td>
<td>8</td>
</tr>
<tr>
<td>General Physics with labs (for science majors)</td>
<td>8</td>
</tr>
<tr>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Developmental Psychology (Lifespan)</td>
<td>3</td>
</tr>
<tr>
<td>General Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Speech</td>
<td>3</td>
</tr>
<tr>
<td>Statistics (Math or Psychology based)</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>16–18</td>
</tr>
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</table>

Total DPT Program Prerequisite Credit Hours 63–65*

Individuals are advised to seek counseling about coursework at the Health Professions 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. All prerequisites must be completed by the end of the spring semester prior to starting the program.

* Competency in medical terminology must be demonstrated by the end of the first semester by earning credit in a course on medical terminology prior to matriculation or passing a competency test administered by the program during the first semester.

General Policies and Information

Advancement, Probation, and Dismissal

Continuation as a Physical Therapy student is dependent on maintenance of a minimum grade point average of 3.0 (B) for all courses taken 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 will also be subject to probation or dismissal. The Committee on Allied Health may recommend: dismissal, academic 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 CAHS. 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 may be 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 which is missed.

Dropping Courses

It is mandatory that the sequence of courses in the curriculum be adhered to. 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 prior 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 electives) 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 stated criteria may result in one of the following grades:

I (Incomplete) – Student performance is satisfactory on accepted skills but below the minimum number required

U (Unsatisfactory) – Student performance is unsatisfactory on accepted skills.
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 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 grades of I or U 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, parking permits, health and liability insurance, etc. are approximately $21,000. In addition, costs for other expenses, such as textbooks, course manuals, and supplies, are approximately $1,900 for the entire program. Travel and living expenses for local and out-of-town clinical experiences are not included in this estimate. All students are required to purchase a laptop computer through the HSC Computer Store upon matriculation. Approximate cost of the computer is $2,000.

Non-resident students are subject to additional tuition costs, which may be found under "Financial Information" in this Catalog, page 86.

Doctor of Physical Therapy Curriculum

First Year

Fall Semester* Credit Hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>PHYT 7001</td>
<td>Clinical Foundations I</td>
<td>4.0</td>
</tr>
<tr>
<td>PHYT 7005</td>
<td>Therapeutic Exercise Science</td>
<td>3.0</td>
</tr>
<tr>
<td>PHYT 7009</td>
<td>Neuroscience I</td>
<td>3.0</td>
</tr>
<tr>
<td>PHYT 7014</td>
<td>Systematic Reasoning &amp; Scientific Investigation</td>
<td>3.0</td>
</tr>
<tr>
<td>PHYT 7017</td>
<td>Cells, Systems, &amp; Disease</td>
<td>3.0</td>
</tr>
<tr>
<td>PHYT 8022</td>
<td>Professional Issues and Clinical Decision Making</td>
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Spring Semester

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<tr>
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<tbody>
<tr>
<td>CSBL 7014</td>
<td>Anatomy I</td>
</tr>
<tr>
<td>PHYT 7011</td>
<td>Clinical Foundations II</td>
</tr>
<tr>
<td>PHYT 7012</td>
<td>Movement Science I</td>
</tr>
<tr>
<td>PHYT 7019</td>
<td>Neuroscience II</td>
</tr>
<tr>
<td>PHYT 8122</td>
<td>Professional Issues and Clinical Decision Making II</td>
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Second Year

Fall Semester

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<tr>
<td>PHYT 7018</td>
<td>Pharmacological Principles in Physical Therapy</td>
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<tr>
<td>PHYT 8002</td>
<td>Management of the Patient with Musculoskeletal Dysfunction I</td>
</tr>
<tr>
<td>PHYT 8007</td>
<td>Orthotics in Rehabilitation</td>
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<tr>
<td>PHYT 8011</td>
<td>Electrophysical Agents in Rehabilitation I</td>
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<tr>
<td>PHYT 8108</td>
<td>Management of the Patient with Neuromuscular Dysfunction I</td>
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<td>PHYT 8130</td>
<td>Movement Science II</td>
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Spring Semester

<table>
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<tr>
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<tbody>
<tr>
<td>PHYT 8012</td>
<td>Prosthetics in Rehabilitation</td>
</tr>
<tr>
<td>PHYT 8013</td>
<td>Management of the Patient with Cardiopulmonary Dysfunction</td>
</tr>
<tr>
<td>PHYT 8111</td>
<td>Electrophysical Agents in Rehabilitation II</td>
</tr>
<tr>
<td>PHYT 8114</td>
<td>Management of the Patient with Musculoskeletal Dysfunction II</td>
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<tr>
<td>PHYT 8116</td>
<td>Management of the Patient with Neuromuscular Dysfunction II</td>
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<tr>
<td>PHYT 8222</td>
<td>Professional Issues and Clinical Decision Making III</td>
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Summer Semester

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<td>PHYT 5021</td>
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<tr>
<td>PHYT 8021</td>
<td>Clinical Experience II</td>
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Third Year

Fall Semester

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<tr>
<td>PHYT 6121</td>
<td>Clinical Experience III</td>
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Spring Semester

<table>
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<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CSBL 8010</td>
<td>Anatomy II</td>
</tr>
<tr>
<td>PHYT 8075</td>
<td>Human Development across the Lifespan</td>
</tr>
<tr>
<td>PHYT 8102</td>
<td>Systematic Reasoning and Scientific Investigation II</td>
</tr>
<tr>
<td>PHYT 8106</td>
<td>Principles of Administration in Physical Therapy</td>
</tr>
<tr>
<td>PHYT 8112</td>
<td>Management of the Complex Patient</td>
</tr>
<tr>
<td>PHYT 8221</td>
<td>Clinical Internship I</td>
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<tr>
<td></td>
<td>Semester Total</td>
</tr>
<tr>
<td></td>
<td>Program Total</td>
</tr>
</tbody>
</table>

Course Descriptions

CSBL 7014 Anatomy I
5.0 Semester Credit Hours
This course covers 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 proceedings, 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. Lab fee: $30.
CSBL 8010  Anatomy II
2.0 Semester Credit Hours
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. Human materials fee: $300.

PHYT 6121  Clinical Experience III
5.0 Semester Credit Hours
This course is an eight-week clinical rotation in a physical therapy setting in one of the following areas: acute care, orthopedics, or rehabilitation with a purpose of having the student work towards entry-level competence in each type of setting. Emphasis is on development and practice of professional and selected physical therapy patient treatment skills for each of the specified areas of acute care, orthopedics, and rehabilitation.

PHYT 7001  Clinical Foundations I
2.5 Semester Credit Hours
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 7005  Therapeutic Exercise Science
2.5 Semester Credit Hours
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 different populations. Emphasis is on the role of exercise to improve function, prevent dysfunction, and promote wellness. The role of complementary medicine and integration of interdisciplinary professionals in the presentation of content is intended to enhance understanding of holistic care for active populations. The effects of exercise on energy metabolism, nutrition, cardiovascular function, and the musculoskeletal systems are also emphasized in this course. At the end of this course, students will have had the opportunity to learn to be able to apply training principles to develop an appropriate exercise program.

PHYT 7009  Neuroscience I
3.0 Semester Credit Hours
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, neuropsychology, 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. Neuropsychology encompasses the chemical aspects of synaptic transmission at the cellular level, and the regional differences of transmitters, pharmacology. Neuropathology is introduced when appropriate to the systems being discussed.

PHYT 7011  Clinical Foundations II
4.0 Semester Credit Hours
This course is a continuation of Clinical Foundations I, providing further introduction to the fundamental concepts of physical therapy practice including basic clinical screening systems review, and introductory physical therapy skills. The course takes a regional approach in introducing examination and treatment techniques/procedures physical therapists use to manage patients. The course covers principles of diagnostic tests and measures to include range of motion measurement, muscle length assessment, detailed muscle function with specific muscle testing, functional outcome measures, and principles of selected interventions to include proprioceptive neuromuscular facilitation (PNF). The course will continue to lay the foundation for clinical reasoning and decision-making in the interdisciplinary approach to care. The students are given the opportunity to practice fundamental skills involved in the management of patients with a wide range of clinical problems.

PHYT 7012  Movement Science I
4.0 Semester Credit Hours
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
3.0 Semester Credit Hours
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 method, 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
3.0 Semester Credit Hours
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
2.0 Semester Credit Hours
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 for physical therapy treatments.

PHYT 7019 Neuroscience II
2.5 Semester Credit Hours
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.

PHYT 7021 Clinical Experience I
5.0 Semester Credit Hours
Clinical Experiences I, II, and III are 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.

PHYT 8002 Management of the Patient with Musculoskeletal Dysfunction I
4.5 Semester Credit Hours
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 and lower extremities. 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 each joint area in the extremities. 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.

PHYT 8007 Orthotics in Rehabilitation
1.5 Semester Credit Hours
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.

**PHYT 8011  Electrophysical Agents in Rehabilitation I**  
*2.5 Semester Credit Hours*  
This course includes the physical principles, physiological effects, therapeutic uses, and practical application of therapeutic heat and cold mechanical energy, including soft tissue massage.

**PHYT 8012  Prosthetics in Rehabilitation**  
*1.5 Semester Credit Hours*  
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 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 problem 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.

**PHYT 8013  Management of the Patient with Cardiopulmonary Dysfunction**  
*3.0 Semester Credit Hours*  
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.

**PHYT 8021  Clinical Experience II**  
*5.0 Semester Credit Hours*  
Clinical Experiences I, II, and III are 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.

**PHYT 8022  Professional Issues and Clinical Decision Making I**  
*2.0 Semester Credit Hours*  
This course is designed for the student to assimilate major theories about learning across the lifespan, teaching techniques, communication in the clinical setting, and communication as a means to develop cultural competence. Emphasis will be on instruction related to clinical practice and critical thinking as well as application to motor learning. A major theme of this course is the development of communication skills to enhance therapist-patient interactions, promote an understanding of learning across the lifespan, and develop cultural competence.

**PHYT 8075  Human Development Across the Lifespan**  
*2.0 Semester Credit Hours*  
The purpose of this course is to provide the student with the opportunity to learn about typical human lifespan development with the emphasis on health and wellness with application to the practice of PT. The course focuses on the embryonic development, early infancy, childhood, adolescence, adulthood, older adults, and the oldest old. Opportunities for didactic, clinical, and community are integrated into the course to facilitate active learning opportunities. Topics may include interdisciplinary management, cultural sensitivity, psychological factors, socioeconomic concerns, community-based resources, and patient/family education regarding health and wellness/fitness.

**PHYT 8091  Current Topics in Physical Therapy**  
*5.0 Semester Credit Hours*  
The course is an interactive Web-supported learning experience designed for students to develop skills necessary to integrate information at the DPT level. This course is divided into content units that reflect the expanded content within the DPT program. The units are portioned based on a direct comparison of the existing MPT and the DPT that will be implemented in the fall 2008. The units include 1) radiology; 2) professional issues and clinical application; cultural competence and ethics; 3) patient care: systems review, and 4) pharmacology and pathophysiology.

**PHYT 8102  Systematic Reasoning and Scientific Investigation II**  
*2.0 Semester Credit Hours*  
The emphasis of this course is continued development of critical thinking skills to promote evidence-based practice in the clinical setting. This course is a continuation of Systematic Reasoning and Scientific Investigation I, and gives the student the support to experience and complete an extensive Critically Appraised Topic document. The student produces either a written proposal for a research study 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.

**PHYT 8106  Principles of Administration in Physical Therapy**  
*2.0 Semester Credit Hours*  
Emphasis is on current trends and issues in the administration of clinical PT departments which affect technical and professional personnel. The course is designed to place emphasis on
communication, motivation, leadership, and supervision of professionals and staff for the benefit of patient care. Activities include design of a PT management project and a business plan. This course will teach the skills necessary to become an entry level supervisor in a physical therapy or combined rehabilitation services department in either an institution or a stand-alone clinic. Topics include planning budgeting and staffing. Emphasis will be placed on developing leaders rather than managers.

**PHYT 8108 Management of the Patient with Neuromuscular Dysfunction I**

4.0 Semester Credit Hours

This course is designed to allow the student to develop the skills necessary to perform examination, evaluation, diagnosis, prognosis, and the development of comprehensive treatment plan of care for patients with neuromuscular dysfunction. Emphasis will be on differential diagnosis, screening, examination, and evaluation of function, and on development of intervention programs that lead to improvement in function. Movement dysfunction will be covered across the lifespan for acute and chronic conditions. The topics will be presented from a problem-solving approach that integrates case studies. Current evidence-based research related to the management of the patient with neuromuscular dysfunction will be critically assessed.

**PHYT 8111 Electrophysical Agents in Rehabilitation II**

2.0 Semester Credit Hours

This course is a continuation of PHYT 8011. The course covers the physical principles, physiological effects, therapeutic uses and practical application of Therapeutic Electrical Stimulation, Electrodiagnostic testing, Biofeedback and Phototherapy.

**PHYT 8112 Management of the Complex Patient**

3.0 Semester Credit Hours

This course gives the student the opportunity to practice examination techniques with a systems approach to the patient with complex problems. Physical therapy primary care for orthopaedic conditions and triage will be emphasized. Opportunities to practice screening for conditions requiring referral are practiced within this course and interdisciplinary opportunities are included with allied health professionals in the area of wellness and health promotion. The Guide to Physical Therapy Practice is used to assist with patient management scenarios with continued practice with diagnosis and prognosis to include plan of care. The student generates a case study to be presented to the class.

**PHYT 8114 Management of the Patient with Musculoskeletal Dysfunction II**

5.0 Semester Credit Hours

This course is a continuation of Management of the Patient with Musculoskeletal Dysfunction I, and is designed to allow students with the opportunity to 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 spine. The course follows a regional approach with attention to the examination and intervention of each area of the spine: cervical, thoracic, lumbar, and sacroiliac. Students are expected to be knowledgeable and proficient in material from the first year courses of patient care skills, kinesiology, anatomy, and therapeutic exercise. This course emphasizes 1) using the best available evidence to examine and treat patients with spinal complaints, 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 spinal 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.

**PHYT 8116 Management of the Patient with Neuromuscular Dysfunction II**

5.0 Semester Credit Hours

This course is a continuation of Management of the Patient with Neuromuscular Dysfunction I, and is designed to allow the student to continue to develop the skills necessary to perform examination, evaluation, diagnosis, prognosis, and the development of comprehensive intervention plans 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 improvement in function. Movement dysfunction is covered across the lifespan 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.

**PHYT 8122 Professional Issues & Clinical Decision Making II**

2.0 Semester Credit Hours

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 which 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.

**PHYT 8130 Movement Science II**

1.5 Semester Credit Hours

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.
PHYT 8221  Clinical Internship
4.0 Semester Credit Hours
This course is a 4 week clinical internship which 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.

PHYT 8222  Professional Issues & Clinical Decision Making III (was PHYT 5003 Ethics in Health Care)
0.5 Semester Credit Hours
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.

PHYT 8321  Clinical Experience IV
6.0 Semester Credit Hours
This course is a 6-week clinical experience designed to make up the difference in clinical hours between the MPT and DPT programs. The student will be assigned to a facility in their area of interest to 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.
**PHYSICIAN ASSISTANT STUDIES**

**Philosophy and Rationale**
The American Academy of Physician Assistants defines physician assistant as a health professional licensed or credentialed, in the case of those employed by the federal government, to practice medicine with physician supervision. Physician assistants (PAs) are qualified by graduation from an accredited physician assistant educational program and/or 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 is centered on patient care and may include educational, research, and administrative activities.

The mission of The UT Health Science Center San Antonio, 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 Health Science Center 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.

**Master of Physician Assistant Studies Program**
The HSC Physician Assistant Studies program is an intense didactic and clinical program designed to prepare primary care physician assistants to meet the needs of the people of South Texas. The program begins 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 instruction is designed to prepare the student to successfully complete the 12 months of supervised clinical practice and, ultimately, for practice as a physician assistant. The supervised clinical practice phase is oriented to primary care and occurs in sites throughout South Texas. All students must complete a minimum of two rural rotations 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 MPAS program are awarded a Master of Physician Assistant Studies 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 HSC 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 240, Duluth, GA, 30097; phone (770) 476-1224, fax (770) 476-1738; [http://www.arc-pa.org](http://www.arc-pa.org).

**Application and Admission**
Information about application and admission to the program is detailed in the [School of Health Professions Applicant Viewbook](http://studentservices.uthscsa.edu/prospects_apply_ah.asp), available from the Registrar and online at [https://secure.caspaonline.org](https://secure.caspaonline.org). Applications are accepted between May 1 and October 1 for enrollment the following fall semester. All required application information and documents must be submitted to the Centralized Application Service for Physician Assistants (CASPA) by October 1. Official transcripts should be sent directly to CASPA. Applicants may obtain further information and submit applications through CASPA at [https://secure.caspaonline.org](https://secure.caspaonline.org). An additional supplemental application must be submitted directly to the HSC Registrar by October 1.

Applicants who are completing coursework in the fall semester of the application period must submit to CASPA an official transcript showing that the coursework is in progress by the October 1 deadline. If selected for an interview, applicants should bring a copy of their transcript with fall grades annotated.

Prior-year applicants must submit a new application. Questions about re-application should be directed to the Registrar and/or CASPA.

**Admission Factors**
A limited number of applicants are invited for a personal interview. Factors used for selecting applicants to be interviewed include:
- Awards and honors
- Bilingual skills
- Health care experience
- Knowledge of and commitment to the physician assistant profession
- Leadership
- Physician assistant shadow time
- Primary care/South Texas oriented
- Race/ethnicity
- Research background
- Scholastic achievements
- Service/volunteerism
- Work experience
- Written communication skills
Out-of-state applicants should be aware that priority is given to applicants who best meet the program mission.

Admission Requirements
Admission requirements for the Master of Physician Assistant Studies program are listed below. Applicants who meet minimum requirements should be aware that the selection process usually involves choosing among highly qualified applicants, rather than between qualified and unqualified applicants.

- Successful completion of Texas Core Curriculum requirements (for applicants without a baccalaureate degree from a Texas public college or university see “Texas Core Curriculum” in this Catalog)
- Successful completion of program prerequisites (see “Program Prerequisites” below)
- Minimum overall grade point average (GPA) of 2.75
- Minimum GPA of 2.75 for all prerequisites, science coursework, and last 30 semester credit hours of college work (excluding technical courses)
- Proof of current American Heart Association Basic Life Support certification (if admitted)
- Personal statements: one personal statement is required as part of the CASPA application; a separate statement is required as part of the HSC supplemental application.
- Three letters of reference submitted as part of the CASPA application

Program Prerequisites
Applicants without a baccalaureate degree must complete 90 semester credit hours of Texas Core Curriculum requirements and program prerequisites. The Texas Core Curriculum consists of at least 42 semester credit hours. For further information see “Texas Core Curriculum” in this Catalog. Note that courses that satisfy core curriculum requirements may also be used to satisfy program prerequisites. All applicants must complete the program prerequisites below. All science prerequisites must be for science majors and include the associated laboratory section. Prerequisites must be completed by the end of fall semester of the application period.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Biology I with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>General Biology II with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>General Chemistry I with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>General Chemistry II with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Human Anatomy with laboratory*</td>
<td>4.0</td>
</tr>
<tr>
<td>Human Physiology with laboratory*</td>
<td>4.0</td>
</tr>
<tr>
<td>Microbiology with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Organic Chemistry with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Introduction to Statistics</td>
<td>3.0</td>
</tr>
<tr>
<td>Introduction to Psychology</td>
<td>3.0</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td><strong>Program Prerequisite Total</strong></td>
<td>63.0</td>
</tr>
</tbody>
</table>

*Combined Anatomy and Physiology courses totaling 8.0 semester credit hours are acceptable.

General Policies and Information

Advanced Placement
There is no advanced placement in the physician assistant studies program for academic work completed prior to matriculation or for any type of work or health care experience. No prerequisite coursework may be used for program credit or substitution for a physician assistant studies course. Only students who have been accepted to the program may apply for transfer of credit, credit for experiential learning, or credit by examination.

Advancement, Probation, and Dismissal
The Promotions Committee recommends a student’s promotion status based upon (1) course grades, (2) attendance record, and (3) professional behavior. In addition, the committee will assess extenuating circumstances that may have affected a student’s progress on an individual basis.

The grade of C is the minimum acceptable grade during the course of the program. However, to continue in the program unconditionally, students must (1) have a cumulative program grade point average of 2.75, (2) successfully complete all prescribed courses and program requirements, (3) earn a grade of at least a C in each course, and (4) receive faculty recommendation.

Applicant Orientations
Applicant orientations are offered monthly between May and September. Additional information is available at the department Web site (http://www.uthscsa.edu/shp/). 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. Individual pre-admission counseling is available from the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8744, or e-mail SHWelcome@uthscsa.edu

Attendance
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 courses and step-by-step format of the curriculum allow minimal or no opportunity for make-up sessions. 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.

Personal illness, immediate family emergency, and a natural disaster are reasons for absence. However, prolonged absences for any reason may not be remediable.

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 will 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 physician assistant student is totally dependent on the sum of her/his experiences during the educational and training period. No experience is gained by absence.

Auditing Courses

Students may be required to audit previously attempted courses as a requirement for remediation. Standards of performance are set by course instructors, academic or clinical coordinators, department committee, or the department chair.

Computer and PDA Requirement

Students are required to purchase a laptop computer from the HSC Computer Store upon matriculation. Students are also required to purchase a PDA during the second year of the program. Cost of both is calculated as a cost of attendance and is included in determination of financial aid eligibility (see “Program Costs” below).

Credit by Examination

No course with a PHAS or INTD prefix may be credited by examination. Other courses are at the discretion of the course director and/or the chair of the department offering the course. The student may be assessed a fee for an examination taken for credit.

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.

Professional Attire

Students are expected to dress in a manner that reflects their maturity and matriculation in a professional course of study. Student dress, as well as conduct, must reflect the professional nature of the PA profession.

During the first year of the program, 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 when a patient is brought to a lecture room, students are expected to have a professional appearance and to wear the white clinical jacket with patch and the required student I.D. Course and program faculty should be consulted about proper attire in specific circumstances.

During supervised clinical practice, students are expected to dress as health care professionals and to wear both the white jacket with program patch and the required name tag. For some rotations, other forms of dress may be acceptable (for example, surgery). The faculty should be consulted on any questions about dress on clinical rotations.

During any clinical or patient contact settings, the hair must be worn off the collar and prevented from falling into patient fields.

A sample dress code is available on the Physician Assistant Studies Web site [http://www.uthscsa.edu/sah/pastudies/].

Program Costs

Costs for in-state tuition and fees, parking permits, health and liability insurance, etc., are approximately $25,400 for the entire MPAS program. In addition, costs for other expenses, such as textbooks, computer (required to be purchased from the HSC Computer Store), laboratory jackets, equipment lease, etc., are approximately $7,750. Students are expected to have high-speed Internet access (included in the estimates above). Non-resident students are subject to additional tuition costs, which may be found under “Financial Information” in this Catalog, page 86.

Students are 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 $2500 should be budgeted toward these costs.

Technical Standards

Applicants should review the Student Technical Standards available at the department’s Web site [http://www.uthscsa.edu/sah/pastudies/] or from the department office.

Transfer of Credit

Prerequisites for the Physician Assistant Studies program cannot be used as transfer courses for the courses in the curriculum. A course may be accepted in transfer if it was completed with a grade of C or better at the graduate level at a regionally accredited college or university. The syllabus must be sent directly from the originating school or teacher. The learning objectives, grading requirements, and required skills must be very similar to the course to be credited. The credit hours of the transfer course must be equal or exceed the HSC course. The department chair is responsible for approving transfer of credit.

Individuals allowed to transfer from another physician assistant program must meet the same prerequisites as students in the HSC program, must have been enrolled in a post-baccalaureate physician assistant program, and meet all requirements for admission to the HSC program. The student must be in good standing at the original institution and recommended by the program director or department chair.
Master of Physician Assistant Studies Curriculum
The curriculum consists of five semesters of didactic, laboratory, and clinical instruction conducted on the HSC campus. During the final three semesters, students complete 12 four-week supervised clinical practice rotations in San Antonio and 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 examination is administered during the final fall semester; students must pass the summative examination to qualify for graduation.

First Year

Fall Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CLSC 5040</td>
<td>Laboratory Medicine</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 5001</td>
<td>Patient Evaluation I</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 5002</td>
<td>Ethical Considerations in Health Care</td>
<td>1.0</td>
</tr>
<tr>
<td>PHAS 5005</td>
<td>Clinical Applications in Nutrition</td>
<td>2.0</td>
</tr>
<tr>
<td>PHAS 5006</td>
<td>Clinical Applications in Physiology for the Health Professional</td>
<td>4.0</td>
</tr>
<tr>
<td>PHAS 5008</td>
<td>Clinical Human Anatomy</td>
<td>4.0</td>
</tr>
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<td></td>
<td><strong>Semester Total</strong></td>
<td><strong>17.0</strong></td>
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Spring Semester

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLSC 5041</td>
<td>Laboratory Medicine Laboratory</td>
<td>1.0</td>
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<tr>
<td>PHAS 5000</td>
<td>Introduction to the Profession</td>
<td>2.0</td>
</tr>
<tr>
<td>PHAS 5003</td>
<td>Behavioral Medicine</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 5004</td>
<td>Clinical Applications</td>
<td>4.0</td>
</tr>
<tr>
<td>PHAS 5007</td>
<td>Pathogenesis of Human Diseases</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 6001</td>
<td>Cultural Issues in Health</td>
<td>4.0</td>
</tr>
<tr>
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<td><strong>Semester Total</strong></td>
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Summer Semester

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>PHAS 6002</td>
<td>Problem-Based Learning I</td>
<td>1.0</td>
</tr>
<tr>
<td>PHAS 6012</td>
<td>Clinical Skills I</td>
<td>2.0</td>
</tr>
<tr>
<td>PHAS 6025</td>
<td>Introduction to Community Medicine</td>
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<tr>
<td></td>
<td><strong>Semester Total</strong></td>
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</table>

Second Year

Fall Semester

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTD 2001</td>
<td>Introduction to Clinical Sciences I</td>
<td>8.0</td>
</tr>
<tr>
<td>EMSP 3010</td>
<td>Basic Life Support</td>
<td>0.0</td>
</tr>
<tr>
<td>PHAS 6003</td>
<td>Patient Evaluation II</td>
<td>1.0</td>
</tr>
<tr>
<td>PHAS 6004</td>
<td>Preventive Medicine/Community Health</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 6010</td>
<td>Pharmacology I</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 6011</td>
<td>Problem Based Learning II</td>
<td>1.0</td>
</tr>
<tr>
<td>PHAS 6013</td>
<td>Scientific Inquiry</td>
<td>3.0</td>
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Spring Semester

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTD 2002</td>
<td>Introduction to Clinical Sciences II</td>
<td>10.0</td>
</tr>
<tr>
<td>EMSP 2135</td>
<td>Advanced Cardiac Life Support</td>
<td>1.0</td>
</tr>
<tr>
<td>PHAS 6014</td>
<td>Pharmacology II</td>
<td>3.0</td>
</tr>
<tr>
<td>PHAS 6015</td>
<td>Clinical Skills II</td>
<td>2.0</td>
</tr>
<tr>
<td>PHAS 6016</td>
<td>Problem Based Learning III</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td><strong>Semester Total</strong></td>
<td><strong>17.0</strong></td>
</tr>
</tbody>
</table>

Second-Year Summer through Third-Year Spring

Supervised Clinical Practice Rotations: PHAS 6101–6112:
- PHAS 6101 Emergency Medicine: 4.0
- PHAS 6102 Medical In-patient Service: 4.0
- PHAS 6103 Pediatrics: 4.0
- PHAS 6104 Primary Care I: 4.0
- PHAS 6105 Primary Care II: 4.0
- PHAS 6106 Primary Care III: 4.0
- PHAS 6107 Obstetrics and Gynecology: 4.0
- PHAS 6108 Surgery: 4.0
- PHAS 6109 General Elective II: 4.0
- PHAS 6110 Medical Elective: 4.0
- PHAS 6111 Community Medicine Project: 4.0
- PHAS 6112 Selective: 4.0

Supervised Clinical Practice Total: 48.0
Program Total: 124.0

Course Descriptions

PHAS 5000 Introduction to the Profession
2.0 Semester Credit Hours
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. There is an instructional technology fee for this course.

PHAS 5001 Patient Evaluation I
3.0 Semester Credit Hours
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. There are instructional technology and leasing fees for this course.

PHAS 5002 Ethical Considerations in Health Care
1.0 Semester Credit Hour
This interdisciplinary course will provide students with an opportunity to develop an understanding of the ethical issues facing health professions 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. There is an instructional technology fee for this course.

PHAS 5003 Behavioral Medicine
3.0 Semester Credit Hours
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. There is an instructional technology fee for this course.

PHAS 5004 Clinical Applications
4.0 Semester Credit Hours
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. There are instructional technology and leasing fees associated with this course.

PHAS 5005  Clinical Applications in Nutrition
2.0 Semester Credit Hours
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. There is an instructional technology fee for this course.

PHAS 5006  Clinical Applications in Physiology for the Health Professional
4.0 Semester Credit Hours
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. There are instructional technology and leasing fees associated with this course.

PHAS 5007  Pathogenesis of Human Diseases
3.0 Semester Credit Hours
This course covers the basic principles of pathology providing the opportunity necessary 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. There is an instructional technology fee for this course.

PHAS 5008  Clinical Human Anatomy
4.0 Semester Credit Hours
This course is a study of the structure and function of the human body to include the study of cells, tissues, and organ systems. Emphasis will be on the interrelationship of the human body systems with clinical correlation through the use of case studies, radiographs, photographs, and drawings. This is an outline class with enhanced virtual laboratory sessions. Additional time may be spent with cadaver prosections, models, or plastinated specimens. There is an instructional technology fee associated with this course.

PHAS 5091  Special Topics
1.0–10.0 Semester Credit Hours
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.

PHAS 6001  Cultural Issues in Health
4.0 Semester Credit Hours
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. There is an instructional technology fee for this course.

PHAS 6002  Problem-Based Learning I
1.0 Semester Credit Hour
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 and literature review, and medical problem solving based on student knowledge and comprehension through application, analysis, synthesis, and evaluation. There is an instructional technology fee for this course.

PHAS 6003  Patient Evaluation II
1.0 Semester Credit Hour
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. There is an instructional technology fee for this course.

PHAS 6004  Preventive Medicine/Community Health
3.0 Semester Credit Hours
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. There is an instructional technology fee for this course.

PHAS 6010  Pharmacology I
3.0 Semester Credit Hours
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. Major 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. There is an instructional technology fee for this course.

PHAS 6011  Problem-Based Learning II
1.0 Semester Credit Hour
This course is a continuation of Problem-Based Learning I. There is an instructional technology fee for this course.

PHAS 6012  Clinical Skills I
2.0 Semester Credit Hours
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. There are instructional technology and leasing fees associated with this course.

PHAS 6013  Scientific Inquiry
3.0 Semester Credit Hours
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. There is an instructional technology fee for this course.

PHAS 6014 Pharmacology II
3.0 Semester Credit Hours
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. There is an instructional technology fee for this course.

PHAS 6015 Clinical Skills II
2.0 Semester Credit Hours
This course is a continuation of Clinical Skills I. There are instructional technology and leasing fees for this course.

PHAS 6016 Problem-Based Learning III
1.0 Semester Credit Hour
This course is a continuation of Problem-Based Learning I & II. There is an instructional technology fee for this course.

PHAS 6017 Senior Seminar
2.0 Semester Credit Hours
The senior seminar includes case reports, presentations, updates, and lectures on relevant topics. Practice issues include personal interaction; dealing with difficult patients (e.g., dissatisfied, demanding, suicidal, physically or mentally challenged, non-English speaking); medical record keeping; and quality assurance. Management issues include office staffing and an introduction to billing and coding. Transition-to-Practice issues include marketing yourself, the job search, creating a curriculum vitae, contract negotiations, and information on the certification examination and licensing procedures. The Summative Evaluation is conducted during this period of time and includes standardized testing and a standardized patient encounter. Successful completion of the Summative Evaluation is required for graduation from the PA Studies program.

PHAS 6025 Introduction to Community Medicine
3.0 Semester Credit Hours
This course is an initial orientation to and the development of the community medicine project as the capstone event for the master’s degree. Students will have the opportunity to work in teams to identify a population or community, conduct a needs analysis and create a project designed to improve the overall health or well being of the community. Students will have the opportunity to learn presentation skills, Web-site development, grant writing, and how to develop outside resources in support of the project. Final implementation of the project will be during the Supervised Clinical Practice year. Following implementation, students are required to create a summary report or notebook/scrapbook on the development through implementation of the project. There is an instructional technology fee associated with this course.

