THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center

Making Cancer History®

School of Health Professions

Graduate and Undergraduate Academic Catalog

2025-2026

(AY26)

The University of Texas MD Anderson Cancer Center
School of Health Professions

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Disclaimer

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Table of Contents

The University of Texas MD Anderson Cancer Center School of Health Professions 1
- Degree Programs 1
  - Baccalaureate of Science 1
  - Master of Science 1
- Certificate Programs 1
  - Advanced Technical Certificate 1
  - Post Baccalaureate Certificate 1
- Accreditation 1
- Mission 1
- Vision 1
- Core Values 1
  - Caring 1
  - Integrity 2
  - Discovery 2
  - Safety 2
- The University of Texas System Board of Regents 2
  - Officers 2
  - Regents 2
- The University of Texas MD Anderson Cancer Center 2
  - Institutional Mission 2
  - Institutional Vision 2
  - Institutional Core Values 2
  - Administrative Officers 3
  - Institutional Profile 3
- Equal Educational Opportunity Statement 3

Academic Calendar 4
- Fall Semester 2025 4
- Spring Semester 2026 4
- Summer Semester 2026 5

Admissions 6
- Texas Core Curriculum Requirements 6
  - Texas Core Curriculum 42 SCH 6
- General Requirements 6
- Nonacademic Technical Standards 7
  - Sensory/Observational Skills 7
  - Physical and Motor Skills 7
  - Communication Skills 7
  - Intellectual/Conceptual, Integrative and Qualitative Skills 7
  - Social Behavior and Professionalism 7
- Academic Fresh Start 8
- Automatic Admission 8
- Instructions for Applicants 8
- International Students 8
  - Approved Transcript Evaluation Agencies (Foreign Transcripts) 8
  - Test of English as a Foreign Language (TOEFL) 8
- Onboarding 8
- Orientation 8
- Texas Common Application System 8
- Transfer Students 8
- Transferability of Credit 9
- Credit by Exam 9

Tuition and Fees 10
- Student Financial Responsibility 10
- Tuition 10
  - Tuition and Fees Exemptions 10
  - Incidental Fees 10
  - Installment Payments for Tuition and Fees 10
  - Six Drop Rule 10
  - Academic Common Market 10
- Out of State Students, Non-Resident Tuition and Considerations for Tuition Rebates 10
- Residency 10
- Enrollment, Withdrawal and Refund 11
  - Enrollment 11
  - Withdrawal from the School of Health Professions 11
  - Medical Withdrawal 11
  - Military Withdrawal 11
- Enrollment and Withdrawal Timeline Procedures 11
  - Registration Period 11
  - Late Registration Period 11
  - Withdraw without Receiving a Grade Period 11
  - Withdraw from School Period 11
  - After Term Withdraw from School Period 11

Financial Aid 12
  - Enrollment 12
  - Financial Assistance 12
- School of Health Professions Scholarships 12
  - Eligibility 12
  - In-State Tuition Adjustment for Texas Non-Residents 12
  - Selection Criteria 12

Academic Policies and Procedures 13
- Academic Advising 13
- Admission of Applicants with Dismissals 13
- Class Attendance 13
  - Unexcused absences 13
  - Absence Due to Illness 13
  - Excused Absences 13
  - Religious Holidays 13
- Concurrent Enrollment 13
- Credit Earned by Equivalency 13
- Curriculum Changes 14
  - Approval Process 14
  - Original Documentation 14
- Examinations 14
- Grades 14
  - Overview 14
  - About Symbols 14
  - Symbol I: Temporary Delay in Reporting the Final Course Grade 15

Approved Uses of the Symbol I ... 15
Improper Uses of the Symbol I ... 15
Computation of the Grade Point Average ... 15
Graduation ... 15
School of Health Professions Commencement Exercise ... 15
Application and Procedure for Graduation ... 16
Graduating with Honors ... 16
Outstanding Student of the Year Recognition with a Gold Sash ... 16
Grievances – Academic ... 16
Grade Appeals ... 16
Appeals of Academic Program or Degree Requirements ... 16
Personal Record Information ... 16
Name Change ... 16
Change of Address and/or Telephone Number ... 17
Procedure for Visiting International Relatives Attending the Graduation ... 17
Returning Student for Bachelor's Degree ... 17
Student Readmission ... 17
Summons and Official Communications ... 17
Summons to Administrative Offices ... 17
Official Communications with MD Anderson ... 17
Syllabi, Faculty Credentials and Textbook Information ... 17
Transcripts and Diplomas ... 17
Transcripts ... 17
Diplomas ... 17
General Regulations ... 18
Alcoholic Beverages ... 18
Off-Campus ... 18
On-Campus ... 18
The University of Texas System Rules and Regulations of the Board of Regents ... 18
Appearance and Demeanor ... 18
Appearance and Demeanor Guidelines ... 18
Conduct and Discipline ... 18
Confidentiality ... 18
Conflict of Interest ... 19
COVID-19 Statement ... 19
Criminal Background Check ... 19
Policy Overview ... 19
Implementation ... 19
Disclaimers ... 19
Allocation of Cost ... 19
Gang-Free Zones ... 19
Grievances – Nonacademic ... 19
Hazing ... 20
Individuals ... 20
Organizations ... 20
Definition ... 20
Immunity ... 21
Health Information for Students ... 21
AIDS, HIV and HBV ... 21
Bacterial Meningitis ... 21
Contagious Diseases and Immunization Requirements ... 21
Health Insurance ... 21
Purpose ... 21
Policy Statement ... 22
Students Enrolled in Field Experience Courses ... 22
Student Counseling ... 22
UTHealth Services ... 22
Intellectual Property ... 22
Purpose ... 22
Application ... 22
Rights ... 22
Protection ... 23
Assertion of Interest ... 23
Institutional Mandatory Training ... 23
National Council for State Authorization Reciprocity Agreements (NC-SARA) ... 23
Complaint Process for MD Anderson Cancer Center Students Enrolled in Distance Education and Off-Campus Courses ... 23
Notification of Students Rights under FERPA ... 23
Observance of Religious Holy Days ... 24
On-Campus Housing ... 24
Personal Protective Equipment and COVID-19 ... 24
Public and Retail Space Use ... 24
Use of Common Outdoor Areas: Expressive Activities ... 24
Sexual Harassment ... 24
Definition of Sexual Harassment ... 24
Consensual Relationships ... 24
Procedure for Filing a Sexual Harassment Complaint ... 25
Smoking ... 25
Student Congress ... 25
Student Right to be Informed about Information Collected ... 25
Student Right-to-Know ... 25
Campus Security Act ... 25
Comprehensive Emergency Notification System ... 26
Concealed Handgun Carriage on MD Anderson Campus ... 26
False Alarm or Report ... 26
Fire Safety ... 26
Missing Student Notification ... 26
Student Travel ... 26
Students with Disabilities ... 27
Substance Abuse ... 27
Policy Overview ... 27
Sanctions ... 27
Vehicles on Campus ... 27
Veterans Education Counselor's Program ... 27
Degrees and Certificates Offered at the School of Health Professions ... 28
Graduate Degrees ... 28
Undergraduate Degrees ... 28
Radiologic Sciences Programs ... 28
Laboratory Sciences Programs ... 28

Hybrid and Online Programs ... 28
Certificates ... 28
Advanced Technical ... 28
Post-Baccalaureate ... 28
Program Accreditations ... 28
CAAHEP ... 28
JRCERT ... 28
NAACLS ... 28
M.S. in Diagnostic Genetics and Genomics ... 29
Degree Offered ... 29
Program Administration ... 29
Program Information ... 29
Mission ... 29
Objectives ... 29
Selection Process ... 29
Nonacademic Requirements ... 29
Program Admission Requirements ... 29
Prior Coursework and Experience ... 30
Graduation ... 30
Curriculum ... 30
Accreditation ... 30
Affiliations for Clinical Rotation ... 30
Clinical and Translational Laboratory Research ... 30
Funding Opportunities ... 30
Course Listings ... 31
M.S. in Medical Dosimetry ... 32
Degree Offered ... 32
Program Administration ... 32
Program Information ... 32
Mission ... 32
Vision ... 32
Goals and Student Learning Outcomes ... 32
Objectives ... 32
Nonacademic Requirements ... 32
Program Admission Requirements ... 33
Graduation ... 33
Curriculum ... 33
Accreditation ... 33
Affiliations for Clinical Rotation ... 33
Funding Opportunities ... 33
Course Listings ... 33
M.S. in Radiologic Sciences ... 34
Degree Offered ... 34
Program Administration ... 34
Program Information ... 34
Mission ... 34
Objectives ... 34
Goals ... 34
Nonacademic Requirements ... 34
Program Admission Requirements ... 34
Graduation ... 35
Curriculum ... 35
Accreditation ... 35
Funding Opportunities ... 35
Course Listings ... 36
B.S. in Cytogenetic Technology ... 37
Degree Offered ... 37
Program Administration ... 37
Program Information ... 37
Mission ... 37
Objectives ... 37
Program Admission Requirements ... 37
Enrollment Process ... 37
Nonacademic Requirements ... 37
Prerequisites ... 37
Advanced Placement ... 38
Graduation ... 38
Curriculum ... 38
Accreditation ... 38
Current Affiliations ... 38
Course Listings ... 39
B.S. in Cytotechnology ... 40
Degree Offered ... 40
Program Administration ... 40
Program Information ... 40
Mission ... 40
Objectives ... 40
Program Admission Requirements ... 40
Enrollment Process ... 40
Nonacademic Requirements ... 40
Prerequisites ... 40
Advanced Placement ... 40
Graduation ... 41
Curriculum ... 41
Accreditation ... 41
Current Affiliations ... 41
Course Listings ... 41
B.S. in Diagnostic Imaging – 3-Year Program with Certificate in Radiography ... 42
Certificate Offered ... 42
Degree Offered ... 42
Program Administration ... 42
Program Information ... 42
Mission ... 42
Vision ... 42
Goals ... 42
Objectives ... 42
Program Admission Requirements ... 42
Enrollment Process ... 43
Nonacademic Requirements ... 43
Program Sequence ... 43
Prerequisites ... 43

Advanced Placement ... 43
Graduation ... 43
Curriculum ... 43
Accreditation ... 43
Current Affiliations ... 44
Course Listings ... 44
B.S. in Diagnostic Imaging – Advanced Modalities (1-Year Program and Continuation of 3-Year Program) ... 45
Certificate Offered ... 45
Degree Offered ... 45
Program Administration ... 45
Program Information ... 45
Mission ... 45
Vision ... 45
Goals ... 45
Objectives ... 45
Emphasis in Magnetic Resonance Imaging ... 45
Program Admission Requirements ... 46
Enrollment Process ... 46
Nonacademic Requirements ... 46
Prerequisites ... 46
Advanced Placement ... 46
Graduation ... 46
Curriculum ... 47
Accreditation ... 47
Current Affiliations ... 47
Course Listings ... 47
B.S. in Diagnostic Imaging – Education and Management (1-Year Program and Continuation of 3-Year Program) ... 49
Certificate Offered ... 49
Degree Offered ... 49
Program Administration ... 49
Program Information ... 49
Mission ... 49
Vision ... 49
Goals ... 49
Objectives ... 49
Program Admission Requirements ... 49
Enrollment Process ... 50
Nonacademic Requirements ... 50
Prerequisites ... 50
Advanced Placement ... 50
Graduation ... 50
Curriculum ... 50
Accreditation ... 50
Current Affiliations ... 50
Course Listings ... 51
B.S. in Diagnostic Medical Sonography ... 52
Degree Offered ... 52
Program Administration ... 52
Program Information ... 52
Mission ... 52
Vision ... 52
Goals ... 52
Program Admission Requirements ... 52
Enrollment Process ... 52
Nonacademic Requirements ... 52
Prerequisites ... 52
Advanced Placement ... 53
Graduation ... 53
Curriculum ... 53
Accreditation Information ... 53
Current Affiliations ... 53
Course Listings ... 53
B.S. in Healthcare Analytics and Advocacy ... 54
Degree Offered ... 54
Program Administration ... 54
Program Information ... 54
Mission ... 54
Vision ... 54
Objectives ... 54
Program Admission Requirements ... 54
Enrollment Process ... 54
Nonacademic Requirements ... 54
Prerequisites ... 54
Advanced Placement ... 55
Graduation ... 55
Curriculum ... 55
Accreditation ... 55
Course Listings ... 56
Electives ... 56
B.S. in Histotechnology ... 57
Degree Offered ... 57
Program Administration ... 57
Program Information ... 57
Mission ... 57
Objectives ... 57
Program Admission Requirements ... 57
Enrollment Process ... 57
Nonacademic Requirements ... 57
Prerequisites ... 57
Advanced Placement ... 58
Graduation ... 58
Curriculum ... 58
Accreditation ... 58
Current Affiliations ... 58
Course Listings ... 59
B.S. in Medical Dosimetry ... 60
Degree Offered ... 60
Program Administration ... 60
Program Information ... 60
Mission ... 60

Vision ... 60
Goals ... 60
Objectives ... 60
Program Admission Requirements ... 60
Enrollment Process ... 60
Nonacademic Requirements ... 60
Prerequisites ... 60
Advanced Placement ... 61
Graduation ... 61
Curriculum ... 61
Accreditation ... 61
Current Affiliations ... 61
Course Listings ... 61
Free Elective Courses ... 62
B.S. in Medical Laboratory Science ... 63
Degree Offered ... 63
Program Administration ... 63
Program Information ... 63
Mission ... 63
Goals ... 63
Objectives ... 63
Program Competencies ... 63
Program Admission Requirements ... 64
Enrollment Process ... 64
Nonacademic Requirements ... 64
Prerequisites ... 64
Advanced Placement ... 64
Graduation ... 64
Curriculum ... 64
Accreditation ... 65
Current Affiliations ... 65
Course Listings ... 65
B.S. in Molecular Genetic Technology ... 66
Degree Offered ... 66
Program Administration ... 66
Program Information ... 66
Mission ... 66
Objectives ... 66
Program Admission Requirements ... 66
Enrollment Process ... 66
Nonacademic Requirements ... 67
Prerequisites ... 67
Advanced Placement ... 67
Graduation ... 67
Curriculum ... 67
Accreditation ... 67
Current Affiliations ... 67
Course Listings ... 68
B.S. in Radiation Therapy ... 69
Degree Offered ... 69
Program Administration ... 69
Program Information ... 69
Mission ... 69
Vision ... 69
Objectives ... 69
Goals and Student Learning Outcomes ... 69
Program Admission Requirements ... 69
Enrollment Process ... 69
Nonacademic Requirements ... 70
Prerequisites ... 70
Advanced Placement ... 70
Graduation ... 70
Curriculum ... 70
Accreditation ... 70
Current Affiliations ... 70
Course Listings ... 71
A.T.C. in Mammography ... 72
Certificate Offered ... 72
Program Administration ... 72
Program Information ... 72
Mission ... 72
Vision ... 72
Program Admission Requirements ... 72
Enrollment Process ... 72
Nonacademic Requirements ... 72
Prerequisites ... 72
Advanced Placement ... 72
Certificate Completion ... 72
Curriculum ... 73
Accreditation ... 73
Current Affiliations ... 73
Course Listings ... 73
P.B.C. in Molecular Genetic Technology ... 74
Certificate Offered ... 74
Program Administration ... 74
Program Information ... 74
Mission ... 74
Vision ... 74
Program Admission Requirements ... 74
Enrollment Process ... 74
Nonacademic Requirements ... 74
Certificate Completion ... 74
Curriculum ... 74
Course Listings ... 74
Course Descriptions ... 75
Cytogenetic Technology ... 75
Medical Laboratory Science ... 76
Cytotechnology ... 77
Diagnostic Genetics and Genomics ... 78
Diagnostic Imaging ... 81
Diagnostic Medical Sonography ... 85
Genetic Technology ... 87

Healthcare Analytics and Advocacy 88
Health Science 89
Histotechnology 91
Medical Dosimetry 92
Molecular Genetic Technology 94
Mammography 96
Radiologic Sciences 97
Radiation Therapy 99
Faculty 101
Instructional Staff 101
MD Anderson Institutional Policies 103
ACA0019: The University of Texas MD Anderson Cancer Center School of Health Professions Student Travel Safety Policy 103
ACA1222: Student Rights Under the Family Educational Rights and Privacy Act (FERPA) 103
ACA1264: The University of Texas MD Anderson Cancer Center School of Health Professions Conduct and Discipline Policy 103
ACA3591: Student Organizations Policy for School of Health Professions Students 103
ACA3593: School of Health Professions Student Store Transactions Policy 103
ACA3655: Student Pregnancy and Parenting Non-Discrimination Policy 103
ACA3658: School of Health Professions Student Disabilities Accommodations Policy 104
ACA3684: Leave of Absence for School of Health Professions Students Policy 104
School of Health Professions Policies 105
SHP01: Admission of Applicants with Dismissals 105
SHP02: Student Readmission 107

The University of Texas MD Anderson Cancer Center School of Health Professions

The School of Health Professions is located within the main campus of The University of Texas MD Anderson Cancer Center. We offer Bachelor of Science and Master of Science degrees in exciting and high demanding career fields in laboratory sciences, radiologic sciences, health care disparities, management and education. At the School of Health Professions, students learn from faculty with years of practical experience in their field who ensure that the curriculum combines a rich classroom environment with hands-on practical experience. The student's clinical experience takes place in an institution that is recognized worldwide for its excellence in education, health care and research, and has the distinction of being one of the nation's first Comprehensive Cancer Centers.

Degree Programs

Baccalaureate of Science

- Cytogenetic Technology
- Cytotechnology
- Diagnostic Imaging
- Diagnostic Medical Sonography
- Healthcare Analytics and Advocacy
- Histotechnology
- Medical Dosimetry
- Medical Laboratory Science
- Molecular Genetic Technology
- Radiation Therapy

Master of Science

- Diagnostic Genetics and Genomics
- Medical Dosimetry
- Radiologic Sciences

Certificate Programs

Advanced Technical Certificate

- Mammography

Post Baccalaureate Certificate

- Molecular Genetic Technology

Accreditation

MD Anderson is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award degrees at the baccalaureate, master's and doctoral levels.

Southern Association of Colleges and Schools Commission on Colleges
1866 Southern Ln.
Decatur, GA 30033
Phone 404-679-4500
Fax 404-679-4558
Email

The programs of School of Health Professions are accredited and approved by nationally recognized agencies, including:

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
25400 U.S. Hwy 19 N., Ste. 158
Clearwater, FL 33763
Phone 727-210-2350
Fax 727-210-2354
Email

Joint Review Committee on Education in Radiologic Technology (JRCERT)
20 N. Wacker Dr., Ste. 2850
Chicago, IL, 60606-3182
Phone 312-704-5300
Fax 312-704-5304
Email

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
5600 N. River Rd., Ste. 720
Rosemont, IL 60018-5119
Phone 773-714-8880
Fax 773-714-8886
Email

Mission

The School of Health Professions, in concert with the mission and visions of The University of Texas MD Anderson Cancer Center, is committed to the education of health care professionals, through formal academic programs that award institutional degrees in health sciences.

Vision

The University of Texas MD Anderson Cancer Center School of Health Professions faculty is committed to:

- Setting the standard for world class didactic and clinical instruction necessary for program graduates to perform procedures within a specialty area, to integrate and relate clinical data and to solve problems related to the production of clinical results.
- Meeting the current and future needs of health science professions by developing and implementing formal academic didactic and clinical education programs incorporating state-of-the-art diagnostic and treatment techniques.
- Developing, understanding and appreciating research and quality management programs; providing the skills necessary to establish quality control measures and to make appropriate decisions to maintain accuracy and precision. Instilling a professional code of conduct related to patients, health care professionals and the public that demonstrates the highest regard for human dignity and life
- Identifying the value of lifelong learning of students and graduates through continued education and professional competence.

Core Values

Caring

By our words and actions we demonstrate caring toward everyone.

- We are sensitive to the concerns of our patients, their loved ones and our colleagues.
- We are respectful and courteous to each other and practice cultural humility.
- We promote and reward teamwork and inclusion.

Integrity

We work together with professionalism to merit the trust of our colleagues and those we serve in all that we do.

- We hold ourselves, and each other, accountable for our work — decisions and data — and for practicing our values and ethics.
- We advocate for diversity and equity for our workforce, for those we serve and for our community.
- We communicate frequently, honestly, openly and responsibly.

Discovery

We embrace creativity and seek new knowledge from diverse perspectives.

- We encourage continuous learning, seeking out information and new ideas.
- We team with each other to identify and resolve problems.
- We seek personal growth and enable others to do so.

Safety

We provide a safe environment — physically and psychologically — for our patients, for our colleagues and for our community.

- • We create a sense of security and empowerment and are committed to keeping one another free from harm.
- • We embrace a framework and best practices for the highest quality of care and service.
- • We inspire trust by modeling excellence in our work and acceptance of each person's contributions.

Stewardship

We protect and preserve our institutional reputation and the precious resources, people, time, financial and environmental — entrusted to us.

- We prioritize the health and well-being of each other.
- We act responsibly to safeguard the institution's finances.
- We ensure the proper care and use of time, data, materials, equipment and property afforded to us.

The University of Texas System Board of Regents

The School of Health Professions is subject to the *Rules and Regulations* of the Board of Regents of The University of Texas System.

The UT Board of Regents, the governing body for the UT System, is composed of nine members who are appointed by the Governor and confirmed by the Senate. Terms for Regents are scheduled for six years each and staggered so that three members' terms will usually expire on February 1 of odd-numbered years. In addition, the Governor appoints a Student Regent for a one-year term that expires on May 31.

Throughout the more than 100-year history of the UT System, the Board has been composed of dedicated and distinguished Texans who have been strong advocates of excellence in academic programs, scientific inquiry and responsible public service.

Officers

Kevin P. Eltife, Chairman term expires 02/27
Janiece Longoria, Vice Chairman term expires 02/29
James C. "Rad" Weaver, Vice Chairman term expires 02/29

Regents

Luke Schwarta (student) term expires 05/26
Robert P. Gauntt term expires 02/29
Jodie Lee Jiles term expires 02/31
Christina Melton Crain term expires 02/31
Nolan Perez, M.D. term expires 02/27
Stuart W. Stedman term expires 02/27
Kelcy L. Warren term expires 02/27

Each Regent's term expires when a successor has been appointed, qualified and taken the oath of office. The Student Regent serves a one-year term.

Francie A. Frederick is the General Counsel to the Board of Regents.

The University of Texas MD Anderson Cancer Center

Institutional Mission

The mission of The University of Texas MD Anderson Cancer Center is to eliminate cancer in Texas, the nation, and the world through outstanding programs that integrate patient care, research and prevention, and through education for undergraduate and graduate students, trainees, professionals, employees and the public.

Institutional Vision

We shall be the premier cancer center in the world, based on the excellence of our people, our research-driven patient care and our science. We are Making Cancer History®.

Institutional Core Values

Caring

By our words and actions we demonstrate caring toward everyone.

- We are sensitive to the concerns of our patients, their loved ones and our colleagues.
- We are respectful and courteous to each other and practice cultural humility.
- We promote and reward teamwork and inclusion.

Integrity

We work together with professionalism to merit the trust of our colleagues and those we serve in all that we do.

- We hold ourselves, and each other, accountable for our work — decisions and data — and for practicing our values and ethics.
- We advocate for diversity and equity for our workforce, for those we serve and for our community.
- We communicate frequently, honestly, openly and responsibly.

Discovery

We embrace creativity and seek new knowledge from diverse perspectives.

- We encourage continuous learning, seeking out information and new ideas.
- We team with each other to identify and resolve problems.
- We seek personal growth and enable others to do so.

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We provide a safe environment — physically and psychologically — for our patients, for our colleagues and for our community.

- • We create a sense of security and empowerment and are committed to keeping one another free from harm.
- • We embrace a framework and best practices for the highest quality of care and service.
- • We inspire trust by modeling excellence in our work and acceptance of each person's contributions.

Stewardship

We protect and preserve our institutional reputation and the precious resources, people, time, financial and environmental — entrusted to us.

- We prioritize the health and well-being of each other.
- We act responsibly to safeguard the institution's finances.
- We ensure the proper care and use of time, data, materials, equipment and property afforded to us.

Administrative Officers

Senior Leadership

Peter W. T. Pisters, M.D., President
Omer Sultan, Senior Vice President (SVP), Chief Financial Officer
Allyson Kinzel, J.D., SVP, Chief Regulatory Officer
David Jaffray, Ph.D., SVP, Chief Technology and Digital Officer
Shibu Varghese, SVP, People, Culture and Infrastructure
Carin Hagberg, M.D., Chief Academic Officer
Welela Tereffe, M.D., Chief Medical Executive
Rosanna Morris, Chief Operating Officer
Giulio Draetta, M.D., Ph.D., SVP, Chief Scientific Officer
Darrow Zeidenstein, Ph.D., SVP, Chief Development Officer
Tadd Pullin, SVP, Institutional Affairs
Ferran Prat, Ph.D., J.D., SVP, Research Administration and Industry Relations
Chris McKee, SVP, Strategy and Business Development
Mark Moreno, Vice President (VP), Governmental Relations
Diane Bodurka, M.D., VP, Chief Education & Training Officer
Kimberly Hoggatt Krumwiede, Ph.D., Dean and Professor

Institutional Profile

The University of Texas MD Anderson Cancer Center is one of the world's most respected centers devoted exclusively to cancer patient care, research, education and prevention. It is located in central Houston in the Texas Medical Center.

MD Anderson was created in 1941 as part of the UT System. The institution is one of the nation's original three comprehensive cancer centers designated by the National Cancer Act of 1971 and is one of 50 National Cancer Institute-designated comprehensive cancer centers today.

U.S. News & World Report's "Best Hospitals" survey has ranked MD Anderson the nation's top hospital for cancer care. The institution has been named one of the nation's top two hospitals for cancer care every year since the survey began in 1990.

Visit the MD Anderson Facts & History page for more information and documentation on the institution.

Equal Educational Opportunity Statement

To the extent provided by applicable law, no person shall be excluded from participation in, denied the benefits of, or be subjected to discrimination under, any program or activity sponsored or conducted by MD Anderson on the basis of race, color, national origin, religion, sex, age, veteran status or disability.

Academic Calendar

Fall Semester 2025

Aug. 4, Monday-Aug. 22, Friday School of Health Professions Virtual Orientation for new students.

Aug. 21, Thursday School of Health Professions Technical Orientation and Badge Pickup for new students; Event attendance is mandatory.

Aug. 22, Friday Tuition and fees payment-in-full deadline to avoid late payment fee.
First payment due for students on an installment plan.

Aug. 23, Saturday-Aug. 29, Friday Late registration period via myUTH; includes late payment fees; must pay tuition and fees on the same day as registering.

Aug. 23, Saturday-Sept. 10, Wednesday Add/Drop Period via Add/Drop/Withdrawal Form;
Adds: includes late payment fees, must pay tuition and fees on the same day as registering.
Drops: tuition and fees refunded based on class(es) dropped.
Withdrawals: tuition and fees refunded based on day of the semester.

Aug. 25, Monday Classes Begin.

Sept. 1, Monday Labor Day Holiday.

Sept. 10, Wednesday Census Day; students dropped for non-payment at the end of the day.
Last day of Add/Drop Period.

Sept. 11, Thursday Beginning of withdrawal without receiving a grade period; students may withdraw from individual courses or from school with W or WF grades.

Sept. 12, Friday Last day to apply for Fall Graduation via myUTH.

Sept. 22, Monday Last day for a full withdrawal with partial refund.

Sept. 29, Monday Second payment due for students on an installment plan.

Oct. 17, Friday Last day to withdraw without receiving a grade.

Oct. 18, Saturday Beginning of Withdrawal with a failing grade period; students may withdraw from school with F grades.

Nov. 3, Monday Last payment due for students on an installment plan.

Nov. 19, Wednesday Registration open for Spring via myUTH.
Graduation application opens for students completing their degree at the end of the Spring semester.

Nov. 27, Thursday-Nov. 28, Friday Thanksgiving Holidays.

Dec. 5, Friday Classes end.

Dec. 8, Monday-Dec. 12, Friday Final exams.

Dec. 12, Friday Last day to withdraw with a failing grade.

Dec. 16, Monday-Jan. 3, 2025, Friday Winter Break.

Spring Semester 2026

Dec. 8, Monday-Jan. 2, Friday School of Health Professions Virtual Orientation for new students.

Jan. 1, Thursday New Year's Holiday.

Jan. 2, Friday Tuition and fees payment-in-full deadline to avoid late payment fee.
First payment due for students on an installment plan.

Jan. 3, Saturday-Jan. 9, Friday Late registration period via myUTH; includes late payment fees; must pay tuition and fees on the same day as registering.

Jan. 3, Saturday-Jan. 21, Wednesday Add/Drop Period via Add/Drop/Withdrawal Form;
Adds: includes late payment fees, must pay tuition and fees on the same day as registering.
Drops: tuition and fees refunded based on class(es) dropped.
Withdrawals: tuition and fees refunded based on day of the semester.

Jan. 5, Monday Classes begin.

Jan. 19, Monday Martin Luther King Holiday.

Jan. 21, Wednesday Census Day; students dropped for non-payment at the end of the day.
Last day of Add/Drop Period.

Jan. 22, Thursday Beginning of withdrawal without receiving a grade period; students may withdraw from individual courses or from school with W or WF grades.

Jan. 23, Friday Last day to apply for Spring Graduation via myUTH.

Feb. 2, Monday Last day for a full withdrawal with partial refund.

Feb. 9, Monday Second payment due for students on an installment plan.

Feb. 27, Friday Last day to withdraw without receiving a grade.

Feb. 28, Saturday Beginning of Withdrawal with a failing grade period; students may withdraw from school with F grades.

March 9, Monday-March 13, Friday Spring Break.

March 23, Monday Last payment due for students on an installment plan.

April 8, Wednesday Registration open for Summer via myUTH.
Graduation application opens for students completing their degree at the end of the Summer semester.

April 24, Friday Classes end.

April 27, Monday-May 1, Friday Final Exams.

May 1, Friday Last day to withdraw with a failing grade.

May 4, Monday-May 8, Friday Summer Break.

Summer Semester 2026

May 8, Friday Tuition and fees payment-in-full deadline to avoid late payment fee.
First payment due for students on an installment plan.

May 9, Saturday-May 15, Friday Late registration period via myUTH; includes late payment fees; must pay tuition and fees on the same day as registering.

May 9, Saturday-May 27, Wednesday Add/Drop Period via Add/Drop/Withdrawal Form;
Adds: includes late payment fees, must pay tuition and fees on the same day as registering.
Drops: tuition and fees refunded based on class(es) dropped.
Withdrawals: tuition and fees refunded based on day of the semester.

May 11, Monday Classes begin.

May 25, Monday Memorial Day Holiday.

May 27, Wednesday Census Day; students dropped for non-payment at the end of the day.
Last day of Add/Drop Period.
Graduation application closes for students completing their degree at the end of the Summer semester.

May 28, Thursday Beginning of withdrawal without receiving a grade period; students may withdraw from individual courses or from school with W or WF grades.

May 29, Friday Last day to apply for Spring Graduation via myUTH.

June 8, Monday Last day for a full withdrawal with partial refund.

June 15, Monday Second payment due for students on an installment plan.

June 19, Friday Last day to withdraw without receiving a grade.

June 20, Saturday Beginning of Withdrawal with a failing grade period; students may withdraw from school with F grades.

July 3, Friday Independence Day Holiday.

July 15, Wednesday Registration opens for Fall via myUTH.
Graduation application opens for students completing their degree at the end of the Fall semester.

July 21, Tuesday Last payment due for students on an installment plan.

July 31, Friday Classes end.

Aug. 3, Monday-Aug. 7, Friday Final exams.

Aug. 8, Friday Commencement.
Last day to withdraw with a Failing grade.

NOTE: Calendar is subject to change

Admissions

Admission to the School of Health Professions is contingent upon acceptance to one of the programs. Each program has specific prerequisite course requirements for graduation. Students seeking a baccalaureate degree from the School of Health Professions must complete a minimum of 120 semester credit hours (SCH) of which 42 general education "core" SCH must be transferred to the School of Health Professions from an accredited college or university with acceptable transferability of credit.

The unit of credit used at the School of Health Professions is the semester hour. A semester hour is the equivalent of one lecture contact hour per week plus 2 hours of homework or 3 hours of lab for 16 weeks based on the Carnegie definition. Time requirements for the semester credit hour in activities other than lecture vary according to the nature and objectives of the activities.

Admission criteria include previous grade point average (GPA), professional references, essay and personal interviews. (Note: Histotechnology and Health Care DDA programs do not require an interview). Admission is competitive. **Achieving the minimum criteria does not guarantee admission into the School of Health Professions.**

Texas Core Curriculum Requirements

Students receiving their first baccalaureate degree from the School of Health Professions must successfully complete the Texas Core Curriculum requirements (19 *Texas Administrative Code (TAC),* §4.28). The core curriculum consists of 42 SCH in specified component areas. 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 School of Health Professions, the student will be required to earn academic credits from a Texas public college or university to fulfill the School of Health Professions core curriculum course requirements.

The School of Health Professions does not offer lower-level core curriculum courses, but has developed a core curriculum in order to accommodate students who transfer from other states or private institutions. If a student enrolls at the School of Health Professions prior to completing the core curriculum requirements elsewhere, the student is responsible for completing the core curriculum requirements listed below. The student should obtain approval from his or her advisor prior to registering for courses intended to fulfill these requirements. The same requirements also apply to out-of-state students (*Texas Education Code (TEC),* §61.821 et seq.).

Texas Core Curriculum 42 SCH

COMMUNICATION 6
ENGL 1301 Composition I
ENGL 1302 Composition II

MATHEMATICS 3
MATH 1314 College Algebra or higher

LIFE AND PHYSICAL SCIENCES 12
Courses in biology, chemistry, physics, geology or other natural sciences

LANGUAGE, PHILOSOPHY AND CULTURE 3
Courses in literature, philosophy, modern or classical language/literature, cultural studies or equivalent

CREATIVE ARTS 3
Courses in arts, dance, music appreciation, music, drama or equivalent

AMERICAN HISTORY 6
HIST 1301 United States History I
HIST 1302 United States History II

GOVERNMENT/POLITICAL SCIENCE 6
GOVT 2305 Federal Government
GOVT 2306 Texas Government

SOCIAL AND BEHAVIORAL SCIENCES 3
Courses in anthropology, economics, criminal justice, geography, psychology, sociology, social work or equivalent

General Requirements

Consideration for admission to one of the School of Health Professions Programs is not based on race, religion, national origin, veteran status, sex, age or disability (34 *Code of Federal Regulations (CFR)* §106.9). The School of Health Professions is committed to providing reasonable accommodations for students with disabilities.

The following are required for admission to the School of Health Professions' programs (*TEC*, §51.808 and Regents' *Rules and Regulations*, Rule 40303):

- Application to the program, includes submission of official transcripts, three professional reference forms and a personal interview (Note: Histotechnology and Health Care DDA programs do not require an interview).
- Completion of all prerequisite coursework
  - Required courses must be acceptable toward a major in the respective field of study. Survey courses will not fulfill these requirements.
  - Candidates who completed the prerequisite courses seven or more years before admission may be required to update their academic skills. For specific information, contact the program director.
  - A minimum overall GPA and science GPA of 2.5 on a 4.0 scale overall is preferred. Meeting the minimum criteria does not guarantee acceptance.
- Test of English as a Foreign Language (TOEFL) - For all international students whose native language is not English, proof of English language proficiency must be submitted. Refer to the TOEFL section in this catalog.
- Texas Success Initiative (TSI): In accordance with *TEC*, Subchapter F-1, the School of Health Professions will comply with the TSI. All applicants must provide proof of successful attainment of the TSI, unless they fall into the following categories:
  - Graduation from an accredited Texas public institution of higher education with an associate or baccalaureate degree
  - Completion of 60 SCH of the prerequisites for any School of Health Professions program with a grade of *C* (75) or higher
  - Acceptable scores (within five years of the application) on any of the following (*TEC*, §51.803(a)):
  - SAT (combined verbal and mathematics score of 1070 with a minimum of 500 on both the verbal and math test)

  - ACT (composite score of 23 with a minimum of 19 on both English and mathematics)
  - TAAS exams (with a minimum scale score of 1770 on the writing test, a Texas Learning Index of 86 on the mathematics test and 89 on the reading test)
  - Proof of an applicant's readiness to enroll in college level coursework, as related to TSI, will be determined by the Office of the Registrar based upon review of official transcripts from previously attended institutions. Satisfactory performance on an acceptable testing instrument is a requirement for admission to the baccalaureate program or to non-degree-seeking admission status.

- Additional requirements and/or considerations are listed on the specific program pages of the School of Health Professions web site.

For additional information regarding specific requirements for a program, contact the Program Director.

Nonacademic Technical Standards

Students who can fulfill the nonacademic technical standards and who have disabilities, will need to disclose those disabilities at the beginning of the program, if reasonable accommodation is to be requested. Visit the Students with Disabilities section in this catalog for more information on requesting accommodations.

Each program's accrediting agency may require additional standards. Contact the Program Director for information.

Sensory/Observational Skills

- Candidates for admission to the School of Health Professions must be able to observe demonstrations and participate in laboratory or clinical experiments and practices as required by the program of interest.
- Candidates must have visual acuity corrected to 20/20 and visual perception with respect to color. A color blindness test will be administered during orientation.
- Candidates must be able to visually identify probe colors on slides, computer readout and monitor, interpret reactions on slides, microwells and test tubes and visually identify cellular components and microorganisms under a microscope.
- Candidates must be able to view images for accuracy, view computer screens for extended periods, visually monitor patients during treatment and treatment planning procedures in dim light.
- Candidates must be able to hear various equipment alerts, sounds and signals and background sounds during equipment operations, distinguish phonetic sounds either mechanically or from conversation to perform procedures in low light and monitor patients via audio monitors during treatment and treatment planning procedures.

Physical and Motor Skills

- Candidates for admission to the School of Health Professions must have sufficient motor function to operate/manipulate and maintain a microscope and/or microtome and other laboratory equipment.
- Candidates must have the ability to obtain and/or verify patient samples, ambulate sufficiently to collect blood specimens from patients and possess sufficient stamina to tolerate physically taxing workloads.
- Candidates must be able to demonstrate manual dexterity required to process samples, operate, maintain and repair laboratory equipment or maintain balance while positioning patient and adjusting x-ray tube and/or perform all aspects of clinical laboratory testing or radiological procedures.
- Candidates must be able to lift 30 pounds of weight overhead, be able to reach up to six feet off floor, be able to move immobile patients from stretcher to treatment table and/or push wheelchair from waiting area to treatment room.
- Candidates for the MRI program must not have foreign bodies or medical implants that are contraindicated for the MRI environment.
- Candidates must be able to stand for long periods of time, maneuver through congested areas to perform positioning procedures and move and adjust medical equipment such as x-ray tubes.

Communication Skills

- Candidates for admission to the School of Health Professions must be able to communicate in English and medical terminology in oral and written form to faculty, staff, colleagues, other health care professionals, patients and visitors.
- Candidates must have the ability to participate in discussions in the classroom and clinical areas.
- Candidates must be able to complete and maintain written assignments and reports.

Intellectual/Conceptual, Integrative and Qualitative Skills

- Candidates for admission to the School of Health Professions must have the ability to measure, calculate, analyze, interpret, synthesize and evaluate data.
- Candidates must be able to comprehend three-dimensional and spatial relationships on a computer monitor or under a microscope and monitor and input clinical data.
- Candidates must have the ability to learn, prioritize and perform laboratory or radiologic testing.
- Candidates must have the ability to make sound judgement and correlate disease states with clinical data.
- Candidates must possess organizational skills and be able to problem solve in a timely manner and under stressful conditions.

Social Behavior and Professionalism

- Candidates for admission to the School of Health Professions must demonstrate the ability to follow instructions/procedures with accuracy and precision.
- Candidates must possess the ability to maintain intellectual and emotional stability and maturity under stress, while maintaining appropriate performance standards.
- Candidates must have the ability to manage time, organize workload and meet deadlines.
- Candidates must be able to function as a part of a team and learn to delegate responsibilities appropriately.
- Candidates must be able to exhibit respect of self and others and project an image of professionalism, including appearance, dress and confidence and maintain complete personal integrity and honesty.
- Candidates must be able to interact appropriately with diverse personalities and populations.
- Candidates must adhere to safety guidelines for self and others and be able to comply with standards and regulations required by external agencies.

Academic Fresh Start

A Texas resident may apply for admission to and enroll as an undergraduate student under *TEC*, §51.931, *Right to an Academic Fresh Start*. If an applicant elects to seek admission under this section, the School of Health Professions shall not consider academic course credits or grades earned by the applicant ten (10) or more years prior to the starting date of the semester in which the applicant seeks to enroll. An applicant who applies under this section and is admitted as a student may not receive any course credit for courses undertaken ten (10) or more years prior to enrollment.

Automatic Admission

An applicant is entitled to automatic admission as an undergraduate student if the applicant meets any minimum requirements established by the institution and is a child of certain public servants who were killed or sustained a fatal injury in the line of duty (*TEC*, §51.803(e)).

Instructions for Applicants

The Office of the Registrar at UTHealth serves as the Registrar for the School of Health Professions. To access the School of Health Professions online Application Form for admissions to graduate, undergraduate and certificate programs, visit the relevant *How to Apply* page from the Prospective Students web page.

International Students

Students who complete all or part of their college coursework outside the United States (U.S.) must submit their transcripts to an approved accredited U.S. evaluation agency. Students who are seeking a certificate of completion from the School of Health Professions should refer to the lastest approved evaluation list (pdf) for a list of acceptable agencies for course-by-course and grade-by-grade evaluations.

Approved Transcript Evaluation Agencies (Foreign Transcripts)

All applicants with foreign college transcripts/mark sheets must have a course-by-course, and grade-by-grade evaluation by an approved evaluation agency (pdf).

Test of English as a Foreign Language (TOEFL)

For all international students whose native language is not English, proof of English language proficiency must be submitted. The School of Health Professions accepts the Test of English as a Foreign Language (TOEFL) as a standardized test to measure the English language ability of non-native speakers. A minimum TOEFL score of 100 on the internet-based format or 600 on the paper exam is required.

The TOEFL Designated Institution Code for MD Anderson is **6906**.

Applicants meeting any criteria below are exempt from the TOEFL:

- If you are a U.S. citizen or permanent resident, regardless of your native language.
- If you have earned a high school diploma from an accredited U.S. high school.
- If you have earned an Associate of Arts, Associate of Science, Bachelor's degree or higher-level degree from an accredited U.S. college or university.
- If you have obtained a secondary school degree or higher-level degree from a country where English is spoken as the native language.
- If you have completed English Composition I (ENGL 1301) and II (ENGL 1302) with a grade of C or better.

Onboarding

All students who have fulfilled the requirements for admission, and have been granted admission status, are required to complete the Onboarding process. Invitations to join the online onboarding course are sent according to the admission semester:

- Fall – invitation sent mid-June
- Spring – invitations sent in the beginning of November
- Summer – invitations sent mid-March

During the course, newly admitted students will receive information to obtain clearance to MD Anderson, including mandatory paperwork and trainings.

Orientation

All admitted students are required to complete SHP and program-specific Orientation during or before the first week of the first semester. It is designed to acquaint students with MD Anderson, the didactic and clinical requirements of their respective program and all the additional resources and services available to them.

International students are required to attend a separate orientation organized by the Academic and Visa Administration – Visa Office. For additional information contact

Academic and Visa Administration – Visa
1MC17.3439
7007 Bertner Ave.
Houston, Texas 77030
Phone 713-792-1112
Fax 713-792-6229

Texas Common Application System

During this current catalog, the School of Health Professions does not utilize the common application form for freshman-level and transfer students. The School of Health Professions currently allows applicants to submit online applications for consideration with the Office of the Registrar. The School of Health Professions is currently preparing to be included in the common application system.

Transfer Students

The School of Health Professions does not accept students who are, or have been, enrolled in a similar program and wish to transfer into one of the School of Health Professions programs. All students must take and complete all required courses shown in the current Health Professions Student Catalog. If the School of Health Professions student prefers to change programs, the student will need to withdraw from the current program and formally apply to the new School of Health Professions program of choice.

Transferability of Credit

The Office of the Registrar will evaluate all official transcripts from regionally accredited institutions on an individual basis to determine if coursework is acceptable for transfer credit. Official transcripts of credit earned from all institutions of higher education previously attended must be submitted as part of the admissions requirement. The official transcript must include SCH and a grade symbol that reflects satisfactory performance. Not all credit earned by equivalency will be used in the calculation of the student admission GPA. The School of Health Professions does not consider a grade of *D* in program-specific prerequisite courses to be acceptable performance. Program-specific prerequisite courses taken at other institutions in which a grade below *C*- was earned are not transferable or applicable toward degree requirements.

Students who satisfactorily completed an accredited health sciences program that holds current licensure/certification may be allowed up to 30 SCH of transfer credit. The number of SCH will be determined by the curriculum committee of the School of Health Professions.

Accepted students should meet with their program director or designated faculty to complete a degree plan at the beginning of the program. Their degree plan should be reviewed and updated periodically throughout the program. The student is responsible for tracking and completing all course requirements for graduation.

The program director will evaluate all official transcripts from regionally accredited institutions on an individual basis to determine if coursework is acceptable as credit towards the satisfaction of prerequisite courses at the School of Health Professions. Credit will not be given for experiential learning or for courses that duplicate prior credit given by another institution. Credit is awarded only in areas offered within the current curricular requirements of the institution and related to the student's program of study.

Credit by Exam

Credit by Exam may include College Level Examination Program dual credit courses or School of Health Professions administered program examinations.

Tuition and Fees

In compliance with *TEC*, §61.0777, current School of Health Professions Tuition and Student Fee schedule are available on the Tuition and Fees page. Additional information regarding reasonable cost of living expenses for the period of enrollment is also available on the page and will be periodically updated. Note that School of Health Professions students do not have an official bookstore. Textbooks may be purchased from an independent retailer, including an on-line retailer (*TEC*, §51.9705 and 19 *TAC*, §4.215, et seq.).

Students must pay full tuition and fees by the designated due date each semester. Payments may be made either online using their myUTH account or in person at the UTHealth Bursar's Office. Students who fail to make the full payment are subject to one or more of the following actions:

- May not be readmitted to the institution.
- Withholding of grades, degree and official transcript.
- All penalties and actions authorized by law.

Student Financial Responsibility

Students are responsible for fulfilling all financial obligations to MD Anderson. Students who do not meet their financial responsibilities are subject to withdrawal from school and the withholding of grades, degrees and official transcripts. Defaulting students may not be readmitted to the institution and will be subject to all penalties and actions authorized by law.

Tuition

Tuition for Texas residents is governed by the TEC. Tuition fees are subject to change by legislative or regental action and become effective when enacted. Fee increases are determined by the institution and not mandated by the legislature (General Appropriations Act 2010-2011 (pdf), Article IX, §6.16). For more detailed information about fees and application timetables, visit the Tuition and Fees page.

Tuition and Fees Exemptions

Students who are children of firefighters or peace officers who died or suffered injurt in the line of duty may be exempt from tuition. Refer to *TEC*, §54.351 for more information.

Texas law provides exemptions from tuition and fees for various categories of students, including but not limited to: Students who are dependent children of any person who is a domiciliary of Texas on active duty as a member of the U.S. Armed Forces and who, at the time of registration, is classified by the Department of Defense as a prisoner of war or missing in action. For more information, about these and additional exemptions, visit the College for All Texans site and/or contact the Office of the Registrar.

Resident tuition and fee rates are available to certain veterans and service members, their spouses and children, if the veteran or service member is eligible for benefits. For more information email the Office of the Registrar and see *TEC*, §54.241.

Incidental Fees

Incidental fees for enrolled students can be found on the Tuition and Fees page.

Installment Payments for Tuition and Fees

All tuition and fee payments are made to the UTHealth Bursar's Office.

Bursar's Office
7000 Fannin St., Ste. 2240
Houston, TX 77030
Office 713-500-3895
Fax 713-500-3303

Installments payments are made according to the posted deadlines in myUTH, which are also noted on the School of Health Professions' Academic Calendar.