Supervised Clinical Practice Rotations (PHAS 6101–6112)
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 two rural/remote rotations and should be prepared for additional living expenses during this time. Rotations are all four weeks, 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 will be required to 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 my be accomplished in any order.

PHAS 6101 Supervised Clinical Practice I – Emergency Medicine
4.0 Semester Credit Hours
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. There is a practicum fee for this course.

PHAS 6102 Supervised Clinical Practice II – Medical Inpatient Service
4.0 Semester Credit Hours
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. There is a practicum fee for this course.

PHAS 6103 Supervised Clinical Practice III – Pediatrics
4.0 Semester Credit Hours
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. There is a practicum fee for this course.

PHAS 6104 Supervised Clinical Practice IV – Primary Care I
4.0 Semester Credit Hours
This is an 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. There is a practicum fee for this course.

PHAS 6105 Supervised Clinical Practice V – Primary Care II
4.0 Semester Credit Hours
This is an 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. There is a practicum fee for this course.

**PHAS 6106  Supervised Clinical Practice VI – Primary Care III**

*4.0 Semester Credit Hours*

This is an 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. There is a practicum fee for this course.

**PHAS 6107  Supervised Clinical Practice VII – OB/GYN**

*4.0 Semester Credit Hours*

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 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. There is a practicum fee for this course.

**PHAS 6108  Supervised Clinical Practice VIII – Surgery**

*4.0 Semester Credit Hours*

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 participate in surgical procedures. This practicum is usually accomplished in a surgical department and focuses on general surgical procedures. There is a practicum fee for this course.

**PHAS 6109  Supervised Clinical Practice IX – General Elective II**

*4.0 Semester Credit Hours*

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. There is a practicum fee for this course.

**PHAS 6110  Supervised Clinical Practice X – Medical Elective**

*4.0 Semester Credit Hours*

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. There is a practicum fee for this course.

**PHAS 6111  Supervised Clinical Practice XI – Community Medicine Project**

*4.0 Semester Credit Hours*

The implementation of the community medicine project developed during the 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. There is a practicum fee for this course.

**PHAS 6112  Supervised Clinical Practice XII – Selective**

*4.0 Semester Credit Hours*

This is a four-week course of instruction selected by faculty (with input from the student) to best meet the needs of the student. 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 elective.

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.

*There is a practicum fee for this course.*
RESPIRATORY CARE

Respiratory care, also known as respiratory therapy, is the health profession responsible for caring for patients with deficiencies and abnormalities of the cardiopulmonary system. Areas of respiratory care include basic care (oxygen, aerosol, and chest physiotherapy), critical care (ventilator management and physiologic monitoring), perinatal and pediatric respiratory care, cardiopulmonary diagnostics, pulmonary laboratory, alternate site care, home care, pulmonary rehabilitation, and disease management.

The respiratory therapist often sees a diverse group of 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 and infant respiratory distress syndrome, shock, trauma, and postoperative surgical care. Respiratory therapists also are involved in many specialty areas in the hospital such as newborn labor and delivery, neonatal and pediatric intensive care units, pulmonary function laboratory, sleep laboratory, adult intensive care units, extracorporeal membrane oxygenation, EKG, and areas outside the hospital such as clinics, extended care facilities, and the home.

The baccalaureate-prepared respiratory therapist, as an advanced practitioner, is trained to deliver respiratory care in the hospital, home, and alternate care sites. Bachelor’s degree program graduates are eligible to sit for the national board exams for certification as an entry-level respiratory therapist, to become registered as an advanced-level respiratory therapist, and to take specialty examinations in perinatal/pediatrics and pulmonary function technology.

Bachelor of Science in Respiratory Care Program

The Bachelor of Science in Respiratory Care degree program requires a minimum of 147.5 semester credit hours, including Texas Core Curriculum requirements, program prerequisites, respiratory care coursework, and clinical fieldwork. Texas Core Curriculum requirements and program prerequisites may be completed at any regionally accredited college or university.

The “professional phase” of the program, which consists of respiratory care coursework and clinical fieldwork, is completed at the HSC and affiliated clinical sites. The professional phase is approximately 22 months long. It is dedicated to clinical and academic excellence and includes more than 1,000 hours of in-hospital clinical practice. 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 sit for the Entry Level CRT Examination and the Written Registry Examination for Advanced Respiratory Therapists, given by the National Board for Respiratory Care. Passing the Entry Level CRT Examination is required for licensure in Texas.

The program is accredited by the Committee on Accreditation for Respiratory Care (CoARC), 1248 Harwood Rd., Bedford, Texas 76021-4244, phone (817) 354-8519, fax (817) 354-8519, and the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 35 East Wacker Drive, Suite 1970, Chicago, IL 60601, (312) 553-9355.

Application and Admission

Application for admission to the Bachelor of Science in Respiratory Care program may be completed at https://www.applytexas.org/adappc/commonapp.WBX. Detailed information about application and admission is available from the Health Professions Welcome Center at (866) 802-6288 (toll-free) or (210) 567-8744, and online at http://student-services.uthscsa.edu/prospects_apply Ah.aspx. Completed application, application fee, official transcripts, and supporting documents must be submitted to the Registrar by May 15 for fall semester admission.

Admission Factors

A maximum of 24 full-time students is admitted each year. Admission is on a competitive basis. 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. In addition, the review includes consideration of the non-academic qualifications listed below (listed in no particular order of preference or weight):

• bilingual ability
• race/ethnicity
• educational attainment of the applicant’s family
• 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
• socio-economic history (educationally and/or economically disadvantaged)
• positions of leadership held
• public/community service or “volunteer” related activities
• “volunteer” activities in health care related areas
• prior experience in providing health care related services
• extra-curricular activities
• success in overcoming adverse personal, family, or “life” conditions/experiences
• communication skills – as demonstrated in the essay and personal interview
• commitment/desire to serve in a medically under-served region of the state following graduation
• reference letters or recommendations
• research accomplishments
• applicant’s future goals
• knowledge of, and preparation to enter, the profession of respiratory care gained through observing or volunteering in a hospital setting or other patient care setting
• Texas resident status, or permanent Texas resident alien

Admission Requirements
Applicants must have completed 42 semester credit hours of Texas Core Curriculum requirements (see “Texas Core Curriculum” in this Catalog, page 78) and 29 semester credit hours of program prerequisites (see list of prerequisites below). Texas Core Curriculum requirements may be used to satisfy program prerequisites, and program prerequisites may be used to satisfy Texas Core Curriculum requirements. Admission requirements include:
• Completion of 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
• Minimum overall grade point average of at least 2.5 in college/university coursework
• Sophomore standing or higher at the time of application
• Ability to complete all Texas Core Curriculum and program prerequisite courses by fall semester enrollment in the program
• Personal interview with program faculty

Program Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy and Physiology I with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Anatomy and Physiology II with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Chemistry I with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Computer Literacy</td>
<td>3.0</td>
</tr>
<tr>
<td>General Psychology</td>
<td>3.0</td>
</tr>
<tr>
<td>Microbiology with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Physics I with laboratory</td>
<td>4.0</td>
</tr>
<tr>
<td>Statistics</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Program Prerequisite Total 29.0

General Policies and Information

Advanced Standing in Respiratory Care
Individuals holding the Certified Respiratory Therapist (CRT) or Registered Respiratory Therapist (RRT) credentials awarded by the National Board for Respiratory Care (NBRC) are eligible for advanced standing in the Respiratory Care Program. Individuals holding the CRT credential may be eligible to receive credit for 20 semester hours of coursework based on the CRT credential. These individuals may be eligible to attempt equivalency examinations for an additional 29 semester hours of coursework. All other admission and program requirements must be met. Individuals holding the RRT credential may be eligible to receive 61 semester credit hours based on the RRT credential. Such individuals must enroll in and complete a minimum of 30.5 semester hours of coursework at the HSC. Individuals holding the RRT credential must apply for admission to the program at least 60 days prior to the first day of the semester in which they wish to begin coursework at the HSC. General education prerequisites may be waived for these individuals for admission to the program. All general education requirements must be completed prior to graduation and all other program requirements apply.

Advancement, Probation, and Dismissal
Respiratory care courses are taught in a sequential manner, and each course serves as a prerequisite for subsequent courses. Therefore, courses must be taken in the planned sequence. Failure to earn a grade of C or better in a course may result in the student’s being suspended or dismissed from the program. Students who are readmitted to the program at times other than the fall semester will resume the course sequence from the point of exit. Unless otherwise described in a course syllabus, the minimum satisfactory grade for course credit is 75% (letter grade of C), and all stipulated segments of a course must be passed by this standard. Students must demonstrate proficiency in all required clinical skills in order to pass clinical courses. If a student earns grades lower than C, the student may not be permitted to register for subsequent courses or semesters, and the student may be subject to suspension or dismissal from the program.

Students who withdraw or have been dismissed from the program must re-apply and will be considered on the same basis as a new applicant. Students requesting re-admission must submit a letter to that effect to the Committee on Allied Health Studies for Respiratory Care (see “Readmission Procedure” below).

Attendance

Attendance — Clinical Practice
There are no excused absences from clinical practice. Each clinical practice has a requisite number of mandatory clinical hours. Any student not completing the required clinical hours during a given session will not receive a passing grade for that clinical practice. Time for any excused absence must be made up at the discretion of the clinical instructor. Clinical instructors are not required to allow a student to make up missed days. If clinical absences are not made up, a letter grade of "F," "I," or "IP" may be given at the discretion of the faculty.

Clinical practice, unless otherwise announced, begins at 6:45 a.m. Students are expected to be prompt and prepared to begin clinicals at 6:45 a.m. Tardiness, delays, and absences hamper all student assignments made for that clinical day. If assignments cannot be arranged because of tardiness, the student may be required to make-up that day of tardiness as a full clinical day.
Any student exceeding four (4) tardies or four (4) clinical absences may be subject to dismissal from the program.

Procedure for Notification of Illness or Tardiness — A student is required to:
1. Call the hospital assigned to the student for clinical practice before 6:30 a.m., if possible.
2. Speak with the shift supervisor.
3. Identify herself/himself as a student at The UT Health Science Center San Antonio when speaking to the shift supervisor.
4. Inform the shift supervisor that he/she will be late or absent.
5. Notify the HSC Department of Respiratory Care by 8:30 a.m.

Attendance — Class
Class attendance regulations allow the student to be absent no more than 10% of the scheduled lectures. Students absent more than 10% of the scheduled classes may be dropped from the course. For example, if a class meets 50 times during a semester, then a student will be allowed a maximum of five (5) classes missed. The student may be dropped from the course on the sixth class missed.

Conduct and Ethics
Each student is expected to conduct herself/himself at all times in a dignified manner—a manner which conforms to the ethics of the profession and which instills patient confidence in one’s abilities as a health care practitioner. Irresponsible, unprofessional, or unethical behavior, as determined by the instructor, or failure to follow the instructions of a clinical instructor during clinical practice may result in dismissal from the program. All hospital regulations are to be followed by students when undergoing clinical training in a facility.

The department will not condone cheating in any form. Allegations of cheating will be reviewed by the Committee on Allied Health Studies and, if merited, dealt with in a strict manner, including immediate dismissal from the program.

Any student found to be cheating on an examination will automatically receive a “0” for the exam and, at the discretion of the Committee on Allied Health Studies, will be subject to dismissal from the program.

In the event of a student disciplinary problem in a clinical facility, such as unprofessional conduct, the following procedure will be adhered to:
1. The student will be dismissed from the clinical facility by the instructor, and the time will be recorded as an unexcused absence.
2. The student will be scheduled for a formal counseling session conducted by the instructor and the clinical director, at which time her/his clinical status will be reviewed and appropriate action taken. The student must complete this counseling session in order to be readmitted to the clinical rotation.
3. The program attendance policy remains applicable.

Correspondence Between Students and Faculty
1. A schedule of office hours will be noted in each faculty member’s course syllabus.
2. Students are responsible for checking the program bulletin board for current notices.
3. Students will be assigned to a faculty advisor in the fall semester of their junior year. Times for student conferences will be posted.
4. Each student must meet with her/his advisor formally at least once per semester during the academic year. One advisement session will be held during each summer session.
5. A student conference record will be completed and signed by both the faculty member and student following a formal conference.

Dropping Courses
See “Adding/Dropping Courses” under General Academic Policies in this Catalog for information on limitations on dropping courses.

Graduation Requirements
To graduate from the program, students must:
• Complete all required coursework with a grade point average (GPA) of 2.0 or better
• Complete all required respiratory care professional courses with a grade of C or better
• Successfully complete the Entry Level CRT/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 Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS)
• Successfully complete the Neonatal Resuscitation Program (NRP)

Guide for Professional Conduct
Professionalism relates to the intellectual, ethical, behavioral, and attitudinal attributes necessary to perform as a health care provider. Examples of professional behavior are listed in the Guide for Professional Conduct. These examples should be reviewed by the student; however, professional behavior is not limited to these examples. In addition, the student will be expected to:

Attention
1. Demonstrate awareness of the importance of learning by asking pertinent questions, identifying areas of importance in clinical practice, and reporting and recording those areas.
Participation
1. Complete assigned work and prepare for class, laboratory, and clinical objectives prior to attending.
2. Participate in formal and informal discussions, answer questions, report on experiences, and volunteer for special tasks and research.
3. Initiate alteration in patient-care techniques when appropriate via notification of nursing staff and physician.

Dependability and Appearance
1. Attend sessions and be punctual and reliable in completing assignments with minimal instructor supervision.
2. Promote a professional demeanor by appropriate hygiene, grooming, and attire.

Communication
1. Demonstrate a pleasant and positive attitude when dealing with patients by greeting them by name, approaching them in a nonterrorizing manner, and setting them at ease.
2. Explain procedures clearly to the patient.
3. Ask patients how they feel and solicit patient comments regarding the patient’s overall condition and response to therapy.
4. Communicate clearly to nursing staff and physicians regarding the patient status, utilizing appropriate charting, oral communication, and the established chain of command.

Organization
1. Display recognition of the importance of interpersonal relationships with other members of the health care team by acting in a cordial and pleasant manner.
2. Work as a team with fellow students, nursing staff, and the physician in providing patient care.
3. Organize work assignments effectively.
4. Collect information from appropriate resources.
5. Correlate respiratory care to overall patient condition.
6. Adapt respiratory care techniques to overcome difficulties.
7. Devise or suggest new techniques for the welfare of the patient or enhance the efficiency of the respiratory care facility.

Safety
1. Verify identity of patients before initiating therapeutic action.
2. Interpret written information and verbal directions correctly.
3. Observe and report significant changes in patient’s condition promptly to appropriate person(s).
4. Act to prevent accidents and injury to patients, personnel, and self.
5. Transfer previously learned theory and skills to new/different patient situations.
6. Request help from faculty/staff when unsure.

Examples of critical errors in professional conduct and judgement include:

1. Failure to place the patient’s welfare as first priority
2. Failure to maintain physical, mental, and emotional composure in all situations
3. Consistent ineffective, inefficient use of time in clinical setting
4. Failure to be honest with patients, faculty, and colleagues

Illness
In the event of a lengthy illness, each case will be reviewed individually with regard to time lost, time available for completion, and content of objectives to be covered. Any such absence may require written documentation from a physician.

Illness or Injury of Student While Attending Classes
Illness or injury while in the classroom or clinical area must be reported to the professor or instructor present. Students who are pregnant should inform the clinical director who will inform the instructor, so that no assignment will be made involving exposure to radiation or other hazards.

Incidents in the Clinical Agency
An incident which affects patient or staff well-being or the patient’s prescribed care will be reported to the clinical instructor immediately. A hospital incident report will then be completed following the policy of that institution. A duplicate of the hospital incident report, as well as a memorandum of explanation from the clinical instructor, will be placed in the student’s clinical file and the Department Chair or clinical director will be notified immediately. Incidents involving gross errors in judgement or practice on the part of the student will constitute grounds for dismissal from the program.

Incomplete Assignments and Make-up Examinations
All assignments are to be turned in as specified on the course syllabus. Assignments not turned in to the instructor when due will result in a “0” for that assignment.

Students given an incomplete in a course must have the mechanism for resolving the incomplete agreed upon with the course instructor by the first week of classes in the subsequent semester. The agreement must be in writing and must include the signature of the student and the instructor.

As a general policy, make-up exams will not be given for missed exams. A request for a make-up exam should be directed to the individual instructor. In cases of serious illness or accident, a make-up exam may be considered.

Professional Attire
The following guidelines are used to assist the student in adjustments to various hospitals and other health agencies.
The policies vary, but in general the rules established by the program will cover the student’s responsibility when entering such health agencies. The UT Health Science Center San Antonio wishes to have its students represent the university in a manner that reflects its goal of high standards of professionalism.

Uniform regulations are needed to assure standard, identifying attire and a well-groomed personal appearance. The ultimate goal is to protect the patient and self from cross-contamination and to reflect confidence and assurance in patient contact and hospital staff personnel relationships.

1. A white, buttoned (no zipper), long-sleeved laboratory coat, approximately knee length, must be worn at all times in the clinical agency. A program patch will be permanently affixed to the left front pocket.
2. Name tags and university ID cards specified by the program must be visibly worn at all times.
3. Males: Shirts and ties will be worn. Dress pants are preferred, but neat dress casual pants or cords are acceptable.
   Females: Dresses, skirt and blouse, or slacks and blouse are acceptable.
   NO blue jeans, sandals, or tennis shoes.
4. A watch with a second indicator is required.
5. Stethoscopes, bandage scissors, and hemostats are mandatory beginning in the spring semester of the junior year. A small pocket notebook should be purchased for clinical sessions.

Failure to comply with the above regulations regarding uniform policy may result in the student being dismissed from clinicals until such time as the deficiencies are corrected.

Program Costs
Costs for in-state tuition and fees, parking permits, health and liability insurance, etc., are approximately $16,500 for the entire degree program. In addition, costs for other expenses, such as textbooks, course manuals, equipment, uniforms or scrubs, examination fees, and supplies are approximately $3,500. Travel and living expenses for local and out-of-town clinical experiences are not included in this estimate. Non-resident students are subject to additional tuition costs, which may be found under “Financial Information” in this Catalog, page 86.

Readmission Procedure
A student who fails a respiratory care course, drops a respiratory care course during a session, or does not proceed to the next respiratory care course may be eligible for readmission at the first available opportunity and must petition the Committee on Allied Health Studies (CAHS) to reenter the program. The following procedure is required:
1. At the time the student fails, drops, or decides not to proceed in sequence, the Department Chair will complete a student counseling form giving the reasons for the failure or reasons for the student dropping the course.
2. An exit interview with the Department Chair is encouraged as part of the official procedure for exiting the program.
3. At least two months prior to the beginning of the semester in which the student wishes to reenter, he/she must submit a letter of intent to the CAHS. Students wishing to reenter the fall semester should submit the letter of intent by May 15. Requests for readmission should be submitted to the Registrar.
4. If remedial work was requested in guided studies of general courses, results of such classes must be included in the request for readmission. If medical conditions were involved, written verification of good health and ability to function safely in a clinical crisis situation is required.
5. The decision regarding reentry will be subject to the policy on reinstatement to the respiratory care sequence and approval of the CAHS.
6. The student will be informed in writing of the decision.

Tardiness (Class and/or Clinical)
The student should be in the appointed place at the appropriate time; disregard for this demonstrates irresponsibility and unacceptable professional behavior. Such behavior cannot be tolerated and action may be taken at the discretion of the instructor. Excess tardiness may result in grade reduction. In certain instances, the student may be subject to administrative withdrawal from the course and/or program.

Three-Year Track
A three-year professional phase track is available for students who wish to reduce the required course work load in order to complete program prerequisites or meet other outside requirements. For more information on the three-year track, contact the department.

Program Curriculum
In addition to Texas Core Curriculum requirements and program prerequisites, the professional phase of the program includes the following courses.

<table>
<thead>
<tr>
<th>Junior Year</th>
<th>Fall Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESC 3001</td>
<td>Basic Respiratory Care Equipment</td>
<td>3.0</td>
</tr>
<tr>
<td>RESC 3003</td>
<td>Introduction to Respiratory Care</td>
<td>5.0</td>
</tr>
<tr>
<td>RESC 3007</td>
<td>Cardiopulmonary Physiology</td>
<td>5.0</td>
</tr>
<tr>
<td>RESC 3011</td>
<td>Patient Assessment</td>
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<td>RESC 3019</td>
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<tr>
<td>RESC 3021</td>
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<td>Semester Total</td>
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</table>
### Course Descriptions

**RESC 3001  Basic Respiratory Care Equipment**  
*3.0 Semester Credit Hours*

Students will have the opportunity to gain hands-on experience with basic respiratory care equipment. Students will have the opportunity to select, assemble, and check equipment for proper function, operation, and cleanliness. Equipment malfunctions and actions to correct malfunctions also will be covered. Equipment will include oxygen delivery devices, humidifiers, aerosol generators, pressure ventilators, gas delivery, metering and analyzing devices, percussors, vibrators, environmental devices, manometers and gauges, and vacuum systems.  
*Lab fee: $15.*

**RESC 3003  Introduction to Respiratory Care**  
*5.0 Semester Credit Hours*

This course covers the principles of chemistry and physics as they apply to respiratory care, as well as basic respiratory care procedures. Specific modes of respiratory care are examined to understand principles of application to patients, indications, hazards, contraindications, and evaluation of therapy. Modes of care include medical gases, humidity/aerosol therapy, positive pressure breathing, incentive spirometry, expiratory resistance, postural drainage, and percussion/vibration. Respiratory therapy equipment utilized in performing basic therapeutic modalities will be examined in detail.

**RESC 3005  Respiratory Care Pharmacology**  
*4.0 Semester Credit Hours*

This course introduces the physiologic and pharmacologic basis of pulmonary and cardiac medications. The course will focus on the preparation, as well as the calculation, of dosages and mixtures. General principles of pharmacology as a basis for an in-depth discussion of bronchoactive drugs and drug groups related to the cardiopulmonary system such as neuromuscular blocking agents, central nervous system depressants, cardiovascular agents, and diuretics will be included.

**RESC 3007  Cardiopulmonary Physiology**  
*5.0 Semester Credit Hours*

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.

**RESC 3011  Patient Assessment**  
*3.0 Semester Credit Hours*

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.

**RESC 3013  Disease Management, Rehabilitation, and Extended Care**  
*3.0 Semester Credit Hours*

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 non-acute settings is examined, along with technological and procedural aspects of cardiopulmonary equipment.

**RESC 3015  Advanced Life Support and Airway Care**  
*3.0 Semester Credit Hours*

Basic and advanced life support will be covered to include cardiopulmonary resuscitation, artificial ventilation and circulation, endotracheal intubation, airway care, recognition and treatment of arrhythmias, and cardiovascular pharmacology. Related equipment will also be reviewed to include manual resuscitators, artificial airways, defibrillators, and cardiac monitors.  
*Lab fee: $15.*

**RESC 3017  Pulmonary Disease**  
*3.0 Semester Credit Hours*

Topics include the etiology, pathophysiology, treatment, and prognosis of common cardiopulmonary and pulmonary diseases and conditions. The course will include assessment skills needed to evaluate the patient’s condition from clinical observations, laboratory tests, and chest radiographs.

**RESC 3019  Clinical Practice I**  
*5.5 Semester Credit Hours*

*Prerequisites: RESC 3005, RESC 3003, RESC 3001*

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.

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<td>Clinical Practice I</td>
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RESC 3021 Mechanical Ventilation
3.0 Semester Credit Hours
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 trouble shooting. Maintenance of artificial airways, fiber-optic bronchoscopy, thoracentesis, chest tube maintenance, and arterial blood gas sampling related to the critical care patient will also be discussed. Lab fee: $15.

RESC 3023 Pulmonary Function Testing
3.0 Semester Credit Hours
This course is a 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 and maintenance of pulmonary function and gas analysis equipment. Lab fee: $10.

RESC 3025 Critical Respiratory Care
5.0 Semester Credit Hours
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, monitoring, ventilator weaning, and discontinuance will be covered.

RESC 3029 Clinical Practice II
3.5 Semester Credit Hours
Prerequisite: RESC 3019
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 bronchscopy observation are introduced. Case presentations are required to integrate clinical and classroom theory.

RESC 4001 Cardiopulmonary Technology
3.0 Semester Credit Hours
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.

RESC 4003 Pediatric and Neonatal Respiratory Care
3.0 Semester Credit Hours
The processes of growth and development relating to respiratory care, from the fetus to the adolescent, will be discussed. The study relates physiologic function to respiratory care including assessment, evaluation, and treatment. Topics include fetal growth and development, neonatal growth and development, fetal assessment, fetal evaluation, neonatal assessment, neonatal evaluation, neonatal respiratory care, neonatal pathology, pediatric pathology, and pediatric respiratory care.

RESC 4005 Advanced Critical Care Monitoring
3.0 Semester Credit Hours
This course is a study of advanced critical care techniques for invasive and noninvasive patient monitoring. Hemodynamic monitoring will include arterial pressure monitoring, central venous and pulmonary artery catheters, and cardiac output measurement. Noninvasive monitoring techniques including oximetry, transcutaneous monitoring, inductance plethysmography, capnography, and metabolic testing will be presented.

RESC 4007 Cardiopulmonary Pathology
3.0 Semester Credit Hours
This course is an overview of respiratory care management of nonrespiratory disorders commonly encountered in the critical care unit. Topics include cardiac and cardiovascular disorders, neurologic and neuromuscular disorders, shock, trauma, sepsis, near drowning, burns, smoke inhalation, carbon monoxide poisoning, drug overdose, renal failure, acute G.I. disturbances, and respiratory care of the postoperative patient.

RESC 4009 Clinical Practice III
5.5 Semester Credit Hours
Prerequisites: RESC 3029, RESC 4003, RESC 4009
Students will have an opportunity to further develop skills required in the intensive care of the respiratory patient. Topics include initiation of mechanical ventilation; patient stabilization and monitoring; measurement and evaluation of hemodynamic variables; bronchial hygiene; and evaluation for weaning, extubation, arterial line samples, and noninvasive monitoring. Case presentations are required to integrate clinical and classroom theory.

RESC 4011 Patient Care Management Seminar
3.0 Semester Credit Hours
Prerequisite: senior status
This course is a review of respiratory care as it pertains to the national credentialing examinations administered by the National Board for Respiratory Care (NBRC). A series of simulation examinations will be used to help students prepare for these exams. Emphasis will be placed on decision making and problem solving as they relate to clinical respiratory care. Topics include Certified Respiratory Therapy Technician (CRTT) exam preparation and Registered Respiratory Therapist (RRT) exam preparation.

RESC 4013 Management
3.0 Semester Credit Hours
Prerequisite: senior status
Management principles and problems as they relate to respiratory care; cardiopulmonary sciences; and the management of the department, hospital, service organization, and health programs will be discussed.

RESC 4015 Education in Respiratory Care
3.0 Semester Credit Hours
Prerequisite: senior status
This course is an introduction to basic principles and techniques used in respiratory care education. Topics include patient education, inservice education, course design, objectives, lesson-plan development, learning activities, use of media, development of presentations, testing, and evaluation.

RESC 4017 Introduction to Research
3.0 Semester Credit Hours
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.

RESC 4019 Clinical Practice IV
5.5 Semester Credit Hours
Prerequisites: RESC 3023, RESC 4003, RESC 4009
Clinical experience is provided in perinatal and pediatric respiratory care in the areas of oxygen and aerosol therapy, chest physical therapy, mechanical ventilation, patient assessment and monitoring (invasive and noninvasive), airway care, and labor and delivery assistance. Also covered in the Pulmonary Function Laboratory are arterial blood gas
analysis, measurement of lung volumes and capacities, flow volume loops, diffusion testing, and body plethysmography.

RESC 4021  Issues and Trends  
3.0 Semester Credit Hours  
Prerequisite: senior status  
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.

RESC 4029  Clinical Specialization  
4.5 Semester Credit Hours  
Prerequisite: RESC 4019  
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.
Mission
The University of Texas School of Nursing at San Antonio was authorized by the Texas legislature in 1969 for the purpose of “preparing nurses to meet the needs of hospitalized patients in the state of Texas.” The School of Nursing, now a part of The UT Health Science Center San Antonio (HSC), has expanded its mission to include providing quality baccalaureate and graduate nursing programs to qualified students, supporting competent clinical nursing practice, participating in scholarly activity, and engaging in community service. The mission reflects the commitment of the faculty to the people of the state of Texas to accomplish its goals and purposes.

Programs
Three programs of instruction in nursing are offered at the HSC. The undergraduate program and a continuing education program are presented by the School of Nursing; the graduate program is administratively directed by the Graduate School of Biomedical Sciences. The undergraduate program includes planned learning opportunities designed to meet the needs of beginning as well as registered-nurse students and licensed vocational nurses who are pursuing a degree. The graduate program is designed to provide opportunities for advanced clinical study, research, and preparation for teaching or administration. Both undergraduate and graduate programs are offered on a full-time or part-time basis. The continuing education program provides learning opportunities for the ongoing educational needs of registered nurses in South Texas.

Philosophy
The School of Nursing is one of five schools of the HSC and shares the goal of assuring high-quality health care for the people of Texas. The purpose of the School of Nursing is to prepare students at the undergraduate and graduate levels to function in a variety of professional nurse roles. The School of Nursing is committed to the highest standards of achievement in instruction, student performance, research and scholarly accomplishment, patient care, and service, as well as the Health Science Center’s responsibilities to South Texas, the state, the nation, and the world.

Major philosophical commitments of the School of Nursing are organized according to six concepts that are emphasized throughout its organization, characterize the conduct of faculty and students, and inspire its education programs. The concepts are: professionalism, scholarship, integrated learning, transition, customization, and partnership.

Professionalism
Nursing is a theory-driven, scientifically based profession that is actualized through the art of practice. The process of care, which occurs through partnership between the practitioner and the patient, enables nurses to nurture human potential, enhance quality of life, and assist patients to achieve optimal health. Nursing draws its knowledge bases and theory from nursing, basic, behavioral, and biological sciences. The professional nurse, in the roles of provider, leader/manager, and member/advocate of the profession is responsible for and accountable to individuals, families, aggregates, the community, and society for assessing, planning, providing, and evaluating nursing care across the life span. Faculty and preceptors, as role models for students, personify the qualities of professionalism.

Scholarship
Nursing scholarship is a unique synthesis of knowledge from basic, behavioral, and biological sciences within the domain that is professional nursing. Nursing scholarship involves discovering, creating, structuring, testing, and refining knowledge needed for the practice of nursing. This process occurs through various partnerships among individuals, the School of Nursing, the HSC, and local and world communities. The value of professional scholarship, to which faculty and students subscribe, is realized through its application in the role of provider, leader/manager, and member/advocate of the profession, in response to specific human and societal needs.

Integrated Learning
Learning is a process that involves the totality of human experiences and facilitates lifelong transitions. Integrated learning has two unique dimensions. The first dimension acknowledges the interaction of the student’s personal components of need, ability, and style. The second acknowledges that the subject (nursing) necessitates incorporation of diverse information into a unified whole-knowledge. Active learning requires students who demonstrate commitment to their development and assume responsibility for their role in the learning process. This results in the preparation of professional practitioners with a broad perspective and understanding of multiple content areas, who are able to synthesize information from various disciplines, think logically, analyze critically, and communicate effectively with patients and other health care professionals. Settings that will optimize student learning are critical to efficient and effective teaching and learning.
Transition
“A transition denotes a change in health status, in role relations, in expectations, or in abilities.” (Meleis, 1991)

Many factors influence resilient and healthy transitions resulting in positive changes in bio-behavioral responses, relationships, capabilities, and outcomes relative to people, organizations, and society. The nurse as provider engages the patient in a partnership to evaluate, nurture, and sustain a healthy state. During times of health transitions due to developmental processes, disability, disease, or the process of dying, the nurse provider cares for the patient in a holistic, compassionate, and ethical manner. The nurse-patient partnership involves customized care to the individual patient. The outcomes of the nurse-patient partnership are manifested in changes in health status, knowledge level, nature of role relationships, behavioral changes, and attitudes.