Six Drop Rule

Under *TEC*, §51.907, "an institution of higher education may not permit a student to drop more than six courses, including any course a transfer student has dropped at another institution of higher education." This statute was enacted by the State of Texas in spring 2007 and applies to students who enroll in a public institution of higher education as first-time freshmen in fall 2007 or later.

Academic Common Market

The Academic Common Market is a tuition-savings program for college students in the 16 Southern Regional Education Board (SREB) member states who want to pursue degrees that are not offered by their in-state institutions. Students can enroll in out-of-state institutions that offer their degree program and pay the institution's in-state tuition rates. Hundreds of undergraduate and graduate programs are available for residents of SREB states.

Out of State Students, Non-Resident Tuition and Considerations for Tuition Rebates

Tuition rebates may be available to certain students while enrolled in the School of Health Professions. Each eligible student will be notified if a tuition rebate has been awarded to their student account for the current academic year.

Refer to the Student Scholarship section for specific information about non-resident tuition adjustment for competitive scholarships.

Residency

Under Texas state law, an applicant or enrolled student is classified as a resident of Texas, a nonresident or a foreign student. Residency for admission and tuition purposes at a public college or university in Texas is different from residency for voting or taxing purposes.

An individual's residency classification is based on information from their admission application. If an applicant or student is classified as a nonresident and wishes to be reclassified as a resident, it is necessary to submit a Core Residency Questions Form, which provides more detailed background information than is available from the admission application (19 *TAC*, §21.22).

Visit the Registrar's Residency page for information regarding Texas resident qualifications.

Enrollment, Withdrawal and Refund

Enrollment

Students can register for classes from the first day of Registration through the end of the first week of class in the current semester.

Adding and dropping courses

Students can make schedule changes until the end of the 12th class day of the current semester (Census Day). Students will receive a refund or have additional charges added to their account based on the number of semester credit hours involved.

Withdrawal from the School of Health Professions

A student who wishes to withdraw from MD Anderson after completing registration must secure the dean's approval by completing an add/drop/withdraw (ADW) form. The dean's approval to withdraw must be submitted to the registrar, where the student may request a refund of fees in accordance with the refund policy on the Registrar's page. No fees will be repaid to anyone other than the payer, except on the payer's written order.

Students who withdraw from a program will be refunded a percentage of tuition and mandatory fees according to the current Fall, Spring and Summer schedules found on the Office of the Registrar's Refund Policy page.

Withdrawal from a course before the grade earned becomes part of the student record

After Census Day, students withdrawing from a course or courses before the completion of the eighth week of classes will receive a grade of either *W* or *WF* for each course.

Tuition and fees paid by sponsors, donors or scholarships will be refunded to the source.

Medical Withdrawal

A medically ill student whose illness precludes class attendance may withdraw from MD Anderson effective the date and under the conditions specified at the time of the withdrawal. A student who requests a medical withdrawal must submit adequate written documentation from the treating physician to the registrar to withdraw the student under specified conditions.

Military Withdrawal

Any student withdrawing from the school to perform active military services as a member of the U.S. Armed Forces or Texas National Guard must provide reasonable proof of the fact and duration of their active military service. Moreover, if a student elects to withdraw from the institution, several institutional procedures must be complete prior to the withdrawal. If eligible, the student may receive a refund in accordance with the academic calendar and posted dates for student refunds. If a student is eligible to receive an incomplete, the incomplete will follow normal registrar's procedures.

For more details regarding official withdrawal procedures, the student should notify the program director, Office of the Registrar and the UTHealth student financial services offices accordingly. Previously earned coursework will be applied toward the student's academic records along with any standardized test scores, if applicable. The student will return to the academic status prior to withdrawal. Preceptorships will be accommodated as soon as possible for the military student.

Enrollment and Withdrawal Timeline Procedures

Registration Period

- From the first day of Registration through the day Tuition and Fees are due with no late fee (the last business day before the first day of the semester).
- Students may register for, add or drop courses in myUTH.
- Students withdrawing from school must submit an ADW form to their Program Director. Student will not appear in the official enrollment for the semester.

Late Registration Period

- From the day after the Registration Period through Census Day; late fees apply for registration and added courses.
- Students may register with an ADW form.
- Students may add or drop courses in myUTH.
- Students withdrawing from school must submit an ADW form to their Program Director. Student will not appear in the official enrollment for the semester.

Withdraw without Receiving a Grade Period

- From the 13th class day through the Friday of the 8th week of classes for the Fall and Spring semester (6th week for the summer semester).
- Students may withdraw from individual courses or from all courses and school.
- Student must submit submit an ADW form to their Program Director.
- The grade earned for each course is a *W* if the student in passing the course at the time of withdrawal or *WF* if failing.

Withdraw from School Period

- Saturday after the 8th week of class (or 6th week in the summer) through the end of the term.
- Students may only withdraw from all courses and school
- Students must submit an ADW form to their Program Director.
- The grade earned in each course is *F* in graded courses or *U* in S/U courses regardless of their progress in the courses, even if the student took a final and passed the course.

After Term Withdraw from School Period

- From the Saturday after the term ends until the Registration Period of the next semester.
- Students must submit an ADW form to their Program Director.
- Since the student withdrew after the semester, the grades earned in each course are the respective final course grades.

Financial Aid

A student must be in good standing and making satisfactory academic progress toward their degree objective to be eligible for federal financial assistance per Federal Regulations 34 *CFR*, 668.16(e), 668.32(f), and 668.34. Each financial aid applicant's academic progress will be officially verified at the end of each academic year using a qualitative and quantitative measure. Qualitative standard is the GPA that a student must have at each evaluation. Quantitative standard is the pace at which students must progress through their program to ensure that they will graduate within the maximum timeframe.

Enrollment

Students must be enrolled at least half-time in a *degree-seeking program* that is accredited by an approved accrediting agency to be eligible for federal, institutional, and state financial aid. Enrollment hours are reviewed at the time of disbursement.

A student subject to selective service registration under federal law must file a statement that he or she has registered or is exempt before he or she is eligible to receive financial assistance that is funded by federal or state revenue in accordance with federal law and the provisions of *TEC*, §51.9095.

Student Financial Services
The University of Texas Health Science Center at Houston
7000 Fannin Street, Ste. 2220
Houston, TX 77030
713 500-3860

Financial Assistance

Certain financial assistance offerings may be made available to eligible students administered by the Texas Higher Education Coordinating Board (19 *TEC* §22).

School of Health Professions Scholarships

Students may obtain a scholarship from any source external to the School of Health Professions. Additionally, the School of Health Professions, through funds provided by the MD Anderson Philanthropy Department Division, annually offers a $500 *Pathway to Success* scholarship for students admitted to the school for the first time, and competitive $1,000 scholarships to returning students and new Texas non-resident students.

Eligibility

***Pathway to Success* Scholarships**

New SHP Students must meet the following eligibility requirements to accept this scholarship from the school.

- First-time acceptance as a degree candidate into one of the School of Health Professions degree programs
- A minimum admissions overall GPA of 2.5 on a 4.0 scale.
- Maintain at least half-time enrollment every semester.
- Have no more than 3 SCH of prerequisites remaining on the first day of classes of the first semester.
- Complete the necessary paperwork for disbursement from MD Anderson.

Competitive Scholarships

Returning students and new non-resident students must meet the following eligibility requirements to apply for a competitive scholarship from the school (*TEC*, §51.809).

- Acceptance as a degree candidate into one of the School of Health Professions degree programs
- A minimum cumulative SHP GPA of 3.0 on a 4.0 scale for returning students; or a minimum overall admissions GPA of 2.5 on a 4.0 scale for new Texas non-residents.
- Maintain at least half-time enrollment every semester.
- Submit documents for review, which could include transcripts, letters of recommendation, personal essay, etc.
- Complete the necessary paperwork for disbursement from MD Anderson.

In-State Tuition Adjustment for Texas Non-Residents

After review of the competitive scholarships, Texas non-residents that rank high enough may receive an in-state tuition adjustment for one, two, or three semesters of the academic year. Students will be notified if they will receive the adjustment or not, and if so, in which semester(s).

Selection Criteria

Members of the Scholarship Subcommittee lead the review of scholarship candidates based on the following criteria.

- Academic achievement
- Evidence of leadership and involvement (school and community)
- Outstanding character
- Service to community and school

Academic Policies and Procedures

Academic Advising

Program directors and/or associate program directors serve as the academic advisors for their program. Program staff assist students in developing intellectual potential and exploring educational opportunities and career goals. Through the relationship established between the academic adviser and student within a professional atmosphere, a student can:

- Learn about educational options, degree requirements and academic policies and procedures.
- Clarify educational objectives.
- Plan for professional employment and career goals.

Ultimately, the student is responsible for seeking adequate academic advice, knowing and meeting degree requirements and enrolling in appropriate courses to ensure orderly and timely progress toward a degree. Adviser contact each semester provides students with current academic information and promotes progress toward educational goals.

Admission of Applicants with Dismissals

The purpose of the policy is to establish review procedures concerning applicants with previous dismissals from institutions of higher education other than the School of Health Professions. Refer to the School of Health Professions Policy #01: Admission of Applicants with Dismissals.

Class Attendance

Regular attendance at all learning activities is expected, and unsatisfactory attendance may lead to disciplinary action. Instructors are responsible for implementing the attendance policy of programs and must notify students of any special attendance requirements.

Unexcused absences

Unexcused absences include tardiness and unapproved early departures. The instructor keeps a record of unexcused absences in each student's file. It is the program director's responsibility to provide proper counseling to the student as soon as a problem is evident.

If a student has more than two unexcused absences in 60 days or three unexcused absences in 90 days, the director may take disciplinary action as stated in the policies of the individual programs.

Absence Due to Illness

A student who is absent because of illness for three continuous days or more must submit a physician's statement of the illness, the requirement for absence and a release to return to school. Absences of three or more consecutive days will be reviewed by the program director for the possibility of a leave of absence, requiring the student to repeat the classes or clinical rotations missed. Excessive absences might delay a clinical rotation or anticipated graduation date.

Students may be required to make up coursework due to absences. The program director in cooperation with the course instructor(s) will review the factors for the absence and will determine the need for make-up coursework. It is the student's responsibility to contact the instructor immediately following absenteeism or lateness regarding the make-up of coursework. An unreported absence is considered an unexcused absence.

Excused Absences

Excused absences will be handled on an individual basis by the program director and/or instructor. Scheduling of any elective physician appointment or other personal appointment must be cleared by the program director in advance of the class to be missed or the absence will be unexcused. Examples of excusable reasons for absence are illness, death or illness in the immediate family, jury duty, subpoena, religious observance, faculty-approved attendance at professional conferences or military service (19 *TAC*, §4.4).

In the case of absence due to military service, the student must be excused from regularly scheduled classes or other required activities if he or she is called to and/or participates in active military service for a reasonably brief period. In this case, students will be allowed to complete an assignment or exam within a reasonable time after the absence. If the student is aware of the need for an absence prior to the day of the absence, that student should notify the program director or an instructor in advance of the absence (*TEC*, §51.9111 and 19 *TAC*, §4.9).

Religious Holidays

A student who is absent from a class or examination for the observance of a religious holiday may complete the work missed within a reasonable time after the absence if proper notice has been given. Notice must be given at least 15 days prior to the classes scheduled on dates the student will be absent.

For religious holy days that fall within the first two weeks of the semester, notice should be given on the first day of the semester. It must be personally delivered to the instructor and signed and dated by the instructor, or sent certified mail, return receipt requested. A student who fails to complete missed work within the time allowed will be subject to the normal academic penalties.

Additional special regulations may be enacted through the normal legislative process and updated in this Catalog.

Concurrent Enrollment

Concurrent enrollment in two or more SHP academic programs is not permitted.

Credit Earned by Equivalency

The School of Health Professions may accept courses accepted or taken at other institutions if deemed to include the equivalent course content. The student should request a course equivalency review from their program director or other designated faculty.

Course equivalency credit is the substitution of credit for a course taken at another institution in place of a specific School of Health Professions course. This type of credit is only granted when the non-School of Health Professions course contains course content that is equivalent to the School of Health Professions course for which the student is requesting equivalency.

Courses must be upper-level courses taken at the university level. Courses in which grades lower than *C* are not eligible for credit by equivalency. Requests for obtaining course-

equivalency must be submitted prior to the start of the semester using the approved Petition for Equivalency form.

Curriculum Changes

The School of Health Professions places primary responsibility for the quality and oversight of its educational programs with its program directors and primary faculty operating through the Curriculum Subcommittee. At the program level, the program director is responsible for reviewing significant changes to current courses and determines the appropriate number of semester credit hours.

Approval Process

The program director initiates the approval process for substantive changes or additions by submitting the proposed new or revised changes to the School of Health Professions Curriculum Subcommittee. Significant changes or additions must receive written approval by the School's Curriculum Subcommittee and the dean prior to implementation.

Documentation and consideration of approval of new degree programs must receive written final approval by the President of the University and The Texas Higher Education Coordinating Board. The responsibility for obtaining this level of approval is the shared responsibility of the dean and the respective program director and primary faculty.

Original Documentation

The chair of the School's Curriculum Subcommittee will maintain original documentation of meeting minutes, academic changes and/or additions within the programs in the School. Additionally, copies of program-specific documentation will be held by the program director in the files of that program.

Examinations

The following instructions govern the conduct of final examinations as well as other examinations given during the semester:

- Instructors are responsible for advising students of the rules governing examinations and for supervising examinations in their respective classes. They, or their representatives, must remain in the examination room and take necessary actions to ensure an orderly examination and minimize the temptations and opportunities for cheating.
- Students must be informed that all written work handed in by them is considered to be their own work, prepared without unauthorized assistance.
- Students should be asked to cooperate in maintaining the integrity of examinations and encouraged to inform the instructor, without specifying the offenders, when cheating goes on in class.
- Rules for test-taking.
    - Remain in the examination room until the test is completed.
    - Refrain from talking.
    - All notes, books and electronic devices must not be accessible during the examination unless specifically approved by the instructor for that exam.
- An instructor who suspects academic dishonesty must report the incident to the dean.

Reference the Provisions: Conduct section for more information regarding student conduct.

Grades

Overview

A student's standing in academic work is expressed by grades earned on class assignments and examinations.

Grading scale

Number Range	Corresponding Letter Grade	Corresponding Grade Point
90-100%	A	4.0
80-89	B	3.0
75-79	C	2.0
60-74	D	1.0
Below 60	F	0.0

To receive credit for a course, an undergraduate student must earn a grade of *C* or above in both academic and clinical coursework. A student in the School of Health Professions must achieve a grade of *C* or above in all program courses to graduate. A grade below a *C* in any course may result in an academic dismissal from the respective program. This action is posted to the student's permanent record. During this period, the student will have the opportunity to exercise the appeal process outlined in the Grievance section of the School of Health Professions Policies and Procedures. A student who wishes to be readmitted after an academic dismissal from the respective program may apply to the program through the entire admissions process for the next academic year.

After a grade is reported to the registrar, it may not be changed unless an error was made by the instructor. Grades are given by semesters, however, in a course extending through two semesters, credit is not counted toward the degree until both semesters of the course are completed.

A student is expected to complete a course, including self-paced courses, in a single semester or summer session. If the course is not completed as expected, the student normally will not be given additional time to complete it or to do additional work to achieve a better grade. In rare instances, and subject to the approval of the instructor, a temporary delay of the final course grade, Incomplete (*I*), may be given. If no final grade is reported by the end of the next semester, excluding any intervening summer session, a grade of *F* is recorded as the final grade in the course. A student will not be able to graduate unless the symbol *I* is replaced by a passing letter grade.

Members of the staff are not authorized, without the academic dean's approval, to withhold a final grade or to defer reporting a final grade at the end of the semester other than by the use of the symbol *I*. If a grade is withheld without the dean's approval, the grade may not be added to the official records later without the written approval of the dean.

About Symbols

Under specific conditions, instructors may use symbols to report a student's standing in the semester's work. The symbol *I* is used to report a temporary delay of the final course grade for a student who has been given additional time to complete a course, and the symbol *W* to indicate that a student has officially withdrawn from MD Anderson. If a faculty member fails to report a grade for a student, the registrar will enter the symbol *I* to provide the student time to contact the faculty member and arrange for a final grade to be reported. If a final grade is not reported by the end of the next semester, excluding any intervening summer session, the registrar will change the *I* to an *F*. The registrar will notify the student when a grade change is reported.

Symbol I: Temporary Delay in Reporting the Final Course Grade

Issuance of the symbol *I*, representing a temporary delay in reporting the final course grade, is approved under the circumstances described below and is at the discretion of the instructor.

If a student receives a symbol *I* in a course, the student must complete the requirements for the course and have the instructor report a final course grade on or before the last date for grade reporting in the next semester, excluding any intervening summer session, or an *F* will be recorded as the final grade in the course. The period for completion of the coursework may be extended only for unusual circumstances beyond the student's control as recommended by the instructor and approved by the student's academic dean. A student who has received an *I* in a course may not register for that course again until a final grade has been recorded unless the course is one that may be repeated for credit.

If the symbol *I* appears on a student's record, the course for which the symbol is recorded is not used in the calculation of the student's GPA. When the instructor assigns the final course grade and it is approved by the student's dean and reported to the registrar by the appropriate deadline, the grade is entered on the record and counted in computing the student's GPA. The symbol *I* remains on the record.

Approved Uses of the Symbol I

An undergraduate student may, with the approval of the instructor, be assigned the symbol *I* in a course for one of the following reasons:

Missing the Final Examination

The student is unable to take a final examination because of illness or other nonacademic reason. A physician's statement or other satisfactory verification is required.

Incomplete Classroom Assignment

The student has not been able to complete the required class or laboratory assignments for a reason other than lack of adequate effort. A request for temporary delay of the final course grade because of incomplete class or laboratory work can be made only if the student has a passing average on the class or laboratory work already completed and has taken and passed the final examination (unless a final examination is not given in the course or the student is unable to take the examination for reasons indicated in the previous paragraph).

Reexamination Petition

Only a student who has an average of *C* or above on all class and laboratory work submitted before the final examination may request a temporary delay of the final course grade because he or she failed the final examination, which is the examination given during the final examination period as printed in the official examination schedule. If the petition is denied by the instructor, the student's final course grade will remain as originally determined. If the petition is granted by the instructor, the grade on the reexamination will be substituted for the grade on the original examination in determining the student's final course grade, provided the student earns at least a *C* on the reexamination. If the grade on the reexamination is less than a *C*, a final course grade of *F* must be recorded.

The temporary delay of final course grade symbol is not issued for student or faculty convenience; it may be issued for the reasons cited above only in the case of compelling, nonacademic circumstances beyond the student's control.

Improper Uses of the Symbol I

A student must not be assigned a temporary delay of the final course grade symbol to permit any of the following:

- Time to prepare coursework in addition to that assigned to the entire class.
- Time to repeat the entire course.
- Opportunity to raise a grade for any reason other than the approved reasons cited above.

Computation of the Grade Point Average

The cumulative GPA for each student is calculated based on all work undertaken at MD Anderson (including credit by examination, correspondence and extension) for which a letter grade is recorded. Courses in which the symbol *W* or *I* is recorded are excluded in calculating the GPA.

Graduation

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 his/her admission; however, a student must complete all requirements within seven 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 his/her amended degree plan approved by the dean of the School of Health Professions.

School of Health Professions Commencement Exercise

Graduating Student Eligibility

- All program directors must submit the Degree Authorization Form for each student to be eligible to participate in the commencement ceremony.
- Students must be enrolled and in good academic standings to participate in the commencement exercise. A student who has withdrawn; been dismissed; or currently placed on probation may not participate in the commencement exercise.
- Completion of School of Health Professions and program degree requirements are required to be eligible to participate in the ceremony.
- If an ineligible student request to participate in the commencement exercise and the program director denies student's request, the student may appeal to the dean.

School of Health Professions Commencement Exercise Information

- Participation in the commencement exercise is strongly encouraged, however, participation is not a requirement for completion of a degree/diploma.
- The location; date and time; rehearsal information; attendee parking; graduate photo; and family instructions will be provided to students and faculty by the dean's Office in late June.
- Personalization or alteration to the student cap and gown is prohibited for the commencement exercise.
- The School of Health Professions will provide sign language accommodation.

Application and Procedure for Graduation

- Each student must order a Cap and Gown (from the graduation company) in order to participate in the commencement ceremony.
- Deadline: 2 months prior to the graduation date listed. Extras cap and gowns will not be ordered under any circumstances.
- All students must complete the School of Health Professions Clearance form, prior to the commencement ceremony, in order for the Diploma to be mailed.
- Student ID and Institutional materials must be returned to the program director.
- All students must apply for Graduation via the myUTH site.
- All students must satisfy all financial obligations (fines, fees, etc.) with the bursar's office.
- The name that will be listed in the Commencement program is the students' legal name currently on file in the Office of the Registrar.
- International Students must contact the Visa Office regarding clearance procedures and final process documentation.

Graduating with Honors

Based on School of Health Professions cumulative GPA of the Spring Semester in the graduating year. All students meeting the requirements outlined below will be recognized at the commencement ceremony:

- **Magna Cum Laude** 3.7 to 3.899 recognition with silver cords
- **Summa Cum Laude** 3.9 to 4.0 recognition with gold cords

Outstanding Student of the Year

Recognition with a Gold Sash

Each program will select one Outstanding Student of the Year, however, all students earning an MD Anderson 3.8 GPA and rank in the top one-third of the class on July 15 are eligible for consideration.

Outstanding Student Assessment Criteria

The selected Outstanding Student:

- Exhibits outstanding leadership qualities.
- Is highly motivated to work within the profession.
- Is consistently reliable.
- Demonstrates excellent communication skills.
- Has an outstanding ability to work with others.
- Effectively works independently.
- Demonstrates a high degree of maturity.
- Is an excellent example of MD Anderson's Core Values of Caring, Integrity, Discovery, Safety and Stewardship.

Selection Process and Criteria

- The Program Faculty will rate each student using the Outstanding Student assessment criteria.
- The program director will select adjunct, clinical and/or non-primary program faculty to evaluate the students creating a 1:1 ratio with primary School of Health Professions faculty.
- The average assessment score will be added to the student's July 15 MD Anderson grade-point-average. The student earning the highest score will receive this recognition.
- In the event there is a tie, the program director will make the final decision.

Grievances – Academic

Academic appeals include those appeals related to grades and academic programs or degree requirements. Specific instructions are provided below for each type of academic appeal. In all instances, the School of Health Professions requires that every attempt be made to resolve such disputes informally though discussion among all relevant parties prior to initiating formal procedures.

Grade Appeals

All appeals relating to specific course grades require that students first seek a satisfactory solution with their primary course instructor(s).

- Within **two business days after the posting of grades**, the student should request a conference with the program director or associate program director to seek a satisfactory solution.
- Within **five business days of the above meeting**, and if the matter is not resolved to the satisfaction of the student, he or she may submit a written appeal to the dean. The dean's appeal process will include collection and review of all course grades, advising notes, explanation of extenuating circumstances, etc.
- Within **seven business days of receiving the appeal**, the dean will
- The student may appeal to the CETO by sending the written grievance and grievance record
    - Within **five business days** of the student's receipt of the dean's decision, OR
    - Within **seven business days** if no decision is rendered by the dean.
- Within **seven business days of receiving the student's appeal**, the CETO or their designee may take whatever action is deemed appropriate to make their decision, which is final.

Appeals of Academic Program or Degree Requirements

All appeals relating to a specific program require that students first seek a satisfactory solution with their program director. If a satisfactory solution cannot be reached with the program director, the student may submit a written petition to the dean detailing the grounds for the appeal. Following are examples of student appeals:

- Petitions pertaining to the general education requirements and/or general university requirements.
- Petitions requesting that transferred elective credit be accepted for degree requirements. These petitions must be accompanied by a catalog copy of the course descriptions.

Personal Record Information

Name Change

MD Anderson policy is to maintain educational records under the student's full, legal name. Official documents such as diplomas and transcripts will not be issued bearing any other name than the name listed in myUTH.

A currently enrolled student may change the name on his or her permanent academic record by accessing the eForms tile in myUTH and selecting the Request Name Change link to submit a request and upload necessary documentation

MD Anderson maintains student records under the name the student had when last enrolled. A former student may not change their name on their permanent academic record except by presenting a notarized request and a certified copy of the signed court order showing the authorized name change.