Of particular importance in the educational area, is the School of Nursing’s commitment to serving a diverse student population, and providing education mobility. The faculty recognizes that various nursing programs share a common core and value the various life experiences, knowledge, skill, and abilities that students bring to the educational process. The School of Nursing fosters educational transitions by providing the prospective student with multiple entry options to minimize repetition of content between programs. Faculty and students in partnership customize learning experiences to assist the student in transition to the role of professional nurse at the undergraduate level and the roles of advanced practice nurse and scientist at the graduate levels. Faculty and students share the responsibility for an educational partnership that encourages growth toward learning outcomes in an innovative, evolving learning environment. Outcomes are founded in the cognitive, affective, and psychomotor domains and encourage growth from novice to expert levels.

Customization
Nursing care and education should be realized in a manner that maximizes resource utilization, quality, and access. Customization implies designing processes responsive to participant needs, understanding that ability to respond to change is critical to full participation of individuals and groups in the global future. Customization requires adaptability, an unbounded frame of reference, reconceptualizing ideas, realignment, cooperation, and focus on essentials. For the learner, needs, readiness and style are considered, as is curriculum design and implementation that allows for adaptability to best facilitate educational and professional transitions. Customization in care management and delivery involves interactions between health care providers from many disciplines within their collective contexts and requires active partnerships.

Partnership
Responsive to the changing health care environment, participants maintain a set of dynamic relationships with mutual responsibility for student education and the health of all partners. Faculty and students share the responsibility for an educational partnership that encourages growth toward learning outcomes in an innovative, evolving learning environment. Partnership implies a collegiality that facilitates implementing a learning environment where each participant contributes and receives something that matters, becomes more capable personally and in groups, and devises coordinated meaningful activity. Partners are responsible according to their role: teacher, student, patient*, health care provider, organization, family, community. Partnerships extend to multidisciplinary relationships and organizational contracts. The partnership generates strategic plans and positive creative energy to support the health care goals of the whole.

Guidelines for Professional Conduct
Students in the School of Nursing are expected to conduct themselves in a professional manner at all times, not only in interaction with patients, but also with peers, faculty, and staff. Students represent the School of Nursing and the nursing profession; thus, students assume responsibility towards society. These responsibilities are delineated in the Code for Nurses, American Nurses’ Association, 2001. ‘The statements of the Code and their interpretation provide guidance for nurses’ behavior in relation to carrying out nursing responsibilities within the framework of ethical decision making. Students are obligated to function at all times within the framework of the Code for Nurses. [Copies of the Code for Nurses with interpretive statements (2001) are available in the bookstore for purchase.]

In support of the Code of Nurses we believe practicing professional nursing is an honor earned every day. We – the students, faculty, Department Chairs, Associate Deans, and the Dean of the School of Nursing of The UT Health Science Center 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.

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 following the chain of command;

*patient (individual, family, aggregate, community, or society)
• 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, students, faculty, Department Chairs, Associate Deans, and the Dean. 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, student, faculty, Department Chair, Associate Dean, and the Dean;
• Foster and preserve the trust that exists between the professional and patient, student, faculty, Department Chair, Associate Dean, and the Dean;
• Respect and maintain the confidentiality of the patient, student, faculty, Department Chair, Associate Dean, and the Dean;
• Let no patient, student, faculty, Department Chair, Associate Dean, or the Dean suffer physically or emotionally as a consequence of unprofessional behavior by others or myself.
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;
• 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 any whose ability is impaired, support them as they seek rehabilitation, and help them to reintegrate into the community.

* Adapted from the HSC Student Guide, School of Medicine

Nursing students are expected to maintain an environment of academic integrity. Actions involving scholastic dishonesty violate the professional code of ethics and are disruptive to the academic environment. Students found guilty of scholastic dishonesty are subject to disciplinary action, including dismissal from the school.

Both professional misconduct and scholastic dishonesty are governed by the guidelines contained in the procedures and regulations governing “Student Conduct and Discipline” of the Health Science Center contained in this Catalog, page 101. Any nursing student who fails to demonstrate to the faculty the intellectual, ethical, or behavioral attributes necessary for a member of the nursing profession is subject to dismissal.

HIPAA
The UT Health Science Center School of Nursing requires students to comply with the federal regulations of The Administration Simplification Subtitle of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). This Act requires that individually identifiable patient information be protected and disclosed on a need-to-know basis only. (See “Health Insurance Portability and Accountability Act [HIPAA],” page 62.)

Immunization
All students must complete the 3-injection series Hepatitis B immunization before registration. Failure to comply will prevent initial enrollment.

Auditing Courses
Anyone may audit a course in the School of Nursing with the approval of the appropriate Associate Dean; the Associate Dean then seeks the consent of the course instructor. Students pay an audit fee, and a permanent record of the audited course is kept by the Registrar. A student auditing a course is not permitted to participate in any clinical activity of the course.

Graduation
Official commencement ceremonies are held each year in May. Graduates cannot participate in commencement prior to completion of their program. Official School of Nursing graduation invitations are ordered at the Bookstore on the HSC’s central campus. Invitations must be paid for at the time they are ordered.

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.

Dual Enrollment Processes
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 for UTSA and a Certification of Dual Enrollment form. Forms are available in the Registrar’s Office; office personnel will complete the form. Students then must hand carry the form to UTSA. Correspondence from UTSA will go directly to the student.

Deadlines for application at UTSA are:

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<th>Deadlines</th>
<th>UTSA Deadlines</th>
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<tr>
<td>May 1</td>
<td>for summer sessions</td>
</tr>
<tr>
<td>July 1</td>
<td>for fall semester</td>
</tr>
<tr>
<td>December 1</td>
<td>for spring semester</td>
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Accreditation
The UT Health Science Center San Antonio School of Nursing's baccalaureate program is approved by the Board of Nurse Examiners for the state of Texas, 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 have received full accreditation through 2011 from the Commission on Collegiate Nursing Education.


Scholarships
Various scholarships are available to undergraduate and graduate nursing students. To become eligible for a nursing scholarship, an application for financial aid (FAFSA) must be on file with the Office of Financial Aid. Scholarship eligibility criteria are provided in the scholarship application guidelines. Scholarship criteria stipulate that recipients must meet nursing program progression requirements and maintain at least a 2.5 grade point average to retain eligibility for the scholarship. Information about nursing scholarships is available in the School of Nursing Office for Students.

Student 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" of this Catalog (page 56).

Procedure for Academic Review
For Undergraduate and Graduate Students

Section I: Purpose of Procedure
The purpose of Academic Review is to provide students and faculty of the School of Nursing with objective appraisal regarding academic matters. The Academic Review Committee serves only in an advisory capacity and is not a decision-making body. The student must realize that opening a situation for appeal may result in her/his receiving a higher or lower grade, with acceptance of the recommendations by the faculty member.

The Academic Review Committee may only consider questions as to whether or not any grade given reflects the student's achievement or the stated objectives for that grade. The Board may review grades given on any of the following:

- Final grades
- Final grades on quizzes, assignments, projects, exams, etc.
- Final grades on any other academic papers
- Final grades on any other academic assignments
- Final grades on any other academic work

The Academic Review Committee may only consider questions as to whether or not any grade given reflects the student's achievement or the stated objectives for that grade. The Board may review grades given on any of the following:
Section II: Procedure to be Followed

Prior to initiation of an appeal, the student must contact the instructor or Department Chair and discuss the charge. If resolution is not achieved, the student should pursue the academic review procedure.

The student may submit a written petition to the Assistant Dean for Students within 72 hours of receiving a student petition, at least two members of the Committee will meet with the student to determine if the concern brought by a student is appropriate to be heard by an Academic Review Committee.

The Screening Committee will determine the disposition of the concern. The Academic Review Committee will not review questions of concern which may include a charge of discrimination.

The Academic Review Committee will not review the following:

1. Clinical performance
2. Papers
3. Projects

The Academic Review Committee will not review disciplinary concerns.

The Academic Review Committee will not review academic deficiencies.

The Academic Review Committee will not review questions which may include a charge of discrimination.

Within 72 hours of the receipt of the written petition, the Assistant Dean for Students will convene a meeting of the Academic Review Committee to hear the concern. The Academic Review Committee will not respond to the charge itself. Functions of the Academic Review Committee are specified in Section III.

If the Screening Committee determines that an Academic Review Committee should be convened, they will initiate meeting within 72 hours of notification of the concern. The function of the Academic Review Board is specified in Section IV.

Section III: Composition and Function of the Academic Screening Committee

Two members of the faculty will be appointed by the Chair of the Faculty Assembly to serve on the Academic Screening Committee.

The function of the Screening Committee is to determine whether or not the concern brought by a student is appropriate to be heard by an Academic Review Committee.

Within 72 hours of receiving a student petition, at least two members of the Committee will meet with the student to determine if the concern is appropriate to be heard by the Academic Review Committee.

If the student is challenging a grade for the reason stated in Section I, paragraph 2, the disposition is to convene an Academic Review Committee.

If the student is challenging a grade for one of the reasons stated in Section I, paragraph 3, the disposition is to inform the student of the channels available through the individual, without identifying the student or faculty involved, which includes the date of the student's grade, the instructor or chair. The memo should also include the names of the review Committee members.

The Academic Review Committee will not respond to the charge itself. Functions of the Academic Review Committee are specified in Section IV.

If the student's concern is not appropriate for the Academic Review Committee, the Associate Dean will suggest disposition of the concern.

If the student is appealing a grade for one of the reasons stated in Section IV, the Academic Review Committee will respond to the charge itself.

Within 72 hours of the receipt of the written petition, the Assistant Dean for Students will convene a meeting of the Academic Review Committee to hear the concern. The Academic Review Committee will not respond to the charge itself. Functions of the Academic Review Committee are specified in Section IV.

The Academic Review Committee will not review questions of concern which may include a charge of discrimination.

The Academic Review Committee will not review academic deficiencies.

The Academic Review Committee will not review questions which may include a charge of discrimination.

Within 72 hours of the receipt of the written petition, the Assistant Dean for Students will convene a meeting of the Academic Review Committee to hear the concern. The Academic Review Committee will not respond to the charge itself. Functions of the Academic Review Committee are specified in Section IV.

The Academic Review Committee will not review questions of concern which may include a charge of discrimination.

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The Academic Review Committee will not review questions which may include a charge of discrimination.

Within 72 hours of the receipt of the written petition, the Assistant Dean for Students will convene a meeting of the Academic Review Committee to hear the concern. The Academic Review Committee will not respond to the charge itself. Functions of the Academic Review Committee are specified in Section IV.

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Section IV: Composition and Function of the Academic Review Committee

The Academic Review Committee will be selected by the Dean, in consultation with the Academic Dean. The Committee will be comprised of three faculty or two faculty and one student.

1. The student will choose, by lot, four faculty names. The first three (or two) persons chosen will serve as members, the fourth will serve as alternate.
2. If student representation is desired, the student will select, by lot, six faculty names. The first three (or two) persons chosen will serve as members, the fourth, fifth, and sixth will serve as alternates.
3. If student representation is desired, the student will select, by lot, four students' names. The students' names will be determined by the following mechanism:
   a. The undergraduate students select 20 students and the graduate students will select five students each semester to serve as potential student members of the Committee.
   b. The student committee will draw the four names from these names, after excluding the students who are in the same class as the petitioner.
   c. The first student drawn will serve as a member and the others will be alternates.

4. In selecting members of the Academic Review Committee:
   a. The student should provide the Academic Screening Committee a list of names and phone numbers of witnesses who have knowledge of the student's present performance. Character witnesses or faculty who have previously worked with the student are inappropriate witnesses.
   b. The Chairperson of the Academic Screening Committee will notify the Dean of the convening of an Academic Review Committee. The information given to the Dean includes the student's petition, the name of the faculty member involved, and the names of the Academic Review Committee, including the name of the Chair of the Committee.

5. The Academic Review Committee will hear all evidence presented and make a recommendation to the student and faculty member involved. The Committee may make only one of two recommendations:
   a. The grade given is indicative of the student's achievement and the faculty member should reconsider it.
   b. The grade given is not indicative of the student's achievement and should stand.

Section V: Conduct of the Academic Review Committee Hearing

The initial hearing will be held within 72* hours of the Academic Review Committee's receipt of the petition.

Prior to the meeting, the Review Committee member should direct her/him to the Assistant Dean for Students.

Members of the Committee should not discuss the student's petition with the Dean or the Assistant Dean for Students.

The Chairperson of the Academic Review Committee will notify the student, faculty witnesses, and committee members of the date, time, and place of the hearing.

The Academic Review Committee will hear all evidence presented and make a recommendation to the student and faculty member involved. The Committee may make only one of two recommendations:

1. The grade given is indicative of the student's achievement and the faculty member should reconsider it.
2. The grade given is not indicative of the student's achievement and the faculty member should reconsider it.

The Chairperson will review the procedure for the student and faculty.
The student will present the charge and rationale of her/his concern.

The faculty member will present her/his response to the charge.

The student, then the faculty member, may each offer one 5-minute summary statement.

The student and faculty member may each offer one 3-minute rebuttal statement.

Witnesses for either party may be called by the Committee Chairperson whenever appropriate during the hearing. Witnesses will wait in an adjoining room and will be present only for their testimony. Visitors are not allowed during Academic Review Committee hearings.

All evidence accumulated during an Academic Review will be kept in a separate file in the Office for Students, in the Office of the Dean, or the Dean. Procedures for grievances can be found in this Catalog.

The following procedures are established for the purpose of reviewing personal misconduct, student harrassment complaints, and academic misconduct.

1. Attempt to solve the problem directly with the individual or office that has prime responsibility.

2. If the problem is not resolved:
   a. In matters of curriculum and instruction, the student may communicate with the instructor/Department Chair/Associate Dean. If the concern is a grade on a written paper, the student may request a second reader via the Department Chair.
   b. All other problems, concerns, or difficulties may be directed to the student representatives on the appropriate School of Nursing or Dean of the Graduate School of Biomedical Sciences when necessary.

   72 hours is a suggested time period, not to be rigidly adhered to. Vacation, weekends, and holidays all necessitate extending the time.
The Nursing Clinical Skills Laboratory was designed as a specific area where psychomotor skills introduced in the classroom and lecture may be practiced and perfected. Students must have completed assigned readings, viewed assigned tapes, and answered all study questions. For participation in all Clinical Skills Lab activities—attending and demonstrating—submission of a final grade is required of every student.

The School of Nursing anticipates that students will have the opportunity to leave the laboratory with an understanding of how to perform techniques. Students will not, however, be expected to have perfected the techniques. Perfection may be achieved by repetitive practice, which students will perform on their own. Clinical Skills Lab staff and graduate assistants are available to supervise students' learning in the simulated Learning Laboratory. Clinical Skills Lab staff can monitor skill activity, demonstrate skills, and provide faculty with information on student performance. Course faculty with the core requirements for performing the skill, and the grading protocol for the Clinical Skills Lab. The director of the Clinical Skills Lab interfaces with course faculty to promote desired learning outcomes and to communicate student-related issues that may arise.

**Learning Lab Participation**

Active participation in learning laboratories is required of all students. Such activities (physiotherapy techniques, etc.) preparing students for professional clinical practice.

**Clinical Practicum Participation**

Active participation is mandatory. Students who miss more than 10% of the required clinical hours in a course with 90 or more clinical hours or 15% of the required clinical hours in a course with >90 clinical hours may not continue in the course.

**Clinical Skills Labs**

Requirements for practice of clinical skills in the Learning Laboratory, other than those for regularly scheduled labs, are outlined below:

1. Students of the School of Nursing may practice only those skills they attend class to learn are part of the curriculum.

2. Graduate students, undergraduate students, and faculty may schedule practice labs with the Director of Nursing Skills at least two days in advance of the desired session. Scheduling of sessions is dependent upon availability of space and supplies.

3. Intrusive procedures requiring needles, syringes, and other venous supplies must be done in the Learning Lab. Intravenous supplies must be done in the Learning Lab.

4. Clinical Skills Laboratory. Clinical Skills Lab staff can monitor skill activity, demonstrate skills, and provide faculty with information on student performance. Course faculty with information on student performance. Course faculty with the core requirements for performing the skill, and the grading protocol for the Clinical Skills Lab. The director of the Clinical Skills Lab interfaces with course faculty to promote desired learning outcomes and to communicate student-related issues that may arise.

5. Practice sessions not requiring supervision must also be included.
submitted to the Associate Deans for Undergraduate or Graduate Programs. Time missed from Clinical Skills Lab will count against total clinical time required.

Absences from clinical and clinical skills labs will be documented and reported to the Associate Deans for Undergraduate or Graduate Programs. Time missed from Clinical Skills Lab will count against total clinical time required.

Student Safety
The nature of clinical nursing courses is such that students are involved in the direct delivery of patient care. The primary purpose of any course is to provide education for nursing care as they progress through the program. Students are expected to demonstrate achievement of clinical objectives by the end of a clinical course, and, in unusual circumstances, are allowed to continue in a clinical course until the end of that course. If, in the instructor's professional judgment, a student is unable to provide safe nursing care to patients and cannot remedy the deficit in the given time with possibly limited available faculty supervision, the student will be removed from the clinical setting and will receive a grade of "F" for the course.

Clinical Attire

Projecting a professional image is a responsibility of all students and faculty. Appearance reflects upon the student, the HSC School of Nursing, and the nursing profession. The following are guidelines for clinical attire. Individual agencies may determine further dress code requirements at their discretion.

Attire should be white, uniform style, and of appropriate length. Pants and skirts should be white, uniform style, and worn with white, uniform style tops. Solid color or printed designs on uniforms are not acceptable. Scrubs or smocks may be acceptable in some clinical facilities. Halter tops, tank tops, tube tops, T-shirts, muscle shirts, or sleeveless tops, and tight or open shoes are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be conspicuous. White or solid color cardigan sweaters or sweaters are not acceptable. Undergarments should not be
The HSC School of Nursing has determined that some courses/classes offered to distance sites will be done via interactive video. This technology allows faculty to unite all students on two or more campuses.

Interactive Video (IAV) Course or Class Videotaping Student Guidelines

Background

The HSC School of Nursing has determined that some courses/classes are done via video to ensure students on two or more campuses.

Testing Policy

All students are expected to take all examinations on the scheduled date(s). The student is responsible for notifying the course coordinator prior to the scheduled exam time if unable to complete the exam or assignment as scheduled. Failure to make this notification in advance will result in a grade of zero for that specific exam or activity.

1. Classroom Attendance, Written Work, and Testing Policy

Attendance in class is an expectation of each student. All students are expected to take all examinations and submit written work on the announced date(s). The student must contact the course coordinator prior to the scheduled exam time or written assignment due date if unable to complete the exam or assignment 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 that specific activity.

2. Clinical Attendance

Clinical attendance is vital in the achievement of course/curricular objectives. Attendance at designated times and dates is necessary to achieve course/curricular objectives. Clinical attendance is at the discretion of the clinical faculty.

Notification in advance of an absence is expected. All written work is to be submitted on the announced date(s). The student must contact the course coordinator prior to the scheduled exam time if unable to complete the written work as scheduled. Failure to make this notification in advance may result in a grade of zero for that specific exam or activity.

3. Testing Policy

All written work is to be submitted on the announced due date(s) unless the student has made previous arrangements with the faculty member. Failure to make this notification in advance may result in a grade of zero for that specific activity.

4. Written Assignments

Repeated or unexcused absences make it impossible to achieve course/curricular 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 whose absences limit their ability to give safe nursing care, must submit a physician’s statement to the Assistant Dean for Students Affairs prior to returning to the clinical area until the physician’s statement has been received. The Assistant Dean will notify the appropriate faculty.

Jewelry should be conservative and limited to school or religious items. Small rings, and service pins, wedding bands or small rings, and small stud earrings are acceptable. Both professionalism and safety should be considered when selecting and wearing jewelry. Body art should not be visible. Additionally, all visible piercings are acceptable. No large or dangling earrings, rings, and large or long necklaces are acceptable. No jewelry should be worn when performing procedures on patients. The student must notify the clinical instructor’s absence (or the agency personnel in the clinical instructor’s absence).

All students and faculty follow Universal Precautions in the clinical area.

Hair should be neat, clean, dry, and worn in a conservative style. Hair must be restrained, so that it is not a risk to colleagues or patients and that the student is safe to return to clinical. Hair should be neat, clean, dry, and worn in a conservative style. Long hair must be restrained, so that the hair does not become tangled, smother, or obstruct. A name badge will be provided, at a small cost, and should be worn at all times when the student is in the clinical setting. Purple should be worn in addition to hose. Decorative hosiery, pom-pom, or attached fabric should be worn in addition to hose. Decorative hosiery, pom-pom, or attached fabric should not be worn at any time other than when permitted by the agency. Makeup should be conservative. Use of lip gloss or nail designs are not acceptable.

Perfume and cologne is discouraged, since patients may have unpleasant reactions (e.g., nausea, difficulty breathing, etc.). Fingernail length should be moderate; brightly colored nail polish or nail designs are not acceptable.

Street clothes may be worn to clinical agencies in certain circumstances (e.g., Mental Health Nursing, data collection, etc.). Attire consistent with professional standards (no jeans or shorts) should be worn and covered with a lab coat.

If wearing athletic shoes with dresses and skirts, plain white stockings may be worn with pants. White leather athletic shoes may be worn.

Shoes should be clean and in good condition, with clean white shoelaces without attachments.

Plain hose (white or natural) should be worn with dresses or short pants. Plain white stockings may be worn in addition to hose. Decorative hosiery, pom-pom, or attached fabric should not be worn at any time other than when permitted by the agency.

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General Interactive Video (IAV) Distance Education Student Guidelines

Background
The HSC School of Nursing has determined that some courses/classes will be offered to distance sites to provide essentially the same quality education to students, in order to protect the faculty’s rights and continue to provide essentially the same quality education at all locations. The School has developed some guidelines to be followed by faculty and students.

Guidelines for students to view missed interactive video class or course

1. If the student has difficulty accessing the class handouts, they will need to notify the faculty before class time to allow for solutions to be agreed upon. The distance site coordinator, faculty, and School of Nursing Information Technology staff will be involved at the student chair or desk level, if possible.

2. The students will be required to seek clarification, question, and actively participate in the interactive class. The faculty can hear questions from the distance sites and reply as they are voiced. The students may prefer different arrangements depending on the student and faculty needs.

3. The technicians at each site are able to coordinate their views so those students asking questions will be seen at the other sites. The students at each site may except on the faculty monitor. Different classes will prefer different arrangements depending on the student and faculty needs.

Guidelines for students to view missed interactive video class or course

1. If permission is given to view a videotaped class, the student must view the tape in a designated area, at a predetermined time. The videotape is not available for the student to take home, record, or use in any manner other than that directed by faculty.

2. The faculty member will review the student’s reason for missing class and obtain any necessary substantiating material. A determination will be made regarding allowing the student to view a videotaped class within the two-week period.

3. The students are required to notify their faculty and the Assistant Dean for Students of electronic mail address changes and to provide a written request to view a videotaped class within the two-week period.

4. All students will arrive at their assigned location on time or before class begins. They will begin the class or guided discussions and/or question/answer periods. Student required electronic material or identify alternate solutions when possible.

5. The students will be required to seek clarification, question, and actively participate in the interactive class. The faculty can hear questions from the distance sites and reply as they are voiced. The students may prefer different arrangements depending on the student and faculty needs.

6. The technicians at each site are able to coordinate their views so those students asking questions will be seen at the other sites. The students at each site may except on the faculty monitor. Different classes will prefer different arrangements depending on the student and faculty needs.

7. The technicians at the distance sites and the sending site will support the faculty and student with the open or guided discussions and/or question/answer periods. The sound may be located at the student chair or desk, depending on the arrangement in their room at the beginning of the semester.

Computer Requirement
Students accepted into the School of Nursing are expected to have basic computer skills including the ability to use e-mail, the Internet, and word-processing software. All students are required to buy a computer for their use. In addition, high-speed Internet access is strongly recommended. Current computer specifications will be distributed to students.

Undergraduate Program Policies and Procedures
All students must adhere to the procedures and regulations covering 'Student Conduct and Discipline' beginning on page 100 of this Catalog. Other procedures and regulations specific to The School of Nursing are outlined below.

Leave of Absence
Under special circumstances, the student who is in good standing may be granted a leave of absence from the undergraduate program, for a maximum period of one year, upon submission of written application by the student.

A Leave of Absence indicates the student will be permitted to reenter within a one-year time limit. Students who
The following procedure is to be followed by any student:

1. Obtain the Request for Leave of Absence Form from the Undergraduate Office and complete the form, including a rationale for the request.
2. Submit, in person, the completed Request for Leave of Absence Form to the Associate Dean for the Undergraduate Program.
3. The Request for Leave of Absence may be approved or disapproved based on the following criteria:
   a. The student is currently passing clinical and theory coursework.
   b. There is sufficient rationale for a Leave of Absence.
4. The student must plan to return to the School of Nursing within one year. The student is responsible for notifying the Undergraduate Office of her/his intent to return by the end of the semester preceding the semester of planned return.

Procedure for Withdrawal or Dropping a Course

If a student withdraws from school or drops a course prior to the first examination/graded assignment and has permission, after the first examination/graded assignment, a grade of “W/P” or “W/F.” If the student withdraws from school, the withdrawal will be noted on the transcript. A student may drop a course, with the instructor’s or Dean’s permission, after the first examination/graded assignment and receive a “W/P” or “W/F.” If the student withdraws from school, a “W/P” or “W/F” will be recorded.

The following procedure should be followed by a student who (1) withdraws from the School of Nursing or (2) drops an elective course:

A. The student discusses her/his withdrawal or dropping of a course with the clinical/course faculty.
B. The student obtains the appropriate forms from the Student Information Office of the Undergraduate Program. All requests for change will be based upon space available in the requested course(s).
C. The student makes an appointment with the Associate Dean for the Undergraduate Program. 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 the Undergraduate Program. All requests for change will be based upon space available in the requested course(s).
D. The student will meet with the Course Coordinator to discuss the decision, explore options, and make necessary changes in the degree plan.
E. The completed form is returned by the student to the Office of the Undergraduate Academic Coordinator for processing and filing.

Evaluation and Grading

All course assignments (papers, projects, exams, etc.) must represent the student’s own accomplishments.

Examinations

Faculty believe course examinations serve two purposes:

1. To validate the student’s knowledge of course content.
2. To reinforce learning and promote understanding of course content. The following policies and procedures have been developed to accomplish these purposes:

To validate student’s knowledge:

1. Faculty, as content experts, develop exam items which sample the course content.
2. The validity and reliability of each exam item are evaluated by the faculty through the use of statistical item analysis information.

Exam Policy

Exams are required. Students are expected to take exams 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.

Final 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 E-Res, and material on WEB CT. Students cannot bring any items into the exam room (including purses, backpacks, cell phones, pagers, water bottles, caps, jackets, or other items). Healthy Science Center ID card clearly visible to enter the room.

Pencils, erasers, and any other item needed to take the
Guidelines for Written Work

Guidelines for written work have been approved and adopted by the School of Nursing curricula. The manual gives clear and specific guidelines regarding presentation of ideas, phrases, and must be documented accordingly.

Guidelines for Documentation of Sources

All written work must be stated in the student's own words or must indicate clearly the portions copied or summarized from the literature or spoken words of others. The current edition of the Publication Manual of the American Psychological Association is a required text for students in the graduate program. The following is a list of specific guidelines regarding presentation of ideas, phrases, ideas, and sentences derived from various sources.

The student is cautioned to use direct quotations sparingly, as the majority of the material is included in the source (quotation) or a true summary is acceptable in the source and must be documented accordingly.

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The Committee on Undergraduate Studies for the Undergraduate Program (COUS). Newly admitted 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 student 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.

Any student who wishes to repeat a clinical course should follow the procedure below:

1. Submit a signed, written report to the Texas Board of Nursing, who has reasonable cause to suspect that the services of the nursing profession may be impaired by chemical abuse or dependency, must take one of the following actions:
   - The student who is allowed to repeat a course, or who is not granted permission to repeat a course/on probation. The student will be required to sign a contract agreeing to participate in the advisement system. Failure to comply with the contract constitutes cause for immediate dismissal.
   - A student who fails (D or F) from two required nursing courses (or from the same course twice) will be dismissed from the nursing program and will be ineligible for readmission.

Advisement Program for Readmitted Students

The student who is readmitted for the purpose of repeating a failed course (including those for which a "WF" was assigned) will not be eligible for readmission to the Nursing program.

The student will be required to participate in the advisement program during which the student is repeating a course. 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 immediate dismissal.

Readmission to the School of Nursing

Readmission refers to the process whereby a student who has previously attended and later withdrawn from the HSC School of Nursing requests admission to the program. Students who apply for readmission to the School of Nursing must submit an Application for Readmission to the Sub委员会 on Admission, Progression, and Graduation within four weeks of the APG decision. The Dean's decision is final.

The student who is allowed to repeat a course, or who is not granted permission to repeat a course/on probation. 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 immediate dismissal.

A student who fails (D or F) from two required nursing courses (or from the same course twice) will be dismissed from the nursing program and will be ineligible for readmission.

Reporting Requirements

Pursuant to the Nurse Practice Act, any registered nurse associated with The UT Health Science Center San Antonio, either as an employee or a student in the School of Nursing, who has reasonable cause to suspect that the ability of any professional nursing student to perform the tasks, etc., if the services of the nursing profession may be impaired by chemical abuse or dependency, must take one of the following actions:

1. Submit a signed, written report to the Texas Board of Nursing.
Pursuant to the law, if the School of Nursing has reasonable cause to suspect the ability of a professional or non-licensed RN student to perform the profession of nursing is impaired by chemical abuse or dependency, representatives of the School of Nursing must submit a signed, written report to the Board of Nurse Examiners (BNE) identifying the individual involved and providing any additional information required by the Board (see "Policy on Substance Abuse" below).

Pursuant to the law, if a nursing student appears for clinical practicum under the influence of drugs/ alcohol, the student will be removed from the area immediately by the supervising faculty member and sent home. Disciplinary action may follow.

The Dean of the School of Nursing, Assistant Dean for Students, Associate Dean for Undergraduate Nursing, and/or representatives of the School of Nursing must submit a signed, written report to the Texas Board of Nursing identifying the student and providing any additional information required by the Board (see "Policy on Substance Abuse" below).

Impaired Nurse Student in Clinical Practicum
Nursing students are expected to conduct themselves in a professional manner at all times. Pursuant to the law, if a student appears for clinical practicum under the influence of drugs/alcohol, the student will be removed from the area immediately by the supervising faculty member and sent home. Disciplinary action may follow.

The Dean of the School of Nursing, Assistant Dean for Students, Associate Dean for Undergraduate Nursing, and/or representatives of the School of Nursing must submit a signed, written report to the Texas Board of Nursing identifying the student and providing any additional information required by the Board.

Policy on Substance Abuse
A. Application. This policy applies to all students in the School of Nursing.

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 HSC faculty, one with expertise in substance abuse and/or a representative from the University’s Student Counseling Service, identifies any student issue brought to the Committee.

B. Authority. All students are expected and required to obey federal, state and local laws, and to comply with policies with regard to the use, 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. See specific references below.

- Code of Ethics and Standards of Conduct - HOB, Chapter 2, Policy 2.4.1
- Policy on Alcohol, Drug, and Chemical Matters - HOP, Chapter 2, Policy 2.4.1

C. State Board of Nursing Examiners Reporting Requirements. The HSC School of Nursing further defines a Policy for Substance Abuse among nursing students as follows:

Pursuant to the law, if the School of Nursing has reasonable cause to suspect the ability of a professional or non-licensed RN student to perform the profession of nursing is impaired by chemical abuse or dependency, representatives of the School of Nursing must submit a signed, written report to the Board of Nurse Examiners (BNE) identifying the individual involved and providing any additional information required by the Board.

Pursuant to the law, any prelicensed RN student in the practice of the profession of nursing who has been addicted to or treated for the use of alcohol or any other drug within the past five years must notify the Board of Nurse Examiners (BNE) for the State of Texas and request a Declaratory Order Petition Packet.

D. Committee on Substance Abuse Structure and Scope.

The School of Nursing shall have a Committee on Substance Abuse (hereafter referred to as "the Committee") which will consist of three School of Nursing faculty members appointed by the Dean of the School of Nursing or designee, one of which shall be the Assistant Dean for Students and/or the Assistant Dean for Students and one with expertise in substance abuse and/or a representative from the University’s Student Counseling Service. Additionally, the School of Nursing and the Assistant Dean for Students will serve as an ex-officio member of the Committee.

The Committee shall be an advisory group to the Dean of the School of Nursing. The Committee shall be charged with reviewing cases having reasonable cause to bring a case forward for consideration by the Committee. The Committee may: 1) collect data and information about any student issue brought to the Committee; 2) request and review testing and evaluation from experts in the substance abuse field and has the right to determine whether or not a particular action taken by the student is acceptable to the Committee. The final decision on any issue brought to the Committee with actions recommended by the Committee rests with the Dean.

E. Procedures. All nursing students will be notified through the HSC Catalog, Student Guide, and other distributed materials of all current policies on admission to the School and be required to comply with drug testing when requested or required. Nursing students may be required to take drug screens in clinical training rotations when identified as having a potential drug problem by drug testing and/or behavioral observation, the Committee may request further evaluation including interview and/or additional drug testing, including heightened levels of monitoring and drug testing. All evaluations, tests, or treatments will be conducted by independent providers not associated with the School of Nursing. The School of Nursing has the right to determine whether or not the use of these services is acceptable to the Committee.
Status of a Student Who Enters a Counseling or Rehabilitation Program

1. A student who enters a counseling or rehabilitation program for chemical abuse or dependency must inform the Assistant Dean for Students of the School of Nursing and authorize the professional responsible for the student's counseling or rehabilitation program to provide the Assistant Dean for Student Services with the following information:
   a. the nature, severity, and prognosis of the student's problem;
   b. periodic reports concerning the student's progress, and 
   c. a final report indicating whether the program was successfully completed and assessing the student's ability to avoid future abuse of chemicals.

2. Upon receipt of initial information, the Committee will recommend to the Dean whether the student should continue in the nursing curriculum while participating in a counseling or rehabilitation program or should be withdrawn from the program.

3. A student who is withdrawn from the nursing program pending successful completion of a counseling or rehabilitation program may continue in the nursing curriculum while participating in a counseling or rehabilitation program or be readmitted after the student's counseling or rehabilitation program is successful. The Committee will recommend to the Dean whether the student should be readmitted.

4. If the Committee recommends that a student should continue in the nursing curriculum while participating in a counseling or rehabilitation program, or that a student who has been withdrawn should be readmitted after the student's counseling or rehabilitation program is successful, the Committee will include in the recommendation any restrictions or conditions that will apply to the student's future participation in the nursing curriculum. In making its recommendations, the Committee will consider the assessment and suggestions made by the professional responsible for the student counseling or rehabilitation program.

5. The Committee will be responsible for determining whether a student complies with the restrictions or conditions established for participation in the nursing curriculum. In making its recommendations, the Committee and will meet with the student and hear her or his response. If the Committee determines that the allegations are true, the Committee may impose additional restrictions or conditions or recommend to the Dean that the student be withdrawn.

6. The student participating in a counseling or rehabilitation program for chemical abuse or dependency will not be considered as a mitigating factor in determining whether a student meets the performance standards for the nursing curriculum.

Office of Student Services

The Dean of Nursing is responsible for informing the Office of Student Services when any student is participating in a counseling or rehabilitation program for chemical abuse or dependency. The Office of Student Services will take such action as may be appropriate under the circumstances.

Graduate Program Policies

General Information

Information about academic progression, policies, or procedures, as well as curriculum information, may be obtained from the Associate Dean for Graduate Nursing Program.

Advisement

After acceptance, each student enrolled in the graduate nursing program is assigned an academic advisor. When feasible, an academic advisor serves as a resource person for the student.
in courses required in their program. Students who add courses should check with the

The Official Add/Drop period is the first four days of class in session. Students who add courses should check with the

Processes for Adding or Dropping

Courses

The Official Add/Drop period is the first four days of class in session. Students who add courses should check with the

Courses may be added through the Office of the Associate Dean for Graduate Nursing Program. Drop Cards may be obtained in the Office of the Associate Dean for the Graduate Nursing Program. The student is responsible for obtaining the faculty signature on the card, having the program plan reviewed by her/his advisor, having the advisor sign the card, and returning it to the Graduate Nursing Office which will have this noted on their transcripts.

Processes for Auditing a Graduate

Course

Auditing a course requires approval by the Associate Dean for Graduate Nursing Program who will check the course with the appropriate Subcommittee for Admission, Progression, and Graduation and be approved by COGS. The student may obtain additional information about materials that must be submitted with the petition

Petitioning

Students may petition the Committee on Graduate Studies (COGS) through the appropriate Subcommittee for Admission, Progression, and Graduation (APG) 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 Petition Form which is available from the Office of the Dean. Petitions for reconsideration of the decision of the COGS and APG subcommittee are reviewed by the Dean of the School of Nursing. The Dean's decisions are final.
UNDERGRADUATE PROGRAM IN NURSING

Description of baccalaureate-prepared nurse
The baccalaureate-prepared professional nurse provides comprehensive care across the lifespan in diverse settings following a Community-Partnership model. The nurse is skilled in case and system management, as well as intra/intradisciplinary coordination of individual and population-based health care. The professional nurse is accountable for high-quality, cost-effective, accessible care in implementing standards of nursing practice. The nurse is able to manage, lead, and collaborate with health care providers and patients* across settings. The professional nurse maintains a global view of health, health policy, health care, and health services. As a scholar, the nurse is capable of making valued, and ethical and legal conduct under the standard of nursing practice.

Program objectives
The baccalaureate program provides opportunities for the learner to develop the following behaviors:

1. Design nursing processes to provide comprehensive care across the lifespan in structured-unstructured settings, simple-complex situations, and predictable-unpredictable circumstances.
2. Create partnerships with patients' in the customized therapeutic care process to protect, promote, and restore optimal health.
3. Incorporate therapeutic communication skills when enacting professional practice.
4. Evaluate practice decisions using critical thinking.
5. Formulate strategies to improve nursing care through scholarship.
6. Manage, lead, and collaborate with health care providers and patients* across settings of health care settings.
7. Account for ethical and legal conduct under the standards of nursing practice.
8. Analyze issues and trends in health care that affect the health care environment, locally and globally, and work in an interprofessional environment.
9. Adhere to ethical and legal conduct that reflects the professional nurse's responsibilities to patients*, the health care process to protect, promote, and restore optimal health.
10. Display behaviors that demonstrate the values of a self-directed professional engaged in continuing development.

Admission and Application
Requirements for admission to the undergraduate program are detailed in the Applicant Viewbook of the School of Nursing, available in print and on the Web (http://studentservices.uthscsa.edu/prospects_apply_nursing). Applicants must have completed 62 hours of prescribed lower-division coursework at any regionally accredited college or university prior to enrollment. Admission is competitive. Official application forms and procedures for applicants also can be found in the Applicant Viewbook. Applicants must pass a Criminal Background Check prior to admission.

In addition to the admission requirements described herein and on the School of Nursing Web site, applicants admitted to the Flexible Process program must have met one of the conditions listed below to be eligible for consideration of admission to that program:

- LVN licensed in Texas with a minimum of one-year documented clinical experience in the last two years. The LVN must have completed the 62 hours of prescribed lower-division coursework at any regionally accredited college or university prior to admission.

- RN licensed in Texas.

- Individuals credentialed as foreign physicians legally residing in the U.S. who qualify for the HSC nursing program.

- Applicants must successfully complete the 62 hours of prescribed lower-division coursework at any regionally accredited college or university prior to application.

- Individuals admitted to the Undergraduate Nursing Flexible Process Program will be suspended indefinitely while the faculty curriculum committee reviews this program.

- Graduated from an accredited high school.

Application for admission to the HSC School of Nursing must be made by January 10 for Fall Semester admission and July 1 for Spring Semester admission. Admission criteria for the BSN nursing program are based on several factors:

1. Admission is competitive. Official application forms and procedures for applicants also can be found in the Applicant Viewbook. Applicants must pass a Criminal Background Check prior to admission.
2. Applicants must provide evidence of good written and verbal communication skills and complete a personal interview.
3. Due to the competitive nature of the admission criteria, other criteria may also be considered, such as: race/ethnicity; bilingual ability; current rural residency; educational attainment of applicant's family; hometown or county of residence designated as medically underserved; willingness to work in an underserved and/or health professions shortage area, especially South Texas; and public/community service and volunteer activity, specifically in the health care field.
4. Applicants must have passed all sections of the Texas Success Initiative (TSI) and must meet minimum standards for the BSN nursing program.
5. Applicants must have pass the HESI Admissions Assessment or the COMPASS Test prior to application. The COMPASS Test must be taken within the last two years and meet minimum standards. Applicants admitted to the Undergraduate Nursing Flexible Process Program will be suspended indefinitely while the faculty curriculum committee reviews this program.

Applicants admitted to the School of Nursing must be certified in Health Care Provider cardiopulmonary resuscitation (CPR) before registration. Applicants must provide...
Request for ADA Accommodation

Baccalaureate prepared nurses provide patient-centered care that is built on nursing science, knowledge, theory, and research; including the adaptation and application of knowledge derived from a wide array of other fields and disciplines. (AACN Essentials of Baccalaureate Education for Professional Nursing Practice Draft 18 Dec. 2007). Baccalaureate prepared nurses are providers of the human interface role.\footnote{Baccalaureate prepared nurses provide patient-centered care with identities, values, preferences, cultural, emotional, intellectual, and physical capabilities. (AACN, 2003). Patient-centered care also involves the coordination of continuous care, listening to, communicating with, and educating patients and caregivers regarding health, wellness, and disease management and prevention. The generalist nurse provides the human interface between the health care system and the patient by translating evidence-based bio-psychosocial data. (AACN Essentials of Baccalaureate Education for Professional Nursing Practice Draft 18 Dec. 2007). Baccalaureate nurses are providers of direct and indirect care; designers, coordinators and managers of care; and members of the profession (AACN Essentials of Baccalaureate Education for Professional Nursing Practice, 1998).}

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 throughout the semester. Completion of all 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 promote retention because it provides tutorial materials in book form, CD, and computerized practice tests that will promote retention because it provides tutorial materials in book form, CD, and computerized practice tests that will promote retention because it provides tutorial materials in book form, CD, and computerized practice tests that will promote retention because it provides tutorial materials in book form, CD, and computerized practice tests that will promote retention because it provides tutorial materials in book form, CD, and computerized practice tests that will promote retention because it provides tutorial materials in book form, CD, and computerized practice tests that will promote retention because it provides tutorial materials in book form, CD, and computerized practice tests that will promote retention because it provides tutorial materials in book 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**CORE PERFORMANCE STANDARDS**

Essential eligibility requirements for participation in the nursing program. Nursing is a practice discipline, with cognitive, sensory, affective, and psychomotor performance requirements. The following Core Performance Standards identify for participation in the nursing program.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Standard</th>
<th>Examples of Necessary Activities (not all-inclusive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking</td>
<td>Critical thinking ability sufficient for clinical judgment</td>
<td>Identify cause-effect relationships in clinical situations, develop nursing care plans.</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Interpersonal abilities sufficient to interact with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds</td>
<td>Establish rapport with patients/clients and colleagues.</td>
</tr>
<tr>
<td>Communication</td>
<td>Communication abilities sufficient for interaction with others in verbal and written form</td>
<td>Explain treatment procedures, initiate health teaching, document and interpret nursing actions and patient/client responses.</td>
</tr>
<tr>
<td>Mobility</td>
<td>Physical abilities sufficient to move from room to room and maneuver in small spaces</td>
<td>Move around in patient rooms, work spaces, and treatment areas; administer cardio-pulmonary procedures.</td>
</tr>
<tr>
<td>Motor Skills</td>
<td>Gross and fine motor abilities sufficient to provide safe and effective nursing care</td>
<td>Calibrate and use equipment, lift and position patients/clients.</td>
</tr>
<tr>
<td>Hearing</td>
<td>Auditory ability sufficient to monitor and assess health needs</td>
<td>Hears monitor alarm, emergency signals, auscultatory sounds, cries for help.</td>
</tr>
<tr>
<td>Tactile</td>
<td>Tactile ability sufficient for physical assessment</td>
<td>Perform palpation, functions of physical examination and/or those related to therapeutic intervention, e.g., insertion of a catheter.</td>
</tr>
</tbody>
</table>

To that end, the following policy and procedures are proscribed for students admitted to the School of Nursing:

1. Applicants to the undergraduate and graduate nursing programs at the HSC School of Nursing will have a criminal background check performed prior to admission.

The initial screening performed by the approved contracted company for students includes the following checks:

- Texas Statewide Criminal History
- Residency History
- Social Security verification
- Nationwide Sexual Offender Registry
- Nationwide Healthcare Fraud & Abuse Scan
- Nationwide U.S. Patriot Act
- Nationwide Federal Criminal
- Nationwide Database Criminal

2. Applicants who do not complete and clear the background check in advance of the start of a semester as required will not be allowed to participate in coursework.

3. Continuing students who fail to clear clinical agency-sponsored background checks will not be allowed to participate in coursework until resolved.

4. If an incident occurs after the student has had a satisfactory initial criminal background check in advance of the start of the school, it is the responsibility of the student to immediately report the occurrence to the Associate Dean for Undergraduate or Graduate Nursing Programs, as appropriate. If a Declaratory Order is indicated, the student will not be allowed to participate in coursework until resolved.

5. Undergraduate or graduate Nursing students applying for Declaratory Orders and LOA should discuss the procedure with the Associate Dean for the Graduate and Undergraduate Nursing Programs.

Appendix A:

Disciplinary Guideline Factors used by the Texas Board of Nursing

Each case is considered on its own merits. The following list includes some of the factors considered in a case-by-case analysis:

- the nature and seriousness of the crime, i.e. absence of criminal plan or premeditation, presence of contributing influences, evidence of immature thought process/judgment at the time of activity, etc.;
- failure to disclose criminal offense to the Board;
- the extent and nature of the person’s past criminal activity;
- conduct evidences a lack of truthfulness or trustworthiness; and;
- the age of the person when the crime was committed;
- the amount of time that has elapsed since the person’s last criminal activity;
- evidence of the person’s rehabilitation or rehabilitative effort while incarcerated or after release;
- a record of steady employment and has supported his or her dependents;
- other evidence of the person’s present fitness, including letters of recommendation from: prosecutors, law enforcement and correctional officers who prosecuted, arrested, or had custodial responsibility for the person; the sheriff or chief of police in the community where the person resides; and any other persons in contact with the person;
- paid all outstanding court costs, supervision fees, fines, and evidence of restitution to both victim and community.
whether conduct indicates inability to practice nursing safely;
the extent to which a license might offer an opportunity to prevent further criminal activity;
whether imprisonment followed a felony conviction, e.g., if a prior sentence was imposed because of criminal conduct;
the relationship of the crime to the ability, capacity, or fitness required to perform the duties and responsibilities of parole, or revocation of mandatory supervision;
whether criminal activity due to chemical dependency includes alcohol, evidence of evaluation and recommended treatment, after-care and support-group attendance (written verification of compliance with any treatment); and
whether criminal activity due to mental illness, evidence of evaluation, including a prognosis, by a psychologist or psychiatrist, evidence of treatment, including any medication (written verification of compliance with any treatment).

Non-Degree Students

Non-degree student status may be granted to an individual who wishes to enroll in a course(s) presented by the School of Nursing without entering a degree program. Those who meet one of the following criteria, may be eligible for Non-Degree Student status:

(a) a graduate of a baccalaureate program in nursing, or a graduate of a baccalaureate program at another institution.

(b) a student currently enrolled and in good standing in a graduate program in nursing, or a Transfer Student may be obtained by contacting the Office of Student Services.

Current Non-Degree Students are admitted on a first-come, first-served basis for spaces remaining in a course. Final decisions on admission will be made by the Committee on Admission, Progression, and Graduation for the Undergraduate Program.

Transfer Students

Individuals who wish to transfer into the BSN program of the School of Nursing must have completed the 62 hours of prenursing coursework required by this institution and accumulated a minimum grade point average of 2.5 in those courses and an overall grade point average of 2.5. Applicants must also be in good standing and eligible for readmission at their current/former school of nursing. At least 30 of the final 33 hours of work in the nursing major must be completed at the HSC School of Nursing. Application deadlines are January 10 (fall) and July 1 (spring). Information and procedures for applying as a Non-degree Student or a Transfer Student may be obtained by contacting the UT Health Science Center San Antonio Office of Student Services.

Students transferring from private or out-of-state colleges who have not been required to meet ACCUPLACER requirements must take and pass the ACCUPLACER test prior to the accumulation of 9 or more credit hours at the School of Nursing. (See "General Academic Policies," p. 77.) 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. Continuing students will not be registered after the fourth day of a regular session without the permission of the Associate Dean or the Dean of the School of Nursing. Registration for summer session(s) is during a registration period in the spring

Curriculum

The undergraduate program 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 (Prenursing Course Requirements).
The current program plan includes 91 semester hours of required nursing courses and 9 semester hours of electives. Three of the 9 semester hours must be in nursing while the remaining 6 semester hours may be in nursing or any other upper-level subjects that are approved by the School of Nursing and awarded by an accredited four-year institution of higher education. (These 9 hours must be completed by a student before starting the Independent Study course for one to three semester hours of credit.)

Students may complete the 91 hours of required nursing courses through the Generic Process or the Flexible Process. Successful completion of either pattern and the 9 hours of electives results in the awarding of the Bachelor of Science in Nursing degree. Both the Generic Process and Flexible Process can be taken either full-time or part-time. The two curricular patterns are described on the following pages.

Time Limit
Undergraduate students must successfully complete all coursework toward the degree within four years of the date of initial enrollment in the program.

The Semester Credit Hour
The unit measure for credit purposes is the semester credit hour. One semester credit hour of credit is given for each one hour of class or three hours of laboratory/computer lab experience per week per semester, with the exception of the summer session during which all clinical hours are concentrated but provide equivalent course time.

Course Numbers
Details designates all required nursing courses given in the School of Nursing. NURE designates nursing electives. A four-digit number follows: the first digit indicates the earliest semester at which a course may be taken or at which a course is usually taken; the second digit indicates the semester hours credit given for the course; the last two digits are the course identification numbers.

Independent Study
Undergraduate students may design their own Independent Study course for one to three semester hours of credit. Guidelines for design and approval of Independent Study courses are available from the Academic Coordinator for Undergraduate Studies or Committee on Graduate Studies. Both the Generic Process and Flexible Process 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.

The Generic Process
This curricular pattern is designed for the majority of the student body who enter the School of Nursing without prior nursing knowledge or skills. Completion of the program usually requires four semesters of full-time study; Part-time study may require four semesters of full-time study. The two curricular patterns are described on the following pages.

Program Plan (Full-time Study)***

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
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<tr>
<td>I</td>
<td></td>
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<tr>
<td>NURS 3209 Introduction to Professional Nursing</td>
<td>2.0</td>
</tr>
<tr>
<td>NURS 3312 Strategies for Professional Nursing</td>
<td>5.0</td>
</tr>
<tr>
<td>NURS 3802 Strategies for Professional Nursing</td>
<td>8.0</td>
</tr>
<tr>
<td>II</td>
<td></td>
</tr>
<tr>
<td>NURS 3203 Strategies for Professional Nursing: Research</td>
<td>2.0</td>
</tr>
<tr>
<td>NURS 3520 Strategies for Professional Nursing: Mental Health Transitions</td>
<td>5.0</td>
</tr>
<tr>
<td>NURS 3610 Strategies for Professional Nursing: Chronic Health Transitions</td>
<td>6.0</td>
</tr>
<tr>
<td>III</td>
<td></td>
</tr>
<tr>
<td>NURS 4425 Strategies for Professional Nursing</td>
<td>4.0</td>
</tr>
<tr>
<td>NURS 4458 Strategies for Professional Nursing: Childbearing Families</td>
<td>4.0</td>
</tr>
<tr>
<td>NURS 4410 The Nurse as Professional: Leader-Manager</td>
<td>4.0</td>
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<tr>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>NURS 4203 The Nurse as a Professional</td>
<td>2.0</td>
</tr>
<tr>
<td>NURS 4614 Strategies for Professional Nursing: Major Health Transitions</td>
<td>6.0</td>
</tr>
<tr>
<td>NURS 4514 Strategies for Professional Nursing: Community as Partner</td>
<td>5.0</td>
</tr>
<tr>
<td>Upper-division Electives</td>
<td>9.0</td>
</tr>
<tr>
<td>Total</td>
<td>60.0</td>
</tr>
</tbody>
</table>

Required Courses

- **NURS 3209 Introduction to Professional Nursing**: 2.0 Semester Credit Hours
  - Prerequisite: Admission to the program
  - This course provides an introduction to professional nursing and the role of the nurse in customizing the promotion and maintenance of health. Course content includes the nature and history of nursing; professionalism and processes underlying professional nursing, basic concepts of health and illness transitions, and legal considerations in nursing practice.

- **NURS 3312 Strategies for Professional Nursing, Pharmacotherapeutics**: 3.0 Semester Credit Hours
  - Prerequisites or concurrent: Generic Process: NURS 3209; Flexible Process: admission to the program
  - This course introduces basic concepts of pharmacotherapy and the scientific basis of pharmacotherapeutics with legal/ethical guidelines.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 3203</td>
<td>Strategies for Professional Nursing: Research</td>
<td>2 Cr Theory</td>
<td>Prerequisites: completion of first semester Generic Process</td>
</tr>
<tr>
<td>NURS 3520</td>
<td>Strategies for Professional Nursing: Mental Health Transitions</td>
<td>2 Cr Theory, 3 Cr Clinical</td>
<td>Prerequisite: Completion of first semester Generic Process</td>
</tr>
<tr>
<td>NURS 3610</td>
<td>Strategies for Professional Nursing: Chronic Health Transitions</td>
<td>3 Cr Clinical</td>
<td>Prerequisites: completion of first semester and completion of or concurrent enrollment in NURS 3520</td>
</tr>
<tr>
<td>NURS 3802</td>
<td>Strategies for Professional Nursing: The Nature of Health Transitions</td>
<td>4 Cr Theory, 4 Cr Clinical</td>
<td>Prerequisites: completion of first semester and completion of or concurrent enrollment in NURS 3802</td>
</tr>
<tr>
<td>NURS 4203</td>
<td>The Nurse as a Professional: Leader-Manager</td>
<td>2 Cr Theory</td>
<td>Prerequisites: completion of first and second semesters Generic Process, NURS 4203 prerequisite or concurrent</td>
</tr>
<tr>
<td>NURS 4410</td>
<td>The Nurse as Professional: Leader-Manager</td>
<td>2 Cr Theory, 2 Cr Clinical</td>
<td>Prerequisites: completion of first and second semesters Generic Process, NURS 4410 prerequisite or concurrent, NURS 4312</td>
</tr>
<tr>
<td>NURS 4425</td>
<td>Strategies for Professional Nursing: Childbearing Families</td>
<td>2 Cr Theory, 2 Cr Clinical</td>
<td>Prerequisites: completion of first and second semesters Generic Process, NURS 4425 prerequisite or concurrent, Flexible Process: concurrent or prerequisite, NURS 4410, NURS 4435</td>
</tr>
<tr>
<td>NURS 4514</td>
<td>Strategies for Professional Nursing: Community As Partner</td>
<td>2 Cr Theory, 3 Cr Clinical</td>
<td>Prerequisites: Generic Process: completion of first, second, and third semesters in General Process, NURS 3610 prerequisite or concurrent</td>
</tr>
<tr>
<td>NURS 4515</td>
<td>Strategies for Professional Nursing: The Nurse as a Professional: Leader-Manager</td>
<td>2 Cr Theory, 2 Cr Clinical</td>
<td>Prerequisites: completion of first and second semesters Generic Process, NURS 4515 prerequisite or concurrent, Flexible Process: concurrent or prerequisite, NURS 4410</td>
</tr>
</tbody>
</table>

Lab fee: $30.
The Flexible Process

Effective for the fall 2009 admission cycle (or effective after the spring 2009 admission cycle), the option for LVN to be admitted to the Undergraduate Nursing Flexible Process Program will be suspended indefinitely while the faculty curriculum committee reviews this program.

The Flexible Process is an alternative approach within the undergraduate program to acquiring the Bachelor of Science in Nursing degree (BSN). This track is restricted to Licensed Vocational Nurses, with at least one year of nursing experience, and Registered Nurses. The content of the Flexible Process is the same as that of the Generic Process, but the material has been reorganized to facilitate concentrated study. The student enrolled for full-time study will find it difficult to maintain full-time employment. LVNs will receive 30 semester hours of course credit and RNs will receive 40 semester hours. LVNs will have the option of taking coursework and/or acquiring credit through challenge examinations.

If the student is unsuccessful in a challenge examination, he or she may take the course(s) in residence. A student who withdraws after failing a challenge examination and remains in the undergraduate program may not return to the challenge examination to complete the course. The student is not eligible for a refund since completion of the challenge examination is considered to be completion of a course. If the student needs to complete all courses, he or she is awarded credit and is considered to have completed the 51 hours (52 hours for RN students) of required nursing courses. Challenge exams are

Program Plans (Full-time Study)

LVN

Semester I (junior year)

- NURS 3312 Strategies for Professional Nursing: 3.0
- NURS 3313 Strategies for Professional Nursing: 3.0
- NURS 3220 Strategies for Professional Nursing: 2.0
- NURS 3409 Strategies for Professional Nursing: 2.0

Semester II (junior year)

- NURS 3410 Strategies for Professional Nursing: 4.0
- NURS 3510 Strategies for Professional Nursing: 3.0
- NURS 3511 Strategies for Professional Nursing: 2.0
- NURS 4514 Strategies for Professional Nursing: 5.0

Semester III (senior year)

- NURS 3409 Strategies for Professional Nursing: 2.0
- NURS 3410 Strategies for Professional Nursing: 4.0
- NURS 4510 Strategies for Professional Nursing: 3.0
- NURS 4511 Strategies for Professional Nursing: 2.0
- NURS 4514 Strategies for Professional Nursing: 5.0

RN

Semester I (senior year)

- NURS 4212 Strategies for Professional Nursing: 3.0
- NURS 4214 The Nurse as Professional: 3.0
- NURS 4512 Strategies for Professional Nursing: 5.0
- NURS 4514 The Nurse as Professional: 3.0

Semester II (senior year)

- NURS 4203 The Nurse as Professional: 4.0
- NURS 4212 Strategies for Professional Nursing: 3.0
- NURS 4310 Strategies for Professional Nursing: 3.0
- NURS 4311 Strategies for Professional Nursing: 2.0
- NURS 4514 Strategies for Professional Nursing: 5.0

NOTE: 3 credits nursing elective and 4-5 credits non-nursing electives are also required for graduation. Students have the option of taking these fall, spring, or summer semester(s).
**Required Courses**

The first four courses for LVNs in the Flexible Process are NURS 3312, 3313, 3220, and 3409. First-semester courses are prerequisite to further progression in the program for LVNs. The curriculum is subject to revision and approval by the LVN Advisory Committee and the Board of Nursing Examiners for the state of Texas.

### NURS 3220 Strategies for Professional Nursing: Mental Health Transitions

1 Cr Theory, 1 Cr Clinical

**Prerequisite or concurrent:** NURS 3312 (Flexible Process)

This course focuses on the therapeutic use of self in the care of patients experiencing psychiatric-mental health transitions. Psychiatric and mental health transitions and therapeutic modalities are analyzed and integrated to customize care. A clinical practicum provides an opportunity to implement therapeutic relationships and customize nursing process with individuals and families experiencing mental health transitions. Culturally sensitive assessment and intervention strategies with diverse patients are addressed.

### NURS 3312 Strategies for Professional Nursing: Pharmacotherapeutics

3 Cr Theory

**Prerequisite or concurrent:** Generic Process: NURS 3209; Flexible Process: admission to the Program

This course introduces basic concepts of pharmacotherapy and the scientific basis of pharmacotherapeutics with legal/ethical guidelines for the nursing profession. The role of drug therapy in health promotion and in the prevention and treatment of specific health transitions will be emphasized. In addition, the customization of drug therapy and the partnership role of the professional nurse in drug therapy will be introduced.

### NURS 3313 Strategies for Professional Nursing: Clinical Skills

1 Cr Theory, 2 Cr Clinical

**Prerequisite admission to the Flexible Process**

This course focuses on clinical nursing skills commonly employed by professional nurses in the provision of competent nursing care to patients experiencing transitions in health status. Emphasis is on the theoretical basis for the skills, correct psychomotor techniques, and customization of these skills in various simulated patient situations. Students are expected to integrate knowledge from the basic sciences, corresponding physical and psychosocial sciences into the acquisition of new skills. Learning experiences include content presentation/discussions, independent study with various modalities, and supervised laboratory practice. Lab fee: $30.

### NURS 3409 Strategies for Professional Nursing: Transition to Professional Nursing Practice

2 Cr Theory, 2 Cr Clinical

**Prerequisites or concurrent:** NURS 3220, 3312, and 3313 (Flexible Process)

This course focuses on the role of the professional nurse and its application in practice. Emphasis is on the role of the individuals and families requiring different levels of nursing interventions. This is accomplished in partnership with other health care professionals in various structured settings. Students will have the opportunity to develop scholarly inquiry as they integrate professional nursing concepts with previous learning and experience.

### NURS 4203 The Nurse as a Professional

2 Cr Theory

**Prerequisites:** completion of first and second semesters in Generic Process; completion of first and second semesters in Flexible Process

The role of research in the conduct of professional nursing is examined. Classroom discussions and learning experiences focus on the scientific basis for the skills, correct psychomotor techniques, and customization of these skills in various simulated patient situations. Students are expected to integrate knowledge from the basic sciences, corresponding physical and psychosocial sciences into the acquisition of new skills. Learning experiences include content presentation/discussions, independent study with various modalities, and supervised laboratory practice. Lab fee: $30.

### NURS 4212 Professional Nursing: Health Assessment

1 Cr Theory, 1 Cr Lab

**Prerequisites:** completion of first semester course in Flexible Process if LVN

This course focuses on the theory and skills of health assessment, including health history and physical examination of infants and adults. Students apply selected principles and skills in a simulated practice setting. Clock hours: one and one-half class hours and ½ lab hours per week. Lab fee: $30.

### NURS 4214 Strategies for Professional Nursing: Research

2 Cr Theory

**Prerequisites:** completion of first semester course in Flexible Process if LVN

The role of research in the conduct of professional nursing is examined. Classroom discussions and learning experiences focus on the scientific basis for the skills, correct psychomotor techniques, and customization of these skills in various simulated patient situations. Students are expected to integrate knowledge from the basic sciences, corresponding physical and psychosocial sciences into the acquisition of new skills. Learning experiences include content presentation/discussions, independent study with various modalities, and supervised laboratory practice. Lab fee: $30.

### NURS 4310 Strategies for Professional Nursing: The Family Across the Lifespan

2 Cr Theory, 1 Cr Clinical

**Prerequisites:** NURS 4312 and 4410 (Flexible Process)

This course focuses on the family as a basic unit of society and promotion of family health across the lifespan in partnership with the nurse. Opportunity is provided to apply nursing theory and family assessment data to customize a plan of care using the nursing process in the family's primary setting. Topics include variables affecting families, family assessment, adaptive problems, anticipatory guidance, teaching, family development theory, sexuality, and aging.

### NURS 4312 The Nurse as Professional: Leadership (RNs only)

1 Cr Theory, 2 Cr Clinical

**Prerequisite:** NURS 4310

This course focuses on the role of the professional nurse as a leader and as a manager in the collaborative design and delivery of customized health care for patients. Traditional management theories and practices are built upon, including the organization, planning, staffing, directing, and controlling of various resources in diverse health care systems. A strong emphasis is placed on the development of transformational leadership. The clinical practicum provides the student with the opportunity to partner with leaders and managers to explore and influence health care delivery system issues that effect quality of care. (This course builds on the management theory and experience RN Flex students have had in their ADN and Diploma Programs.)
Credit by Examination

Credit by examination is validation of the candidate's competencies and the awarding of credit based upon satisfactory achievement of objectives in the program by examination. Students who have earned credit for the first four courses of the Flexible Process sequence for credit by examination must take the remaining courses through examination. The candidate is then allowed to matriculate and complete the program. Credit by examination is offered for selected required courses in the Flexible Process. Students who are unsuccessful in attempting CBE must take the course(s) the next semester that the course is offered.

Electives (NURE)

Eight (8) hours of upper-division electives are required for RN students in the Flexible Process. Upper-division electives are required for LVNs, three of which must be in nursing.

Although electives are available each semester and summer offerings vary depending upon expressed student interest and faculty availability, elective offerings will be published each semester/session.

Examinations are not offered for electives.
on course.