Change of Address and/or Telephone Number

The student must give correct local and permanent addresses and telephone numbers to the Office of the Registrar, the Office of the Dean and to the program director. The student must notify these offices immediately of any changes in address or telephone number.

Students may change their addresses online via myUTH.

Official correspondence is sent to the address last given to the registrar and program director. If the student has moved and failed to correct this address, they will remain responsible for the contents of the correspondence sent to their address of record.

Procedure for Visiting International Relatives Attending the Graduation

Students that plan to invite family residing outside the U.S.A. may apply for an *International Visitor Letter* from the Dean's Office. Requests take approximately 5-10 business days to complete.

Returning Student for Bachelor's Degree

A student who completes prerequisites within four years after completion of coursework at the School of Health Professions and returns to obtain a bachelor's degree must meet with their program director to obtain permission to proceed with the pending requirements to graduate and receive a degree and diploma.

Student Readmission

The purpose of the policy is to identify the conditions in which previously dismissed students may be readmitted to the School of Health Professions and its programs after a separation from the school due to academic and/or disciplinary (conduct/behavioral) dismissal. Refer to *Student Readmission* (SHP02).

Summons and Official Communications

Summons to Administrative Offices

A summons to the office of any administrative officer must be observed. Failure to respond to a summons may result in suspension from MD Anderson. In most programs, a summons to the Dean is sent by mail, so it is important that the student keep the Dean, Registrar and Program Director informed of current address information.

Official Communications with MD Anderson

Students are expected to attend to business matters with MD Anderson during regular working hours on Monday through Friday. A student who is unable to conduct business personally should contact the appropriate office by mail or telephone. For purposes of proper identification and clarity, written communications should include the student's name, student identification number and local address (if applicable).

Syllabi, Faculty Credentials and Textbook Information

All course information including textbook information is provided on the Office of the Registrar page related to course description information upon registering for a course. After actual course registration, course syllabi are made available within the learning management system of the institution.

Appointed faculty in the school maintain credentials listings on the following institutional pages.

- School of Health Professions appointed faculty and staff
- MD Anderson Faculty Profile Institutional Search

Transcripts and Diplomas

Transcripts

With proper identification, a student may receive an official transcript in person, on-line via myUTH, or by mail. The transcript includes only the academic record accumulated at MD Anderson. Unofficial copies of transcripts from other institutions are furnished by the registrar in accordance with the Texas Open Records Act (a fee may be charged).

A transcript is a comprehensive record of an individual's academic progress; it contains all the significant facts about a student's admission, academic level and scholarship. No partial or incomplete record (e.g., with grades of *F* omitted) will be issued. A student who owes a debt to MD Anderson may not be able to obtain an official transcript until the debt is paid.

Texas law provides criminal penalties for forgery of a transcript or similar document.

Diplomas

A graduate of MD Anderson may purchase a diploma to replace one that has been lost or destroyed. If purchased more than one year after the original diploma was issued, the replacement will bear the reissue date below the date the degree was awarded. The signatures of MD Anderson and The University of Texas System officials may not be the same as those on the original diploma because the signatures of former officials are not maintained on file. Additional copies of an original diploma also may be purchased at the time of issue. The student will be required to pay a fee for the additional copy.

A student who requests a new diploma based on a change of name must pay the fee unless the name change was submitted by the deadline set by the registrar or a postponement of the deadline was granted.

General Regulations

Alcoholic Beverages

Off-Campus

Students traveling or attending events related to their didactic or clinical education are viewed as representatives of the institution and are expected to maintain the highest standards of personal conduct. The abuse of alcoholic beverages on such occasions will be considered a violation of policy. Failure to comply with this policy will constitute grounds for disciplinary action, up to and including expulsion from the school.

On-Campus

In accordance with the UT System Rules and Regulations of the Board of Regents, no alcoholic beverages are allowed on campus without special approval.

The University of Texas System Rules and Regulations of the Board of Regents

Rule 80102: Alcoholic Beverages

Sec. 1 Prohibition

> The use of alcoholic beverages is prohibited on property and in buildings owned or controlled by The University of Texas System or any of the institutions. However, the Chancellor of the U. T. System or the president of an institution may waive this prohibition with respect to any event sponsored by the U. T. System or any of the institutions. An event is sponsored if a budgeted office, department, or division of the U. T. System or any of the institutions is responsible for organizing the event, inviting attendees, and paying expenses related to the event, except that such an event is considered to be sponsored even if an outside entity pays for the food and beverages at the event. Meetings or events organized and presented by registered faculty, staff, or student organizations are not events sponsored by the U. T. System or any of the institutions.

Section 1 immediately above does not apply to areas that are licensed under State law for the sale and service of alcoholic beverages, to a Special Use Facility during use by a noninstitutional individual, group, association, or corporation for purposes permitted by the Regents' Rules and Regulations, Rule 80102, or to property, buildings, or facilities that are occupied by a third party pursuant to a written lease or occupancy agreement that does not specifically exclude alcoholic beverages.

Appearance and Demeanor

Professional attire is especially important for students who have direct patient contact. In most cultures, professional caregivers are expected to present a uniform appearance. If a student's clothing differs greatly from the patient's perception of professional hospital attire, the patient's confidence in the institution's professional standards may be negatively affected.

It is the policy of the School of Health Professions to require personal cleanliness, good grooming/hygiene and appropriateness of dress while students are in classes and student laboratories in the hospital or representing the school while off campus. The nature of the student's clinical education requires cleanliness, neatness and a professional, business-like appearance—particularly in daily relations with patients, visitors and the public. The School of Health Professions follows the guidelines for personal appearance established by the institution. Individual written policies related to appropriate personal appearance and hygiene may be found within the policies of individual programs within the School.

Appearance and Demeanor Guidelines

Each student must always wear his or her ID badge when in class, on any part of the MD Anderson campus, or on clinical rotations. The ID badge must be worn on the upper portion of the body with the picture visible at all times. Students must also carry the emergency numbers card at all times. Good personal hygiene must be maintained. At times, students will be in close contact with patients, co-workers and fellow students. Students are required to adhere to departmental and/or clinical affiliate standards. Dress codes vary from program to program within the School of Health Professions, and each student is responsible for adhering to the dress code of his or her specific program. If a student is found to be in violation of the dress code policy, he or she will be instructed to return home to make the necessary adjustments to his or her attire or hygiene. Upon the second violation of the dress code, the student may be subject to disciplinary action. Projecting a professional image extends to the demeanor of each student. Students must be mindful of their behavior at all times, and are expected to exhibit a competent presence, good manners and a respectful, friendly and helpful attitude. Each student is a representative of MD Anderson and his or her program of study, and everything that a student says and does while on the premises or off campus reflects upon the institution and the school. Refer to the Institutional Policy #ADM0261 Professional Standard and Safety Policy (with VPN access).

Conduct and Discipline

The purpose of the policy is to explain School regulations concerning Student conduct and discipline. Refer to Institutional Policy #ACA1264 The University of Texas MD Anderson Cancer Center School of Health Professions Conduct and Discipline Policy (with VPN access).

Confidentiality

It is the policy of The University of Texas MD Anderson Cancer Center Programs in the School of Health Professions to protect, to the extent permitted by law, confidential information such as information relating to patients, student records, matters pertaining to pending litigation and intellectual property/scientific discoveries.

Under *Pub. L. 104-191* the Health Insurance Portability and Accountability Act of 1996 (HIPAA), students have an obligation to respect the privacy of all patients and to hold in confidence all patient information gathered either in the course of delivering care or informally observed. All health information is regarded as confidential and is made available only to authorized individuals or as required by law.

Student data is to be used only in the completion of official statistical reports and disclosed only to those persons with a business need-to-know or under legal requirements. Precautions will be taken to protect against inappropriate access, destruction or disclosure of information residing in computers and computer systems.

All new students are required to complete and sign the Information Resources User Rights and Responsibilities Acknowledgment form during Onboarding or Orientation.

Conflict of Interest

It is the policy of the School of Health Professions to ensure that students do not engage in any business transaction or professional activity, or incur any obligation, financial or otherwise, that conflicts with the proper discharge of their duties.

Students are prohibited from

- Accepting or soliciting any gifts, favor, service or benefits that might reasonably tend to influence the student in his/her performance (Regents' *Rules and Regulations*, Rule 80103).
- Accepting outside employment or engaging in a business or professional activity that might require or induce the student to disclose confidential information.
- Accepting outside employment or compensation that could impair the student's independence of judgment in the performance of his/her clinical and/or didactic responsibilities.

COVID-19 Statement

COVID-19: The University of Texas MD Anderson Cancer Center is closely monitoring the coronavirus outbreak and following guidance from the Centers for Disease Control and Prevention, U.S. Department of State, State of Texas and City of Houston Administrations. Due to the unpredictable course of the coronavirus outbreak, the School of Health Professions may be compelled to offer some or all didactic courses in a hybrid-format, and make changes to the course offerings, including rescheduling of laboratory exercises, clinical laboratory rotations, and thesis research.

Criminal Background Check

Policy Overview

Criminal background checks were instituted by the School of Health Professions to meet clinical agency compliance with the Joint Commission on Accreditation of Healthcare Organizations (Joint Commission) standards pertaining to human resource management.

The Joint Commission requires verification of competency of all individuals who have direct contact with patients or employees. This includes students doing clinical rotations in the facility and/or off-site facilities. Competency extends beyond technical skills to an individual's criminal history.

A student is defined as a person who

- Is enrolled at MD Anderson, or
- Is accepted for admission or readmission at MD Anderson

Implementation

Criminal background checks are required for all newly admitted students and successful completion of a criminal background check is required for admission to all the School of Health Professions programs.

Disclaimers

- Successful completion of a criminal background check for a School of Health Professions program does not ensure eligibility for licensure or future employment.
- If they so desire, clinical agencies may establish more stringent standards to meet the regulatory requirements for their facilities.
- Clinical agencies may conduct additional background checks at their discretion.

Allocation of Cost

The cost of the criminal background check is the responsibility of the student.

Gang-Free Zones

Premises owned, rented or leased by MD Anderson and areas within 1,000 feet the premises are gang-free zones. Certain Criminal offenses, including those involving gang-related crimes, will be enhanced to the next highest category of offense if committed in a gang-free zone by an individual 17 years or older (*Texas Penal Code (TPC)*, §71.028).

Grievances – Nonacademic

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 UT System or in the policies or procedures of the School of Health Professions (19 *TAC*, §1.112).

- The formal written grievance should be initiated as soon as possible.
  - If the student chooses not to attempt informal resolution of a grievance, he or she must file a formal written grievance not more than 30 calendar days from the date that he or 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 or she must file the written grievance within five working days from the last informal attempt at resolution.
  - If the student does not use the informal resolution, then 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.
- 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 School of Health Professions employee, the employee's immediate supervisor receives the written grievance. The dean 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 appropriate program director of the student.
  - 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 student who has filed the grievance, the director of his or her program, the individual accused of the act or omission that is the subject of the grievance, and the accused individual's supervisor and the administrator to whom the grievance is presented.
- The administrator hearing the grievance may, at his or 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.
- If the decision of the grievance officer is to affirm the grievance, any resulting directive to the accused must be presented in writing and must be pursuant to a meeting between the accused and his or her supervisor. Denial of the grievance must also be in presented in writing.
- 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 CETO. 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 CETO. The VPE may take whatever action is deemed appropriate.
- Within five working days of the student's receipt of the decision of the CETO, the student may appeal the CETO decision to the Chief Academic Officer (CAO) of MD Anderson. The CAO may take whatever action is deemed appropriate.

The decision of the CAO of MD Anderson is final.

Hazing

Hazing in state educational institutions is prohibited by both state law (*TEC*, §37.151 and §51.936 et seq.) and by the Regents' *Rules and Regulations*, Rule 50101. 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.

Individuals

A person commits an offense if the person:

- Engages in hazing,
- Solicits, encourages, directs, aids or attempts to aid another person engaging in hazing,
- Recklessly permits hazing to occur, or
- Has firsthand knowledge of the planning of a specific hazing incident involving a student in an educational institution or has firsthand knowledge that a specific hazing incident has occurred, and knowingly fails to report that knowledge in writing to the dean of the School of Health Professions or other appropriate officials of the institution.

Organizations

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 commit or assist in the commission of hazing.

Definition

The term hazing is broadly defined by statute to mean 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.

Hazing includes, but is not limited to

- Any type of physical brutality, such as whipping, beating, striking, branding, electronic shocking, placing of a harmful substance on the body or similar activity.
- Any type of physical activity, such as sleep deprivation, exposure to the elements, confinement in a small space, calisthenics or other activity that subjects the student to unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student.
- Any activity involving the consumption of a food, liquid, alcoholic beverage, liquor, drug or other substance that subjects the student to an unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student.
- Any activity that intimidates or threatens the student with ostracism, that subjects the student to extreme mental stress, shame or humiliation, 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 subdivision.
- Any activity that induces, causes or requires the student to perform a duty or task that involves a violation of the Penal Code (Note: the fact that a person consented to or acquiesced in a hazing activity is not a defense to prosecution.).

Regents' *Rules and Regulations*, Rule 50101 provides that

- 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.
- 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 Rules 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.
- 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.
- Being called by a demeaning name.
- Enduring yelling and screaming.
- Requiring boxing matches or fights for entertainment.

Immunity

In an effort to encourage reporting of hazing incidents, the law grants immunity from civil or criminal liability to any person who, in good faith and without malice, reports a specific hazing event to the School of Health Professions dean or other appropriate officials of the institution and immunizes that person from participation in any judicial proceeding resulting from that report.

Additionally, a doctor or other medical practitioner who treats a student who may have been subjected to hazing may make a good faith report of the suspected hazing activities to police or other law enforcement officials and is immune from civil or other liability that might otherwise be imposed or incurred because of the report.

The penalty for failure to report is subject to a fine or time in jail or both.

Health Information for Students

AIDS, HIV and HBV

MD Anderson recognizes the acquired immune deficiency syndrome (AIDS), human immunodeficiency virus (HIV) and hepatitis B virus (HBV) as serious public health threats. It is the policy of this institution to minimize risk to our patients and to provide the highest quality patient care. It is also the policy of this institution to make reasonable accommodations when disabilities limit the capacity of otherwise qualified applicants and employees as set forth in Institutional Policies #ACA0081 Accommodating Disabilities Policy for AVA Trainees and #ADM0286 Accommodating Disabilities in the Workplace Policy (with VPN access). Any student or employee infected with HIV or HBV will not be permitted to perform exposure-prone procedures unless and until an Expert Review Panel determines that it would be medically appropriate to do so.

The existence of HIV or HBV infection will not be used by MD Anderson to determine suitability for admission to an educational program unless the program requires performance of exposure-prone procedures as identified by MD Anderson's Expert Review Panel. No employee or student 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. A person with HIV or HBV infection shall not be denied access to MD Anderson because of HIV or HBV infection. Refer to the Institutional Policy #ADM0348 HIV/HBV Policy (with VPN access) regarding AIDS, HIV and HBV.

It is also the policy of the institution to prevent the spread of infections between patients and faculty, trainees/students and other members of MD Anderson's workforce. Refer to the Institutional Policy #ADM1068 Management of Occupational Exposure to Blood or Body Fluids Policy (with VPN access) .

Information concerning the HIV, AIDS or HBV 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, except where release is required or authorized by law, or as necessary to provide a reasonable accommodation or to investigate an occupational exposure (*TEC* §51.919 and §51.933).

Educational Materials Concerning AIDS/HIV

Refer to the HIV/HBV Policy (Search with VPN access).

Bacterial Meningitis

The UT System has issued two documents regarding Texas Meningitis Laws, *TEC*, §38.0025 and §51.9191,92 that applies to students under the age of 30, requiring a meningococcal (bacterial meningitis) vaccine or "booster" dose during the five-year period prior to but no later than ten days before the first day of the first semester students will enter that institution (19 *TAC*, §21.610).

Policy Revision

Effective October 1, 2013:

- Students 22 years of age or older are not required to submit evidence of meningococcal meningitis vaccination.
- Affidavit forms for exceptions to vaccination for reasons of conscience, such as religious or philosophical belief can only be issued by the Texas Department of State Health Services (DSHS).
- The exception form from DSHS must be signed and notarized no more than 90 days prior to the first day of classes to be valid.

Information about Meningitis

The School of Health Professions provides all new students with information about bacterial meningitis including the following.

- Symptoms
- How the disease is diagnosed
- How it is transmitted
- Consequences of the disease
- How it can be treated

All students must acknowledge receipt of this information during online Onboarding prior to arrival on campus.

Contagious Diseases and Immunization Requirements

If a student contracts or is exposed to a communicable disease, the student must notify the program director so that patient contact limitations are considered. All institutional policies regarding infection will be observed. Copies of these policies are available in each Program Office and in the Office of the Dean.

Federal regulations require that

- Students who are at risk for exposure to body/ blood fluids must be informed of the potential danger of contracting the hepatitis B virus and other infectious materials.
- The School of Health Professions must show documentation that each student has
  - been informed of the standard exposure precautions to be followed when working with patients,
  - received the hepatitis B vaccine or has declined the vaccine but understands the risk incurred by so doing and
  - completed the Immunization Form at the time of registration.

Health Insurance

Purpose

It is the policy of the School of Health Professions to require all students entering into one of the School of Health Professions' programs to carry health insurance (*TEC*, §51.952). Students will be automatically assessed The University of Texas insurance plan but may have this fee waived by UTHealth Auxiliary Enterprises if proof of comparable coverage is presented by the 12th class day.

Students enrolled in The University of Texas insurance plan may seek medical care at

UT Health Services
7000 Fannin St, Ste 1620
Houston, TX 77030

Policy Statement

Beginning in 2002, the UT System Registrar's Office requires that all students enrolled in health institutions have health insurance coverage.

The student health insurance program is offered to registered students through a private company selected by the UT System office. This plan is designed to supplement student health services provided in the student clinics. In addition, it also assists with expenses not covered by the student services fee and those incurred outside that setting such as prescriptions, hospitalization, etc. Students have the option of enrolling their families in this plan at an additional cost. This plan is reviewed each year and revised to meet the current needs of the students.

In addition, the Regents requires all international students holding nonimmigrant visas and living in the U.S. to have coverage for repatriation and medical evacuation while enrolled at component institutions of The University of Texas. The required health insurance fee assessed by the University includes coverage for repatriation and medical evacuation. International students with coverage outside of the plan can visit the Auxiliary Enterprises site or contact them via telephone 713-500-8400 or email to provide the information needed to waive the insurance fee and, if needed, purchase coverage for repatriation and medical evacuation (Regents' *Rules and Regulations*, Rule 50402).

Students Enrolled in Field Experience Courses

All students enrolled in field experiences courses are covered by a certificate of liability insurance issued annually to the Board of Regents (Regents' *Rules and Regulations*, Rule 50501).

Student Counseling

MD Anderson School of Health Professions students seeking counseling should contact The University of Texas Employee Assistance Program (UTEAP) office, which provides students access to a variety of resources. Limited services are also available for students' dependents.

University of Texas Employee Assistance Program
7000 Fannin St, Ste. 1670
Houston, TX 77030
713-500-3327 or 800-346-3549

UTHealth Services

The University of Texas Health Science Center at Houston Services
7000 Fannin St, Ste 1620
Houston, TX 77030

Conveniently located across the street from the METRO Transit Center at the corner of Fannin and Pressler in the Texas Medical Center. The building offers five floors of parking (to be paid by the student and is just minutes away from bus and rail stops.

Hours

7 a.m.-4 p.m., including the lunch hour.

Contact

Contact for Maria Sandoval (713-500-3253) for appointments, billing and paperwork assistance.

Needlesticks

Refer to the Blood and Body Fluids Exposure Checklist (pdf).

Intellectual Property

Purpose

The Regents and the School of Health Professions encourage the development of inventions and other intellectual creations for the best interest of the public, the creator and any research sponsor. After securing available protection for the creation, the School of Health Professions will permit the disclosure of intellectual property by development and commercialization, by publication or both.

The basic policy of the board is to develop intellectual property primarily to serve the public interest, and usually this is best achieved by developing and commercializing the property by exclusive licensing. However, the public interest may sometimes be promoted best by granting nonexclusive licenses for the period of the patent. These determinations will be recommended and made in accordance with administrative procedures established by the board and the School of Health Professions.

The Institutional Policy #ADM0345 Intellectual Property Policy (Search with VPN access) has been formulated to clarify and protect the interests of all concerned.

Application

This intellectual property policy applies to all candidates for degrees or certificates. As used in the context of this policy, the term "intellectual property" includes any invention, discovery, trade secret, technology, scientific or technological development, computer software or other forms of expression that is in a tangible form.

The board does not assert an interest in student, professional, faculty or non-faculty-authorized works, scholarly works, art works, musical compositions and dramatic and non-dramatic literary works related to the faculty member's processional field regardless of the medium of expression, unless the work is commissioned by the board or is a work for hire.

Rights

The board has rights in the intellectual property if the intellectual property is related to an individual's employment responsibility or has resulted from activities performed by the creator(s) on the School of Health Professions time, under any of the following circumstances.

- With support of state funds
- While using facilities or personnel of the School of Health Professions
- While engaged in research supported by a grant or contract from a federal agency, by a profit or non-profit entity or by a private gift to The University of Texas

However, a creator of intellectual property who does not fall within any of the previously mentioned circumstances may offer his or her creation to the UT System. In such case, the dean of the School of Health Professions will recommend to the board whether the System should support and finance a patent application or other available protective measures and manage the development and commercialization of the property.

The UT System, with the cooperation of the School of Health Professions, will provide review and management services for patentable inventions as well as other intellectual property

either by its own staff, through a related foundation or by other means.

Protection

To obtain protection for intellectual property, an individual will complete the School of Health Professions Invention Disclosure form and submit it to the attention of the chair of the Intellectual Property Advisory Committee. Copies of the form may be obtained from the Office of Legal Affairs and Risk Management.

Assertion of Interest

The committee will review each disclosure and formulate recommendations regarding what interest, if any, the School of Health Professions has in the property, and whether the School of Health Professions and the board should assert their interest or permit the creator to proceed on his or her own with or without certain restrictions. The committee's recommendations will be forwarded to the president, who will forward his or her recommendations to the board.

If the School of Health Professions chooses not to assert its interest in a newly created intellectual property, and that recommendation is approved by The University of Texas Office of General Counsel and the executive vice chancellor for health affairs, the creator will be notified within 180 days of the date of submission.

If the School of Health Professions chooses to assert its interest, it will work with the UT System to pursue patent or other appropriate protection of the intellectual property and will bear the costs of doing so.

Royalties

The School of Health Professions and The University of Texas royalties, as net royalties are defined by the board, will be shared between the School of Health Professions and the creator(s) according to the following formula:

- 50% creator(s)
- 5% school(s) of creator(s)
- 5% department, division (or equivalent)
- 5% laboratory of creators
- 5% legal fees
- 30% The University of Texas MD Anderson Cancer Center School of Health Professions Fund

If no school or department is clearly involved in the original development, the Intellectual Property Advisory Committee will suggest a division consistent with the intention of the division shown above. The final decision will rest with the president.

Institutional Mandatory Training

Students must take all one-time and annual trainings required by MD Anderson, the Division of Education & Training, the School and their academic program. Student non-compliance will be managed in accordance with Institutional Policy #ACA1264 The University of Texas MD Anderson Cancer Center School of Health Professions Conduct and Discipline Policy (with VPN access). See Institutional Policy #ADM1168 Institutional Mandatory Training Policy (with VPN access).

Trainings include but are not limited to the following:

- "New hire" training: Available during Onboarding to new students at the School. The training must be completed within the first 30 days of the student's first semester. Students missing the deadline will receive a written notification and possible loss of access to MD Anderson systems (email, DUO, etc.) until proof of completion is submitted to their program director.
- Lab safety training: Available during Onboarding for new students at the School in a laboratory science program. The training must be completed PRIOR to the first day of the first semester. Students missing the deadline will not be allowed to attend any laboratory classes until proof of completion is submitted to their program director.
- Annual training: Available annually in March for ALL students at the School. The training must be completed by the Friday before Summer registration (see Academic Calendar). Students missing the deadline may incur one or more of the following until proof of completion is submitted to their program director: a hold on summer registration, a hold on their transcripts or a hold on spring grades.