This practicum course is designed to provide an opportunity for the student to work in a more efficient and timely manner. The Graduate Nurse to assume the roles of the professional nurse in a more efficient and timely manner. This is an intense hands-on learning experience with a clinical role model and better prepare the program are to provide a more intensive one-on-one clinical experience.

"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.

NURE 3012 Mentored Research Practicum: Health and Illness (1-2 Cr Clinical)

1.0-2.0 Variable Semester Credit Hours

Prerequisites: concurrent enrollment in NURE 3115, receipt of a Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file

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.

NURE 3013 Mentored Research Practicum: Children and Families (1-2 Cr Clinical)

1.0-2.0 Variable Semester Credit Hours

Prerequisites: concurrent enrollment in NURE 3115, receipt of a Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file

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.

NURE 3014 Mentored Research Practicum: Community (1-2 Cr Clinical)

1.0-2.0 Variable Semester Credit Hours

Prerequisites: concurrent enrollment in NURE 3115, receipt of a Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file

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.

NURE 3015 Mentored Research Practicum: Policy (1-2 Cr Clinical)

1.0-2.0 Variable Semester Credit Hours

Prerequisites: concurrent enrollment in NURE 3115

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.

NURE 3016 Bridge Course University Hospital

1.0-3.0 Variable Semester Credit Hours

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

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.

NURE 3090 Topics of Special Interest in Nursing

Adolescent Pregnancy: Nursing Implications of Biological, Psychological, and Sociological Perspectives

1.0 Semester Credit Hours

Prerequisites: concurrent enrollment in 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: concurrent enrollment in Semester 3 or 4

This course will focus 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 issues 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 research on nursing practice and the health care community.

NURE 3091 Independent Study in Nursing

1.0-3.0 Semester Credit Hours

Prerequisites: consent of instructor

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. Hours to be arranged as Research Scholar award, file completed, signed contract in student's Undergraduate/Graduate Nursing Office file.

NURE 3105 Laughter is the Best Medicine: Interdisciplinary Elective about Humor, Healing, and Health Care

1.0 Semester Credit Hour

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. Implications of cultural diversity in the discussion of the professional role in providing health care to patients and families.
NURE 3115  Applications of Research in Nursing
1.0 Semester Credit Hours
Prerequisites: receipt of Research Scholar award, file completed, signed contract in student's Nursing Office file.
The course is designed to allow the student to participate in a research project as an introduction to the profession of nursing research. Students will be actively engaged in the context of research and to share learning experiences and gain insights through discussion in a Research Scholar Seminar.

NURE 3215  Teaching Scholars Program
2.0 Semester Credit Hours
Prerequisites: successful completion of Semesters I and II for General, students; enrollment in the program for Flex RN; successful completion of Semester I for Flex LVN; current enrollment in the 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 along side her/him in the completion of an identified project. In addition, students will be required to participate in weekly seminars.

NURE 3260  Home Health Nursing the Adult and Pediatric Client
2.0 Semester Credit Hours
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.
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 legal 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.

NURE 3301  Perioperative Nursing I
3.0 Semester Credit Hours
Prerequisites: 3802, students entering final semester, permission of the instructor.
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 underpinning perioperative nursing introduced in Semester I will be paired with core curriculum content from the various courses in the program. During the clinical experience, students will work directly with nurses in the OR environment to incorporate content and role knowledge necessary to function as an effective OR nurse. Students will be required to demonstrate basic perioperative competencies by the conclusion of the course.

NURE 3304  Contemporary Issues Related to Death and Dying
3.0 Semester Credit Hours
Prerequisites: Generic Process—NURS 3802. 
This course provides an in-depth exploration of 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, defining, and 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.

NURE 3305  Topics of Special Interest to Nursing: Scholarly Writing for Nurses
3.0 Semester Credit Hours
Prerequisites: 1st semester Generic Process—NURS 3802; admission to Flexible Process.
This course is designed to provide an opportunity for 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 health-related articles and write articles for nursing journals or patient education newsletters will be covered.

NURE 3306  Introduction to the Role of Childbirth Educator
3.0 Semester Credit Hours
Prerequisites: NURS 3209, 3310, 3802, 4425 or admission to Flexible Process.
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 curriculum content and coping techniques will be emphasized. Students will learn to critically analyze content and teaching strategies within the context of the philosophy of childbirth education. Students will develop an understanding of the roles of the childbirth educator in family-centered childbirth education. Students will learn to critically analyze content and teaching strategies within the context of the philosophy of childbirth education.

NURE 3309  Renal Disease, Transplantation, Complications
3.0 Semester Credit Hours
Prerequisites: NURS 3802, admission to Flexible Process.
This course is an in-depth exploration of End Stage Renal Disease, 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 patient education will be explored. 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 along side her/him in the completion of an identified project. In addition, students will be required to participate in weekly seminars.

NURE 3366  Interdisciplinary Course on Minority Women's Health
3.0 Semester Credit Hours
Prerequisites: 1st semester Generic Process—NURS 3802; admission to Flexible Process.
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. The course will focus on the role of the circulating minority role. Critical health issues are important in both clinical and public health settings. This course will provide an opportunity to better understand issues such as gender and the politics of health care; women's reproductive health and health care special issues in...
### NURE 3369 Hispanic Health Concerns: A Nursing Perspective

**3.0 Semester Credit Hours**  
Prerequisite: NURS 3802 or graduate standing  

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 related to lifestyle, major health concerns, and research findings on Hispanic health care across the life cycle. The use of folk practices, herbal medicine, and complementary and alternative therapies is included. The utilization of the health care delivery system and its implications to nursing practice are 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 resources for Spanish-language, culturally relevant publications.

### NURE 3373 Oncology Nursing

**3.0 Semester Credit Hours**  
Prerequisites: NURS 3610; admission to the Flex Program; admission to the Graduate Program  

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 professional and personal implications as it relates to integrated learning, partnering, and scholarship in providing nursing support for oncology patients.

### NURE 3383 Nursing Care of Children with Developmental Disabilities in the Community

**3.0 Semester Credit Hours**  
Prerequisite: NURS 4435  

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 educational interventions, early intervention, special education, and development for early detection of problems. Emphasis is placed on the role of the nurse in the care of children with disabilities and their families. The role of nurses in creating an inclusive education and targeted learning environment for children with disabilities will be explored.

### NURE 3356 Speaking Spanish to Patients

**3.0 Semester Credit Hours**  
Prerequisite: NURS 3802 or graduate standing  

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 and non-verbal elements of Spanish pronunciation and grammar will be included.

### NURE 3310 Introduction to Computing in Health Care

**3.0 Semester Credit Hours**  
Prerequisite: Permission of the instructor  

This course is an exploration of the use of computing and high technology in health care environments including selected observational experiences. An overview of the history and current understanding of the human-animal bond will be discussed including identifying and evaluating this bond. Students will select specific environments, populations, and animals for further exploration. Animals will be included in the classroom experiences.

### NURE 3312 Theoretical Foundations of Complementary and Alternative Therapies in Nursing

**3.0 Semester Credit Hours**  
Prerequisites: Generic students who have completed NURS 3802, and Flex students who have been admitted to the Program  

This 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.

### NURE 3316 Chronic Respiratory Illness in Children and Adults

**3.0 Semester Credit Hours**  
Prerequisites: Undergraduate Generic: NURS 3802; Undergraduate Flex: NURS 4512  

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 physiology, 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.

### NURE 3321 Animal-Assisted Activities and Therapy in Health Care

**3.0 Semester Credit Hours**  
Prerequisites: Undergraduate Generic: 3802; Undergraduate Flex: 4512  

Graduate: no graduate course prerequisites; acceptance to the Program  

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 identifying and evaluating this bond 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 exploration. Various animals will be included in the classroom experiences.

### NURE 3324 Speaking Spanish to Patients

**3.0 Semester Credit Hours**  
Prerequisite: NURS 3309, 3310, and 3802 or Graduate standing  

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 and non-verbal elements of Spanish pronunciation and grammar will be included.
NURE 3365  Understanding Health Disparities and Caring for Racial and Ethnic Minorities

3.0 Semester Credit Hours

Prerequisites: Generic: NURS 3610 or Flex: admission to Program

This course is intended to provide an intensive introduction into the issues surrounding the HIV client. The course will give a historical overview of HIV issues and trends in the areas of virology, immunology, and epidemiology of HIV; diagnostic modalities, counseling techniques, and treatment paradigms.

NURE 4302  Flex Bridge in Critical Care

1 Cr. Theory/2 Cr. Clinical

3.0 Semester Credit Hours

Prerequisites: The student must be a licensed LVN or RN and have completed Flex students who have been admitted to the Program

This course is designed to assist students in customizing care for 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.

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)

Incomplete Class or Laboratory Work

With the permission of the course instructor, a grade of Incomplete (I) may be recorded if a student in good standing has not completed all class or laboratory assignments. Incomplete work must be made up by the end of the following regular semester after the symbol I is removed, provided the student wishes to remain in good standing.

NURE 3384  Complementary/Alternative Therapies in Nursing

3.0 Semester Credit Hours

Prerequisites: NURS 3802, NURS 3811 Generic Process, or admission to Flexible Process, or admission to Graduate Program

This course is designed to introduce students to the concepts unique to the critical-care environment. These include, but are not limited to, complex case studies, pathophysiology, ethical dilemmas, managed care, etc.

Grades and Progression

The standing of students in their work is expressed by five grades: A (excellent), B (good), 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.

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)

Incomplete Class or Laboratory Work

With the permission of the course instructor, a grade of Incomplete (I) may be recorded if a student in good standing has not completed all class or laboratory assignments. Incomplete work must be made up by the end of the following regular semester after the symbol I is removed, provided the student wishes to remain in good standing.
Grades in Required Courses

A student must earn a minimum grade of C in each required nursing course. A grade of F in either clinical or theory requires the student to repeat the course at the next semester. If a student earns a  grade of less than C in a required course and is in good standing in the School of Nursing, the student may apply to repeat the course failing from two required courses is ineligible for readmission.

Scholastic Probation

A student whose GPA falls below 2.0 but who has no grade in required upper-division nursing courses, who is at the middle of the semester or term. If at the end of the semester or term, the student has achieved a GPA of 2.0 or above will be removed from scholastic probation. A student who receives less than a C, fails, drops, or withdraws from a required nursing course, he or she will be removed from scholastic probation.

Examinations

Examinations must be taken on the date and time scheduled in the course syllabus.

Intrasemester Report

If a student withdraws from a course during the semester, the Associate Dean for Undergraduate Nursing Program—all students doing work below the passing grade. The Associate Dean, in turn, sends notification to the student(s).

Semester Reports

Grade reports are available to students at the end of each semester, via Inside.UTHSCSA — the university's portal.
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 may drop a course under the following provisions:

- A student may, with the approval of the faculty instructor and the Associate Dean for Undergraduate Nursing Program, drop a course before the first examination/graded assignment without a grade being recorded on the transcript. If a student was failing the course at the time of the drop, the symbol WP is then recorded. If the student was passing the course at the time of the drop, the symbol WP is recorded.

Withdrawal
Withdrawal refers to the procedure by which students remove themselves from all courses in which they are enrolled. A student wishing to withdraw from the School of Nursing for the remainder of a particular session initiates the process through the Academic Coordinator in the undergraduate office in the School of Nursing.

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 may withdraw with the approval of the faculty any time before the last official class day in any semester. If a passing grade was maintained at the time of the drop, the symbol WP is then recorded. If the student was failing the course at the time of the drop, a WF is recorded.

Changing Course Registration
To or From Pass/Fail
If the course has an option for a pass/fail or letter grade, the student may change her or his registration from a pass/fail basis to a letter-grade basis, or from a letter-grade basis to a pass/fail basis, not later than the end of the official drop period which is the first four weeks of the regular semester and the first two weeks of the summer session.

Correspondence Courses
Students wishing to enroll for correspondence courses and/or courses in another institution while enrolled in the Undergraduate Nursing Program, 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 an increased course load to a letter-grade basis, or from a letter-grade basis to a pass/fail basis, not later than the end of the official drop period which is the first four weeks of the regular semester.

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 UT Health Science Center San Antonio. Courses completed in the Undergraduate Program before credit is granted. Grades earned for upper-level electives can be transferred only to the School of Nursing for credit.
4. Have you been diagnosed with or treated for personality disorder, antisocial personality disorder, or 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?
6. Have you ever been issued any order concerning your practice as a professional nurse in any country, state, or province?
7. Do you have any legal or uncorrected conditions that may prevent you from taking the NCLEX-RN examination?

**Student Employment**

Students may be employed as patient care assistants per the nursing program. Permits students to be enrolled full-time, part-time, or summer terms.

**Procedures for Degree Candidates**

- The nursing program permits students to be enrolled full-time, part-time, or summer terms.
- The student will receive information about final examinations and instructions about FBI fingerprinting procedures.

**General Policies**

- A student planning to take the NCLEX-RN in another state must contact the Board of Nurse Examiners of that state.
- All 122 hours for the degree must be completed before the end of the last semester or summer term.
- The student will receive information about FBI fingerprinting procedures.

**Graduation with Honor**

- Graduation with Honors
- Honors designations are based on the following scale:
  - 3.8–4.0: Summa Cum Laude
  - 3.6–3.79: Magna Cum Laude
  - 3.4–3.59: Cum Laude

**Honors Designations**

- 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.
- Students employed in an agency have the responsibility, per the Nursing Practice Act, 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 which they have not been legally and properly licensed to perform.
- If the answer to any of these questions is "yes," the student must contact the Board of Nurse Examiners for the state, or province, in which the degree is to be granted.
- Should the student fail to meet these requirements, the student's degree will not be conferred.
Students may not wear their school patch or student name badge at their place of employment.

Professional Liability Insurance

All students enrolling in nursing courses will be required to show evidence of professional liability insurance coverage in at least a minimum amount of $1,000,000 limit each claim and $3,000,000 limit aggregate in order to complete registration. Such insurance must be purchased through the university at the time of registration. Coverage is required from the student’s first day of class throughout her or his program of study. Liability insurance purchased through the university is applicable to the student role only.

Change of Address

If a student, after registration, changes her or his home or campus address, he or she is expected to notify the Office of Student Services (or go to http://inside.uthscsa.edu) and the Undergraduate Office in the School of Nursing. The students will be held responsible for any communication from the school offices sent to the address last given.

Full-Time Student Status

A full-time student is one who is registered for 12 or more semester credit hours during a regular semester. Full-time enrollment is six or more semester credit hours in one summer session or nine semester credit hours in two sessions of one summer.

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.

Classes and Clinical Practicum

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 the completion of the Generic Process curriculum or Flexible Process curriculum.

Organizations

Organizations for students of the School of Nursing as well as groups whose membership is open to all UT Health Science Center students are described in the Student Guide.

Expenses

Approximate costs are available through Nursing Admissions, the Office for Students, or the Certificate and Degree Programs brochure.
### School of Nursing
#### Academic Calendar 2008–2009

<table>
<thead>
<tr>
<th>Fall 2008</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, August 25, 2008</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Monday, September 01, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, September 10, 2008</td>
<td>Census Day</td>
</tr>
<tr>
<td>Thursday, November 27, 2008</td>
<td>University Holiday</td>
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<tr>
<td>Friday, November 28, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, December 17, 2008</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Saturday, December 20, 2008</td>
<td>Graduation (No Ceremony)</td>
</tr>
<tr>
<td>Wednesday, December 24, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Thursday, December 25, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Friday, December 26, 2008</td>
<td>University Holiday</td>
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<table>
<thead>
<tr>
<th>Spring 2009</th>
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</thead>
<tbody>
<tr>
<td>Thursday, January 01, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Monday, January 12, 2009</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Monday, January 19, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, January 28, 2009</td>
<td>Census Day</td>
</tr>
<tr>
<td>Monday, February 16, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Monday, March 09, 2009</td>
<td>Spring Break Begins</td>
</tr>
<tr>
<td>Friday, March 13, 2009</td>
<td>Spring Break Ends</td>
</tr>
<tr>
<td>Tuesday, May 12, 2009</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Sunday, May 24, 2009</td>
<td>Graduation @ Trinity University</td>
</tr>
<tr>
<td>Monday, May 25, 2009</td>
<td>University Holiday</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer 2009</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, May 28, 2009</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Tuesday, June 09, 2009</td>
<td>Census Day</td>
</tr>
<tr>
<td>Friday, August 14, 2009</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Saturday, August 22, 2009</td>
<td>Graduation (No Ceremony)</td>
</tr>
</tbody>
</table>

Note: The 2009–2010 Academic Calendar will be available on the Student Services Web site in the fall.
**GRADUATE PROGRAM IN NURSING**

*The introductory section of this Catalog, pages 46–123, applies to all schools. Students are also responsible for all information contained in that section.*

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.

**Administration**

The Graduate Program in Nursing is administered through the HSC Graduate School of Biomedical Sciences. While faculty of the School of Nursing determine the curriculum, the graduate nursing program shares common policies related to students’ admission, progression, and graduation 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 Graduate School of Biomedical Sciences in administrative policy matters and to the School of Nursing 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 Graduate Faculty Council that students have fulfilled the requirements for the awarding of the degree. The Graduate Faculty Council establishes and maintains academic policy and makes recommendations to the President for the awarding of all master’s and doctoral degrees.

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 a special early master’s option, the ADN/Diploma—MSN. 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.

**Admission and Application**

Requirements for admission to the graduate program are detailed in the Applicant Viewbook of the School of Nursing (available in print and on the Web at [http://studentservices.uthscsa.edu/prospects_apply_nursing.aspx](http://studentservices.uthscsa.edu/prospects_apply_nursing.aspx)). Official application information and deadlines for submission also are included in the Viewbook.

**Master of Science in Nursing**

**Objectives**

The objectives of the master’s program are designed to offer the student the opportunity to:

1. Design and evaluate theory-based programs of care that will promote, protect, and restore health in partnership with patients
2. Mobilize partnerships with patients* to facilitate theory-based programs of care
3. Employ expert therapeutic communication when enacting the advanced professional nursing role
4. Evaluate advanced practice decisions using critical thinking
5. Critique, utilize, and/or generate nursing knowledge to improve patient* care through scholarship
6. Demonstrate leadership in collaborative partnerships with communities to deliver quality care across levels of prevention
7. Model ethical and legal conduct that reflects standards of advanced professional practice
8. Maintain behaviors that demonstrate the value of integrated learning

**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: 1) required courses, 2) major, 3) thesis or elective credit, and 4) minor (elective). Graduate electives are offered in the School of Nursing or they may be taken at other universities.

*patients (individuals, families, aggregated, communities, society)*
Part-time enrollment is an option in some majors. The MSN program is completed through full-time study, although courses may be taken outside the School of Nursing. The hours of coursework must be taken in residence. (Elective vision and graduate courses required for the MSN, 24 credit hours given for the course.

**Admission to Candidacy**

A student who has satisfactorily completed a minimum of 20 semester credit hours of coursework applicable to the degree may be admitted to candidacy for the Master of Science in Nursing degree upon such recommendation of the Committee on Graduate Studies to the Dean of the Graduate School of Biomedical Sciences. A student must be admitted to candidacy no later than the beginning of the semester in which he or she expects to graduate.

**Curriculum**

**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.

**Course Numbers**

NURS designates all required, major, minor, or special nursing courses. NURE designates nursing electives. A four-digit course identification number follows: the first digit indicates the earliest level at which a course may be taken or at which a course is usually taken (5, 6, and 7 indicate graduate level); the second digit indicates the semester credit hours given for the course.

**MSN Semester Credit Hour Requirements**

Of the minimum 36 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 is completed through full-time study, although part-time enrollment is an option in some majors. Nurse Practitioner majors require 47 semester credit hours.

**Associate Degree in Nursing/ Diploma in Nursing — Master of Science in Nursing Option**

The ADN/Diploma — MSN, or early master’s option, requires completion of 20 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 36 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.

**Graduate Required Courses**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5306</td>
<td>Nursing Science I</td>
<td>3.0</td>
</tr>
<tr>
<td>NURS 5307</td>
<td>Nursing Science II</td>
<td>3.0</td>
</tr>
<tr>
<td>NURS 5226</td>
<td>The Nurse’s Role in Financial Planning in Healthcare Organizations</td>
<td>2.0</td>
</tr>
<tr>
<td>NURS 5339</td>
<td>Nursing Leadership and Health Policy</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**TOTAL 11.0**

**Major**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care Nurse Practitioner</td>
<td>36.0</td>
</tr>
<tr>
<td>Administration in Community and Healthcare Systems in Nursing</td>
<td>20.0</td>
</tr>
<tr>
<td>Adult Psychiatric Mental Health Nurse Practitioner</td>
<td>34.0</td>
</tr>
<tr>
<td>Critical Care Nursing (Clinical Nurse Specialist)</td>
<td>33.0</td>
</tr>
<tr>
<td>Family Nurse Practitioner</td>
<td>36.0</td>
</tr>
<tr>
<td>Family Psychiatric Mental Health Nurse Practitioner</td>
<td>36.0</td>
</tr>
<tr>
<td>Gerontological Nurse Practitioner</td>
<td>36.0</td>
</tr>
<tr>
<td>Medical-Surgical Nursing (Clinical Nurse Specialist)</td>
<td>32.0</td>
</tr>
<tr>
<td>Pediatric Nurse Practitioner</td>
<td>36.0</td>
</tr>
<tr>
<td>Thesis or Elective Courses</td>
<td>2.0–6.0</td>
</tr>
</tbody>
</table>

**Undergraduate Required Courses**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 4212</td>
<td>Strategies for Professional Nursing: Health Assessment</td>
<td>2.0</td>
</tr>
<tr>
<td>NURS 4512</td>
<td>Strategies for Professional Nursing: Health Promotion</td>
<td>5.0</td>
</tr>
<tr>
<td>NURS 4214</td>
<td>The Nurse as Professional: Research</td>
<td>2.0</td>
</tr>
<tr>
<td>NURS 4312</td>
<td>The Nurse as Professional: Leadership</td>
<td>3.0</td>
</tr>
<tr>
<td>NURS 4310</td>
<td>Strategies for Professional Nursing: The Family Across the Lifespan</td>
<td>3.0</td>
</tr>
<tr>
<td>NURS 4514</td>
<td>Strategies for Professional Nursing: Community as Partner</td>
<td>5.0</td>
</tr>
</tbody>
</table>

(Courses are described in the **“Flexible Process” section of the undergraduate portion of this Catalog**, page 370.)*

* Students admitted to the ADN/Diploma to Masters Degree option who have completed NURS 4514 Strategies for Professional Nursing: Community as Partner, and who have attained a minimum 3.0 grade point average in all courses taken at the undergraduate level, are immediately eligible to enroll in graduate courses. These students may enroll in any of the four (4) graduate core courses, and/or a total of six (6) hours of electives. These students may petition for admission to the graduate program in the next semester (fall, spring, or summer). Credit for all courses taken at the graduate level may be applied toward the graduate degree after the student has been admitted to and is enrolled in the graduate program.
In accordance with the philosophy of the School of Nursing, the term "patient(s)" indicates individuals, families, and aggregates in healthcare organizations as well as the concepts of costs, skill mix, care organizations. The fiscal components of the budgetary process in health care/critical care experience and be Advanced Cardiac Life Support (ACLS) certified.

Applicants must have a minimum of two years of acute care/critical care experience and be Advanced Cardiac Life Support (ACLS) certified.

Graduate Majors

Acute Care Nurse Practitioner (ACNP)

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. This care is continuous and comprehensive. The population in acute care practice includes acutely and critically ill patients experiencing episodic illness, exacerbation of chronic illness, or terminal illness. The ACNP practices in any setting in which patient care requirements include complex monitoring and therapies, high-intensity nursing intervention, or continuous nursing vigilance with the range of high-acuity care. While most ACNP’s practice in acute care and hospital-based settings including sub-acute care, emergency care, and intensive care settings, the continuum of acute care services spans the geographic settings of home, ambulatory care, urgent care, and rehabilitative care.

In addition to managing patient care, the ACNP utilizes invasive interventions and procedures to promote physiologic stability. ACNPs perform a wide variety of skills and procedures, and the skill set of an ACNP is often dependent on the specific patient population and specialty-based area of practice.

Restorative care is the focus of the ACNP, and short-term goals include patient stabilization, minimization of complications, and promotion of physical and psychological well-being. The long-term goal is to restore maximal health potential while evaluating risk factors in achieving this outcome.

Applicants must have a minimum of two years of acute care/critical care experience and be Advanced Cardiac Life Support (ACLS) certified.

* In accordance with the philosophy of the School of Nursing, the term “patient(s)” indicates individuals, families, and aggregates.
Acute Care Nurse Practitioner (ACNP)

Program Courses

Major Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5338</td>
<td>Pathophysiology for Advanced Practice Nurses</td>
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</tr>
<tr>
<td>NURS 6302</td>
<td>Pharmacotherapeutics for Advanced Practice Nurses</td>
<td>3.0</td>
</tr>
<tr>
<td>NURS 6307</td>
<td>Health Assessment Across the Lifespan for Advanced Practice Nurses</td>
<td>3.0</td>
</tr>
<tr>
<td>NURS 6308</td>
<td>Mental Health Concepts for Advanced Practice Nurses</td>
<td>3.0</td>
</tr>
<tr>
<td>NURS 5311</td>
<td>Nursing Assessment of Populations</td>
<td>3.0</td>
</tr>
<tr>
<td>NURS 5650</td>
<td>Acute Care Nurse Practitioner Diagnosis &amp; Management: Concepts &amp; Theory I</td>
<td>6.0</td>
</tr>
<tr>
<td>NURS 5651</td>
<td>Acute Care Nurse Practitioner Diagnosis &amp; Management: Concepts &amp; Theory II</td>
<td>6.0</td>
</tr>
<tr>
<td>NURS 5936</td>
<td>Acute Care Nurse Practitioner: Role &amp; Preceptorship</td>
<td>9.0</td>
</tr>
</tbody>
</table>

Total Semester Hours: 36.0

Above courses +11 semester hours required courses for a total of 47 semester hours

In the post-MSN option, each applicant is evaluated individually to determine the need for additional coursework.

A graduate is eligible for national certification and recognition by the Board of Nurse Examiners for the state of Texas as an Advanced Practice Nurse.

Major Course Descriptions

NURS 5338  Pathophysiology for Advanced Practice Nurses

Prerequisite: Masters-level knowledge of physiology

This course focuses on pathophysiological processes across the lifespan. The relationship between normal physiology and specific system alterations produced by disease will be explored. Particular attention will be given to etiology, pathogenesis, developmental and environmental influences, and clinical manifestations of major health problems.

NURS 6302  Pharmacotherapeutics for Advanced Practice Nurses

Prerequisite: NURS 5338

This course provides advanced practice nursing students with the opportunity to acquire knowledge and skills in the therapeutic use of pharmacologic agents. The pharmacologic treatment of major health problems that affect South Texas will be explored. Principles of pharmacokinetics, pharmacodynamics, and pharmacogenomics will be examined. The effects of culture, ethnicity, age, pregnancy, gender, and funding on pharmacologic therapy will be emphasized. Legal aspects of prescribing, including the roles of the physician and the APN, will be fully addressed. Clock hours: three class hours per week.

NURS 6307  Health Assessment Across the Lifespan for Advanced Practice Nurses

Prerequisites: Undergraduate health assessment course/comparable experience; NURS 5338

This course will build upon health assessment skills developed in the professional nurse's basic educational program. Included is the theoretical and clinical basis for assessment in advanced practice. The process whereby the advanced practitioner utilizes comprehensive physical, psychosocial, and cultural assessment across the lifespan, to gather specific data relevant to common health problems, is demonstrated. Faculty and preceptors facilitate laboratory and clinical experiences which focus on assessment of clients and presentation of findings in a variety of settings. Lab fee: $30.

2 semester hours class - 2 clock hours class

1 semester hour practicum – 3 clock hours practicum (45 clock hours practicum)

NURS 6308  Mental Health Concepts for Advanced Practice Nurses

3.0 Semester Credit Hours

Prerequisite: Graduate standing

This course emphasizes the development of advanced practice nursing skills in mental health. Individually supervised practice, analysis, and evaluation of the interpersonal process with culturally diverse clients experiencing life transitions that result in psychological stress and dysfunction across the lifespan is employed. Students use a holistic perspective to examine the etiology, meaning, and consequences of human behavior. Biological, cultural, psychological, and social aspects of mental health and mental health care are considered. A special emphasis is placed on working in partnership with patients* to assess and detect actual and potential mental health problems. The advanced practice nurse will provide customized care through developmental assessment, crisis intervention, pharmacological management, other biological therapies, and/or consultation/referral to other mental health professionals. A 45-clock-hour practicum is required.

NURS 5311  Nursing Assessment of Populations

3.0 Semester Credit Hours

Prerequisite: Graduate standing

This course explores the acquisition of knowledge about a community of interest and its health problems. Communities of interest may include populations within organizations, neighborhoods, or communities. Sources of both qualitative and quantitative information about selected populations and their health problems will be addressed. Students will have the opportunity to gain experience in the identification of population characteristics, problem measurement, and the identification of “communities of solution.” For their clinical activities, students may choose population aggregates in a variety of settings compatible with their area of interest. May be required to travel for completion of clinical practicum experiences.

Clock hours: two hours and three practicum hours per week.

NURS 5650  Acute Care Nurse Practitioner (ACNP) Diagnosis & Management: Concepts & Theory I

6.0 Semester Credit Hours

Prerequisites: NURS 6307, NURS 6302, NURS 6308, NURS 5338, NURS 5311 (may be taken concurrently)

The focus of this course is the transition of the RN to the role of the Acute Care Nurse Practitioner in health promotion, diagnosis, and management of common illnesses in adult patients with complex acute, critical, and chronic health conditions, including the delivery of acute care services. Research and theory (scholarship) are used to identify strategies integral to advanced nursing practice for the promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems are examined, critical thinking processes required for development of differential diagnoses are utilized, and invasive interventions and procedures and therapeutic regimens for common diseases/disorders in patients with acute and critical health problems are identified. This course emphasizes collaborative partner-

* In accordance with the philosophy of the School of Nursing, the term “patient(s)” indicates individuals, families, and aggregates.
ships among patient*, family, and other health care disciplines. May be required to travel for completion of clinical practicum experiences.

NURS 5651  Acute Care Nurse Practitioner (ACNP)
Diagnosis & Management: Concepts & Theory II
6.0 Semester Credit Hours
Prerequisites: NURS 6307, NURS 6302, NURS 6308, NURS 5338, NURS 5311, NURS 5650
The focus of this course is the progression of development of the Acute Care Nurse Practitioner in health promotion, diagnosis and management of common illnesses in adult patients with complex acute, critical and chronic health conditions, including the delivery of acute care services. Research and theory are used to identify strategies integral to advanced nursing practice for the promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems are examined, critical thinking processes required for development of differential diagnoses are utilized, and invasive interventions and procedures and therapeutic regimens for common diseases/disorders in patients with acute and critical health problems are identified. This course emphasizes collaborative partnerships among patient*, family, and other health care disciplines. May be required to travel for completion of clinical practicum experiences.
3 clock hours class, 9 clock hours clinical (135 hours clinical practicum)

NURS 5936  Acute Care Nurse Practitioner (ACNP): Role & Preceptorship
9.0 Semester Credit Hours
Prerequisites: All courses for the major
This course focuses on health maintenance for patients, professional-ism, and ethical roles and responsibilities of the Acute Care Nurse Practitioner in the health care setting; transition to an advanced practice role (marketing, negotiations, contracts); understanding the political arena of legal and social issues governing advanced practice in primary health care (including prescriptive authority); and maintaining professional partnerships with other advanced practice nurses, as well as health care professionals in other disciplines. It requires the student to demonstrate integration, synthesis, and application of assessment, diagnosis, and management of patients* with complex acute, critical, and chronic health conditions. Practice and mastery of these skills will occur in preceptor clinical settings specific to the population focus and will reflect progressive competency of the Acute Care Nurse Practitioner student in health promotion, diagnosis, and management of patient* and family care for a culturally diverse population. May be required to travel for completion of clinical practicum experiences.

Administration in Community and Health Care Systems in Nursing
NURS 5310  Administrative Strategies and Nursing Systems
3.0 Semester Credit Hours
Prerequisites: NURS 5226(or concurrently and NURS 5339(or concurrently
This course examines contemporary influences, theories, principles, and functional strategies related to organizational and management science. Included are the influence of the external and internal environment on complex systems, role relationships, planning, structure, communication, negotiation, and consultation as they apply to health care management concerns.
Clock hours: three class hours per week

NURS 5311  Nursing Assessment of Populations
3.0 Semester Credit Hours
Prerequisite: Graduate standing
(See page 385.)

NURS 5409  Program Planning and Evaluation
2.0 Semester Credit Hours
Prerequisite: NURS 5311
This course and practicum provide an opportunity to explore problems that affect client population aggregates in a variety of health care settings. The emphasis of this course is 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.

NURS 5501  Financial Management and Decision Support Systems for Nursing Administrative Practice
5.0 Semester Credit Hours
Prerequisite: NURS 5226
This course considers advanced financial management concepts (financial statements, capital budgeting, forecasting, rate setting, costing out of nursing services) and is an introduction to the concepts of decision-support systems in the administration of community and health care services.
Clock hours: three class hours and six practicum hours per week.

NURS 5561  Advanced Nursing Practicum in Policy and Management
5.0 Semester Credit Hours
Prerequisites: NURS 5306, 5307, 5409, and 5501
The purpose of this course is to provide the student with the opportunity to examine the role of the nurse executive in a health care agency. Emphasis is placed on the development of interdisciplinary relationships, long-range planning skills, organizational priority setting, fiscal management, marketing, policy setting, care systems and support systems for patient-care delivery. The student will be assigned to an institutional or community-based health care setting under the preceptorship of an experienced nurse executive for the practicum portion of the course.
Clock hours: one seminar and twelve practicum hours per week.

Adult Psychiatric Mental Health Nurse Practitioner (APMHNCP)
This major pulls together 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.

NURS 5605  Adult Psychiatric Mental Health Nurse Practitioner (APMHNCP): Diagnosis and Management: Concepts and Theory I
6.0 Semester Credit Hours
Prerequisites: NURS 5306, 5226, 6307, 6302, 6308, 5338, 5339, and NURS 5311 (may be taken concurrently); NURS 5307 (may be taken concurrently)
The focus of this course is the transition of the RN to the role of the Adult Psychiatric Mental Health Nurse Practitioner in health promotion, diagnosis, and management of common mental illnesses.

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in psychiatric practice of the adult attending to differences in focused populations. Research and theory are used to identify strategies integral to advanced nursing practice for the promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems and their impact on mental health are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. Emphasizes collaborative partnerships among patient*, family, and other health care disciplines. 90 hours of clinical practicums.

NURS 5606  Adult Psychiatric Mental Health Nurse Practitioner (APMHN): Diagnosis and Management: Concepts and Theory II

6.0 Semester Credit Hours
Prerequisite: NURS 5605

The focus of this course is the progression of development of the Adult Psychiatric Mental Health Nurse Practitioner in health promotion, diagnosis, and management of common illnesses in psychiatric practice with adults attending to differences in focused populations. Research and theory are used to identify strategies that are integral to advanced nursing practice for promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems and the relationship to mental health are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. Emphasizes collaborative partnerships among patient*, family, and other health care disciplines. 135 hours of clinical practicums.

NURS 5701  Adult Psychiatric Mental Health Nurse Practitioner (APMHN): Role and Preceptorship

7.0 Semester Credit Hours
Prerequisite: NURS 5606

This course focuses on health maintenance for adult patients*. It requires the student to demonstrate integration, synthesis, and application of assessment, diagnosis, and management of patients* with acute and/or stable chronic mental health conditions. Practice and mastery of these skills will occur in preceptoried clinical settings specific to psychiatric mental health care and will reflect progressive competency of the Nurse Practitioner student in health promotion, diagnosis, and management of patient* and family care for a culturally diverse population. The student will have the opportunity to use problem-based integrated learning strategies and scholarship to identify and implement strategies to promote health, prevent illness, develop and implement treatment plans, and evaluate outcomes of common and complex disorders. Critical thinking processes required for development of differential diagnosis and evaluation are required, and progressive independence of practice is expected. This course emphasizes collaborative partnerships with patient*, family, and other health care disciplines. 180 hours of clinical practicums.

Critical Care Nursing (Clinical Nurse Specialist)

This major pulls together the content from core courses in physiology, pathophysiology, pharmacotherapeutics, and health assessment as a foundation for advanced practice. The roles of the clinical nurse specialist in advanced practice are experienced through patient care management in inpatient facilities.

NURS 5601  Critical Care Nursing – Clinical Nurse Specialist I: Health Management

6.0 Semester Credit Hours
Prerequisites: NURS 6307, 5338, 5306, and 6308 (or concurrent); NURS 6302 (or concurrent)

This course addresses the unique and autonomous roles of the Critical Care Nursing – Clinical Nurse Specialist – as an Advanced Practice Nurse. The content focuses on human responses to health and illness, and identifying and modifying etiologies that interfere with health. Concepts covered include health promotion, disease prevention, risk reduction, and management of symptoms and functional problems. Theories and current evidence-based interventions are explored for application to special populations. Developing a customized patient-based framework for Clinical Nurse Specialist practice in the contemporary health care system is emphasized.

NURS 5140  Critical Care Nursing – Clinical Nurse Specialist: Skills Competencies

1.0 Semester Credit Hour
Prerequisite: NURS 6307

This course focuses on the skills and procedures that critical-care nurses use in the monitoring and management of critically ill patients. The content is designed to build on the student’s previous critical care experience and to enhance knowledge of new and current technology for optimal patient care. Skills and procedures are reviewed and students have the opportunity to demonstrate competency with these skills in a critical-care setting or through laboratory-simulated activities.

NURS 5602  Critical Care Nursing – Clinical Nurse Specialist II: Diagnosis and Management

6.0 Semester Credit Hours
Prerequisites: NURS 5226, 5339, 5307 (or concurrent), 5311 (or concurrent), 5601, and 5140

This course builds on Critical Care Nursing – Clinical Nurse Specialist – and is designed to transition the graduate nursing student into the Critical Nurse Specialist role as a practitioner and provider of care. The focus of this critical-care specialty is adults with life-threatening, critical illness or injury who require advanced technology and monitoring. Students have the opportunity to develop, apply, and evaluate in-depth knowledge of pathophysiologic processes and evidenced-based interventions for disease management. The focus of the theoretical and clinical portions of the course is on nursing and medical diagnosis and management, pharmacological and nonpharmacological treatments, and an interdisciplinary approach to critically ill patients. Clinical experiences include the implementation and evaluation of Clinical Nurse Specialist roles in tertiary and other settings that comprise the continuum of care for critically ill patients.

NURS 5502  Critical Care Nursing – Clinical Nurse Specialist III: Role and Preceptorship

5.0 Semester Credit Hours
Prerequisite: completion of all major coursework

This course can be a synthesizing experience in the development and implementation of the Clinical Nurse Specialist role in a collaborative, interdisciplinary model. The focus of this course is ongoing clinical experiences and practice that integrate the theoretical and practical knowledge for the health and disease management of critically ill adult patients. Emphasis is on clinical decision making, which incorporates nursing and medical diagnosis, disease management, and treatment to include prescriptive practices.

Family Nurse Practitioner (FNP)

Applicants for the FNP clinical major are encouraged to

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make a commitment to work with medically underserved populations, as defined by federal guidelines, upon completion of the program.

NURS 6308 Mental Health Concepts for Advanced Practice Nurses
3.0 Semester Credit Hours
Prerequisite: Graduate standing
(Description on page 385.)

NURS 5311 Nursing Assessment of Populations
3.0 Semester Credit Hours
Prerequisite: Graduate standing
(Description on page 385.)

NURS 5338 Pathophysiology for Advanced Practice Nurses
3.0 Semester Credit Hours
Prerequisite: Master’s-level knowledge of physiology
(Description on page 385.)

NURS 6302 Pharmacotherapeutics for Advanced Practice Nurses
3.0 Semester Credit Hours
Prerequisite: NURS 5338
(Description on page 385.)

NURS 6307 Health Assessment Across the Lifespan for Advanced Practice Nurses
3.0 Semester Credit Hours
Prerequisites: Undergraduate health assessment course/comparable experience; NURS 5338
(Description on page 385.)

NURS 6603 Family Nurse Practitioner Diagnosis and Management: Concepts & Theory I
6.0 Semester Credit Hours
Prerequisites: NURS 5306, 5226, 5339, 6307, 6302, 6308, NURS 5338, 5311 (may be taken concurrently), and 5307 (may be taken concurrently)
The focus of this course is the transition of the RN to the role of the Family Nurse Practitioner in health promotion, diagnosis, and management of common illnesses in primary health care practice across the lifespan attending to differences in focused populations. Research and theory are used to identify strategies integral to advanced nursing practice for promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. Emphasizes collaborative partnerships among patient*, family, and other health care disciplines. 135 hours of clinical practicum. Lab fee: $30. May be required to travel for completion of clinical practicum experiences.

NURS 6906 Family Nurse Practitioner (FNP): Role and Preceptorship
9.0 Semester Credit Hours
Prerequisites: all courses for the major
This course focuses on health maintenance for patients, professionalism, and ethical roles and responsibilities of Family Nurse Practitioners in the health care setting; transition to an advanced practice role (marketing, negotiations, contracts); understanding the political arena of legal and social issues governing advanced practice in primary health care (including prescriptive authority); and maintaining professional partnerships within professional advanced practice nursing and health care professionals in other disciplines. It requires the student to demonstrate integration, synthesis, and application of assessment, diagnosis, and management of patients* with acute and/or stable chronic health conditions. Practice and mastery of these skills will occur in preceptoried clinical settings specific to the population focus and will reflect progressive competency of the Nurse Practitioner student in health promotion, diagnosis, and management of patient* and family care for a culturally diverse population. The student will have the opportunity to use problem-based integrated learning strategies and scholarship to identify and implement strategies to promote health, prevent illness, develop and implement treatment plans, and evaluate outcomes of common and complex disorders. Critical thinking processes required for development of differential diagnosis and evaluation are required, and progressive independence of practice is expected. This course emphasizes collaborative partnerships with patient*, family, and other health care disciplines. 360 hours of clinical practicums. May be required to travel for completion of clinical practicum experiences.

Family Psychiatric Mental Health Nurse Practitioner (FPMHNP)
This major pulls together 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.

NURS 5603 Family Psychiatric Mental Health Nurse Practitioner (FPMHNP) Diagnosis and Management: Concepts and Theory I
6.0 Semester Credit Hours
Prerequisites: NURS 5306, 5226, 6307, 6302, 6308, 5338, 5311 (may be taken concurrently), and 5307 (may be taken concurrently)
The focus of this course is the transition of the RN to the role of the Family Psychiatric Mental Health Nurse Practitioner in health promotion, diagnosis and management of common mental illnesses in psychiatric practice across the life span attending to differences in focused populations. Research and theory are used to identify strategies integral to advanced nursing practice for the promotion of health and prevention of illness. Using problem-based and

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integrated learning strategies, disorders of approximately one half of the physiologic systems and their impact on mental health are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. Emphasizes collaborative partnerships among patient, family, and other health care disciplines. 90 hours of clinical practicums. May be required to travel for completion of clinical practicum experiences.

NURS 5604  Family Psychiatric Mental Health Nurse Practitioner (FPMHNP) Diagnosis and Management: Concept and Theory II
6.0 Semester Credit Hours
Prerequisites: NURS 5306, 5226, 6307, 6302, 6308, 5338, 5311 (may be taken concurrently), 5307 (may be taken concurrently), and 5603
The focus of this course is the progression of development of the Family Psychiatric Mental Health Nurse Practitioner in health promotion, diagnosis, and management of common illnesses in psychiatric practice across the lifespan attending to differences in focused populations. Research and theory are used to identify strategies that are integral to advanced nursing practice for promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems and the relationship to mental health are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. Emphasizes collaborative partnerships among patient*, family, and other health care disciplines. 135 hours of clinical practicums. May be required to travel for completion of clinical practicum experiences.

NURS 5934  Family Psychiatric Mental Health Nurse Practitioner (FPMHNP): Role and Preceptorship
9.0 Semester Credit Hours
Prerequisites: all coursework for the major
This course focuses on health maintenance for patients*. It requires the student to demonstrate integration, synthesis, and application of assessment, diagnosis, and management of patients* with acute and/or stable chronic mental health conditions. Practice and mastery of these skills will occur in preceptored clinical settings specific to psychiatric mental health care and will reflect progressive competency of the Nurse Practitioner student in health promotion, diagnosis, and management of patient* and family care for a culturally diverse population. The student will have the opportunity to use problem-based integrated learning strategies and scholarship to identify and implement strategies to promote health, prevent illness, develop and implement treatment plans, and evaluate outcomes of common and complex disorders. Critical thinking processes required for development of differential diagnosis and evaluation are required, and progressive independence of practice is expected. This course emphasizes collaborative partnerships with patient*, family and other health care disciplines. 360 hours of clinical practicums. May be required to travel for completion of clinical practicum experiences.

Gerontological Nurse Practitioner (GNP)

NURS 6610  Gerontological Nurse Practitioner (GNP) Diagnosis and Management: Concepts and Theory I
6.0 Semester Credit Hours
Prerequisites: NURS 5306, 5226, 5339, 6307, 6302, 6308, 5338, and 5311. Student must be willing to travel to clinical sites.
The focus of this course is the transition of the RN to the role of the Gerontological Nurse Practitioner in health promotion, diagnosis, and management of common illnesses in primary health care practice across the lifespan attending to differences in focused populations. Research and theory (scholarship) are used to identify strategies integral to advanced nursing practice for the promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. This course emphasizes collaborative partnerships among patients*, families, and other health care disciplines. 90 hours of clinical practicums. May be required to travel for completion of clinical practicum experiences.

NURS 6611  Gerontological Nurse Practitioner (GNP) Diagnosis and Management: Concepts and Theory II
6.0 Semester Credit Hours
Prerequisites: NURS 5306, 5226, 6307, 5339, 6302, 6308, 5338, 5311, and 6610
The focus of this course is the progression of development of the Gerontological Nurse Practitioner in health promotion, diagnosis, and management of common illnesses in primary health-care practice across the life span, and attending to differences in focused populations. Research and theory (scholarship) are used to identify strategies that are integral to advanced nursing practice for promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. This course emphasizes collaborative partnerships among patient*, family, and other health care disciplines. 135 hours of clinical practicums. May be required to travel for completion of clinical practicum experiences.

NURS 6910  Gerontological Nurse Practitioner (GNP): Role and Preceptorship
9.0 Semester Credit Hours
Prerequisites: all coursework for the major
This course focuses on health maintenance for patients, professionalism, and ethical roles and responsibilities of Gerontological Nurse Practitioners in the health care setting; transition to an advanced practice role; understanding the political arena of legal and social issues governing advanced practice in primary health care (including prescriptive authority); and maintaining professional partnerships within professional advanced practice nursing and health care professionals in other disciplines. It requires the student to demonstrate integration, synthesis and application of assessment, diagnosis, and management of patients* with acute and/or stable chronic health conditions. Practice and mastery of these skills will occur in preceptored clinical settings specific to the population focus of specialty track (GNP) and will reflect progressive competency of the Nurse Practitioner student in health promotion, diagnosis, and management of patient* and family care for a culturally diverse population. The student will use problem-based integrated learning strategies and scholarship to identify and implement strategies to promote health, prevent illness, develop and implement treatment plans, and evaluate outcomes of common and complex disorders. Critical thinking processes required for development of differential diagnosis and evaluation is required, and progressive independence of practice is expected. This course emphasizes collaborative partnerships with patient*, family, and other health care disciplines. 360 hours of clinical practicums. May be required to travel for completion of clinical practicum experiences.

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Medical-Surgical Nursing (Clinical Nurse Specialist)
This major pulls together 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.

NURS 5640  Medical-Surgical Nursing – Clinical Nurse Specialist I: Health Management
6.0 Semester Credit Hours
Prerequisites: NURS 6307, 5338, 5306, 6308 (or concurrent), and 6302 (or concurrent)
This course addresses the unique and autonomous roles of the Medical-Surgical Nursing – Clinical Nurse Specialist – as an Advanced Practice Nurse. The content focuses on human responses to health and illness, and identifying and modifying etiologies that interfere with health. Concepts covered include health promotion, disease prevention, risk reduction, and management of symptoms and functional problems. Theories and current evidence-based interventions are explored for application to special populations. Developing a customized patient-based framework for Medical-Surgical – Clinical Nurse Specialist practice in the contemporary health care system is emphasized. 112.5 clinical hours.

NURS 5641  Medical-Surgical Nursing – Clinical Nurse Specialist II: Diagnosis and Management
6.0 Semester Credit Hours
Prerequisites: NURS 5307 (or concurrent), 5311 (or concurrent), and 5640
This course builds on Medical-Surgical Nursing – Clinical Nurse Specialist I – and is designed to transition the graduate nursing student into the Clinical Nurse Specialist role as a practitioner and provider of care. The medical-surgical specialty focus is adults with acute and chronic illness across the continuum of care. Students have the opportunity to develop, apply, and evaluate in-depth knowledge of pathophysiological processes and evidence-based interventions for disease management. The focus of the theoretical and clinical components of the course is on nursing and medical diagnosis and management, pharmacological and nonpharmacological treatments, and an interdisciplinary approach to patients experiencing acute and chronic diseases. Clinical experiences include the implementation and evaluation of Medical-Surgical Nursing – Clinical Nurse Specialist roles in primary, secondary, and/or tertiary settings. 135 clinical hours.

NURS 5532  Medical-Surgical Nursing – Clinical Nurse Specialist III: Role and Preceptorship
5.0 Semester Credit Hours
Prerequisites: completion of all major coursework
This course can be a synthesizing experience in the development and implementation of the Medical-Surgical Nursing – Clinical Nurse Specialist role in a collaborative, interdisciplinary model. The focus of this course is ongoing clinical experiences and practice that integrate the theoretical and practical knowledge needed to contribute to the health and disease management of acutely or chronically ill adult patients. Emphasis is on clinical decision making, which incorporates nursing and medical diagnosis, disease management, and treatment to include prescriptive practices. 180 clinical hours.

Pediatric Nurse Practitioner (PNP)
Applicants for the PNP clinical major must have clinical practice experience focused among pediatric age-group clients.

NURS 6302  Pharmacotherapeutics for Advanced Practice Nurses
3.0 Semester Credit Hours
Prerequisite: Graduate standing
(See page 385.)

NURS 5641  Pediatric Nurse Practitioner (PNP) Diagnosis and Management: Concepts and Theory I
6.0 Semester Credit Hours
Prerequisites: NURS 5306, 5226, 6307, 5339, 6302, 6308, 5338, 5311 (may be taken concurrently), 5307 (may be taken concurrently), and 5631
The focus of this course is the transition of the RN to the role of the Pediatric Nurse Practitioner in health promotion, diagnosis, and management of common illnesses in primary health-care practice across the lifespan attending to differences in focused populations. Research and theory (scholarship) are used to identify strategies integral to advanced nursing practice for the promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. Emphasizes collaborative partnerships among patients*, families, and other health care disciplines. 90 hours of clinical practicums. Lab fee: $30. May be required to travel for completion of clinical practicum experiences.

NURS 5631  Pediatric Nurse Practitioner (PNP) Diagnosis and Management: Concepts and Theory II
6.0 Semester Credit Hours
Prerequisites: NURS 5306, 5226, 6307, 5339, 6302, 6308, 5311 (may be taken concurrently), 5330, and 5307 (may be taken concurrently)
The focus of this course is the progression of development of the Pediatric Nurse Practitioner in health promotion, diagnosis, and management of common illnesses in primary health care practice across the lifespan, attending to differences in focused populations. Research and theory are used to identify strategies that are integral to advanced nursing practice for promotion of health and prevention of illness. Using problem-based and integrated learning strategies, disorders of approximately one half of the physiologic systems are examined, critical thinking processes required for development of differential diagnosis are utilized, and therapeutic regimens for common diseases/disorders identified. Emphasizes collaborative partnerships among patients*, family, and other health care disciplines. 135 hours of clinical practicums. Lab fee: $30. May be required to travel for completion of clinical practicum experiences.

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NURS 5933  Pediatric Nurse Practitioner (PNP): Role and Preceptorship
9.0 Semester Credit Hours
Prerequisites: all coursework specific to the major
This course focuses on health maintenance for patients, professionalism, and ethical roles and responsibilities of Pediatric Nurse Practitioners in the health care setting; transition to an advanced practice role (marketing, negotiations, contracts); understanding the political arena of legal and social issues governing advanced practice in primary health care (including prescriptive authority); and maintaining professional partnerships within professional advanced practice nursing and health-care professionals in other disciplines. It requires the student to demonstrate integration, synthesis, and application of assessment, diagnosis, and management of patients* with acute and/or stable chronic health conditions. Practice and mastery of these skills will occur in preceptor field settings specific to the population focus of specialty track (PNP) and will reflect progressive competency of the Nurse Practitioner student in health promotion, diagnosis, and management of patient* and family care for a culturally diverse population. The student will use problem-based integrated learning strategies and scholarship to identify and implement strategies to promote health, prevent illness, develop and implement treatment plans, and evaluate outcomes of common and complex disorders. Critical thinking processes required for development of differential diagnosis and evaluation are required, and progressive independence of practice is expected. This course emphasizes collaborative partnerships with patient*, family, and other health care disciplines. 360 hours of clinical practicum. May be required to travel for completion of clinical practicum experiences.

Minor Courses

Administration in Nursing

NURS 5310  Administrative Strategies and Nursing Systems
3.0 Semester Credit Hours
Prerequisites: NURS 5226 for concurrent, NURS 5339 for concurrent
This course examines contemporary influences, theories, principles, and functional strategies related to organizational and management science. Included are the influence of the external and internal environment on complex systems, role relationships, planning, structure, communication, negotiation, and consultation as they apply to healthcare management concerns.
Clock hours: three class hours.

NURS 5501  Financial Management and Decision Support Systems for Nursing Administrative Practice
5.0 Semester Credit Hours
Prerequisite: NURS 5226
This course considers advanced financial management concepts (financial statements, capital budgeting, forecasting, rate setting, costing out of nursing services) and is an introduction to the concepts of decision-support systems in the administration of community and health care services.
Clock hours: three class hours and six practicum hours per week.

Gerontology

NURS 5303  Aging, Cognition, and Dementia
3.0 Semester Credit Hours
Prerequisites: Graduate standing and completion of a graduate level research course
Cognition and Dementia will be explored from biological and psychosocial perspectives focusing particularly on assessing cognition and executive function to identify cortical and non-cortical dementias, conditions commonly associated with dementia such as Alzheimer’s disease, and the nursing management of patients and their caregivers and family. The most recent research of the correlates of dementia and cognitive decline will be evaluated. Local, state, and national resources will be explored. Community agencies providing services for elders will offer opportunities for students to conduct dementia screening, collaboration with other health care providers, and community education. Strategies to manage communication, wandering behavior, incontinence, and other behavioral manifestations of dementia will be used in interventions with caregivers in institutional and community settings.

NURS 5304  Health Issues in Gerontology
3.0 Semester Credit Hours
Prerequisite: Graduate standing
This is a survey course of physical, psychological, and social perspectives of aging with emphasis on health and healthcare of older adults. The impact of an aging society on socio-economic, political, and healthcare systems will be explored.

Teaching of Nursing

NURS 5371  Curriculum and Instruction in Nursing
3.0 Semester Credit Hours
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 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.

NURS 5372  Roles of the Teacher in Nursing
3.0 Semester Credit Hours
Prerequisite: NURS 5371
This course focuses on the investigation of the roles of the educator in contemporary nursing. The course provides the opportunity to design, implement, and evaluate learning experiences in settings such as nursing programs, staff development, and/or continuing education. Emphasis is on the application of teaching, learning, and evaluation strategies.
Clock hours: one class hour every week and six practicum hours per week.

Women’s Health

NURS 5346  Health Care of Women I
3.0 Semester Credit Hours
Prerequisite: Graduate standing
This course will focus on women’s health care across the lifespan and during the antepartum and postpartum period at the advanced practice level. Health promotion of women will be stressed, as well as the management of minor acute and chronic problems. The content of this course will cover topics such as reproductive tract, preconception health and counseling, physiology of pregnancy, prenatal care, and psycho-social influences on women’s health.

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NURS 5347  Health Care of Women II
3.0 Semester Credit Hours
Prerequisites: APN track NURS 5306, 5307, 5226, 6307, 5339, 6302, 6308, 5338, 5311, & 5346
This course will focus on complex women's health issues at the advanced-practice level. Through the implementation of theory, research, and evidence-based knowledge, and culturally competent communication skills, experience is gained in providing women's health care to rural and urban populations of South Central Texas. Experience in the use of clinical management skills as direct caregiver or in an administrative role will occur in a variety of health care settings such as rural health clinics, county health departments, health maintenance organizations, ambulatory clinics, antenatal clinics, physician's offices, community coalitions, and family planning clinics. The content of this course will cover topics such as complicated gynecologic and obstetrical care, lifespan gynecologic care, substance abuse, chronic pain, eating disorders, sexuality issues, health care of women with disabilities, and cultural variations in women's health beliefs and practices.

NURS 5348  Health Care of Women for Nurse Administrators
3.0 Semester Credit Hours
Prerequisites: Administrator track NURS 5306, 5307, 5226, 5339, 5311, 5310, 5409, & 5346
This course will focus on complex women's health issues at the advanced practice level. Experience in the use of management skills in an administrative role will occur in a variety of health care settings such as rural health clinics, county health departments, health maintenance organizations, ambulatory clinics, antenatal clinics, physician's offices, community coalitions, and family planning clinics. The course will cover topics such as complicated gynecologic and obstetrical care, lifespan gynecologic care, substance abuse, eating disorders, sexuality issues, health care of women with disabilities, and cultural variations in women's health beliefs and practices.

Informatics in Nursing

NURS 5315  Information Systems in Health Care and Nursing
3.0 Semester Credit Hours
Prerequisite: NURS 5317
This course will provide the opportunity to develop skills and knowledge for an integral role as a clinical expert and leader in planning, developing, implementing, and evaluating clinical information systems and information technology in health care settings. Informatics applications that affect health care and nursing will be emphasized. Strategic planning, selecting key personnel for development teams, determining and communicating information needs, staff education, administrative uses of information systems, and legal and ethical issues of clinical information systems and electronic health record are explored. The roles of clinical professionals in the process are emphasized.
Clock hours: two and one-half class hours and one and one-half practicum hours.

NURS 5317  Practice and Knowledge in Health Care and Nursing Informatics
3.0 Semester Credit Hours
Prerequisites: Graduate standing and demonstration of prerequisite beginning computer competencies
This course is an introduction to the health care and nursing informatics and computing environment. It provides a basis for understanding the impact of information technology on health care practice and critical thinking in clinical decision making. Theoretical and applied approaches furnish a basis for understanding and participating in the use of informatics systems in health care and nursing. Emphasis is on the use of technology to access knowledge and to create science-based practice protocols for informed clinical decision making in health care and nursing.
Clock hours: three clock hours class.

Thesis

NURS 6298  Development of a Thesis Proposal
2.0 Semester Credit Hours
Prerequisites: NURS 5306, NURS 5307, and consent of thesis advisor
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.

NURS 6098  Thesis
1.0–4.0 Semester Credit Hours
Prerequisite: consent of thesis advisor
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.)

Special Courses

NURS 6306  Social Cultural Concepts in Public Health Practice
3.0 Semester Credit Hours
This is a basic theory course for public health nursing/public health practice. It stresses biological, social, and cultural concepts related to health and illness in society. The focus is the role of these concepts in determining disease, treating disease, promoting health, and organizing health services. The course examines the relationship between these concepts and community value systems for application to planning interventions in public health.

Elective Courses

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.

NURE 5001  Mentored Research Practicum: State of the Science
1.0–2.0 Variable Semester Credit Hours
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.
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.

NURE 5002  Mentored Research Practicum: Proposal Development
1.0–2.0 Variable Semester Credit Hours
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.

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 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.

NURE 5003  Mentored Research Practicum: Instrumentation
1.0–2.0 Variable Semester Credit Hours
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.

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.

NURE 5004  Mentored Research Practicum: Statistical Methods
1.0–2.0 Variable Semester Credit Hours
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.

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.

NURE 5005  Mentored Research Practicum: Proposal Testing
1.0–2.0 Variable Semester Credit Hours
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.

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.

NURE 5006  Mentored Research Practicum: Research Results/Policy
1.0–2.0 Variable Semester Credit Hours
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.

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.

NURE 5007  Clinical Applications in Advanced Nursing Practice
1.0–4.0 Variable Semester Credit Hours

Prerequisite: NURS 6307

This course provides an opportunity for qualified students to work closely with a faculty member and/or preceptor who is/are actively engaged in advanced clinical practice.

NURE 5115, 5215, 5315  Application of Research in Nursing 1.0–3.0 Semester Credit Hours

A list is provided each academic semester citing faculty and their research projects with whom graduate students may contract for this elective course.

NURE 5152/5153 or Social and Moral Values in the Health Professions
1.0–2.0 Semester Credit Hours

This interdisciplinary course focuses on current bioethical issues and dilemmas encountered in the delivery of services by health professionals. The sequence of topics, taught by an interdisciplinary team of faculty members and guest speakers, spans the entire academic year. The first classes will have the opportunity to develop a philosophical framework for ethical decision making. Subsequent sessions will offer an opportunity to utilize this framework in the analysis of selected current ethical issues such as euthanasia, ethics of research, abortion, allocation of scarce resources, and reproductive technology. Each class consists of a presentation of an ethical issue followed by class discussion. This course is open to nursing students enrolled in the undergraduate, graduate, or flexible process. This course may be taken in either the fall or spring semester for one or two hours of credit. Students may register for two hours of credit (NURE 3252/5252) only once, but may do so in either the fall or spring semester.

Clock hours: one class hour or two class hours per week.

NURE 5195  Mentored Research Scholars 1.0 Semester Credit Hour
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.

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.

NURE 5242  Psychotherapy with Groups 2.0 Semester Credit Hours
Prerequisites: NURS 5306, 5307, and 5339

This course emphasizes theory and clinical practice in group psychotherapy. Selected models including psychoanalytic, Tavistock, group focal conflict, Gestalt, and expressive therapies are compared and contrasted. The role of the nurse as leader and/or co-leader within psychotherapeutic groups is examined. Research ideas are formulated based on both practice and theory.

NURE 5314  Nursing Interventions in Pain 3.0 Semester Credit Hours

This course is a survey and analysis of current theories about pain and its alleviation. The exploration of nurses’ role in pain management is included.

Clock hours: three class hours per week.

NURE 5334  Nursing Care of the Patient in Crisis in the Emergency Department 3.0 Semester Credit Hours

This course is designed to explore various theories, concepts, and research in the nursing care of the patient in crisis within the Emergency Department. A holistic approach will be taken utilizing nursing pro-
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.

Clock hours: three class hours per week.

NURE 5412 Gross Anatomy for Advanced Practice Nurses
4.0 Semester Credit Hours
Prerequisites: Graduate standing. Strongly recommended that this elective be taken before NURS 6307, 5338, 6317.

This multidisciplinary elective course is an expansion of basic anatomy with the additional use of cadavers (when available), cadaver projections, 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.

NURE 5415 Psychiatric Mental Health Therapy/Individual
4.0 Semester Credit Hours
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.

NURE 5445 Mental Health Liaison/Consultation Nursing
4.0 Semester Credit Hours
Prerequisites: NURS 5306, 5307, and 6308

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.

NURE 5455 Family Health Assessment
4.0 Semester Credit Hours
Prerequisites: Generic completion of Semester II; Flex-admission to program; Graduate-admission to program/course open to Continuing Education participants

The emphasis of this course is on nursing intervention related to primary, second, and family intervention will be a significant component of the course. Collaborative work is part of the course teaching method.

NURE 5362 Ethical Legal Aspects in Nursing and Health Care
3.0 Semester Credit Hours
This course introduces the student to contemporary bioethical and legal issues confronting nurses who provide care in a variety of settings. The major focus of the course will be on ethical decision making and the contemporary nursing practice.

Clock hours: three class hours per week.

NURE 5367 Hispanic Health Concerns: A Nursing Perspective
3.0 Semester Credit Hours
Prerequisite: NURS 3811 or Graduate standing

"Adolescent Pregnancy: Nursing Implications of Biological, Psychological, and Sociological Perspectives"

This course focuses on nursing intervention related to primary, second-
Doctor of Philosophy Program

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
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.

Students entering the program post-BSN have a total maximum enrollment time of seven years. Post-MSN students have a five year total maximum enrollment for acquiring the PhD degree.