National Council for State Authorization Reciprocity Agreements (NC-SARA)

Complaint Process for MD Anderson Cancer Center Students Enrolled in Distance Education and Off-Campus Courses

The University of Texas MD Anderson Cancer Center School of Health Professions is committed to addressing student concerns and complaints. The U.S. Department of Education requires institutions offering distance education to provide enrolled and prospective students the contact information to file complaints with the institution's accrediting agency and with an appropriate state agency in the student's home state.

A School of Health Professions student with a complaint should first follow the established grievance policy.

If the School of Health Professions grievance policy does not resolve the problem to the student's satisfaction, the student may file a complaint with the Texas Higher Education Coordinating Board (THECB) by contacting the State Portal Entity.

Please review the NC-SARA's student complaint process information prior to initiating contact.

Additional NC-SARA information is on the Current Students web page.

Notification of Students Rights under FERPA

It is the policy of MD Anderson to protect the privacy and records access rights that apply to records maintained by or for MD Anderson about its current and former students by complying with the Family Educational Rights and Privacy Act (FERPA) at all times. FERPA, 20 *U.S.C.*, §1232g, and 34 *C.F.R.*, Part 99 provide students with the certain rights with respect to their education records. Refer to Institutional Policy #ACA1222 Student Rights Under the Family Educational Rights and Privacy Act (FERPA) (with VPN access.)

The Office of the Registrar maintains all official records of enrollment for School of Health Professions students. Review the following information regarding the rights of a student on the Office of the Registrar's site.

Observance of Religious Holy Days

TEC, §51.911(b) reads in part as follows.

> "An institution of higher education shall excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence."

The notification shall be in writing and shall be delivered by the student personally to the instructor of each class, with receipt of notification acknowledged and dated by the instructor or by certified mail, return receipt request, addressed to the instructor of each class.

On-Campus Housing

MD Anderson does not provide housing for students. Admitted students into the School of Health Professions may submit an application to be considered for available housing with UTHealth Auxiliary Enterprises. The student will be subject to the requirements as stated by UTHealth Auxiliary Enterprises.

Personal Protective Equipment and COVID-19

Students must adhere to Institutional Policy #ADM1118 Personal Protective Equipment (PPE) Policy (with VPN access) and all relevant procedures regarding COVID-19 procedures and protocols as provided on the institutional intranet. Student non-compliance will be managed in accordance with Institutional Policy #ACA1264 The University of Texas MD Anderson Cancer Center School of Health Professions Conduct and Discipline Policy (with VPN access).

Public and Retail Space Use

It is the policy of MD Anderson to ensure that it is public and retail spaces are appropriately utilized in a manner consistent with state law governing the use of state-owned property and all policies and regulations of the UT System regarding the use of facilities. The institution's facilities should be used only for purposes consistent with its mission and in a manner that is fair, reasonable and safe. In that regard, it is important to delineate the types of activities that may take place in Institutional Policy #ADM0234 Public and Retail Space Use Policy (with VPN access).

Use of Common Outdoor Areas: Expressive Activities

Common Outdoor Areas are deemed to be traditional public forums, and are generally open to assembly, speech, and other Expressive Activities subject to reasonable restrictions on time, place, and manner.

Students may conduct Expressive Activities in the Common Outdoor Areas of MD Anderson's campus within the time, place, and manner parameters established in Institutional Policy #ADM3352 Expressive Activities in MD Anderson's Common Outdoor Areas Policy (with VPN access). Visit the Expressive Activities on Campus web page for more information.

Sexual Harassment

MD Anderson prohibits any form of sex discrimination or sexual harassment by any member of the university community against another member of the university community. Members of the community include but are not limited to administrators, faculty, staff, students, residents and fellows and other trainees.

Sexual harassment has profound and detrimental effects on individuals' work or academic performance as well as to their self-esteem. Additionally, sexual harassment often contributes to an offensive work or academic environment within the school/department that ultimately impedes MD Anderson's mission to be a progressive, humanistic institution of higher education in the health sciences.

Sexual harassment is a form of sex discrimination that is illegal under Title VII of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972. Beyond its illegality, sexual harassment is a behavior that is contradictory to the mission and goals of MD Anderson and will not be tolerated. Policies addressing sexual harassment or sexual misconduct and establishing procedures for resolving concerns or complaints about sexual harassment or sexual misconduct are Institutional Policies #ADM0285 Sexual Harassment Prevention Policy and #ADM0254 Non-Retaliation Policy (with VPN access).

Definition of Sexual Harassment

Sexual harassment occurs in a variety of situations that share common elements:

- The inappropriate introduction of sexual activities or comments into the work or learning environment,
- Unwelcome sexual advances,
- Requests for sexual favors and
- Verbal, visual or physical conduct of a sexual nature.

The criteria to determine whether or not an action constitutes sexual harassment are included in Institutional Policy #ADM0285 Sexual Harassment Prevention Policy (with VPN access).

Sexual harassment may include men harassing women, women harassing men, men harassing men and women harassing women.

Consensual Relationships

Consenting romantic and sexual relationships between a faculty member and student are considered inappropriate and unwise.

Faculty members exercise power over students, as do supervisors over employees, whether in evaluating them, making recommendations for their promotion or future employment or conferring on them any other benefits. Others may be adversely affected by the relationship in that it places, or appears to place, the faculty member or supervisor in a position to favor or advance one student's interest at the expense of others.

Consenting romantic and sexual relationships are in conflict with the relationship of authority that exists between a faculty member and his or her student and between a supervisor and his or her employee, and thus are viewed as damaging to the university environment.

Under conditions in which a relationship of authority exists between married individuals, a similar case for preferential treatment could be made. For these individuals, the nepotism rules are in force, as described in the Regents' *Rules and Regulations*, Rule 30106, Nepotism.

Complaints lodged about consensual relationships by nonparticipating individuals will be treated as third-party sexual harassment complaints.

Procedure for Filing a Sexual Harassment Complaint

Students or other persons who believe they have been subjected to Sexual Harassment or Sexual Misconduct, including sexual assault, should report the incident with reasonable promptness to their choice of at least one of the following:

- Their academic program director and/or the dean of the School of Health Professions
- MD Anderson Human Resources Office of Equal Opportunity (HR EO), or Sheri Wakefield, Clery Act and Title IX Coordinator, at 713-745-6174 or sbrownlo@mdanderson.org.

Immediate safety concerns or issues should be reported by calling 911 or 2-STOP (713-792-7868).

Someone from the HR-EO office will contact the person making the complaint as soon as reasonably possible to acknowledge receipt of the complaint and schedule an intake meeting. The dean and Human Resources EO office will work together to arrange any interim safety measures as appropriate pending the outcome of the complaint. Further details about how a complaint is investigated and resolved can be found in Institutional Policy #ADM0285 Sexual Harassment Prevention Policy (with VPN access).

To the extent permitted by law, complaints and information received during an investigation, including the results of the investigation, will remain confidential. The investigator will balance the need for confidentiality with the responsibility of the institution to provide an environment free from sexual harassment. Relevant information will be provided only to those persons who need to know in order to achieve a timely resolution of the complaint.

All trainees (including students), faculty and employees are expected to cooperate in investigations of alleged sexual harassment. Any person who knowingly makes a false statement, or inappropriately discloses confidential information during an investigation will be subject to disciplinary action, up to and including dismissal from the School of Health Professions.

Any person who retaliates in any way against an individual for filing a complaint in good faith, or for participating in an investigation, will be subject to disciplinary action in accordance with the applicable disciplinary policy and procedure, up to and including dismissal from an educational program.

Smoking

It is the policy of School of Health Professions to safeguard the health of its students, employees, patients and visitors. Therefore, no one is allowed to smoke or use smokeless tobacco products on property owned or under the control of MD Anderson and the programs.

Any infraction of the non-smoking regulation is subject to disciplinary action up to and including termination.

Student Congress

The School of Health Professions Student Congress is an elected student body designed to represent all program disciplines in the School. Once elected, students must remain in good academic standing to maintain their position as a representative of their program and the School.

The Student Congress consists of elected Congress persons who are representative of students from each of the programs in the School. Students elected to the Student Congress must remain in good academic standing to in order to maintain their position in the Student Congress. The Student Congress is a representative body and will serve as a forum to enhance communications between the students at MD Anderson and at any distance learning sites, and the faculty and the administration of the School. The Student Congress will also elect students to represent the School on the UT System Student Advisory Council and the McGovern Center Student Advisory Council.

The Executive Committee elected by the Student Congress will serve as an advisory body to the dean, assisting the administration in reaching decisions on policy that concerns students enrolled in the School. The Executive Committee will provide leadership to the Student Congress by identifying activities that will broaden the intellectual, cultural and recreational opportunities open to the entire School of Health Professions student body.

The Student Congress will organize community outreach activities for the School student body such as “Adopt a Family,” the donation of magazines throughout the year to hospital waiting rooms, and periodic food and clothing drives at MD Anderson and cities where distance learning sites are located. These activities are intended to further communications and relationships between the students at the School of Health Professions and the community.

Student Right to be Informed about Information Collected

With few exceptions, upon your request, you are entitled to be informed about the information MD Anderson collects about you.

- Under *Texas Government Code (TGC)*, §552.023, you are entitled to receive and review the information.
- Under *TGC*, §559, you are entitled to have MD Anderson correct information about you that is held by us and that is incorrect, in accordance with the procedures set forth in UT System Business Procedures Memorandum 32.

The information MD Anderson collects will be retained as required by Texas records retention laws (*TGC*, §441.180, et seq.) and rules. Different types of information are kept for different periods of time.

Student Right-to-Know

Campus Security Act

In compliance with the Student Right-to-Know and Campus Security Act, 20 *USC*, §1092(a), (e) and (f), as amended, MD Anderson collects specified information on campus crime statistics.

Pursuant to the federal law, alleged victims of violent crime are entitled to know the results of campus student disciplinary proceedings concerning the alleged perpetrators. The University will make timely reports to the campus community on crimes considered to be a threat to students and employees and reported to campus police or local police agencies.

Every September, the university will publish and distribute an annual report of campus security policies and crime statistics to all current students and employees, provide copies of the report to applicants for enrollment or employment upon request and submit a copy of the report to the secretary of education upon request.

The annual campus crime statistics report will reference crimes which occur on property owned or controlled by the university. The university will publish in its annual security report, its policy regarding sex-related offenses, including sexual assault prevention programs, education programs to promote awareness of sex offenses, administrative disciplinary procedures and sanctions for offenders and counseling and student services for victims.

Visit the UT Police-Houston (UTP-H) Reports page to review the crime statistics on the Texas Medical Center campus.

Comprehensive Emergency Notification System

It is the policy of MD Anderson that a comprehensive emergency notification system is in place that requires all employees (and students) to participate in the notification process in accordance with the content of this policy and any subsequent or additional emergency instructions provided by Institutional Policy #ADM1097 Emergency Notification Policy (with VPN access).

All School of Health Professions students will be notified by the emergency notification system on campus, the Everbridge system. Emergency emails and text messages will be disseminated accordingly. The campus community will be notified of a significant emergency involving an immediate threat and campus evacuation, if required. Ongoing details are provided on the Emergency Alert Information page.

Concealed Handgun Carriage on MD Anderson Campus

It is the policy of MD Anderson to respect the Federal and Texas Constitutions, both of which recognize Texas citizens' right to keep and bear arms. MD Anderson also recognizes the Texas Legislature's power to regulate the carriage of handguns.

This policy does not authorize the open carry of a handgun on MD Anderson campus, and the open carrying of a handgun is prohibited on the MD Anderson Campus. Refer to Institutional Policy #ADM1254 Policy on Concealed Handgun Carriage on MD Anderson's Campus (with VPN access).

False Alarm or Report

Students are entitled to notification of state law relating to the false reporting of an emergency (e.g. fire, bomb threats, etc.) to the school or any other department of The University of Texas MD Anderson Cancer Center. Making a false report is a state jail felony and doing so may result in disciplinary action by the school, up to and including expulsion, as well as criminal charges.

TPC, §42.06. False Alarm or Report

(a) A person commits an offense if he knowingly initiates, communicates or circulates a report of a present, past, or future bombing, fire, offense, or other emergency that he knows is false or baseless and that would ordinarily:
  (1) cause action by an official or volunteer agency organized to deal with emergencies;
  (2) place a person in fear of imminent serious bodily injury; or
  (3) prevent or interrupt the occupation of a building, room, place of assembly, place to which the public has access, or aircraft, automobile, or other mode of conveyance.

(b) An offense under this section is a Class A misdemeanor unless the false report is of an emergency involving a public or private institution of higher education or involving a public primary or secondary school, public communications, public transportation, public water, gas, or power supply or other public service, in which event the offense is a state jail felony.

Fire Safety

While on MD Anderson campus, students should know the emergency plan for fire as issued by the MD Anderson Department of Health and Safety:

Know how to report a fire:

- Be able to locate exits, fire extinguishers and pull stations.
- Activate the nearest pull station Call: 911 or 713-794-HELP (4357)

Remember R.A.C.E.

- Rescue
- Alarm
- Confine
- Extinguish if capable or Evacuate as directed

When using an extinguisher, remember P.A.S.S.

- Pull the pin
- Aim the hose or nozzle at the base of the fire
- Squeeze the handle
- Sweep the hose or nozzle from side to side

Additional information

For further information, call the MD Anderson Environmental Health and Safety department at 713-792-2888. For non-emergency requests for UTP-H, call 713-792-2890.

Missing Student Notification

It is the policy of MD Anderson to encourage a safe and secure environment for patients, visitors, and faculty, trainees/students, and other members of MD Anderson's workforce. Refer to Institutional Policy #ADM1003 Identification, Communications, and Notification of a Missing Person Policy (with VPN access) regarding communications and notifications pertaining to the disappearance or abduction of a missing.

Students are encouraged contact UTP-H for further instructions about the reporting process. In an emergency or to report an imminent threat requiring police response, dial 911. For non-emergency calls, dial 713-792-2890.

Student Travel

MD Anderson supports the educational, research and service activities of its student by organizing and sponsoring certain approved travel activities. It is the policy of MD Anderson to promote safe travel practice for students. Refer to Institutional Policy #ACA0019 Student Travel Safety Policy – SHP (with VPN access).

Students with Disabilities

The School of Health Professions determines, establishes and publishes educational prerequisites and physical/mental skills necessary to perform in the respective clinical and didactic program. Reference the Nonacademic Requirements for general skills necessary for performance in all the programs, and the individual program catalog sites for skills needed for specific programs.

The School is committed to providing reasonable accommodations for students with disabilities. Students who have disabilities that require accommodation should discuss these with the program director early in the year. Documentation may be required to verify certain disabilities. Refer to Institutional Policy #ACA3658 School of Health Proessions (SHP) Student Disabilities Accommodations Policy (with VPN access).

Substance Abuse

Policy Overview

MD Anderson is committed to maintaining an environment that is free from substance abuse, and its primary concern related to substance abuse among students is prevention and treatment. The institution provides educational programs to inform its community about the physical and psychological problems associated with substance abuse, as well as pertinent state and federal laws. MD Anderson recognizes that substance abuse is a treatable condition and, as an institution dedicated to health, facilitates the treatment and rehabilitation of this condition.

MD Anderson encourages impaired students, residents and fellows to seek help voluntarily and to assume responsibility for their professional and personal conduct. A student suspected of being under the influence may be removed from the classroom or clinical setting and referred for laboratory testing for the presence of illegal drugs or alcohol in the body. In cases in which a student causes harm to or endangers the safety of himself or herself or others, the student will be subject to disciplinary action. (Safe and Drug Free Schools and Communities Act, 20 *USC*, §7101-7165).

The following are prohibited.

- The purchase, manufacture, distribution, possession, sale, storage or use of an illegal drug or controlled substance while on the premises or property owned or controlled by the university or in vehicles used for university business.
- Use of alcohol, an illegal drug or a controlled substance that occurs while not on university property or in university vehicles, but that adversely affects the safety of other students, employees, visitors or patients. This includes the use of alcohol at authorized official university functions or at an authorized university site that may adversely affect the safety of any other person.
- Use of prescription or over-the-counter medications without heed to warnings about impact on performance or safety.
- Distribution to others of drugs or controlled substances obtained pursuant to a prescription, except by a duly licensed and certified person, while in or on premises or property owned or controlled by the university.
- Arrival to class or the clinical setting under the influence of illegal drugs or alcohol.
- Arrival to class or work under the influence of legal drugs to the extent that there is an adverse effect on the student's ability to perform.

Failure to comply with this policy by any student will constitute grounds for disciplinary action.

Any student who is convicted under a criminal statute for a drug-related offense is required to notify the dean and program officer or appropriate representative not later than five days after such conviction.

Sanctions

The following are the sanctions for students convicted of substance-abuse-related crimes.

- Any student convicted of illegal use, possession and/or sale of a drug or narcotic on campus shall be dismissed.
- A felony conviction of a violation of any criminal drug statute for use, possession, dispersion, distribution or manufacture of an illegal drug on MD Anderson premises will result in expulsion.

Vehicles on Campus

Students enrolled in the School of Health Professions may obtain parking contracts with either the Texas Medical Center parking office or surface lots owned by MD Anderson. The contract holder must give the parking office current and accurate information in accordance with institutional polices and Texas Medical Center regulations. Refer to Institutional Policty #ADM0230 Parking Policy (with VPN access). Students that are disabled veterans with a disabled veteran license plate may park free of charge in Texas Medical Center and MD Anderson parking garages and surface lots, in accordance with applicable policies.

Veterans Education Counselor's Program

Students seeking information regarding the Veterans Education Counselors program should contact the Office of the Registrar to support their endeavors for veteran's educational opportunities.

Degrees and Certificates Offered at the School of Health Professions

The School of Health Professions offers degree and certificate programs that are listed below. Students must be accepted into one of these programs before entering the School of Health Professions. If students desire to change programs, they must withdraw from the School of Health Professions and re-apply.

See admission criteria for more information on each program.

Graduate Degrees

- Diagnostic Genetics and Genomics, Emphases in Cytogenetics and Cytogenomics and Molecular Genetics and Genomics
- Medical Dosimetry
- Radiologic Sciences, Emphases in Administrative Leadership, Educational Leadership and Medical Imaging Informatics

Undergraduate Degrees

Radiologic Sciences Programs

The Radiologic Sciences Programs do not have a common core curriculum. Refer to each program section for specific course listings.

- Diagnostic Imaging,
  - Emphases in Advanced Modalities: Computed Tomography, Computed Tomography with Vascular Interventional and Magnetic Resonance Imaging
  - Emphases in Education and Management
- Diagnostic Medical Sonography
- Medical Dosimetry
- Radiation Therapy

Laboratory Sciences Programs

The Laboratory Sciences programs admit students at the Junior- or Senior-level. Students entering at the Junior-level complete a two-year curriculum consisting of the *Laboratory Sciences Core* courses to build their foundation, and *Program Specific Core* courses to develop expertise in their program. Students entering at the Senior-level have a one-year curriculum consisting of a *Senior Year Program Specific Core*.

Complete curricula are listed in each program section.

- Cytogenetic Technology
- Cytotechnology
- Histotechnology
- Medical Laboratory Science
- Molecular Genetic Technology

Hybrid and Online Programs

Flexible options include part-time, full-time and hybrid on-line enrollment. Contact the respective program faculty for more information on course listings for each programs.

- Cytogenetic Technology: part- or full-time online
- Diagnostic Imaging, Emphases in Education and Management: part- or full-time hybrid
- Healthcare Analytics and Advocacy: part- or full-time online

Certificates

Advanced Technical

- Mammography

Post-Baccalaureate

- Molecular Genetic Technology

Program Accreditations

CAAHEP

- Cytotechnology (through July 2028

JRCERT

- Diagnostic Imaging Radiography through September 2027
- Diagnostic Imaging MRI through July 2025
- Medical Dosimetry through June 2030
- Radiation Therapy through March 2032

NAACLS

- Cytogenetic Technology (pdf) through April 30, 2031
- Histotechnology (pdf) through April 30, 2032
- Medical Laboratory Science (pdf) through October 31, 2030
- Molecular Genetic Technology (pdf) through April 30, 2028

M.S. in Diagnostic Genetics and Genomics

The Graduate Program in Diagnostic Genetics and Genomics (GPDGG) concentrates on the development of technical, analytical and interpretive skills in the following key fields.

- Genetics and genomics of hematological malignancies
- Solid tumor genetics and genomics
- Genomics of infectious diseases, and metagenomics
- The human microbiome
- Pre and Post-natal genetics and genomics
- Human Identity testing
- Bacterial, model organism and human genomics
- Bioinformatics in diagnostic genetics and genomics

Degree Offered

Master of Science in Diagnostic Genetics and Genomics, with Specialization in

- Cytogenetics and Cytogenomics
- Molecular Genetics and Genomics

Program Administration

Program Director Peter Hu, Ph.D., MLS(ASCP)^{CM} CG^{CM} MB^{CM}, FACSc, FASAHP

Associate Graduate Program Director Awdhesh Kalia, Ph.D., MB(ASCP)^{CM}, FACSc

Executive Advisor Rajyalakshmi Luthra, Ph.D.

Program Information

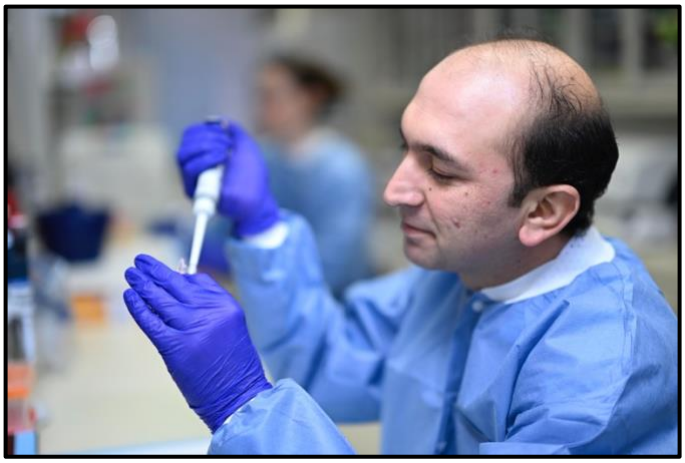
Mission

The University of Texas MD Anderson Cancer Center Graduate Program in Diagnostic Genetics and Genomics, in concert with the mission and vision of The University of Texas MD Anderson Cancer Center, is committed to the education of academically outstanding graduates prepared to meet the immediate and future needs of diagnostic genetic laboratories, allied health teaching and genomics and biotechnology enterprise.

Objectives

Newer technologies, affordable and faster human, bacterial, viral and metagenome sequencing and superfast computing capabilities have thrust precision medicine into the national spotlight. A major bottleneck in moving precision medicine from bench to patient management is a relative lack of personnel who can deploy cytogenetic or molecular genomic toolkit including bioinformatics to develop new diagnostic methods and generate new insights into disease mechanisms.

Genomic technologies generate an extraordinary volume of data. Bioinformatics is central to the acquisition, storage, analysis and interpretation of data. GPDGG training programs, which include project-based curriculum, diagnostic laboratory rotations, and thesis research collectively enable development of core competencies in human and infectious disease genomics. GPDGG curriculum is geared towards integrating classroom knowledge on the structure and function of chromosomes and genomes with hands-on experience on using sophisticated tools for the analysis and interpretation of genomic data. The program aims to empower our graduates with demonstrable evidence of applying cutting-edge research



leading to the development of new diagnostic tests, new patient management protocols or new insights into disease mechanisms. Consequently, GPDGG graduates enjoy a wide range of career options in:

- Biotechnology and genomic companies in R&D and sales
- Diagnostic labs within a hospital setting
- Pharmaceutical industry including R&D (assay development) and sales
- Research, laboratories, including Lab manager and research associate positions
- Teaching institutions: including Instructor/Faculty positions

Selection Process

Admission considers a variety of factors that include

- Cumulative GPA
- Science and Math GPA
- Applicant's prior research experience, personal qualities such as maturity, ethical integrity, ability to handle stressful situations and the applicant's long-term professional goals
- Reference letters
- Written test conducted prior to the interview
- Assessment scores (taken on the date of the interview)
- Ability to meet the School of Health Professions Nonacademic Technical Standards

Race, religion, national origin, veteran status, gender, sexual orientation or disability are not factors considered in the selection process

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Admission to the graduate program is highly competitive. The program accepts an average of approximately 18% of the applicant pool as new students in any given academic year.