All students will be required to complete a qualifying exam. The qualifying examination, which is completed near the end of or following the completion of coursework, determines continuation in the program.

Any PhD student must be enrolled in a minimum of one (1) semester hour of course work at the HSC in order to be enrolled in the PhD program of study. If the student is not enrolled, the student must take a Leave Of Absence (LOA) or withdraw from the program. Coursework 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 PhD degree, must be repeated or specifically approved by the Committee on Graduate Studies. All doctoral work is subject to review by the Graduate Faculty Council and the Dean, Graduate School of Biomedical Sciences.

All policies of the Graduate School of Biomedical Sciences are applicable to this program of study.

Curriculum
A minimum of 80 semester credit hours of graduate courses is required for the Doctor of Philosophy degree. The MSN-prepared applicant will be given advanced placement dependent upon an evaluation of master’s-level courses. Support courses may be taken outside the School of Nursing.

Minimum Semester Credit Hours

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<tr>
<th>Theory/Research/Science</th>
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<tbody>
<tr>
<td>NURE 5115-5315</td>
<td>1.0–3.0</td>
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<tr>
<td>NURS 7310</td>
<td>3.0</td>
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<td>NURS 7480</td>
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<td>NURS 7383</td>
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<td>NURS 6374</td>
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<td>NURS 6373</td>
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NURS 7381 Synthesis and Application of Clinical Research 3.0
NURS 6376 Mixed Methods for Clinical Nurse Scientists 3.0
Total 9.0

Clinical Practice
Study of advanced direct patient care 9.0
Total 9.0

Statistics
NURS 5306 Statistical Analysis for Nursing Science or equivalent course 3.0
NURS 6375 Regression Models for Nursing Science 3.0
NURS 7382 Structural Equation Models for Nursing Science 3.0
Total 9.0

Professional/Socialization
Study of advanced professional elements and issues, role(s) socialization 4.0
NURS 6225 Philosophy of Nursing Science 2.0
NURS 6226 Ethics of Nursing Science 2.0
NURS 6105 Role of the Clinical Nurse Scientist 1.0
NURS 6071 Supervised Teaching 1.0
Total 10.0

Substantive Courses
Dissertation
NURE 7090 The Dissertation Proposal Process in Nursing (optional) 1.0–3.0
NURS 7099 Dissertation (maximum credit) 12.0
Program Total 49.0–52.0

Doctoral Course Descriptions
NURS 6071 Supervised Teaching 1.0–6.0 Semester Credit Hours
Directed teaching in the major area under close supervision of one or more faculty members is required of each doctoral student. Up to six semester credit hours toward a degree may be granted to the student who satisfactorily completes the graduate courses in Supervised Teaching in her/his area of study.

NURS 6105 Role of the Clinical Nurse Scientist 1.0 Semester Credit Hour
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 which 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.

NURS 6225 Philosophy of Nursing Science 2.0 Semester Credit Hours
Prerequisites: study of advanced professional elements and issues; role(s) socialization
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.

NURS 6226 Ethics of Nursing Science 2.0 Semester Credit Hours
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.

NURS 6373 Nursing—Quantitative Research Methods II 3.0 Semester Credit Hours
Prerequisites: NURS 6225, 6226, 6374, 7310, 7380, 6375; Co-requirement: NURS 7381
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.

NURS 6374 Nursing—Content and Practice: Quantitative Research Methodology I 3.0 Semester Credit Hours
Prerequisite: NURS 7490
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.

NURS 6375 Regression Models for Nursing Science 3.0 Semester Credit Hours
Prerequisite: Graduate standing
This course presents regression analysis at an intermediate level. Course will focus on regression for continuous variables: specification, estimation, testing, and diagnostics. Logistic regression for binomial and multinomial variables, log-linear regression for count variables, and proportional hazards regression for duration variables will be explored. An introduction to multilevel regression will occur.

NURS 6376 Mixed Methods for Clinical Nurse Scientists 3.0 Semester Credit Hours
Prerequisites: NURS 6374 and 7380
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.

NURS 7310 Theory Development, Analysis, and Evaluation in Nursing 3.0 Semester Credit Hours
Prerequisites: Masters level theory/research; Pre- or Co-requisites: NURS 6225 and 6226
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 test-
opportunities for participating in Mock reviews of qualitative research to a specific qualitative research approach to the problem. There will be a mini-proposal guided by a qualitative research question and leading and analysis in that method. Students will have opportunities to write hermeneutics), and to practice qualitative approaches to data collection specific method (grounded theory, ethnography, phenomenology, and confirmatory factor analysis. The third major topic will combine psychometrics from an SEM perspective, including congeneric test theses, and the assessment of causality. The second major topic will be estimation, single and multi-group analyses, moderators and media tors, and the assessment of causality. The second major topic will be perspective. The first major topic of the course will be path analysis, ing theory. The relationship between research and clinical practice the students to gain practice in strategies for middle-range theory building.

NURS 7380 Qualitative Inquiry for Clinical Nursing Research 3.0 Semester Credit Hours
Prerequisites: NURS 6225, 6226 and 7310 (prerequisite or concurrent) 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.

NURS 7381 Synthesis and Application of Clinical Research 3.0 Semester Credit Hours
Prerequisites: NURS 6225, 6226, 7310, 6374, 6375 and 6105 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.

NURS 7382 Structural Equation Models for Nursing Science 3.0 Semester Credit Hours
Prerequisite: Intermediate Statistics
This course presents structural equation modeling (SEM) for nursing science. The course will begin with a review of regression from an SEM perspective. The first major topic of the course will be path analysis, including model specification, methods of estimation, recursive and non-recursive models, direct, indirect, and total effects, methods of estimation, single and multi-group analyses, moderators and mediators, and the assessment of causality. The second major topic will be psychometrics from an SEM perspective, including congeneric test theory, reliability and stability, convergent and discriminant validity, and confirmatory factor analysis. The third major topic will combine the first two into structural equations, including model specification and identification, methods of estimation, second-order factor analysis, and the assessment of causal structure.

NURS 7383 Qualitative Methods II: Application in Nursing Science 3.0 Semester Credit Hours
Prerequisites: NURS 6225, 6226, 6374, 7380
This course is designed to provide students an opportunity to conceptualize a research problem from a qualitative perspective, to study one specific method (grounded theory, ethnography, phenomenology, hermeneutics), and to practice qualitative approaches to data collection and analysis in that method. Students will have opportunities to write a mini-proposal guided by a qualitative research question and leading to a specific qualitative research approach to the problem. There will be opportunities for participating in Mock reviews of qualitative research proposals (either as investigator or reviewer). Students will have the opportunity to learn the IRB approval process with qualitative proposals and will have opportunities to develop pilot research strategies building to a dissertation proposal. Strategies will include interviewing, focus group, or participant observation following the selected method. Through this process students are required to practice and learn strategies and processes for conceptualizing and implementing a qualitative study guided by a specific qualitative methodology.

Dissertation

NURS 7090 The Dissertation Proposal Process in Nursing 1.0–3.0 Semester Credit Hours
Prerequisites: successful completion of the written and oral qualifying examinations
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.

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.

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: S=satisfactory; U=unsatisfactory; Q=course dropped, no penalty; 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.

**Incompletes**
With the permission of the course instructor, an *Incomplete* (I) may be recorded if a student has not completed all assignments before the conclusion of the course. Prior to the recording of an *Incomplete* (I), a written agreement must be signed by the instructor and student designating a specified time period (initially, 3 months and not to exceed one year total) in which the I will be removed. Should the student fail to meet the terms of the agreement, the grade will be changed to an F. Registration in a sequential course requires that an *Incomplete* be removed.

**Satisfactory- Unsatisfactory Computations**
Courses selected as electives by students may be taken on a *Satisfactory- Unsatisfactory* basis, with the permission of the instructor. If the course taken on this basis is passed, the symbol S will be recorded on the transcript; if unsatisfactory, the symbol U is recorded. S or U grades are not included in the computation of the grade point average.

**Thesis and Dissertation Course Reporting**
Thesis and dissertation courses will be reported as *In Progress* (IP) until the work is completed, at which time they will be reported as *Satisfactory* or *Unsatisfactory*. Thesis and dissertation courses are not counted in the grade point average.

**Auditing**
Nursing graduate students may audit nonclinical courses taught by the Nursing faculty with the approval of the instructor and the Associate Dean for Graduate Nursing Program providing there is space available after registered students have been accommodated. 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. There is a fee for audited courses.

**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.

**Semester Reports**
Grade reports are sent to all students at the end of each semester.

**Progression in the Graduate Program**
To continue in the graduate program, a student must:
- a. 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;
- b. maintain satisfactory progress (B average in first 9 hours) if conditionally admitted;
- c. receive no more than one C in clinical major courses;
- d. maintain a minimum cumulative grade point average of B (3.0) for all courses taken while enrolled in the graduate program; and
- e. 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 criteria, a, b, or c for continuation in the program, her/his progress will be reviewed by the Committee on Graduate Studies which may:
- a. impose conditions as requirements for continuation in the program, or
- b. terminate the student’s enrollment in the program, with the consent of 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.

**General Policies for Graduate Nursing Program**

**Full-Time Student Status**
Full-time student status in the Master of Science in Nursing program is nine (9) semester hours of coursework in a regular semester, or six (6) semester hours of summer.

**Uniforms**
Graduate students are responsible for purchasing uniforms and laboratory coats. Name badges are issued by the Office of Student Services. Laboratory coats may be purchased from the Health Science Center Bookstore.

**Change of Address**
If a student’s home or campus address changes after registration, that student is expected to notify the Office of Student Services and the Office of the Graduate Nursing Program. Students will be held responsible for any communication from school offices sent to them at the address last given.

**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 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 UT Health Science Center San Antonio. 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.

Adding Courses
After registration, during the first four days of any semester or the first two class days of the summer session, a student may add a course with the approval of the instructor and Associate Dean for Graduate Nursing Program. After the add-course card has been completed, it must be submitted to the Registrar for recomputation of tuition and fees.

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.

Students may, with the approval of the faculty and the Associate Dean for Graduate Nursing Program, drop a course before the first examination/graded assignment without having a grade recorded on the transcript. The symbol Q will be recorded and the grade computation will not be affected.

With the approval of the instructor and the Associate Dean for Graduate Nursing Program, a student may drop a course at any time before the last official class day in the semester if a passing grade has been maintained. The symbol WP will be recorded. Courses dropped by a student who has not maintained a passing grade will be noted on the transcript with the symbol WF. A student may not drop a course if all assignments have been submitted to the faculty for grading, nor may a student drop a course for which an Incomplete (I) has been assigned.

Withdrawal
Permission for withdrawal from the Graduate Program in Nursing may be granted by the Associate Dean for Graduate Nursing Program on written request by the student, and after consultation with the student’s faculty advisor. In the case of withdrawal before the end of the semester or the 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, A through F, will be recorded for each completed course and WP or WF for each course not completed. The student must meet with the Associate Dean for Graduate Nursing Program to
initiate the withdrawal process. Any student who withdraws at any time must complete a Student Clearance Form at the time of withdrawal. A student who discontinues class attendance in any course without completing formal drop or withdrawal procedures shall receive a grade of WF for the 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.

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.

Leave of Absence
Permission for a leave of absence from the Graduate Program in Nursing for a maximum period of one year may be granted upon written application of the student. To be eligible to request a leave of absence, a student must have maintained a 3.0 grade point average, must have resolved all grades of Incomplete (I), and must not have dropped any course(s) with a WF. The student must meet with the Associate Dean for Graduate Nursing Program to initiate the Leave of Absence process. A leave of absence indicates that the student will be permitted to reenroll within a one-year time limit. Students who do not return within the time limit must apply for readmission.

Student Responsibility
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 Graduate School and Nursing program regulations with regard to the standard of work required for continuance in the graduate programs. Additional information should be obtained from the graduate advisor.

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.

Professional Liability Insurance
All students enrolling in nursing courses will be required to show evidence of professional liability insurance coverage in at least a minimum amount of $1,000,000 limit each claim and $3,000,000 limit aggregate in order to complete registration. Such insurance must be purchased through the University at the time of registration. Coverage is required from the student’s first day of class throughout her or his program of study. Liability insurance purchased through the University is applicable to the student role only. Nurse practitioner students are required to pay an additional insurance fee. (See “Financial Information” in this Catalog, p. 86.)

Honors
A graduate nursing students whose grade point average is 4.0 is awarded her/his degree with High Honors.
### School of Nursing
#### Academic Calendar 2008–2009

<table>
<thead>
<tr>
<th>Fall 2008</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wed.-Fri., August 20–22, 2008</td>
<td>Orientation</td>
</tr>
<tr>
<td>Monday, August 25, 2008</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Monday, September 01, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, September 10, 2008</td>
<td>Census Day</td>
</tr>
<tr>
<td>Tuesday, November 11, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Thursday, November 27, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Friday, November 28, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, December 17, 2008</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Saturday, December 20, 2008</td>
<td>Graduation (No Ceremony)</td>
</tr>
<tr>
<td>Wednesday, December 24, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Thursday, December 25, 2008</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Friday, December 26, 2008</td>
<td>University Holiday</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring 2009</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, January 01, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Monday, January 12, 2009</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Monday, January 19, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Wednesday, January 28, 2009</td>
<td>Census Day</td>
</tr>
<tr>
<td>Monday, February 16, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Monday, March 09, 2009</td>
<td>Spring Break Begins</td>
</tr>
<tr>
<td>Friday, March 13, 2009</td>
<td>Spring Break Ends</td>
</tr>
<tr>
<td>Friday, April 24, 2009</td>
<td>University Holiday</td>
</tr>
<tr>
<td>Tuesday, May 12, 2009</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Sunday, May 24, 2009</td>
<td>Graduation @ Trinity University</td>
</tr>
<tr>
<td>Monday, May 25, 2009</td>
<td>University Holiday</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer 2009</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, May 28, 2009</td>
<td>1st Class Day</td>
</tr>
<tr>
<td>Tuesday, June 09, 2009</td>
<td>Census Day</td>
</tr>
<tr>
<td>Friday, August 14, 2009</td>
<td>Term Concludes</td>
</tr>
<tr>
<td>Saturday, August 22, 2009</td>
<td>Graduation (No Ceremony)</td>
</tr>
</tbody>
</table>

Note: The 2009–2010 Academic Calendar will be available on the Student Services Web site in the fall.
Index  (In the electronic document, click on a page number to go to that location in the Catalog.)

A

AACRAO
The American Association of Collegiate Registrars and Admissions Officers 59

AADAS Supplemental Application
Dental 88

Absence for military service 83

Absences on Religious Holy Days 96

Academic Calendar
Advanced Dental Education 171
Dental School 149
Graduate School of Biomedical Sciences 233
School of Health Professions 263
School of Medicine 249
School of Nursing 381, 401

Academic Common Market
Tuition and Fees Exemption 89

Academic Fresh Start 79

Acceptable Use of Information Resources Policy 62

Access Control 62

Accessibility for the Disabled 55
Request For ADA Accommodations 55

Access to Campus Facilities 53, 70

Accreditation ii

Accredited School Scholarship 89

ACCUPLACER
Texas Success Initiative (TSI) 80

Acquired Immune Deficiency Syndrome 109. See AIDS

Actions Constituting Fraud 98

ADA
Americans with Disabilities Act 55

Adding/Dropping Courses 82
Six-Course Drop Limit 82

Additional Information
enrollment totals 55
faculty directories 55
statistics 55
Web site 55

Administration
Fraud 99
U. T. System 1

Administrative Officers
U. T. System 1

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School of Medicine 4

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Associate Dean for Undergraduate Nursing Program
School of Nursing 4

A. Jerome York, MBA
Vice President and Chief Information Officer 2

Admissions 51, 77
Admissions & Records/Registrar 51
Admissions - Children of Public Servants 78
Admissions - Recommended High School Program,
Standardized Test Scores 78
Admissions Requirements and Application Procedures 77
Adopted Children

Tuition and Fees Exemption 91
Adopted Children formerly in foster or other residential care
Tuition and Fees Exemption 91

Advanced Dental Education Programs
Academic Calendar 171
Admission 150
Certificate Programs 150
Master's Degree Programs 151
Advanced Education in General Dentistry 150
Application Procedures 151
Associated Programs 168
Advanced Education in General Dentistry 168
Dental Public Health Residency 169
General Practice Residency 168
Oral and Maxillofacial Surgery Residency 170
Orthodontics 171
Certificate and Degree Programs 150
Dental Diagnostic Science 154
Certificate Program 154
Course Descriptions 155
Master of Science Degree Program 155
Dental Public Health 150
Endodontics 159
Certificate Program 159
Course Descriptions - Master's Program 160
Master of Science Degree Program 160

General Policies 151
Certificate Programs 151
Compensation 153
Continuation 152
Curriculum 153
Degree Programs 151
Financial Information 152
Grading 151
Graduation 152
Leave of Absence 152
Multidisciplinary Courses 153
Probation and Dismissal 152
Registration 151
Waiver of Courses and Advanced Standing 151
Withdrawal 152

General Practice Residency 150
Multidisciplinary Courses 167
Oral and Maxillofacial Surgery Residency 150
Orthodontics 150
Pediatric Dentistry 162
Certificate/Master's Program 163
Certificate Program 162, 165
Certificate Program - Course Descriptions 162
Master's Program 164
Periodontics 163
Course Descriptions 164
Prosthodontics 165
Course Descriptions 166
Master's Program 166
Residency Training 150
Tuition and Fees 86

Advanced Education in General Dentistry
Associated Programs
Advanced Dental Education Programs

Advanced Education Programs
Dental School 136
School of Medicine 242

Advancement 85
Aerospace Medical Division 50
Affiliated Institutions and Programs 51
AHEC
South Texas Area Health Education Center 51
AIDS 62, 109
AIDS/HIV/HBV/HCV Infection Policies 62, 109
Air Force Systems Command 50
Alcohol, Drug, and Chemical Abuse 119
HSC Policy on 119–123
Alcoholic beverages 119
Alcohol on Campus 120
Alcohol Policy for Student Organizations 96

Alert and Emergency Information 67
HSC Alert 68

Allen, William R., MHSA
Associate Dean for Finance
School of Medicine 4
Allied Health/Research Building 47
Americans with Disabilities Act (ADA)
Request for ADA Accommodations 55

Anesthesiology 47
Animal-Use Policy 97
Animal Welfare Act 97
Anti-HCV 115
Anti-HIV 115

Applicant Viewbooks 100
Application
Common Application Form 77
Application Fees
Nonrefundable 88
Application Procedures 77

ASSET
Texas Success Initiative (TSI) 79

Assistant Dean for Student Affairs
School of Health Professions
Patricia Anne Brewer, PhD 3

Assistant Dean for Students (Interim)
School of Nursing
Linda Porter-Wenzlaff, PhD, RN 4

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School of Medicine
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School of Medicine
Randall Otto, MD 4

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School of Medicine
Gabriel Martyak, DO, MBA 4

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School of Medicine
Martha Medrano, MD 4

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Dental School
M. Elaine Neenan, DDS, MS, MPH 3

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School of Medicine
Pedro L. Delgado, MD 4

Associate Dean for Finance
School of Medicine
William R. Allen, MHSA 4

Associate Dean for Graduate Medical Education
School of Medicine
Lois L. Bready, MD 4

Associate Dean for Research
School of Nursing
Carrie J. Braden, PhD, RN 4
Dental School
Bjorn Steffensen, DDS, MS, PhD 3
School of Medicine
Robin Brey, MD 4

Associate Dean for Student Affairs
School of Medicine
Leon D. Jones, MD 4
Dental School
TBA 3

Associate Dean for Veteran Affairs
School of Medicine
Richard L. Bauer, MD 4

Associate Dean of Administration
School of Medicine
Jan M. Wilson, EdD, MBA 4

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School of Medicine
C. Nanette Clare, MD 3

Associate Dean for South Texas Programs
School of Health Professions
J. Dennis Blessing, PhD 3

Associate Dean for Undergraduate Nursing Program
School of Nursing
Suzanne S. Yarbrough, PhD, RN 4

Associated Programs
Advanced Dental Education Programs 168

Association for Assessment and Accreditation of Laboratory Animal Care 53
Attendance 83
  Graduate School of Biomedical Sciences 175
Attendance in Class and Clinic
  Health Professions 255
Attendance Policy
  School of Medicine 238
Audie L. Murphy Division of the South Texas Veterans
  Health Care System 47
Audie L. Murphy Memorial Veterans Hospital
  South Texas Veterans Health Care System 49
Audit Fee 87
Auditorium
  Central Campus 54
Authorization for Investigating Suspected Fraud
  Fraud 99

Bachelor's degree
  Bachelor of Science in Nursing 47
  clinical laboratory sciences 47
  dental hygiene 47
  dental laboratory sciences 47
  emergency health sciences 47
  respiratory care 47
Bachelor of Science in Nursing 47
Bachelor of Science in Respiratory Care
  Laredo campus 49
Background Checks 56
Bacterial Meningitis
  Important Information 60
Baptist Health System 50
Baptist Memorial Hospital System 50
Barnes, Larry, PhD
  Associate Dean
  Graduate School of Biomedical Sciences 3
Bauer, Richard L., MD
  Associate Dean for Veteran Affairs
  School of Medicine 4
Biochemistry 194. See also Graduate School of Biomedical
  Sciences
  Advanced Courses 196
  Core Courses 195
  Graduate School of Biomedical Sciences 172, 194
Biomedical Engineering 198. See also Graduate School of
  Biomedical Sciences
  Curriculum 199
  Financial Support for Graduate Students 198
  Graduate School of Biomedical Sciences 198
  Postgraduate Positions for Program Graduates 198
  Requirements for Admission 198
Black, Michael E., MBA
  Senior Executive Vice President and Chief Operating Officer 2
Blessing, J. Dennis, PhD
  Associate Dean for South Texas Programs
  School of Health Professions 3
Blind or deaf students
  Tuition and Fees Exemption 89

Bloodborne Pathogens 111
Board of Regents
  Rules and Regulations 56
  U. T. System 1
Bookstore 54
Braden, Carrie J., PhD, RN, FAAN
  Associate Dean for Research
  School of Nursing 4
Brady Green Library 54
Bready, Lois L., MD
  Associate Dean for Graduate Medical Education
  School of Medicine 4
Breslin, Eileen T. PhD, RNC
  Dean
  School of Nursing 2
Brewer, Patricia Anne, PhD
  Assistant Dean for Student Affairs
  School of Health Professions 3
Brey, Robin, MD
  Associate Dean for Research
  School of Medicine 4
Briscoe Library 54
Brooke Army Medical Center 47, 49
Brooks City-Base 47, 50
Bursar's Office 86
Bus service 55

Cafeterias, Central Campus 54
  Java City/Freshens coffee and yogurt 54
  Subway Shop 54
  Texas Star Café 54
  University Hospital 54
  V.A. Hospital 54
Campus
  Access 53, 70
  Greehey Academic and Research Campus 48
  Joe R. and Teresa Lozano Long Central Campus 48
  South Texas campuses
    Harlingen, Laredo, and Edinburg 48
    Texas Research Park Campus 48
    Visiting the Campus 54
Campus Access 53, 70
Campus Emergency 68
Campus Emergency Assistance Telephones 70
Campus Facilities 53
  Speech and Assembly Area 54
Campus Facilities and Support Services
  Campus Security Policies and Crime Statistics 70
  Crime Reporting 72
  Crime Statistics 72
  Harlingen (RAHC)
    Access to RAHC Campus Facilities 73
    Law Enforcement and Security Information - RAHC 73
  IBT
    Access to IBT Facilities 73
    Law Enforcement and Security Information - IBT 73

In the electronic document, click on a page number to go to that page.
Cancer Therapy and Research Center (CTRC) 47, 50
Car Pool 69
Catalog  
HSC iv  
Web address iv
Catalog for five schools iv
CD duplication  
Television Production Services 52
Cellular & Structural Biology 205. See also Graduate School of Biomedical Sciences
Curriculum for MS Candidates 206
Curriculum for PhD Candidates 206
Financial Support of Graduate Students 206
Postgraduate Positions of Program Graduates 206
Required Courses 206
Required Courses for the Ph.D. Degree 206
Requirements for Admission 205
Research Activities 205
Center for Biomolecular Structure Analysis 47
Department Chairs 5
Challenge Examination Fees 88
Change of Address 97
International Students Change of Address 97
Chiang, Theresa, EdD  
Vice President for Academic Administration 2
Chicken Pox (Varicella)  
Immunization Requirements 121
Chief of Staff and Chief Communications Officer  
Mary G. Etlinger Delay, MBA 2
Child Guidance Center 50
childhood cancer 47
Child Psychiatry Training Program 50
children’s cancer 47
Children of persons missing in action  
Tuition and Fees Exemption 89
Children of prisoners of war  
Tuition and Fees Exemption 89
The CHRISTUS Santa Rosa Medical Center 49
CHRISTUS Santa Rosa Northwest Hospital 49
CHRISTUS Santa Rosa Rehabilitation Hospital 49
Chronic Nursing Care. See School of Nursing
Cigarroa, Francisco G., MD  
President of the HSC 2
Circuit Librarian Health Information Network (CLHIN) 54
City bus service 55
Clare, C. Nanette, MD  
Senior Associate Dean and Associate Dean for Academic Affairs
School of Medicine 3
Classification for Tuition Purposes 87
Classification of Students 80
Graduate Students 80
Post-Professional Students 81
Professional Students 81
Undergraduate Students 80
Class pictures 98
Clearance to Withdraw 83
Clearance to Withdraw—Dismissal, Leave of Absence, Withdrawal 83
CLEP
College Level Examination Program 78
Clinical Attire and Grooming  
Dental School 134
Clinical Investigation 210
Graduate School of Biomedical Sciences 210
Clinical Laboratory Sciences 264. See School of Health Professions
Clinical Pharmacology 47
Clinical Pharmacy Program 47
Clinical Usage Fee 87
Closed-Circuit Television Surveillance 71
Code of Professional Conduct for Students  
School of Medicine 240
College Level Examination Program (CLEP) 78
color copying 52
Commencement  
Graduate School of Biomedical Sciences 180
Commission on Colleges of the Southern Association of Colleges and Schools ii
Common Application Form 77
Community Dentistry 46
Community Policing Programs 71
COMPASS
Texas Success Initiative (TSI) 80
Computer-Use Fee 87
Computer Crimes Law 62
Computer Store 53
Computer Virus Protection 62
Concurrent Enrollment 82
Conduct and Discipline 56
Conduct Guidelines 56
Confidentiality  
Fraud 99
Contents, Table of iii
Continuation, Probation, and Dismissal  
Graduate School of Biomedical Sciences 178
Coordinate Graduate Courses 232
Clinical Laboratory Sciences 232
Dental Hygiene 232
Dentistry 232
Graduate School of Biomedical Sciences 232
Nursing 232
Copyright ii
Copyrighted Materials 99
Core Curriculum Requirements 78
Core Residency Questionnaire 81
Corpus Christi
South Texas Area Health Education Center (AHEC) 51
Counseling Fee 87
Counseling Service 120
Students 51
Course Numbering 80
Crime Awareness and Campus Security Act 70
Crime Prevention 67, 71
Presentations 71
Crime Reporting 72–75
Crime Statistics 70, 72
Information 67
Crime victim 74
Criminal Actions, Reporting of 70
Crisis appointments
Counseling Services 51
CTRC
Cancer Therapy and Research Center 47

DANTES
Defense Activity for Non-Traditional Education Support 259
Examinations 260
database programming
Multimedia & Web Services (MWS) 52
Deaf Education and Hearing Science. See also School of Health Professions
School of Health Professions 284
Deaf Students 89
Dean
Dental School
Kenneth L. Kalkwarf, DDS 3
Graduate School of Biomedical Sciences
TBA 3
School of Health Professions
Marilyn S. Harrington, PhD 2
School of Medicine
William L. Henrich, MD, MACP 2, 3
School of Nursing
Eileen T. Breslin, PhD, RNC 2
Regional Dean
Regional Academic Health Center (RAHC)
School of Medicine
Leonel Vela, MD, PhD 3
Deceased Students 107
Degree and Diploma Name
Application for 97
Delay, Mary G. Etlinger, MBA
Chief of Staff and Chief Communications Officer 2

Delgado, Pedro L., MD
Associate Dean for Faculty Development and Chair,
Department of Psychiatry
School of Medicine 4
Del Rio
South Texas Area Health Education Center (AHEC) 51
Dental Diagnostic Science 46. See Dental School
Advanced Dental Education Programs 154
Certificate Program 154
Master of Science Degree Program 155
Course Descriptions 155
Dental Hygiene. See also School of Health Professions
School of Health Professions 289
Dental Laboratory Sciences
School of Health Professions 300, See also School of Health Professions
Dental Public Health
Advanced Dental Education Programs 150
Residency
Associated Programs 169
Dental School 46, 124
Academic Calendar 149
Academic Dismissal 133, 134
“F” Grade Deficiency 134
GPA Deficiency 134
National Board Deficiency 134
Academic Probation 132
Criteria 132
Academic Recognition Programs 135
Academic Warning 132
Accreditation 124
Admission and Application 126
Advanced Education Programs 136
Certificate and Master of Science degree programs 136
Affiliates 49, 50
Appeals Process 134
Attendance, Leave of Absence, Readmission 128
Class Attendance 128
Leave of Absence 129
Readmission 129
Reporting Absenteeism 129
Clinical Attire and Grooming 134
Community Dentistry 46
Competency Assessment 124
Correction of a Grade Point Deficiency 132
Correction of an “F” Grade Deficiency 132
Course Descriptions
Freshman Year 137
Junior Year 143
Senior Year 146
Sophomore Year 140
Course Remediation/Repetition 133
Failure to Successfully Remediate or Repeat Year 133
Final Grade 133
Credit Hours 130
Credit Hours and Grade Point Average 130
Curriculum 134
Advanced Education Programs 136
Dual Degree Programs 135
Emergency 68
  Emergencies, Reporting of 70
  Emergency Assistance Telephones 70, 71
  Emergency Intercom System 71
  Emergency Number 67
Emergency Health Sciences. See also School of Health Professions
  Paramedical training 47
  School of Health Professions 307
Emergency Information Outlets 68
Endodontics 46
  Advanced Dental Education Programs 159
  Certificate Program 159
  Master of Science Degree Program 160
    Course Descriptions 160
Enrollment 48, 51
  Degrees Conferred 48
  Minority Enrollment 48
  Student Enrollment Statistics 48
Enrollment Policy, Student 80
Equal Opportunity 59, 94
Equipment Leasing Fee 87
  Dental School 87
Equipment Rental Fee 87
Ethics Course Requirement
  Graduate School of Biomedical Sciences 176
Excess Hours 84, 87
Excessive Credit Hours 84
Exit Interview 97
Expenses, living 89

F

Facilities
  Access 53
  Campus 53
Faculty 6
Faculty List 6
  Dental School 12
  Graduate School of Biomedical Sciences 6
  Health Professions, School of 19
  School of Medicine 22
  School of Nursing 43
FAFSA
  Free Application for Federal Student Aid 93
Family and Community Medicine 47
  Deceased Students 107
  Office (FERPA) 107
Federal Financial Assistance 93
Federal Pell 92
Federal Perkins Loan 92
Federal PLUS Loan 92
Federal SEOG 92
Fees, Student 87
Final Credit Hours 81
  Graduate School of Biomedical Sciences 178

Financial Aid
  Exit Interview 83
  Student 51
Financial Assistance
  Federal 93
Financial Information 86
  Financial Assistance 93
  Selective Service 94
  Other Expenses
    Health Insurance 88
    Selective Service Requirement 93
    Title IV Refund 92
    Fee Refund Schedule 92
    Refund Distribution 92
  Tuition and Fee Exemptions 89, See Tuition and Fee Exemptions
  Tuition and Fees 86
    Disbursements 86
    Installment Payments 86
    Living expenses 88
    Parking Fee 88
    Required Fees 87
    Application Fees (Nonrefundable) 88
    Audit Fee 87
    Challenge Examination Fees 89
    Clinical Laboratory Sciences Fee 87
    Clinical Usage Fee 87
    Computer-Use Fee 87
    Computer Adaptive Test Fee 88
    Equipment Leasing Fee 87
    Equipment Rental Fee 87
    Graduation Fee 87
    Human Materials Fee 87
    Identification Fee 87
    Implantology Fee 87
    In Absentia Registration 87
    Instructional Technology Fee 87
    Instrumentation Usage Fee 87
    Instrument Leasing Fee 87, 88
    Laboratory Fees 87
    Late Registration Fee 88
    Leasing Fees 88
    Library Fee 88
    Medical Service Fee 88
    Microfilming Fee 88
    Microscope Fee 88
    Nonrefundable Application Fees 88
    Out-of-State Instructional Fee 88
    Practicunm Fee 88
    Pre-Matriculation Training Fee 88
    Professional Liability Insurance 88
    Program-specific expenses 89
    Student Assistance Fee 88
    Student Services Fee 88
    Technical Clinical Skills Fee 88
    Technology Support Fee 88
    Tuition Assistance 93
    Waiver of Non-Resident Tuition 87
Firefighters
Firefighters enrolled in fire science courses
Tuition and fees exemption 90