Program Admission Requirements

The GPDGG is a full-time two-year program with entry at the post-baccalaureate level and culminating with a Master of Science degree. Application and supporting documents must be submitted in applyUTH.

Applicants to the GPDGG must satisfy the following requirements for admission:

- **Educational requirement** at a minimum is a bachelor's degree in biological and biomedical sciences with emphasis on molecular biology, genetics, microbiology, cell biology and bioinformatics courses. Applicants with M.S., Ph.D. or M.D. degrees are encouraged to apply.
- **All prerequisite coursework** must be from a regionally accredited college or university. Physical education and military science courses are not acceptable for prerequisite credit.
- **Minimum GPA** of 3.0 on a 4.0 scale is required to be considered for admission. GPA may be evaluated by the following: overall, science and mathematics coursework and last 60 SCH or combinations of all of the above. Special circumstances may be considered, but at the discretion of the Admissions Committee.
- **A minimum of two reference letters** are required from individuals who are in a position to evaluate the applicant's personal attributes and their academic and laboratory skills.
- **Personal interviews** are conducted on-site or through Zoom. Only out-of-state or international applicants are offered Zoom interviews.
- **Test of English as a Foreign Language**: Applicants from countries where English is not the native language may be required to take the TOEFL. Refer to the TOEFL section of this catalog.

NOTE: The Graduate Record Examination (GRE) is NOT required for admission.

Prior Coursework and Experience

Coursework or prior work experience in the following areas of study is strongly recommended.

- Bioinformatics
- Cell Biology
- Cytogenetics
- Evolution and Biochemistry
- Genetics and Genomics
- Laboratory and/or research experience in cell biology, molecular biology, cytogenetics, genomics or microbiology
- Microbiology/Bacteriology
- Molecular Biology
- Statistics
- Other relevant coursework or work experience

Graduation

Each candidate for a master's degree must complete the following.

- A minimum of 46 SCH of coursework
- Presentation of a poster at a state or national conference and/or publication emanating from research work
- The successful defense of a written research thesis
- At least one-third of the total SCH required must have been earned at the School of Health Professions

Graduation is in August. Upon graduation, students are eligible to take the national certification exam in either molecular biology or cytogenetics administered by the ASCP depending upon the curriculum track for which the student is seeking certification.

Curriculum

An integral part of the M.S. curriculum is pursuing laboratory research. Students are required to select and identify their faculty mentors and related research laboratories before the onset of clinical laboratory rotations in the first spring semester. The curriculum includes didactic coursework followed by directed clinical laboratory training at affiliated hospitals and core laboratories. For further details about the curriculum, refer to the Coursework section below or contact the associate program director.

Accreditation

Diagnostic molecular sciences programs at the School of Health Professions are accredited and conform their curriculum to the standards published and monitored by NAACLS.

Affiliations for Clinical Rotation

In consultation with faculty advisors, students identify their mentors and related research laboratories during the first semester of the program. The curriculum includes didactic coursework followed by directed clinical laboratory training in molecular or cytogenetic diagnostic labs at affiliated institutions listed on the Diagnostic Genetics and Genomics Program page.

Clinical and Translational Laboratory Research

The GPDGG aims to make an important contribution to improving health care through applied research. With participating Principal Investigators drawn from several institutions within the Texas Medical Center whose research interests encompass a wide range of research topics, these goals are attainable through collaborative, interdisciplinary and outcome- based clinical research and clinical applications.

Funding Opportunities

Working through the financial aid office of UTHealth, prospective students may be funded through a variety of sources including federal, state and departmental funds. These funds come in the forms of loans, grants and scholarships.

Course Listings

Students must maintain an overall 3.0 average to graduate.

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Cytogenetics and Cytogenomics Track 46 SCH

Year 1 20 SCH

	FALL 10 SCH	
DG 6250	Clinical Cytogenetics I	2
DG 6360	Clinical Cytogenetics II	3
DG 6530	Clinical Cytogenetic Laboratory Techniques	5
	SPRING 10 SCH	
DG 6521	Clinical Cytogenetics Rotation I	5
DG 6531	Clinical Cytogenetics Rotation II	5

Year 2 26 SCH

	FALL 11 SCH	
DG 6201	Advanced Practice I C	2
DG 6290	Diagnostic Molecular Pathology	2
DG 6333	Quantitative Research and Biostatistics	3
DG	Advanced Topics or Bioinformatics *	4

** Choose one of the following options*

Option 1		
DG 6470	Advanced Topics and Case Studies in Clinical Cytogenetics	4
Option 2		
DG 6110	Bioinformatics in Diagnostic Genetics Lab	1
DG 6320	Bioinformatics in Diagnostic Genetics	3
	SPRING 9 SCH	
DG 6240	Abnormal Case Studies and Comprehensive Review	2
DG 6701	Advanced Practice II C	7
	SUMMER 6 SCH	
DG 6100	Clinical Research Seminar	1
DG 6501	Advanced Practice III	5

Molecular Genetics and Genomics Track 46 SCH

Year 1 22 SCH

	FALL 12 SCH	
DG 6110	Bioinformatics in Diagnostic Genetics Lab	1
DG 6181	Advanced Molecular Biology and Techniques	1
DG 6280	Concepts in Molecular Diagnostics	2
DG 6320	Bioinformatics in Diagnostic Genetics I	3
DG 6510	Advanced Diagnostic Molecular Laboratory Techniques	5
	SPRING 10 SCH	
DG 6530	Clinical Molecular Rotation I	3
DG 6471	Clinical Molecular Rotation II	4
DG 6340	Bioinformatics in Diagnostic Genetics II	3

Year 2 24 SCH

	FALL 9 SCH	
DG 6290	Diagnostic Molecular Pathology	2
DG 6333	Quantitative Research and Biostatistics	3
DG 6401	Advanced Practice I	4
	SPRING 9 SCH	
DG 6901	Advanced Practice II	9
	SUMMER 6 SCH	
DG 6100	Clinical Research Seminar	1
DG 6501	Advanced Practice III	5

M.S. in Medical Dosimetry

The program provides a Master of Science in Medical Dosimetry specifically designed for licensed radiation therapists in active practice. These students are allowed the convenience of completing their theoretical coursework online, offering flexibility with day or evening schedules, while fulfilling their clinical education requirements in medical dosimetry at their workplace. Although there will be only limited synchronous meetings with students concerning their didactic coursework, all examinations are proctored face-to-face at the clinical setting where the student is assigned. The clinical education curriculum and prerequisites are consistent for all students regardless of their clinical sites. In instances where the student is also employed as a radiation therapist at the clinical site where they undergo their clinical education, it is essential to maintain a clear separation between their clinical education hours and working hours.

Degree Offered

Bachelor of Science in Medical Dosimetry

Program Administration

Program Director Mahsa Dehghanpour, Ed.D., CMD

Associate Program Director Jamie Baker, Ph.D., CMD

Executive Advisor George Perkins, M.D.

Program Information

Mission

To provide high quality of didactic and technologically advanced clinical education in Medical Dosimetry and to graduate professional practitioners who are valued by radiation oncology employers, display excellent treatment planning and assessment skills, and remain active in the professional community and learning throughout their careers.

Vision

We shall be the premier educational program in medical dosimetry by providing innovative curricular, clinical and continuing education services to the University of Texas MD Anderson Cancer Center, the State of Texas and the world.

Goals and Student Learning Outcomes

Goal 1. Students will be clinically competent.

Student Learning Outcomes

1. Students will produce treatable plans.
2. Students will demonstrate understanding of basic science concepts required for site specific treatment planning.

Goal 2. Students will display critical thinking skills.

Student Learning Outcomes

1. Students will correct radiation errors.
2. Students will adequately respond to challenges about the optimal nature of their treatment plans.
3. Students will show the ability to perform multiple tasks in a timely manner.

Goal 3. Students will demonstrate professionalism.

Student Learning Outcomes

1. Students display professional conduct.
2. Students demonstrate lifelong learning.
3. Students display understanding of their professional codes of ethics.
4. Students will understand cultural diversity.

Goal 4. Students will display effective communication skills.

Student Learning Outcomes

1. Students will demonstrate written communication skills.
2. Students will demonstrate oral communication skills.

Goal 5. The program will provide the community with entry level medical dosimetrists.

Student Learning Outcomes

1. Employers will be satisfied with program graduates performance as medical dosimetrists.
2. Graduates will be satisfied with the learning experience provided by the program.
3. The program will produce medical dosimetrists capable of becoming certified.
4. Admitted applicants will complete the program.
5. Program graduates will be employed as Medical Dosimetrists.
6. Students will be satisfied with program courses and instructors.

Objectives

The MS Program in Medical Dosimetry is designed to prepare students with background in radiation therapy for a career in medical dosimetry. This intensive four-semester Master of Science in Medical Dosimetry is composed of didactic courses and clinical education each semester. Didactic courses are offered fully online asynchronously, and clinical education is conducted in affiliated clinic in a face-to-face or hybrid format under the supervision of board-certified medical physicists and board-certified medical dosimetrists. The Master of Science degree provides opportunities to its graduates to work in a variety of setting including clinical medical dosimetry, research, education, and leadership.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Program Admission Requirements

The School of Health Professions at MD Anderson offers a Master of Science in Medical Dosimetry. Students enter the program in January of each year. Admission is on a competitive basis with a minimum overall GPA of 3.0 on a 4.0 scale. Meeting the minimum criteria does not guarantee acceptance.

The Office of the Registrar at UTHealth Houston serves as the Registrar for the School of Health Professions. Application and supporting documents must be submitted in applyUTH.

Applicants to the Master of Science in Medical Dosimetry program must satisfy the following requirements for admission:

- **Be a practicing *radiation therapist*** with an ARRT license in Radiation Therapy.
- **Must obtain a letter of support** from their employer that includes support of clinical education and adjusting work hours, if applicable.
- **Educational requirement** at a minimum is a bachelor's degree from an accredited institution.
- **Official transcripts** from every institution attended.
- **Minimum overall undergraduate GPA** of 3.0 on a 4.0 scale is required for admission consideration.
- **All prerequisite coursework** must be completed prior to the start of the program and come from a regionally accredited college or university to include the following with a grade of *C* or better.
  - General Physics I and II (8 SCH)
  - Anatomy and Physiology I and II (8 SCH)
  - Calculus I and II (6 SCH)
- **Have completed the following courses** as an undergraduate, otherwise the courses must be completed during the program:
  - Radiobiology
  - Clinical Radiation Oncology
  - Pathophysiology
- **Submit three professional recommendation forms** from three professional references (manager, professor, colleague, etc.).
- **Submit resume** to include education, work history and research experience.
- **Submit a 750-word statement of purpose** outlining their goals for pursuing a graduate degree in Medical Dosimetry.
- **Test of English as a Foreign Language**: Applicants from countries where English is not the native language may be required to take the TOEFL. Refer to the TOEFL section of this catalog.
- **Admissions interview and mathematics assessment** given to invited competitive applicants.

NOTE: The Graduate Record Examination (GRE) is NOT required for admission.

Graduation

Each candidate for a master's degree must complete the following.

- 30 SCH of graduate coursework all of which must be earned at the School of Health Professions
- Successful presentation of a research paper in the area of interest in radiation oncology

Curriculum

The Master of Science degree in Medical Dosimetry is a four-semester program built on a cohort learning model. The cohort consists of applicants with radiation therapy background. The program consists of 12 SCH of clinical education completed in affiliated clinical sites under the supervision of board-certified medical dosimetrists or board-certified medical physicists. The program consists of 18 SCH of didactic courses including research method. Students are required to research a topic in radiation oncology and present it to the faculty.

Accreditation

The rogram is accredited by and has conformed its curriculum to the standards and guidelines published and monitored by the JRCERT.

Affiliations for Clinical Rotation

In consultation with faculty advisors, students identify their mentors and related research laboratories during the first semester of the program. The curriculum includes didactic coursework followed by directed clinical laboratory training in molecular or cytogenetic diagnostic labs at affiliated institutions listed on the Diagnostic Genetics and Genomics Program page.

Funding Opportunities

Working through the financial aid office of UTHealth, prospective students may be funded through a variety of sources including federal, state and departmental funds. These funds come in the forms of loans, grants and scholarships.

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Four-Semester Program 30 SCH

Year 1 15 SCH

	SPRING 9 SCH	
MD 5301	Radiation Physics	3
MD 5302	Radiation Oncology Principles and Practice	3
MD 5310	Clinical Practicum I	3
	SUMMER 6 SCH	
MD 5320	Clinical Practicum II	3
RS 5312	Research Methodology II	3

Year 2 15 SCH

	FALL 9 SCH	
MD 6301	Brachytherapy for Medical Dosimetrists	3
MD 6302	Modern Topics in Radiation Oncology	3
MD 6310	Clinical Practicum III	3
	SPRING 6 SCH	
MD 6303	Capstone Seminar	3
MD 6320	Clinical Internship	3

M.S. in Radiologic Sciences

The Graduate Program in Radiologic Sciences offers two pathways, with options to specialize in administrative or educational leadership. The program provides medical imaging, radiation therapy, and medical dosimetry professionals with the knowledge and skills essential for career advancement within health care and higher education.

Using a specialized program of study, learners develop innovative and dynamic leadership skills that they can demonstrate in any administrative or educational position. The interdisciplinary perspective and cross-functional design of the program prepare learners to be successful in handling multifaceted challenges amid increased expectations and constrained resources in health care or higher education.

Degree Offered

Master of Science in Radiologic Sciences, with Emphases in

- Administrative Leadership
- Educational Leadership
- Medical Imaging Informatics

Program Administration

Program Director William Undie, Ed.D., R.T.(R)(T)(ARRT)

Associate Graduate Program Director Kevin Clark, Ed.D., R.T.(R)(QM)(ARRT), FAEIRS, FASRT

Executive Advisor Aziz Benamar, M.B.A., R.T.(R)

Program Information

Mission

The Master of Science program in Radiologic Sciences, in concert with the mission and vision of The University of Texas MD Anderson Cancer Center, is committed to the education of technologically and academically outstanding graduates prepared to meet the immediate and future needs of diagnostic and therapeutic services in radiologic sciences.

Objectives

The emerging health care environment has created pressures that have heightened the need for innovative and dynamic leadership. There is an urgent need for individuals who embody effective and compassionate care in a cost-efficient and integrated health care system. Further, there is a shortage of qualified educators to fill many job positions in the radiologic sciences profession; the situation is expected to escalate in the next decade as vacancy rates increase due to attrition, retirement, industry growth and limited numbers of academic programs. Thus, this leadership program is intended to enhance your knowledge, expand your critical thinking skills and strategically position you for a leadership position in health care and academic environment.

Graduates of the program have a variety of opportunities to serve as:

- Corporate trainer for health care facilities by leading the development and implementation of training programs for employees
- Director or manager for hospital or out-patient imaging facilities
- Instructor/Professor for radiologic sciences programs

- Program director or educational coordinator for radiologic sciences programs

Goals

The goals of the program are to enhance your ability to:

- Synthesize the knowledge gained from radiologic sciences and other academic disciplines to advance strategic planning and operations in health care or higher education.
- Promote the delivery of quality health care by assuming leadership roles in the radiologic sciences professions and health care system.
- Apply the knowledge acquired from independent, collaborative and interdisciplinary empirical research efforts to improve health care services or higher education.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Program Admission Requirements

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Applicants to the Radiologic Sciences program must satisfy the following requirements for admission:

- **Bachelor's degree** from an accredited institution
- **Credentialed** by American Registry of Diagnostic Medical Sonography (ARDMS), American Registry of Radiologic Technologists (ARRT), Medical Dosimetrist Certification Board (MDCB) or Nuclear Medicine Technology Certification Board (NMTCB).
- Official college transcript(s) from each school attended.
- Minimum overall undergraduate GPA of 3.0 on a 4.0 scale.
- **Undergraduate course** in either math statistics or basic research with a minimum grade of *C*
- **A 500-word statement of purpose** outlining your goals for pursuing a graduate degree in Radiologic Sciences. Must include the following elements.
  - The reason for applying to the Administrative or Educational emphasis.
  - Describe how this degree program will contribute to advancing your career goals.

  - Explain what you have accomplished that demonstrates your initiative and willingness to learn.
  - Describe how you will contribute to the program through your research experience.
  - Describe your experiences working in teams.
  - State other relevant attributes or background you think will assist the admission committee evaluate your application.

- **The School of Health Professions recommendation form** completed by three professional references to support the applicant's leadership ability or potential for success.
- **Resume** to include education, work history and research experience.
- **Test of English as a Foreign Language**: Applicants from countries where English is not the native language may be required to take the TOEFL. Refer to the TOEFL section of this catalog.
- **Competitive applicants** will be invited to an admissions interview

Graduation

Each candidate for a master's degree must complete the following.

- 30 SCH of graduate coursework.
- A minimum of 45 hours of supervised internship in an area of health care administration or educational leadership
- Successful presentation and defense of a thesis based o.n research of a topic related to area of specialization.
- At least one-third of the total SCH required must have been earned at the School of Health Professions.

Graduation is in August.

Curriculum

The Master of Science degree in Radiologic Sciences is a 5-semester program built on a cohort learning model. The cohort consists of applicants with various background in the radiologic sciences profession. The program consists of 12 SCH of programmatic core and 18 SCH of specialization classes, including internship and thesis. The first two semesters are focused on completing the programmatic core component while students devote the remaining three semesters to their program specialty and thesis project.

Accreditation

MD Anderson is regionally accredited through SACSCOC.

Funding Opportunities

Working through the financial aid office of UTHealth, prospective students may be funded through a variety of sources including federal, state and departmental funds. These funds come in the forms of loans, grants and scholarships

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Administrative Leadership Track (30 SCH)

Year 1 12 SCH

	SPRING 6 SCH	
RS 5310	Fundamentals of Healthcare Systems	3
RS 5311	Strategic Management and Business Policy	3
	SUMMER 6 SCH	
RS 5312	Research Methodology	3
RS 5313	Legal and Ethical Fundamentals of Healthcare	3

Year 2 18 SCH

	FALL 6 SCH	
RS 6311	Healthcare Financial Management	3
RS 6312	Human Resource Management in Health Professions	3
	SPRING 6 SCH	
RS 6316	Health Resources and Policy Analysis	3
RS 6317	Thesis	3
	SUMMER 6 SCH	
RS 6319	Internship	3
RS	Informatics or RCM*	3

** Choose one of the following courses*

RS 6318	Health Informatics and Technology Management	3
RS 6320	Revenue Cycle Management and Coding Strategies	3

Educational Leadership Track (30 SCH)

Year 1 12 SCH

	SPRING 6 SCH	
RS 5310	Fundamentals of Healthcare Systems	3
RS 5311	Strategic Management and Business Policy	3
	SUMMER 6 SCH	
RS 5312	Research Methodology	3
RS 5313	Legal and Ethical Fundamentals of Healthcare	3

Year 2 18 SCH

	FALL 6 SCH	
RS 6313	Adult Learning and Instruction	3
RS 6314	Critical Thinking Strategies in Higher Education	3
	SPRING 6 SCH	
RS 6315	Curriculum Development and Evaluation	3
RS 6317	Thesis	3
	SUMMER 6 SCH	
RS 6319	Internship	3
RS	Informatics or Accreditation*	3

** Choose one of the following courses*

RS 6318	Health Informatics and Technology Management	3
RS 6330	Accreditation of Radiologic Science Educational Programs	3

Medical Imaging Informatics Track (30 SCH)

Year 1 12 SCH

	SPRING 6 SCH	
RS 5310	Fundamentals of Healthcare Systems	3
RS 5311	Strategic Management and Business Policy	3
	SUMMER 6 SCH	
RS 5312	Research Methodology	3
RS 6318	Health Informatics and Technology Management	3

Year 2 18 SCH

	FALL 6 SCH	
RS 6321	Image Management and Clinical Engineering	3
RS 6322	Systems Management	3
	SPRING 6 SCH	
RS 6317	Thesis	3
RS 6324	Procurement and Operations	3
	SUMMER 6 SCH	
RS 5313	Legal and Ethical Fundamentals of Healthcare	3
RS 6125	CIIP Examination Review	1
RS 6219	Project Management Internship	2

B.S. in Cytogenetic Technology

Cytogenetic technologists study the structure of human chromosomes and the role of specific changes in the diagnosis and monitoring of acquired and inherited abnormalities.

Degree Offered

Bachelor of Science Degree in Cytogenetic Technology

Program Administration

Program Director Jun Gu, M.D., Ph.D., CG(ASCP)^{CM}

Associate Program Director Ming Zhao, M.D., CG(ASCP)^{CM}, MB(ASCP)^{CM}

Executive Advisor Guilin Tang, M.D., Ph.D., FACMG

Program Information

Mission

The MD Anderson Cancer Center Program in Cytogenetic Technology, in concert with the mission and vision of The University of Texas MD Anderson Cancer Center, is committed to the education of technically and academically competent graduates prepared to meet the immediate and future needs of the Cytogenetic Technology profession.

Objectives

- The Cytogenetic Technology program is designed to prepare students to become entry-level clinical cytogenetic technologists. The program provides instruction in all the major areas of clinical cytogenetics including.
  - Cancer cytogenetics
  - Molecular techniques
  - Prenatal cytogenetics
  - The role of specific changes in the diagnosis and monitoring of acquired and inherited abnormalities
  - The structure of human chromosomes
- Abnormalities of chromosome number and morphology are linked with over 400 syndromes associated with mental retardation and other phenotypic abnormalities. Identification of these chromosomal abnormalities by cytogenetic technologists provides clinicians in prenatal/postnatal clinics with sufficient information to plan for medical complications that may arise from specific gene defects.
- Cancer cytogenetics is a rapidly growing field where the cytogeneticist plays a key role in the diagnosis, prognosis and treatment of both hematological malignancies and solid tumors. World Health Organization (WHO) guidelines require either cytogenetics or molecular genetics for standard workup of leukemias and lymphomas.
- Cytogenetic technologists are leaders in the development of applications for new DNA technologies that are transforming modern-day medicine.
- Cytogenetic technologists have a wide range of career options in cancer centers, pediatric and genetic counseling clinics, chemical industries, biotechnology companies, research laboratories, molecular cytogenetic laboratories, computer imaging sales and development, pathology labs and research and teaching institutions.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. The full- or part-time Bachelor of Science degree is either a one-year (face-to-face or online) or two-year program (face-to-face) with entry at either the junior or senior level. Students selecting part-time enrollment will complete their degree beyond the designated length of time, depending on course selections each semester. Qualified students are accepted on a rolling basis. Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

> **A minimum GPA** of 2.5 on a 4.0 scale overall and in science and mathematics courses is required to be considered for admission. Special circumstances may be considered at the discretion of the Admissions Committee.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Cytogenetic Technology, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at

any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Two-Year Program

Students must complete a minimum of 60 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses.

- 8 SCH in Biological Sciences
- 16 SCH in Chemistry

Refer to the prerequisite sheet (pdf) for details.

For the One-Year Program (face-to-face and online)

Students must complete a minimum of 90 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses.

- 16 SCH in Chemistry
- 3 SCH in Microbiology
- 3 SCH in Genetics
- Additional 8 SCH in Biological Sciences
- 11 SCH of upper-level courses

NOTE: International students are NOT eligible for the online option due to U.S. Immigration and Customs Enforcement regulations.

Refer to the prerequisite sheet (pdf) for details.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

**Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 136 SCH of coursework if admitted into the two-year program or a minimum of 139 SCH of coursework if admitted into the one-year program. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework
- At least 25% of the total required SCH

Graduation is in August. Upon graduation, students are eligible to take the Clinical Cytogenetics Board of Certification exam administered by the ASCP. Check with the program director for application deadlines and exam dates. Upon passing this exam, the student is considered a certified cytogenetic technologist. The awarding of the degree or certificate is not contingent upon a student passing the national certification exam.