Flexible Process-School of Nursing
Undergraduate Program in Nursing
Credit by Examination 372
Electives 370, 372
The Flexible Process 370
The Flexible Process-Program Plans (Full-time Study) 370
The Flexible Process-Required Courses 371

Foreign Language Requirement
Graduate School of Biomedical Sciences 176

Foster care
Tuition and Fees Exemption 89

framing and plaques
Multimedia & Web Services 52

Fraud Policy 98, 99
Free Application for Federal Student Aid (FAFSA) 93
Fresh Start Admission 79
Full-Time Status
Graduate School of Biomedical Sciences 177
Fund-Raising Activities 67

Gateway Community Health Center
Laredo 49

GCCRI
Greehey Children's Cancer Research Institute 48

General Academic Policies
Adding/Dropping Courses 82
Admission Requirements and Application Procedures 77
Adding/Dropping Courses 82
Attendance 83
Common Application Form 77
Fresh Start Admission 79
Guidelines for Student Admission Selection 77
Leave of Absence 83
Oath of Residency 82
Registration 80
Residence Determination 86
Scholarship Awards Policy 79
Student Enrollment Policy 80
Texas Success Initiative (TSI) 79
Transfer of Credit 82
Withdrawal 83
Admissions - Recommended High School Program, Standardized Test Scores 77
Application Procedures 77
Attendance 83
Classification of Students 80
Graduate Students
Final Credit Hours 81
Clearance to Withdraw—Dismissal, Leave of Absence, Withdrawal 83
Common Application Form 77
Concurrent Enrollment 82
Course Numbering 80
Excessive Credit Hours 84
Fresh Start Admission 79
Grades, Promotion, and Advancement 85
Dismissal 85
Graduation 85
Probation 85
Readmission 85
Guidelines for Student Admission Selection 77
HSC 77
In Absentia 81
Leave of Absence 83
Non-degree Student Status 81
Registration 80
Residence Determination 81
Scholarship Awards Policy 79
Student Enrollment Policy 80
Texas Core Curriculum Requirements 78
Transfer of Credit 82
Withdrawal 83

General Dentistry 46
Advanced 46

General Practice Residency
Advanced Dental Education Programs 150
Associated Programs
Advanced Dental Education Programs 168

General Regulations and Requirements
Absences on Religious Holy Days 61
AIDS/HIV/HBV Infection Policy 62
Background Checks 56
Conduct and Discipline 56
Directory Information 59
Equal Opportunity 59
Hazing Offenses 61
Holds 57
HSC 56
Immunization Requirements 62
Limitations of Student Right to Access, Copy, and Challenge Educational Records 59
Privacy Rights of Students 59
Professional Conduct Guidelines 56
Solicitation 67
Student Consumer Information 75
Student Debts 75
Student E-mail Accounts 75
Student Grievance Procedures 57
Procedure for Formal Resolution 57
Procedure for Informal Resolution 57
Student Academic Grievance Procedure 57
Student Nonacademic Grievance Procedure 57
Student Health Insurance 60
Student Papers 75
Student Records 58
Internet Access 58
Student Right to Access, Copy, and Challenge Educational Records 59
Student Safety on Campus 67
Student Travel Policy 75

The Generic Process. See School of Nursing
School of Nursing
Undergraduate Program in Nursing 368
Glass, Birgit, DDS, MS
Associate Dean for Academic Affairs
Dental School 3

Good Neighbor Scholarship 91

Grades 85
Posting of 108

Graduate School of Biomedical Sciences 46
Academic Calendar 233
Affiliates 49
Application 173
Attendance 175
Biochemistry 194
Biomedical Engineering 198
Cellular and Structural Biology 205
Center for Biomolecular Structure Analysis 47
Clinical Investigation 210
Commencement 180
Committees on Graduate Studies 173
Continuation, Probation, and Dismissal 178
Coordinate Graduate Courses 232
Credit Hour Requirements
M.S. Degree 175
Ph.D. Degree 175
Waiver of Courses 176
Degree Programs 172
Doctor of Pharmacy degree 172
Dropping Courses 177
Dual Degree Programs 174
Ethics Course Requirement 176
Final Credit Hours 178
Foreign Language Requirement 176
Full-Time Status 177
Grading System 178
Graduation 180
Hematology Categorical Certificate 274
In Absentia (INTD 5004-1) 179
In Absentia (INTD 5004-2) 179
Instructions for Preparation and Submission of Theses, Dissertations, and Dissertation Abstracts 184
Integrated Multidisciplinary Graduate Program 185
International Students 178
Joint Pharm.D. Program 219
Leave of Absence 179
Master of Science Degree
Sequential Procedures 182
Master of Science Degree (Biomedical Sciences Program)
Sequential Procedures Forms 184
Microbiology Categorical Certificate 273
Non-degree Students 174
Nonregistration 179
Pharmacology 220
Physiology 225
Post-baccalaureate Categorical Certificates
Microbiology, Clinical Chemistry, Immunohematology, and Hematology 273
Programs 172
Quantity-of-Work Rule 176
Radiological Sciences 228
Registration 176
Registration at Other UT System Components 178
Registration for Audit 178
Registration for Dissertation 177
Registration for Final Term 178
Registration for Thesis 177
Requirements and Regulations 175
Residence Required for Graduation 175
Semester Credit Hours 177
Sequential Procedures 180
Doctor of Philosophy Degree 180
Supervised Teaching Requirement 176
Time Limits 175
Transfer Between Graduate Programs 179
Transfer of Credit 177
Tuition and Fees 86
Withdrawal 179
Graduation 51, 85
Application for Degree/Certificate form 85
Degree and Diploma Name
Application for 97
Exit Interview 97
Graduate School of Biomedical Sciences 180
Graduation Fee 87
Graduation Procedures 97

Greehey Academic and Research Campus 47, 48
Greehey Children's Cancer Research Institute (GCCRI) 47, 48
Greenberg, Lewis MD, MHA
Vice Dean
School of Medicine 3
Guidelines for Needlestick and Body Fluid Exposure 116
Guidelines for Professional Conduct
School of Medicine 240
Guidelines for Student Admission 79

H

Handbook of Operating Procedures (HOP) 54
Policies 76
Harlingen
South Texas Area Health Education Center (AHEC) 51
Harlingen, Texas 48, 49
Harrington, Marilyn S., PhD
Dean
School of Health Professions 2
Hazing 61, 62
Offenses 61
Hazlewood Act 91
Application 89
Veterans 91
HBsAg 115
HBV 110, 111
Hepatitis B Virus 109
HCV 111
Hepatitis C (HCV) Virus 111
Health Center, Student 51
Immunization Requirements

- In the “Inside UTHSCSA” portal, student web information and records access is available.
- Immunization records are accessible through the portal.
- Immunization Requirements: 121 Chicken Pox (Varicella) 121
- Diphtheria-Tetanus-Acellular Pertussis (TdaP) 121
- Hepatitis A&B Combo Vaccine 121
- Hepatitis B 121
- Measles (Rubeola) 121
- Mumps 121
- Polio 121
- Rubella 121
- Tetanus-Diphtheria (Td) 121
- Tuberculosis 121
- Varicella (Chicken Pox) 121

Implantology Fee 87
In Absentia 81
In Absentia (INTD 5004-1) 179
Graduate School of Biomedical Sciences 179
In Absentia (INTD 5004-2) 179
Graduate School of Biomedical Sciences 179
In Absentia Registration 87
Inclement Weather Policy 98
Indian Health Service 50
Information Management and Services 52
Multimedia 52
Web design 52
Print Media 52
Information Management Client Support Services 52, 53
Computer Store 53
Triage Help Desk 52
Information Resources Privacy Policy 63
Information Security 62
Acceptable Use of Information Resources Policy 62
Access Control 62
Computer Crimes Law 62
Computer Virus Protection 62
Data Classification 63
Definitions 62
Function 62
Incident Reporting Policy 62
Information Resources Privacy Policy 63
Network Access Policy 62
Password Management 62
Peer-to-Peer Access Policy 63
Portable Computing Policy 63
Security Monitoring 63
Training and Awareness Policy 63
Inquiries ii
Admission ii
Institute of Biotechnology 47
Institutional Animal Care and Use Committee 97
Instructional Fee
Out-of-State 88
Instructional Technology Fee 87
Instructions for Preparation and Submission of Electronic Theses, Dissertations, and Dissertation Abstracts
Graduate School of Biomedical Sciences 184
Instrumentation Usage Fee 87
Insurance 59
Health 60
Professional Liability 59, 88
Student Health Insurance 60, 88
Integrated Multidisciplinary Graduate Program
Curriculum 186
Financial Support for Graduate Students 186
For International Students Only 186
Graduate School of Biomedical Sciences 185
Requirements for Admission 185
Research Activities 185
Tracks 185
Internal Audit
Director 99
International Services (OIS) 53
International Students
Graduate School of Biomedical Sciences 178
Health Insurance Requirements 60
Investigation Responsibilities
Fraud 99
Invitations to Elected or Appointed Officials 98

Java City
coffee, smoothies, yogurt, and pastries 54
Joe R. and Teresa Lozano Long Central Campus 48
Joint Pharm.D. Program 219. See Graduate School of Biomedical Sciences
Jones, David J., PhD
Associate Dean for Admissions
School of Medicine 4
Jones, Leon D., MD
Associate Dean for Student Affairs
School of Medicine 4

Kalkwarf, Kenneth L., DDS, MS
Dean
Dental School 3
Kazen, James D.
Executive Vice President for Facility Planning and Administration 2

Laboratory Animal Medicine and Care 53
Laboratory Animal Resources 53
Laboratory Fees 87
Laptop Fee 87
Laredo, Texas 48
Gateway Community Health Center 49
South Texas Area Health Education Center (AHEC) 51
South Texas Environmental Education and Research Center (STEER) 51
Laredo campus
Bachelor of Science
Respiratory Care 49
Laredo Campus Extension 49
Library 54

Laredo Community College
Educational partnership 49
Late Registration Fee 88
Law Enforcement and Security Information
Edinburg 74
IBT (San Antonio) 73
Laredo 74
RAHC 73
San Antonio 68. See University Police
Leasing Fees 88
Leave of Absence 83
Graduate School of Biomedical Sciences 179
Lee, Doris, J.D.
Assistant Vice President for Student Services ii
Liability Insurance 88
Briscoe Library 54
Library
Brady Green Library 54
Circuit Librarian Health Information Network (CLHIN) 54
Dolph Briscoe, Jr. 54
Fee 88
Laredo Extension Campus 54
Regional Academic Health Center (RAHC) Medical Library 54
Services 54
South Texas Research Park 54
List, Faculty 6
Living expenses 89
Location
The University of Texas Health Science Center at San Antonio 48
Joe R. and Teresa Lozano Long Central Campus 48
Lower Rio Grande Valley 49
Lynch, Harry S. Jr., MBA, CPA
Executive Vice President for Business Affairs and Chief Financial Officer 2

Martyak, Gabriel, DO, MBA
Associate Dean for Clinical Affairs
School of Medicine 4
Master's programs
Clinical Laboratory Sciences 47
Deaf Education and Hearing Science 47
Dental Hygiene 47
Nursing 47
Occupational Therapy 47
Physician Assistant Studies 47
Master of Public Health 46
Master of Science Degree
Graduate School of Biomedical Sciences 182
McGilvray, Amy
Registrar ii
Measles (Rubeola)
Immunization Requirements 121
media services 52
Medical College Admission Test (MCAT) 234
Medical Students
Visiting 88

Medicine 47. See School of Medicine
Medrano, Martha, MD
Associate Dean for Continuing Medical Education
School of Medicine 4

Methodist Specialty & Transplant Hospital 67

Microbiology & Immunology 213. See also Graduate School of Biomedical Sciences
Curriculum 214
Electives 216
Evening course 213
Financial Support for Graduate Students 214
Graduate School of Biomedical Sciences 213
Master's Degree Program 214
Required Courses for the Ph.D. Degree 214
Requirements for Admission 213
Research Activities 213

Microfilming Fee 88

Multimedia & Web Services (MWS) 52

Murphy, Audie L., Division of the South Texas Veterans Health Care System (“V.A.”) 47
Murphy, Douglas L., PhD
Associate Dean
School of Health Professions 3

N

National Institutes of Health
Office of Protection from Research Risks 53

Needlestick and Body Fluid Exposures
Guidelines for 116

Needlestick Policy 115–118
Neenan, M. Elaine, DDS, MS, MPH
Associate Dean for External Affairs
Dental School 3

Network Access Policy 62

New Student Orientation
Crime Prevention 71

Non-degree Students
Graduate School of Biomedical Sciences 174
Non-degree Student Status 81

Non-Fraud Irregularities 99
Nondiscrimination Policy and Complaint Procedure 59
Nonregistration
Graduate School of Biomedical Sciences 179

New Student Orientation
Crime Prevention 71

OB

Oath of Residency 82
Obstetrics and Gynecology 47

Occupational Therapy 315–321. See School of Health Professions

Office of International Services (OIS) 53
Office of Protection from Research Risks
National Institutes of Health 53

Office of Student Services 51
Official Notification Procedure 98
Operation Identification 72

Oral and Maxillofacial Surgery 46

Oral and Maxillofacial Surgery Residency
Advanced Dental Education Programs 150
Associated Programs
Advanced Dental Education Programs 170

Orthodontics 46
Advanced Dental Education Programs 150
Associated Programs
Advanced Dental Education Programs 171

Orthopaedics 47
Other Affiliated Institutions & Programs
Teaching Affiliates 51

Otology-Head and Neck Surgery 47
Otto, Randall, MD
Associate Dean for Ambulatory Services (Interim)
School of Medicine 4

Out-of-State Instructional Fee 88

P

Paramedical training
Emergency Health Sciences 47

Parking 55, 69
Citations 69
Emergency Assistance Telephones 70
Fee 88
Permit 69
Parking & Traffic 69
Parking fees 69
Parking permits 69
Password Management 62
Pathology 47
Pediatric Dentistry 46
Advanced Dental Education Programs 162
Certificate/Master's Program 163
Certificate Program 162, 165
Course Descriptions 162
Master's Program 164
Pediatrics 47
Peer-to-Peer Access Policy 63
Pell 92
Periodontics 46
Advanced Dental Education Programs 163
Course Descriptions 164
Perkins Loan 92
Personal Emergency Notification 98
Joint Pharm.D. Program 219
Pharm.D. Program (Doctor of Pharmacy). See also Graduate School of Biomedical Sciences
Additional Information 220
Curriculum 219
Requirements for Admission 219
Pharmacology 220. See also Graduate School of Biomedical Sciences
Curriculum 222
Electives 223
Financial Support for Graduate Students 222
Graduate School of Biomedical Sciences 220
Other Required Courses 223
Postgraduate Positions for Program Graduates 222
Required Courses for the Ph.D. Degree 222
Requirements for Admission 221
Research Activities 221
photography production
Multimedia & Web Services (MWS) 52
Physical Therapy 322–329. See School of Health Professions
Physician Assistant Studies 330–335. See School of Health Professions
Physiology 225. See also Graduate School of Biomedical Sciences
Cardiovascular Physiology 225
Cellular Physiology 225
Curriculum 226
Electives 227
Endocrine Physiology 226
Financial Support for Graduate Students 226
Gastrointestinal Physiology 225
Graduate School of Biomedical Sciences 225
M.S. Degree Track for K–12 Teachers 227
Molecular Physiology and Biophysics 225
Musculoskeletal Physiology 226
Neurophysiology and Autonomic Neuroscience 225
Physiology of Aging 225
Renal Physiology 226
Required Courses for the Ph.D. Degree 226
Requirements for Admission 226
Research Activities 225
Plaques
Multimedia & Web Services (MWS) 52
PLUS Loan 92
Police 68–75
Architectural Design 72
Area Crime Analysis 72
Campus Emergency Assistance Telephones 70
Car Pool 69
Closed-Circuit Television Surveillance 71
Crime Prevention 67
Crime Prevention Presentations 71
Electronic Security Alarm Systems 71
Emergency Number 67
Facilities Surveys 72
Key Control 72
Mission of the University Police Department 73
Newsletter 72
Operation Identification 72
Parking 69
Parking Citations 69
Parking fees 69
Parking permits 69
Places where weapons are prohibited 74
Printed Crime Prevention Materials 71
Safety Escort 67
Security Surveys 72
Sexual Assault
Awareness, Education, & Prevention 72
Sexual Offense, reporting of 75
Shuttle Service 72
Policies, Procedures, and Requirements
AIDS/HIV/HBV Infection Policies 109
Needlestick Policy 115
UT System Policy and Guidelines on AIDS, HIV, and HBV 111
Alcohol, Drug, and Chemical Abuse 119
Alcohol on Campus 120
Assistance for Students and Employees 120
Controlled Substances on Campus 120
Health Risks 119
HSC Policy on 119–123
Alcohol Policy for Student Organizations 96
Animal Use Policy 97
Change of Address 97
Clearance to Withdraw 83
Equal Opportunity 94
Fraud Policy 98–123
Actions Constituting Fraud 98^–99
Administration 99
Authorization for Investigating Suspected Fraud 99
Confidentiality 99
Investigation Responsibilities 99
Non-Fraud Irregularities 99
Reporting Procedure 99
Graduation Procedures 97
Inclement Weather Policy 98
Official Notification Procedure 98
Personal Emergency Notification 98
Policies and Procedures 94
In the electronic document, click on a page number to go to that page.

Index 415
Q

Quantity-of-Work Rule
Graduate School of Biomedical Sciences 176

R

RAD
Rape Aggression Defense 67
Radiation Oncology 47
Radiological Sciences 228. See also Graduate School of Biomedical Sciences
Curriculum 229
Electives 230
Financial Support for Graduate Students 229
Required Courses for the Ph.D. Degree 229
Requirements for Admission 228
Research Activities 228
Radiology 47
RAHC
Regional Academic Health Center 49
Rape Crisis and Resource Center 67
Readmission 85
Following Active Military Service 84
Refund for Courses Dropped 92
Regional Academic Health Center (RAHC)
Medical Library 54
RAHC 49
Regional Dean
Leonel Vela, MD, PhD
Regional Academic Health Center (RAHC)
School of Medicine 3
Registrar 51
Admissions 51
Amy McGilvray, registrar ii
Enrollment 51
Graduation 51
Records 51
Student Services 51
Transcripts 51
Tuition 2008–2009 86
Withdrawals 51
Registration 80
Graduate School of Biomedical Sciences 176
Registration at Other UT System Components 178
Registration for Audit 178
Registration for Dissertation 177
Registration for Final Term 178
Registration for Thesis 177
In Absentia 81
Non-degree Student Status 81
Rehabilitation Medicine 47
Religious Holy Days, Absences on 96
Reporting of Criminal Actions, Suspicious Activities 70
Reporting Procedure
Fraud 99
Required Attire
School of Medicine 241
Application and Admission 315
Attendance 316
Course Descriptions 319
Faculty Advisors 316
Fieldwork 317
General Policies and Information 316
Master of Occupational Therapy Curriculum 318
Master of Occupational Therapy Program Options 315
Principles of Ethics 318
Professional Attire 317
Program Costs 318
Program Curricula 318
Standards of Practice 318
Physical Therapy 322
Advancement, Probation, and Dismissal 323
Attendance 323
Course Descriptions 324
Dropping Courses 323
General Policies and Information 323
Grades in Clinical Courses 323
Program Costs 324
Physician Assistant Studies 330
Admission Requirements 331
Advancement, Probation, and Dismissal 332
Applicant Orientations 331
Application and Admission 330
Attendance 331
Auditing Courses 332
Computer Requirement 332
Course Descriptions 333
Equipment Leasing Fee 87
General Policies and Information 331
Master of Physician Assistant Studies
   Curriculum 333
   Program 330
   Philosophy and Rationale 330
   Professional Attire 332
   Program Costs 332
   Technical Standards 332
Post-baccalaureate certificate 47
Cytogenetics 47
Respiratory Care 338
Advanced Standing in Respiratory Care 339
Advancement, Probation, and Dismissal 340
Application and Admission 338
Attendance 339
Bachelor of Science Program Description 338
Conduct and Ethics 339
Correspondence Between Students and Faculty 340
Course Descriptions 343
Dropping Courses 340
General Policies and Information 339
Graduation Requirements 340
Guide for Professional Conduct 340
Illness 342
Incidents in the Clinical Agency 341
Incomplete Assignments and Make-up Examinations 341
Procedure for Notification of Illness or Tardiness 340
Program Costs 342
Program Curriculum 342
Readmission Procedure 342
Tardiness 342
Tuition and Fees 86
School of Medicine 22, 47, 234
Absence, Dismissal, and Readmission 237
Academic Advising 235
Academic Calendar 249
Academic Dismissal 239
Acceptance Considerations 234
Accreditation 234
Admission and Application 234
Advanced Education Programs 242
Advanced Standing 234
Affiliates 49
Anesthesiology 47
Attendance Policy 238
Code of Professional Conduct for Students 240
Course Descriptions 242
   Fourth Year - Mandatory Didactic Courses 246
   Fourth Year - Required Didactic Courses 246
   Fourth Year Selectives 246
   Senior Electives 246
   Senior Year - Electives/Selectives 246
   Third Year - Clerkships 244
Course Numbering System 242
Curricular Design 242
   First Year 242
   Fourth Year 242
   Second Year 242
   Third Year 242
Doctor of Medicine 47
Dual Degree Programs 240
Faculty List 22
Family & Community Medicine 47
Grades, Promotion, and Graduation 238
   Deficiencies 239
   Grades 238
   Procedure 239
   Promotion 238
Graduation 240
Guidelines for Professional Conduct 240
Leave of Absence 238
Medical College Admission Test (MCAT) 234
Medicine 47
Mission 234
Obstetrics and Gynecology 47
Ophthalmology 47
Orthopaedics 47
Otolaryngology-Head and Neck Surgery 47
Pathology 47
Pediatrics 47
Psychiatry 47
Qualifying Examinations 242
Radiation Oncology 47
Radiology 47
Rehabilitation Medicine 47
Required Attire 241
Scholarships 235
General Policies - Graduate Nursing Program 398
Gerontological Nurse Practitioner (GNP) 389
Grades and Grade Point Average 397
Grades and Progression - MSN and PhD 397
Incompletes 398
Informatics in Nursing 392
Leave of Absence 400
Major Courses 384
Master of Science - Admission to Candidacy 383
Master of Science - Curriculum 383
Master of Science - Degree Requirements 382
Master of Science in Nursing 382
Objectives - Doctoral 395
Pediatric Nurse Practitioner (PNP) 390
Professional Liability Insurance 400
Readmission 398
Repetition of a Course 397
Residence 399
Satisfactory-Unsatisfactory Computations 398
Scholastic Probation 399
Semester Reports 398
Student Responsibility 400
Teaching Assistants 398
Teaching of Nursing 391
Thesis and Dissertation Course Reporting 398
Transfer of Credit 399
Uniforms 398
Upper-Division Coursework 399
Withdrawal 399
Women's Health 391
Graduate Program Policies 361
Advisement 361
Current Licensure as a Registered Nurse 361
General Information 361
Incomplete Grades 362
Independent Study 362
Petitioning 362
Processes for Adding or Dropping Courses 362
Processes for Auditing a Graduate Course 362
Processes for Transferring of Courses 362
Scholarships 349
Thesis/Dissertation 362
Graduation 348
Guidelines for Documentation of Sources 358
Guidelines for Written Work 358
HIPAA 348
Immunization 348
Independent Study 368
Integrated Learning 346
Leave of Absence 356
Master of Science in Nursing 47
Mission 346
Partnership 347
Philosophy 346
Professionalism 346
Programs 346
Readmission to the School of Nursing 359
Repetition of a Failed Course 358
Scholarship 346
Student

Admission 79
Background Checks 56
Class pictures 98
Conduct and Discipline 101
   Due Process 105
   Procedures and Regulations Governing Student Conduct and Discipline 101
Counseling Service
   Student Services 51
Crisis appointments
   Counseling Services 51
Debts 75
Deceased 107
Degree and Diploma Name 97
E-mail 75
Enrollment Policy 80
Exit Interview 97
Financial Aid 51
Grievance Procedures 57
Health Services 51
Holds 57
Housing 54
Insurance 88
   Health 60, 88
   Professional Liability 59, 88
International Students
   Immigration 53
Office of Student Services 51
Privacy Rights 106
Records
   Internet Access 58
   Policy 59
Registrar 51
Regulations 56
Serving on Committees 86
Skin Tests 122
Social Security Number, Use of 58
Student Clearance Form 83
Student Consumer Information 75
Student Directory Information 59
Student Guide 52, 53, 56, 75, 100
Student Health Center 51
Student Life 52
Student Organizations
   Alcohol Policy 96
Student Papers 75
Student Publications 99
Student Records 58
Student Right to Access, Copy, and Challenge Educational Records 59
Student Safety
   Emergency Information Outlets 68
   HSC Alert and Emergency Information 67
   Student Safety on Campus 67
Student Services Fee 88
Students Serving on Committees 86
Telephone Directory 59
Travel Policy 75, 76

Violations 56
Student Life, Office of 52
Student Right-To-Know Act 70
chief student affairs officer 51
Student Services 51
   Assistant Vice President for Student Services
      Doris Lee, J.D. ii
   chief student affairs officer 51
   Counseling Service 51, 120
   Financial Aid 51
   Registrar/Admissions & Records 51
   Student Health Center 51
   Student Life 52
      chief student affairs officer 51
Subsidized Federal Stafford Loan 92
Subway Shop
   Central Campus 54
Su Clinica Familiar 49
Supervised Teaching Requirement
   Graduate School of Biomedical Sciences 176
Supplemental Application (AADSAS)
   Dental 88
Support Services 51
Surgery 47
Suspicious Activities, Reporting of 70

Table of Contents iii
TANF students
   Tuition and Fees Exemption 91
TB
   Policy on Management of Students with Positive TB Skin Tests 122
   TB screening 52
   TB Screening, Prevention, and Management 122
   Tuberculosis Screening Program for Students
      Compliance and Academic Enrollment 123
      Screening for Tuberculosis Infection 122, 123
Teach for Texas Financial Assistance 93
Teaching Affiliates 49
   Other Affiliated Institutions & Programs 51
Technology Support Fee 88
Test of English as a Foreign Language (TOEFL)
   136, 151, 174, 198
Tetanus-Diphtheria (Td)
   Immunization Requirements 121
Texas A&M International University
   Educational partnership 49
Texas Core Curriculum Component Areas and Requirements 78
Texas Diabetes Institute 50
Texas Education Code 55
   AFDC Students 91
   Blind or Deaf Students 89
   Foster Care 91
   Fresh Start Admission 79
   Texas Success Initiative 79
Tuberculosis
Trinity University
Triage
Travel Policy, Student
Transportation
Transfer of Credit
Transfer Between Graduate Programs
Tours for students
TOEFL
Title IX
Title IV Refund
Time Limits
The University of Texas System
The University of Texas at Austin
The University of Texas Health Science Center at Houston
The University of Texas Health Science Center at San Antonio
A Admissions Officers
AACRAO
The University of Texas at Austin
The University of Texas Health Science Center at Houston
School of Public Health
The University of Texas at San Antonio
The American Association of Collegiate Registrars and Admissions Officers
The Texas Success Initiative (TSI)
The Texas Success Initiative (TSI) 80
Texas Star Café
Texas Success Initiative (TSI) 79
T HEA
Texas Success Initiative (TSI) 80
The American Association of Collegiate Registrars and Admissions Officers
AACRAO
The University of Texas at Austin 46
The University of Texas Health Science Center at Houston
School of Public Health 46
The University of Texas Health Science Center at San Antonio
Enrollment 48
Five health professional schools 46
Patient Care 46
Research 46
Research and Teaching 47
San Antonio
Dental School 46
Graduate School of Biomedical Sciences 46
Mission 46
Mission, Role, and Scope 46
Other Affiliated Institutions & Programs 51
School of Health Professions 47
School of Medicine 47
School of Nursing 47
Size and Location 48
Teaching Affiliates 49
The University of Texas System 46
Time Limits
Graduate School of Biomedical Sciences 175
Title IV Refund 92
Title IX 63, 65
TOEFL
Test of English as a Foreign Language 136, 151, 174, 198
Tours for students
prearranged 54
Transfer Between Graduate Programs
Graduate School of Biomedical Sciences 179
Transfer of Credit 82
Graduate School of Biomedical Sciences 177
Transportation 55
City bus service 55
Shuttle, University 55
Travel Policy, Student 75
Triage
Computer Help Desk 52
Trinity University 47
Tuberculosis 122, 123
Immunization Requirements 121
Policy on Management of Students with Positive TB Skin Tests 122
Screening Program for Students 122
Tuberculosis and Immunization Policies 123

U
U. S. Air Force School of Aerospace Medicine 50
U. T. System
Administrative Officers 1
Board of Regents 1
Rules and Regulations 53, 54
United Healthcare
Health Insurance 88
United States Army Institute of Surgical Research 50
United States Department of Agriculture 53
United States Medical Licensing Examination
USMLE 239
The University of Texas at San Antonio
UTSA 50
University, Other
St. Mary’s University 47
The University of Texas at San Antonio (UTSA) 47
Trinity University 47

In the electronic document, click on a page number to go to that page. Index 423
University Center for Community Health  50
  Village of Hope  50
University Family Health Center
  Southeast  49
  Southwest  49
University Health Center Downtown  49
University Health System  49,  50
  Cafeteria, University Hospital  54
  University Center for Community Health  50
  Village of Hope  50
  University Hospital  49
University Hospital
  Cafeteria  54
  next to Central Campus  54
  South Texas Medical Center  49
University of Texas at San Antonio (UTSA), The  47
University Police  68
University Support Services  51
Unsubsidized Federal Stafford Loan  92

UPDATE
  student newsletter  99
Urology  47
UTHSCSA
  Handbook of Operating Procedures (HOP)  54
UTSA  50
  The University of Texas at San Antonio  50
    downtown campus  50
    urban (north S.A.) campus  50

V

V. A. Hospital
  Audie L. Murphy Division
    South Texas Veterans Health Care System  49
Valley Baptist Hospital  49
Vela, Leonel, MD, PhD
  Regional Dean, Regional Academic Health Center (RAHC)
    School of Medicine  3
Veteran's Administration  92
Veteran's Administration Hospital
  Audie L. Murphy Division
    South Texas Veterans Health Care System  49
Vice Dean
  Dental School
    William W. Dodge, DDS  3
    School of Medicine
    Lewis Greenberg, MD, MHA  3
Executive Vice President for Administration
  James D. Kazen  2
Executive Vice President for Business Affairs and Chief
  Financial Officer
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  Officer
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  Armando Diaz, MEd  2
Vice President for Research
  Brian Herman PhD  2
Vice President of Medical Affairs
  William L. Henrich, MD, MACP  2,  3
Victim, Crime  74
Video
  Television Production Services  52
  video production and editing services  52
Viewbooks, Applicant  100
Village of Hope  50
Violations  56
Visiting Medical Students  88
Visiting the Campus  54

W

Waiver of Non-Resident Tuition  87
Weather, Inclement  98
Web design
  Multimedia & Web Services (MWS)  52
Web site
  Additional Information  55
    Design
      Multimedia & Web Services (MWS)  52
WIC clinics  50
Wilford Hall USAF Medical Center  47,  50
Wilson, Jan M., EdD, MBA
  Associate Dean of Administration
    School of Medicine  4
Withdrawal  83
  Absence for military service  83
    Clearance Form  83
    Exit Interview  83
  Graduate School of Biomedical Sciences  179
    Readmission Following Active Military Service  84
    Student Clearance Form  83
    Withdrawal for military service  83
Withdrawals  51

Y

Yarbrough, Suzanne S., PhD, RN
  Associate Dean for Undergraduate Nursing Program
    School of Nursing  4
York, A. Jerome, MBA
  Vice President and Chief Information Officer  2