Curriculum

This intensive program is composed of a didactic phase followed by directed clinical training at affiliated hospitals and laboratories. During the didactic phase, formal lectures are presented on the principles of medical genetics, molecular and biochemical basis of genetic disease, karyotyping, hematology, clinical cytogenetics and molecular genetic technology. Laboratory sessions coordinated with lectures and covering the fundamentals of diagnostic laboratory procedures are included in the didactic phase. Online students are required to attend one week of on-campus laboratory sessions each semester. Graduates of the program are eligible to take the CG(ASCP) Board of Certification exam

Accreditation

The Cytogenetic Technology Program is accredited and has conformed its curriculum to the standards published and monitored by NAACLS.

Current Affiliations

The Program in Cytogenetic Technology has developed clinical affiliations with leading clinical cytogenetic laboratories in Texas and beyond in order that students may develop expertise in a variety of settings and experience the breadth of opportunity available to Cytogenetic Technologists. Clinical experiences in these laboratories offer students the opportunity to achieve competence and confidence in performing a wide variety of cytogenetic procedures on patients' specimens. Visit the Cytogenetic Technology Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Two-Year Program 76 SCH

Junior Year 30 SCH

	FALL 16 SCH	
HS 3115	Introduction to Cytogenetics I	1
HS 3121	Introduction to Hematology	1
HS 3210	Laboratory Mathematics	2
HS 3270	Fundamentals of Writing and Critical Thinking	2
HS 3330	Pathology of Body Fluids	3
HS 4100	Health Care Ethics	1
HS 4300	Pathophysiology for Health Professions	3
HS 4310	Medical Microbiology	3

	SPRING 14 SCH	
HS 3120	Introduction to Cytogenetics II	1
HS 3300	Medical Immunology	3
HS 3320	Medical Genetics	3
HS 3333	Statistics	3
HS 3340	Research Methods	3
HS 4101	Diversity & Cultural Competence	1

Senior Year 46 SCH

	FALL 15 SCH	
CC 4120	Introduction to G-Band Karyotyping	1
CC 4152	Prenatal Cytogenetics	1
CC 4250	Clinical Cytogenetics	2
CC 4280	Independent Research Project I	2
CC 4530	Basic Laboratory Techniques	5
GT 4300	Advanced Medical Genetics	3
HS 4160	Critical Scientific Analysis	1

	SPRING 16 SCH	
CC 4181	Independent Research Project II	1
CC 4240	Advanced Cytogenetic Lab Techniques	2
CC 4251L	Clinical Cytogenetics	2
CC 4320	Special Topics in Genetics	3
CC 4390	Advanced Topics in Cytogenetics	3
GT 4330	Genetics of Hematology Malignancies	3
HS 4110	Molecular Genetics Technology	1
HS 4161	Seminar in Healthcare	1

	SUMMER 15 SCH	
CC 4210	Molec & Biochem Basis of Genetic Disease	2
CC 4521	Clinical Cytogenetic Rotation I	5
CC 4531	Clinical Cytogenetic Rotation II	5
HS 4371	Management and Education	3

One-Year Program 49 SCH

Senior Year 49 SCH

	FALL 17 SCH	
CC 4120	Introduction to G-Band Karyotyping	1
CC 4152	Prenatal Cytogenetics	1
CC 4250	Clinical Cytogenetics	2
CC 4280	Independent Research Project I	2
CC 4530	Basic Laboratory Techniques	5
GT 4300	Advanced Medical Genetics	3
HS 4100	Health Care Ethics	1
HS 4160	Critical Scientific Analysis	1
HS 4170	Special Topics I	1

	SPRING 17 SCH	
CC 4181	Independent Research Project II	1
CC 4240	Advanced Cytogenetic Lab Techniques	2
CC 4251L	Clinical Cytogenetics	2
CC 4320	Special Topics in Genetics	3
CC 4390	Advanced Topics in Cytogenetics	3
GT 4330	Genetics of Hematology Malignancies	3
HS 4101	Diversity & Cultural Competence	1
HS 4110	Molecular Genetics Technology	1
HS 4161	Seminar in Healthcare	1

	SUMMER 15 SCH	
CC 4210	Molec & Biochem Basis of Genetic Disease	2
CC 4521	Clinical Cytogenetic Rotation I	5
CC 4531	Clinical Cytogenetic Rotation II	5
HS 4371	Management and Education	3

PART-TIME Program 49 SCH

Year 1 21 SCH

	FALL 9 SCH	
CC 4120	Introduction to G-Band Karyotyping	1
CC 4280	Independent Research Project I	2
GT 4300	Advanced Medical Genetics	3
HS 4100	Health Care Ethics	1
HS 4160	Critical Scientific Analysis	1
HS 4170	Special Topics I	1

	SPRING 7 SCH	
CC 4181	Independent Research Project II	1
GT 4330	Genetics of Hematology Malignancies	3
HS 4101	Diversity & Cultural Competence	1
HS 4110	Molecular Genetics Technology	1
HS 4161	Seminar in Healthcare	1

	SUMMER 5 SCH	
CC 4210	Molec & Biochem Basis of Genetic Disease	2
HS 4371	Management and Education	3

Year 2 28 SCH

	FALL 8 SCH	
CC 4152	Prenatal Cytogenetics	1
CC 4250	Clinical Cytogenetics	2
CC 4530	Basic Laboratory Techniques	5

	SPRING 10 SCH	
CC 4240	Advanced Cytogenetic Lab Techniques	2
CC 4251L	Clinical Cytogenetics	2
CC 4320	Special Topics in Genetics	3
CC 4390	Advanced Topics in Cytogenetics	3

	SUMMER 10 SCH	
CC 4521	Clinical Cytogenetic Rotation I	5
CC 4531	Clinical Cytogenetic Rotation II	5

B.S. in Cytotechnology

A career as a cytotechnologist is both challenging and rewarding. Students are offered training in all major aspects relevant to the practice of cytotechnology as a profession.

Degree Offered

Bachelor of Science in Cytotechnology

Program Administration

Program Director Catherine Bammert, Ph.D. CT, MB(ASCP)^{CM}

Executive Advisor Wendong Yu, M.D., Ph.D.

Program Information

Mission

The MD Anderson Cancer Center Program in Cytotechnology, in concert with the mission and vision of The University of Texas MD Anderson Cancer Center, is committed to the education of technically and academically competent graduates prepared to meet the immediate and future needs of the Cytotechnology profession.

Objectives

The Cytotechnology program is designed to prepare students to become entry-level cytotechnologists.

Working with a microscope, cytotechnologists study specimens from all body sites. Using subtle clues present within the cells, they can detect cancer cells, precancerous lesions, benign tumors, infectious agents and inflammatory processes.

The study consists of:

- Lectures
- Demonstrations at the multi-headed microscope in a tutored setting
- Independent student microscope time with faculty feedback
- Rotations through various cytology laboratories providing experience in routine and specialized procedures

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Bachelor of Science enter in either Junior (two-year track) or Senior level (one-year track). Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

- **A minimum GPA** of 2.5 on a 4.0 scale both overall and in the biology and chemistry courses is required to be considered for admission.
- **Candidates who completed the prerequisite courses** seven or more years before their application may need to update their academic skills in biology, with two courses in Anatomy and/or Physiology, (3 SCH each) with a minimum GPA of 2.5. This requirement may be waived at the discretion of the program director.
- Completion of a questionnaire Parts I, II and III.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Cytotechnology, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the One-Year Program

Students must complete a minimum of 90 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses:

- 4 SCH in General Chemistry I, or higher-level Chemistry
- 4 SCH in General Chemistry II, or higher-level Chemistry
- 4 SCH in Anatomy and Physiology I
- Additional 16 SCH in Biological Sciences
- 18 SCH of upper-level courses

Refer to the prerequisite sheet (pdf) for details.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations

- Regionally accredited military training programs

  **Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 136 SCH of coursework. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must be taken at MD Anderson

Graduation is in August. Upon graduation, students are eligible to take the national certification exam in cytotechnology administered by the ASCP.

Check with the program director for application deadlines and exam dates. Upon passing the exam, the student is considered a certified cytotechnologist. The awarding of the degree is not contingent upon a student passing the national certification exam.

Curriculum

This intensive program is composed of a didactic and laboratory phase followed by directed clinical training at affiliated hospitals and cytology laboratories. The primary goal of the Cytotechnology program is to provide the community with cytotechnologists who are prepared to work at the staff level in hospital and private laboratories and university medical centers. With experience, cytotechnologists can perform at the supervisory, educational and administrative levels. The job responsibilities of cytotechnologists are expanding, and research opportunities are increasing with the advancement of new tumor identification techniques and Human Papilloma Virus testing.

Accreditation

The program is accredited by and has conform its curriculum to the standards and guidelines published and monitored by the CAAHEP.

Current Affiliations

The Program in Cytotechnology has developed affiliations with reference labs and sister medical institutions within the Texas Medical Center and beyond, so that students will develop expertise in a variety of settings and experience the breadth of opportunity available to a certified cytotechnologist. Visit the Cytotechnology Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

One-Year Program 47 SCH

Senior Year 47 SCH

	FALL 17 SCH	
CT 4101	Introduction to Cytotechnology	1
CT 4102	Theory & Practice of Cytopreparatory Techniques I	1
CT 4303	Gynecologic Cytopathology	3
CT 4306	Nongynecologic Diagnostic Laboratory I	3
CT 4404	Gynecologic Diagnostic Laboratory I	4
CT 4405	Nongynecologic Cytopathology I	4
HS 4100	Health Care Ethics	1
	SPRING 17 SCH	
CT 4112	Gynecologic Diagnostic Laboratory III	1
CT 4120	Laboratory Operations	1
CT 4213	Nongynecologic Diagnostic Laboratory II	2
CT 4307	Nongynecologic Cytopathology II	3
CT 4308	Gynecologic Diagnostic Laboratory II	3
CT 4309	Fine-Needle Aspiration Cytopathology	3
CT 4310	Fine Needle Aspiration Diagnostic Lab	3
HS 4101	Diversity & Cultural Competence	1
	SUMMER 13 SCH	
CT 4116	Comprehensive Cytopathology	1
CT 4615	Clinical Rotation I	6
CT 4616	Clinical Rotation II	6

B.S. in Diagnostic Imaging – 3-Year Program with Certificate in Radiography

Diagnostic Imaging is a specialty devoted to the study of routine and advanced imaging procedures. The curriculum includes emerging, advanced technologies in Computed Tomography (CT), CT with Vascular Interventional (CT/VI) and Magnetic Resonance Imaging (MRI). The program prepares the student for various careers in hospitals, clinics, education and management.

Certificate Offered

Certificate in Radiologic Sciences

Note: Upon completion of the DI program radiography curriculum (the first two years of the three-year program), students must sit for the examination and certification from the ARRT. To qualify to sit for the ARRT exam, the student must have completed an AA degree or higher prior to the 4th semester of the DI Program.

Degree Offered

Bachelor of Science in Diagnostic Imaging, with Emphases in

- Computed Tomography (CT)
- Computed Tomography/Vascular Interventional (CT/VI)
- Education
- Magnetic Resonance Imaging (MRI)
- Management

Program Administration

Program Director: Education, Management and Radiography Suzieann Bass, Ed.D., R.T.(R)(ARRT)

Executive Advisor Aurelio Matamoros, M.D.

Program Information

Mission

The mission of the Diagnostic Imaging Program is to provide the highest quality of education to diagnostic imaging students through formal didactic and state-of-the-art clinical experiences that prepare our students to be diagnostic imaging professionals who are patient care focused, critical thinkers and engaged in lifelong learning.

Vision

We shall be the premier educational program in Diagnostic Imaging by providing innovative curricular, clinical and continuing education services to the diagnostic imaging community and the patients we serve.

Goals

Fulfillment of the program's mission is assessed by the program's effectiveness and the degree to which the program achieves the goals and learning outcomes that will enable our students to succeed academically and professionally.

- Develop a patient care focus by providing superior patient care.
- Demonstrate critical thinking skills.

- Adopt a philosophy of life-long learning through continuing education and professional involvement.
- Embrace the MD Anderson core values of caring, integrity and discovery.
- Communicate effectively in a variety of settings.

Objectives

- The radiologic technologist is a prominent member of the health care team focused on the diagnosis and treatment of human disease.
- Radiologic technologists work with ionizing radiation, radiopharmaceuticals, sound waves and magnetic fields to produce medical images in diagnostic imaging or radiology departments of hospitals and medical clinics or free-standing imaging centers.
- The Diagnostic Imaging Program is designed to prepare students for a challenging career in the Radiologic Sciences through formal didactic and state-of-the-art clinical education. Today's medical practice dictates that technologists have advanced skills in imaging, patient assessment and treatment of specific disease.
- The program accommodates Bachelor of Science degree-seeking students as follows.
    - Those who are working towards initial certification in Radiologic Technology (radiography). These students enter the Diagnostic Imaging Program as sophomores.
    - Graduates of an accredited program in radiologic sciences, with acceptable transferable credits, who must submit proof of certification and have completed the required Texas core curriculum. These students enter the Diagnostic Imaging Program during the senior year of their education and complete their degree through the School of Health Professions.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Certificate of Radiography enter at the Sophomore level (for five semesters over 20 months). Students pursuing a Bachelor of Science degree enter either at the Sophomore level (three-year track) or Senior level (one-year track). Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

- **A minimum overall GPA** of 2.5 on a 4.0 scale. Cumulative and prerequisite GPA are factors for admissions.

- **Clinical site visit (**Certificate Applicants only**)** 8 hours clinical site observation at MD Anderson and a clinical site visit evaluation.
- **CPR** certification through the American Heart Association certification.
- **Attend one information session** during the year of the application process.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Diagnostic Imaging, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Program Sequence

Students admitted to the three-year program will do the following:

7. Successfully complete the first two years of the program.
8. Eligible to sit for the ARRT(R) exam.
9. Upon passing the ARRT(R) exam, students will choose their emphasis from CT, CT/VI, MRI, Education, or Management for the third year of the program

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Certificate in Radiography Program

Students must complete a minimum of 30 SCH of the Texas Core Curriculum*. Within these 30 SCH, Anatomy and Physiology I (4 SCH) must be included.

** Full completion of the 42 SCH of the Texas Core Curriculum is recommended.*

For the Three-Year Bachelor's Program: Two-Year Certificate in Radiologic Sciences* + Senior Year

Students must complete a minimum of 42 SCH which includes the Texas Core Curriculum (42 SCH) and Anatomy and Physiology I (4 SCH).

View the prerequisite sheet (pdf) for details.

** Students entering the program with an associate's degree are eligible to sit for the ARRT(R) certification after completing the first two years of the program.*

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

** The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 125 SCH of coursework. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must be taken at MD Anderson

Upon completion of the curriculum, students will have demonstrated the professional skills necessary to work with ionizing radiation, radiopharmaceuticals, sound waves and or magnetic fields to produce medical images in diagnostic imaging or radiology departments of hospitals, and medical clinics or freestanding imaging centers.

Graduation is in August. Upon graduation, students are eligible to take the national certification credentialing examination(s) administered by the ARRT in their chosen emphasis(es).

Check with the program director for application deadlines. Upon passing the certification exam(s), the graduate is considered a Registered Technologist (RT). The awarding of the degree is not contingent upon a student passing the national certification exam.

Curriculum

The curriculum meets or exceeds the curriculum recommendations of the American Society of Radiologic Technologists (ASRT). This intensive three-year program is composed of a didactic phase followed by directed clinical training at affiliated hospitals and laboratories.

Accreditation

The Diagnostic Imaging Program is accredited by and has conformed its curriculum to the standards and guidelines published and monitored by the JRCERT.

Current Affiliations

During the clinical phase of instruction, training and supervision are provided in a variety of clinical sites. Visit the Diagnostic Imaging Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Three-Year Radiography Program 83-89 SCH

(First Two Years)

All students admitted to the Three-Year Program take the same core Radiography courses the first two years (sophomore and junior years) and choose their emphasis for the third year (senior year).

Sophomore Year 33 SCH

	FALL 13 SCH	
DI 2210	Introduction to Radiologic Sciences	2
DI 2221	Patient Care in Radiologic Sciences	2
DI 2301	Principles of Radiographic Exposure I	3
DI 2331	Radiographic Anatomy & Positioning I	3
HS 3270	Fundamentals of Writing and Critical Thinking	2
HS 4100	Health Care Ethics	1
	SPRING 11 SCH	
DI 2261	Clinical Education I	2
DI 2332	Radiographic Anatomy & Positioning II	3
DI 2342	Principles of Radiographic Exposure II	3
DI 4201	Radiation Safety and Protection	2
HS 4101	Diversity & Cultural Competence	1
	SUMMER 9 SCH	
DI 2262	Clinical Education II	2
DI 2333	Radiographic Anatomy & Positioning III	3
DI 3343	Quality Management in Radiology	3
HS 4111	Medical Law	1

Junior Year 14 SCH

	FALL 8 SCH	
DI 3334	Radiographic Anatomy & Positioning IV	3
DI 3360	Clinical Education III	3
DI 4210	Radiobiology	2
	SPRING 6 SCH	
DI 3100	Capstone: Registry Review	1
DI 3235	Radiographic Anatomy & Positioning V	2
DI 3361	Clinical Education IV	3

At completion of the Junior Year Spring semester, students must pass the ARRT(R) certification examination to continue to the third year of the program.

Students will choose their emphasis for their third year:

- Computed Tomography (CT)
- Computed Tomography with Vascular Interventional (CTVI)
- Education
- Magnetic Resonance Imaging (MRI)
- Management

B.S. in Diagnostic Imaging – Advanced Modalities (1-Year Program and Continuation of 3-Year Program)

Diagnostic Imaging is a specialty devoted to the study of routine and advanced imaging procedures. The curriculum includes emerging, advanced technologies in Computed Tomography (CT), CT with Vascular Interventional (CT/VI) and Magnetic Resonance Imaging (MRI). The program prepares the student for various careers in hospitals, clinics, education and management.

Certificate Offered

Certificate in Radiologic Sciences

Note: Upon completion of the DI program radiography curriculum (the first two years of the three-year program), students must sit for the examination and certification from the ARRT. To qualify to sit for the ARRT exam, the student must have completed an AA degree or higher prior to the 4th semester of the DI Program.

Degree Offered

Bachelor of Science in Diagnostic Imaging, with Emphases in

- Computed Tomography (CT)
- Computed Tomography/Vascular Interventional (CT/VI)
- Education
- Magnetic Resonance Imaging (MRI)
- Management

Program Administration

Program Director: Advanced Imaging Programs William Undie, Ed.D., R.T.(R)(T)(ARRT)

Program Director: Education, Management and Radiography Suzieann Bass, Ed.D., R.T.(R)(ARRT)

Associate Program Director: CT, CT/VI and M Claudia Tamara, D.D.S., R.T.(CT)(N)(ARRT), CNMT

Associate Program Director: MRI Saleha Zafar, M.S., R.T.(R)(MR)(ARRT)

Executive Advisor Aurelio Matamoros, M.D.

Program Information

Mission

The mission of the Diagnostic Imaging Program is to provide the highest quality of education to diagnostic imaging students through formal didactic and state-of-the-art clinical experiences that prepare our students to be diagnostic imaging professionals who are patient care focused, critical thinkers and engaged in lifelong learning.

Vision

We shall be the premier educational program in Diagnostic Imaging by providing innovative curricular, clinical and continuing education services to the diagnostic imaging community and the patients we serve.

Goals

Fulfillment of the program's mission is assessed by the program's effectiveness and the degree to which the program achieves the goals and learning outcomes that will enable our students to succeed academically and professionally.

- Develop a patient care focus by providing superior patient care.
- Demonstrate critical thinking skills.
- Adopt a philosophy of life-long learning through continuing education and professional involvement.
- Embrace the MD Anderson core values of caring, integrity and discovery.
- Communicate effectively in a variety of settings.

Objectives

- The radiologic technologist is a prominent member of the health care team focused on the diagnosis and treatment of human disease.
- Radiologic technologists work with ionizing radiation, radiopharmaceuticals, sound waves and magnetic fields to produce medical images in diagnostic imaging or radiology departments of hospitals and medical clinics or free-standing imaging centers.
- The Diagnostic Imaging Program is designed to prepare students for a challenging career in the Radiologic Sciences through formal didactic and state-of-the-art clinical education. Today's medical practice dictates that technologists have advanced skills in imaging, patient assessment and treatment of specific disease.
- The program accommodates Bachelor of Science degree-seeking students as follows.
    - Those who are working towards initial certification in Radiologic Technology (radiography). These students enter the Diagnostic Imaging Program as sophomores.
    - Graduates of an accredited program in radiologic sciences, with acceptable transferable credits, who must submit proof of certification and have completed the required Texas core curriculum. These students enter the Diagnostic Imaging Program during the senior year of their education and complete their degree through the School of Health Professions.

Emphasis in Magnetic Resonance Imaging

Mission

The mission of the Diagnostic Imaging Program MRI Emphasis is to provide the highest quality education to MRI students through formal didactic and state-of-the-art clinical experiences that prepare our students to be MRI professionals who are

patient care focused, critical thinkers and engaged in lifelong learning.

Vision

We shall be the premier educational program in MRI by providing innovative curricular, clinical and continuing education services to the diagnostic imaging community and the patients we serve.

Goals

Fulfillment of the program's mission is assessed by the program's effectiveness and the degree to which the program achieves the goals and learning outcomes that will enable our students to succeed academically and professionally:

- Students will develop patient care focus by providing superior patient care.
- Students will demonstrate critical thinking skills in the clinical environment.
- Students will adopt a philosophy of life-long learning through continuing education and professional development.
- Students will embrace the MD Anderson core values of caring, integrity and discovery.
- Students will communicate effectively in a variety of settings.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Certificate of Radiography enter at the Sophomore level (for five semesters over 20 months). Students pursuing a Bachelor of Science degree enter either at the Sophomore level (three-year track) or Senior level (one-year track). Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

- **A minimum overall GPA** of 2.5 on a 4.0 scale. Cumulative and prerequisite GPA are factors for admissions.
- **Clinical site visit (**Certificate Applicants only**)** 8 hours clinical site observation at MD Anderson and a clinical site visit evaluation.
- **CPR** certification through the American Heart Association certification.
- **Attend one information session** during the year of the application process.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Diagnostic Imaging, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the One-Year Bachelor's Program

All students must complete a minimum of 54 SCH that includes the Texas Core Curriculum (42 SCH) and an additional 12 SCH. Within these 54 SCH, Anatomy and Physiology I (4 SCH) must be included*.

** Students with a minimum of 30 SCH may apply for the Education or Management part-time option.*

Students must be certified by

- the ARDMS, ARRT or the NMTCB if applying to the Education, Management or MRI emphases.
- the ARRT in radiography (R), radiation therapy (T) or nuclear medicine (N), or the NMTCB if applying to the CT emphasis
- the ARRT(R) if applying to the CT with VI emphasis.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

** The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 125 SCH of coursework. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must be taken at MD Anderson

Upon completion of the curriculum, students will have demonstrated the professional skills necessary to work with ionizing radiation, radiopharmaceuticals, sound waves and or magnetic fields to produce medical images in diagnostic

imaging or radiology departments of hospitals, and medical clinics or freestanding imaging centers.

Graduation is in August. Upon graduation, students are eligible to take the national certification credentialing examination(s) administered by the ARRT in their chosen emphasis(es).

Check with the program director for application deadlines. Upon passing the certification exam(s), the graduate is considered a Registered Technologist (RT). The awarding of the degree is not contingent upon a student passing the national certification exam.

Curriculum

The curriculum meets or exceeds the curriculum recommendations of the American Society of Radiologic Technologists (ASRT). This intensive three-year program is composed of a didactic phase followed by directed clinical training at affiliated hospitals and laboratories.

Accreditation

The Diagnostic Imaging Program is accredited by and has conformed its curriculum to the standards and guidelines published and monitored by the JRCERT.

Current Affiliations

During the clinical phase of instruction, training and supervision are provided in a variety of clinical sites. Visit the Diagnostic Imaging Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Three-Year Advanced Imaging Modalities

All students admitted to the three-year program choose an emphasis for their third (senior) year.

Computed Tomography Senior Year 36 SCH

	FALL 12 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4351	CT Physics I	3
DI 4352	CT of the Nervous System	3
DI 4393	CT Internship I	3
	SPRING 12 SCH	
DI 4301	Research Project	3
DI 4353	CT Physics II	3
DI 4354	CT of the Chest, Abdomen & Pelvis	3
DI 4394	CT Internship II	3
	SUMMER 12 SCH	
DI 4355	Special Topics in CT & VI	3
DI 4356	CT of the Extremities	3
DI 4357	CT Comprehensive Review	3
DI 4395	CT Internship III	3

Computed Tomography with Vascular Interventional Senior Year 42 SCH

	FALL 12 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4351	CT Physics I	3
DI 4352	CT of the Nervous System	3
DI 4393	CT Internship I	3
	SPRING 15 SCH	
DI 4301	Research Project	3
DI 4353	CT Physics II	3
DI 4354	CT of the Chest, Abdomen & Pelvis	3
DI 4358	Vascular/Non-Vascular Interventional Procedures	3
DI 4394	CT Internship II	3
	SUMMER 15 SCH	
DI 4355	Special Topics in CT & VI	3
DI 4356	CT of the Extremities	3
DI 4357	CT Comprehensive Review	3
DI 4359	VI Comprehensive Review	3
DI 4395	CT Internship III	3

Magnetic Resonance Imaging Senior Year 36 SCH

	FALL 12 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4361	MRI Physics I	3
DI 4364	MRI Procedures I	3
DI 4390	MRI Internship I	3
	SPRING 12 SCH	
DI 4301	Research Project	3
DI 4363	MRI Physics II	3
DI 4366	MRI Procedures II	3
DI 4391	MRI Internship II	3
	SUMMER 12 SCH	
DI 4362	MRI Procedures III	3
DI 4365	Special Topics/Future Directions in MRI	3
DI 4367	MRI Comprehensive Review	3
DI 4392	MRI Internship III	3

One-Year Program 41-47 SCH

Students admitted to the One-Year Program take the following classes specific to their emphasis.

Computed Tomography Senior Year 41 SCH

	FALL 15 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4351	CT Physics I	3
DI 4352	CT of the Nervous System	3
DI 4393	CT Internship I	3
HS 3270	Fundamentals of Writing and Critical Thinking	2
HS 4100	Health Care Ethics	1
	SPRING 13 SCH	
DI 4301	Research Project	3
DI 4353	CT Physics II	3
DI 4354	CT of the Chest, Abdomen & Pelvis	3
DI 4394	CT Internship II	3
HS 4101	Diversity & Cultural Competence	1
	SUMMER 13 SCH	
DI 4355	Special Topics in CT & VI	3
DI 4356	CT of the Extremities	3
DI 4357	CT Comprehensive Review	3
DI 4395	CT Internship III	3
HS 4111	Medical Law	1

Computed Tomography with Vascular Interventional Senior Year 47 SCH

	FALL 15 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4351	CT Physics I	3
DI 4352	CT of the Nervous System	3
DI 4393	CT Internship I	3
HS 3270	Fundamentals of Writing and Critical Thinking	2
HS 4100	Health Care Ethics	1
	SPRING 16 SCH	
DI 4301	Research Project	3
DI 4353	CT Physics II	3
DI 4354	CT of the Chest, Abdomen & Pelvis	3
DI 4358	Vascular/Non-vascular Interventional Procedures	3
DI 4394	CT Internship II	3
HS 4101	Diversity & Cultural Competence	1
	SUMMER 16 SCH	
DI 4355	Special Topics in CT & VI	3
DI 4356	CT of the Extremities	3
DI 4357	CT Comprehensive Review	3
DI 4359	VI Comprehensive Review	3
DI 4395	CT Internship III	3
HS 4111	Medical Law	1

Magnetic Resonance Imaging Senior Year 41 SCH

	FALL 15 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4361	MRI Safety I	3
DI 4364	MRI Procedures I	3
DI 4390	MRI Internship I	3
HS 3270	Fundamentals of Writing and Critical Thinking	2
HS 4100	Health Care Ethics	1
	SPRING 13 SCH	
DI 4301	Research Project	3
DI 4363	MRI Physics II	3
DI 4366	MRI Procedures II	3
DI 4391	MRI Internship II	3
HS 4101	Diversity & Cultural Competence	1
	SUMMER 13 SCH	
DI 4362	MRI Procedures III	3
DI 4365	Special Topics/Future Directions in MRI	3
DI 4367	MRI Comprehensive Review	3
DI 4392	MRI Internship III	3
HS 4111	Medical Law	1

B.S. in Diagnostic Imaging – Education and Management (1-Year Program and Continuation of 3-Year Program)

Diagnostic Imaging is a specialty devoted to the study of routine and advanced imaging procedures. The curriculum includes emerging, advanced technologies in Computed Tomography (CT), CT with Vascular Interventional (CT/VI) and Magnetic Resonance Imaging (MRI). The program prepares the student for various careers in hospitals, clinics, education and management.

Certificate Offered

Certificate in Radiologic Sciences

Note: Upon completion of the DI program radiography curriculum (the first two years of the three-year program), students must sit for the examination and certification from the ARRT. To qualify to sit for the ARRT exam, the student must have completed an AA degree or higher prior to the 4th semester of the DI Program.

Degree Offered

Bachelor of Science in Diagnostic Imaging, with Emphases in

- Computed Tomography (CT)
- Computed Tomography/Vascular Interventional (CT/VI)
- Education
- Magnetic Resonance Imaging (MRI)
- Management

Program Administration

Program Director: Advanced Imaging Programs William Undie, Ed.D., R.T.(R)(T)(ARRT)

Program Director: Education, Management and Radiography Suzieann Bass, Ed.D., R.T.(R)(ARRT)

Associate Program Director: CT, CT/VI and M Claudia Tamara, D.D.S., R.T.(CT)(N)(ARRT), CNMT

Associate Program Director: MRI Saleha Zafar, M.S., R.T.(R)(MR)(ARRT)

Executive Advisor Aurelio Matamoros, M.D.

Program Information

Mission

The mission of the Diagnostic Imaging Program is to provide the highest quality of education to diagnostic imaging students through formal didactic and state-of-the-art clinical experiences that prepare our students to be diagnostic imaging professionals who are patient care focused, critical thinkers and engaged in lifelong learning.

Vision

We shall be the premier educational program in Diagnostic Imaging by providing innovative curricular, clinical and continuing education services to the diagnostic imaging community and the patients we serve.

Goals

Fulfillment of the program's mission is assessed by the program's effectiveness and the degree to which the program achieves the goals and learning outcomes that will enable our students to succeed academically and professionally.

- Develop a patient care focus by providing superior patient care.
- Demonstrate critical thinking skills.
- Adopt a philosophy of life-long learning through continuing education and professional involvement.
- Embrace the MD Anderson core values of caring, integrity and discovery.
- Communicate effectively in a variety of settings.

Objectives

- The radiologic technologist is a prominent member of the health care team focused on the diagnosis and treatment of human disease.
- Radiologic technologists work with ionizing radiation, radiopharmaceuticals, sound waves and magnetic fields to produce medical images in diagnostic imaging or radiology departments of hospitals and medical clinics or free-standing imaging centers.
- The Diagnostic Imaging Program is designed to prepare students for a challenging career in the Radiologic Sciences through formal didactic and state-of-the-art clinical education. Today's medical practice dictates that technologists have advanced skills in imaging, patient assessment and treatment of specific disease.
- The program accommodates Bachelor of Science degree-seeking students as follows.
    - Those who are working towards initial certification in Radiologic Technology (radiography). These students enter the Diagnostic Imaging Program as sophomores.
    - Graduates of an accredited program in radiologic sciences, with acceptable transferable credits, who must submit proof of certification and have completed the required Texas core curriculum. These students enter the Diagnostic Imaging Program during the senior year of their education and complete their degree through the School of Health Professions.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Certificate of Radiography enter at the Sophomore level (for five semesters over 20 months). Students pursuing a Bachelor of Science degree enter either at the Sophomore level (three-year track) or Senior level (one-

year track). Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

- **A minimum overall GPA** of 2.5 on a 4.0 scale. Cumulative and prerequisite GPA are factors for admissions.
- **Clinical site visit (**Certificate Applicants only**)** 8 hours clinical site observation at MD Anderson and a clinical site visit evaluation.
- **CPR** certification through the American Heart Association certification.
- **Attend one information session** during the year of the application process.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Diagnostic Imaging, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the One-Year Bachelor's Program

All students must complete a minimum of 54 SCH that includes the Texas Core Curriculum (42 SCH) and an additional 12 SCH. Within these 54 SCH, Anatomy and Physiology I (4 SCH) must be included*.

** Students with a minimum of 30 SCH may apply for the Education or Management part-time option.*

Students must be certified by

- the ARDMS, ARRT or the NMTCB if applying to the Education, Management or MRI emphases.
- the ARRT in radiography (R), radiation therapy (T) or nuclear medicine (N), or the NMTCB if applying to the CT emphasis
- the ARRT(R) if applying to the CT with VI emphasis.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

** The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 125 SCH of coursework. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must be taken at MD Anderson

Upon completion of the curriculum, students will have demonstrated the professional skills necessary to work with ionizing radiation, radiopharmaceuticals, sound waves and or magnetic fields to produce medical images in diagnostic imaging or radiology departments of hospitals, and medical clinics or freestanding imaging centers.

Graduation is in August. Upon graduation, students are eligible to take the national certification credentialing examination(s) administered by the ARRT in their chosen emphasis(es).

Check with the program director for application deadlines. Upon passing the certification exam(s), the graduate is considered a Registered Technologist (RT). The awarding of the degree is not contingent upon a student passing the national certification exam.

Curriculum

The curriculum meets or exceeds the curriculum recommendations of the American Society of Radiologic Technologists (ASRT). This intensive three-year program is composed of a didactic phase followed by directed clinical training at affiliated hospitals and laboratories.

Accreditation

The Diagnostic Imaging Program is accredited by and has conformed its curriculum to the standards and guidelines published and monitored by the JRCERT.

Current Affiliations

During the clinical phase of instruction, training and supervision are provided in a variety of clinical sites. Visit the Diagnostic Imaging Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Three-Year Education & Management

All students admitted to the three-year program choose an emphasis for their third (senior) year.

Education Senior Year 36 SCH

	FALL 9 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4313	Education Internship I	3
DI 4323	Management Skills for New Supervisors	3
	SPRING 15 SCH	
DI 4301	Research Project	3
DI 4310	Teaching Strategies in Health Care Education	3
DI 4314	Education Internship II	3
DI 4319	Fiscal Analysis in Health Care	3
DI 4322	Effective Human Resources Management	3
	SUMMER 12 SCH	
DI 4311	Instructional Design	3
DI 4315	Issues in Health Care Education	3
DI 4316	Leadership in Radiologic Sciences	3
DI 4326	Individual Projects	3

Management Senior Year 36 SCH

	FALL 9 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4323	Management Skills for New Supervisors	3
DI 4324	Management Internship I	3
	SPRING 12 SCH	
DI 4301	Research Project	3
DI 4319	Fiscal Analysis in Health Care	3
DI 4321	Operations Management	3
DI 4322	Effective Human Resources Management	3
	SUMMER 15 SCH	
DI 4316	Leadership in Radiologic Sciences	3
DI 4317	Staff Development	3
DI 4318	Promotional Strategies in Rad Sciences	3
DI 4320	Current Trends in Health Care Management	3
DI 4328	Management Internship II	3

One-Year Program 41-47 SCH

Students admitted to the One-Year Program take the following classes specific to their emphasis.

Education Senior Year 41 SCH

	FALL 12 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4313	Education Internship I	3
DI 4323	Management Skills for New Supervisors	3
HS 3270	Fundamentals of Writing and Critical Thinking	2
HS 4100	Health Care Ethics	1
	SPRING 16 SCH	
DI 4301	Research Project	3
DI 4310	Teaching Strategies in Health Care Education	3
DI 4314	Education Internship II	3
DI 4319	Fiscal Analysis in Health Care	3
DI 4322	Effective Human Resources Management	3
HS 4101	Diversity & Cultural Competence	1
	SUMMER 13 SCH	
DI 4311	Instructional Design	3
DI 4315	Issues in Health Care Education	3
DI 4316	Leadership in Radiologic Sciences	3
DI 4326	Individual Projects	3
HS 4111	Medical Law	1

Management Senior Year 41 SCH

	FALL 12 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4323	Management Skills for New Supervisors	3
DI 4324	Management Internship I	3
HS 3270	Fundamentals of Writing and Critical Thinking	2
HS 4100	Health Care Ethics	1
	SPRING 13 SCH	
DI 4301	Research Project	3
DI 4319	Fiscal Analysis in Health Care	3
DI 4321	Operations Management	3
DI 4322	Effective Human Resources Management	3
HS 4101	Diversity & Cultural Competence	1
	SUMMER 16 SCH	
DI 4316	Leadership in Radiologic Sciences	3
DI 4317	Staff Development	3
DI 4318	Promotional Strategies in Health Care Management	3
DI 4320	Current Trends in Health Care Management	3
DI 4328	Management Internship II	3
HS 4111	Medical Law	1

B.S. in Diagnostic Medical Sonography

Diagnostic Medical Sonography is a non-invasive imaging modality that uses high frequency sound waves to produce a dynamic visual image of the internal organs or tissues in the body including abdominal organs, a developing fetus, male or female reproductive organs and blood flow.

Degree Offered

Bachelor of Science in Diagnostic Medical Sonography

Program Administration

Program Director Hady Abdin, M.D., RDMS, RVT, RDCS, RPVI

Executive Advisor Aurelio Matamoros, M.D.

Program Information

Mission

The mission of the Diagnostic Medical Sonography Program is to provide the highest quality of education to diagnostic imaging students through formal didactic and state-of-the-art clinical experiences that prepare students to be diagnostic medical sonographers who are focused on patient care, are critical thinkers and are engaged in lifelong learning.

Vision

We shall be the premier educational program in Diagnostic Medical Sonography by providing innovative curricular, clinical and continuing education services to the diagnostic imaging community and the patients we serve.

Goals

Fulfillment of the program's mission is assessed by the program's effectiveness and the degree to which the program achieves the goals in which our students will academically and professionally:

- Graduates will develop a patient care focus by providing superior patient care.
- Graduates will adopt a philosophy of lifelong learning through continuing education and professional involvement.
- Graduates will embrace MD Anderson values of caring, integrity and discovery.
- Graduates will be able to communicate effectively in a variety of settings.
- Prepare graduates to successfully challenge the ARDMS boards through didactic education and clinical experience.
- Prepare students to be successful in meeting the challenges of being a Sonographer.
- Provide a high-quality education experience for all students.
- Provide tutoring and online tutoring to all students to help ensure their success in the program.
- Provide students with awareness for the significance of continuing education and instill in them the desire to continue their education after graduation.
- Graduate Sonographers to practice Sonography within an ethical and legal framework consistent with the ARDMS and the Society of Diagnostic Medical Sonography (SDMS) standards.

- Graduate Sonographers to use critical thinking to analyze clinical data and current literature as a basis for decision making in Sonography.
- To prepare competent entry level Sonographers in the cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Bachelor of Science degree enter at the Junior level. Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

- **A minimum GPA** of 2.5 on a 4.0 scale both overall and in science and mathematics courses is required to be considered for admission. Cumulative and prerequisite GPA are factors for admissions. Special circumstances may be considered, but at the discretion of the Admissions Committee.
- **Attend one information session** during the year of the application process.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Diagnostic Medical Sonography, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Two-Year Program

Students must complete a minimum of 42 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses.

- 4 SCH College Physics with laboratory.
- 4 SCH in Anatomy and Physiology I
- 4 SCH in Anatomy and Physiology II

View the prerequisite sheet (pdf) for details.

Note: Students are recommended to complete an associate's or bachelor's degree from a regionally accredited institution, but a degree is not required.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

**Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 120 SCH of coursework. Within this requirement, students must complete at least 40 SCH of upper-level coursework at MD Anderson.

Graduation is in August. Upon graduation, participants will be eligible to take the national registry examination administered by the ARDMS under category 3B. The awarding of the degree is not contingent upon a student passing the national certification exam

Curriculum

Upon completion of the curriculum, students will have demonstrated the professional skills necessary to work sound waves to produce medical images in diagnostic imaging or radiology departments of hospitals and medical clinics or free-standing imaging centers.

Accreditation Information

MD Anderson is regionally accredited through SACSCOC. The educational standards of this program are based on the Diagnostic Medical Sonography National Educational Curriculum.

Current Affiliations

Students rotate through multiple clinical sites at The Texas Medical Center. The diversity of examination procedures at the respective facilities offers the students broad skills, as well as opportunities for future employment upon graduation. Visit the Diagnostic Medical Sonography Program page for a list of current rotations.

Course Listings

The semester-by-semester schedule below includes all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Two-Year Program 78 SCH

Junior Year 45 SCH

	FALL 16 SCH	
DS 3103	Intro to Vascular Technology	1
DS 3201	General Ultrasound	2
DS 3221	Sonographic Physics I	2
DS 3222	Sonographic Physics II	2
DS 3341	Abdominal Ultrasound	3
DS 3371	Sonography Lab I	3
HS 3270	Fundamentals of Writing and Critical Thinking	2
HS 4100	Health Care Ethics	1
	SPRING 15 SCH	
DS 3211	Clinical Internship I	2
DS 3343	Obstetrics Sonography	3
DS 3361	Abdominal Pelvis Pathology	3
DS 3372	Sonography Lab II	3
DS 4351	Doppler Ultrasound	3
HS 4101	Diversity & Cultural Competence	1
	SUMMER 14 SCH	
DS 3262	Gynecological Pathology	2
DS 3264	Sonography of Superficial Structures	2
DS 3312	Clinical Internship II	3
DS 3363	Neurosonology	3
DS 3373	Sonography Lab III	3
HS 4111	Medical Law	1

Senior Year 33 SCH

	FALL 17 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DS 4265	Pediatric Sonography	2
DS 4302	Principles of Vascular Technology	3
DS 4311	Clinical Internship III	3
DS 4345	Sonography of High-Risk Obstetrics	3
DS 4374	Sonography Lab IV	3
	SPRING 16 SCH	
DI 4301	Research Project	3
DS 4100	Registry Review	1
DS 4142	Special Topics in DMS	1
DS 4246	Sonography of Small Parts	2
DS 4303	Advanced Non-Invasive Vascular Technology	3
DS 4312	Clinical Internship IV	3
DS 4375	Sonography Lab V	3

B.S. in Healthcare Analytics and Advocacy

The Healthcare Analytics and Advocacy program provides specific knowledge and skills related to global health care disparities, diversity and advocacy in health care and in patient experience. This degree presents unique opportunities to learn about disparities, diversity and advocacy in a non-traditional, full- or part-time online format.

Graduates will gain knowledge and experience for employment in health care disparities, diversity or patient experience advocacy roles.

Degree Offered

Bachelor of Science in Healthcare Analytics and Advocacy

Program Administration

Program Director Susan K. Lee, Ph.D., R.N., CNE, CPXP, FAAN

Program Advisors
Jay Bezerra (Advocacy)
Alba Calzada (Disparities)
Ranna Parekh (Diversity)

Executive Advisor Shibu Varghese, M.A.

Program Information

Mission

The mission of the Healthcare Analytics and Advocacy program is to provide the highest quality of education to students through online didactic and preceptorship experiences in the practice of health care analytics and patient advocacy.

Vision

The Healthcare Analytics and Advocacy program shall be the premier provider of education in health care analytics and patient experience advocacy based on best practices and research in these areas of healthcare.

Objectives

- Healthcare Analytics and Advocacy students will concentrate on health disparities. The student will
  - Demonstrate awareness of factors contributing to disparities in health care among marginalized populations.
  - Identify resources available for reducing health disparities.
  - Demonstrate health care professionals' role in eliminating health disparities.
- Healthcare Analytics and Advocacy students will be culturally competent with diverse populations. The student will
  - Demonstrate cultural sensitivity.
  - Analyze barriers to the delivery of health care in diverse populations.
  - Apply solutions to selected concerns in diverse populations studied.
- Healthcare Analytics and Advocacy students will be patient advocates. The student will

  - Demonstrate communication techniques in difficult health care situations.
  - Evaluate risks in health care institution-patient experience.
  - Identify federal, state and local regulations related to patient advocacy.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Bachelor of Science degree enter at the Junior level. Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

A minimum GPA of 2.5 on a 4.0 scale both overall and in science courses is required to be considered for admission. Cumulative and prerequisite GPA are factors for admissions.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Healthcare Analytics and Advocacy , enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at

any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Online Program

Students must complete a minimum of 72 SCH that includes the Texas Core Curriculum (42 SCH) and an additional 30 SCH. To fulfill these 30 SCH, applicants have the following options.

1. Transfer 30 SCH of elective courses from regionally accredited colleges and universities. Remedial-level courses will not be accepted.
2. Receive a maximum of 30 SCH, at the discretion of the School of Health Professions Curriculum Committee, for holding a national certification in a health care discipline, e.g. Medical Laboratory Technician, Surgical Technologist, Dental Hygienist.
3. Complete the required 30 SCH of elective courses at the School of Health Professions. Course offerings vary by semester.

Applicants who hold nationally recognized certification in a health profession and are graduates of an accredited program may be awarded a maximum of 30 SCH as elective coursework. SCH given will be evaluated and determined using set criteria developed by the program's admissions committee.

An applicant who has earned a baccalaureate degree from a regionally accredited college or university may be awarded a second degree by meeting the following requirements:

- Accepted to the School of Health Professions
- Fulfilled all General Education Core curriculum requirements
- Completed a minimum of 48 SCH of the required curriculum
- Provided supporting documents to the Office of the Registrar

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

**Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 120 SCH of coursework. Within this requirement, students must complete the following at MD Anderson.

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must be taken at MD Anderson

Graduation is in August.

Curriculum

Upon completion of the curriculum, students will have demonstrated the professional skills necessary to function in health care analytics and advocacy.

Accreditation

MD Anderson is regionally accredited through SACSCOC.

Course Listings

The semester-by-semester schedule below includes all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Two-Year Program 48 SCH

Junior Year 24 SCH

	FALL 12 SCH	
HAA 4211	Medical Law	2
HAA 4311	Understanding Community Health Care Needs	3
HAA 4313	Health Across the Lifespan	3
HAA 4322	Effective Mentorship	3
HS 4100	Health Care Ethics	1
	SPRING 12 SCH	
HAA 4314	Resources and Support for Complex Health Scenarios	3
HAA 4321	Understanding Patient Needs	3
HAA 4323	Organizational Behavior in Health Care	3
HAA 4331	Patient Advocacy	3

Senior Year 24 SCH

	FALL 12 SCH	
HAA 4324	Seminar in Population Health	3
HAA 4332	The Role of the Patient Advocate	3
HAA 4333	Healthcare Policy and Practice	3
HS 3110	Medical Terminology	1
HS 3270	Fundamentals of Writing and Critical Thinking	2
	SPRING 12 SCH	
HAA 4312	Comparative Health Practice	3
HAA 4334	Seminar in Patient Advocacy	3
HAA 4340	Leadership in Healthcare	3
HAA 4345	Healthcare Analytics	3

PART-TIME Program 48 SCH

Year 1 12 SCH

	FALL 6 SCH	
HAA 4211	Medical Law	2
HAA 4322	Effective Mentorship	3
	SPRING 6 SCH	
HAA 4321	Understanding Patient Needs	3
HAA 4323	Organizational Behavior in Health Care	3

Year 2 12 SCH

	FALL 6 SCH	
HAA 4311	Understanding Community Health Care Needs	3
HAA 4313	Health Across the Lifespan	3
	SPRING 6 SCH	
HAA 4314	Resources and Support for Complex Health Scenarios	3
HAA 4331	Patient Advocacy	3

Year 3 12 SCH

	FALL 6 SCH	
HAA 4332	The Role of the Patient Advocate	3
HAA 4333	Healthcare Policy and Practice	3
	SPRING 6 SCH	
HAA 4312	Comparative Health Practices	3
HAA 4340	Leadership in Healthcare	3

Year 4 12 SCH

	FALL 6 SCH	
HAA 4324	Seminar in Population Health	3
HS 3110	Medical Terminology	1
HS 3270	Fundamentals of Writing and Critical Thinking	2
	SPRING 6 SCH	
HAA 4334	Seminar in Patient Advocacy	3
HAA 4345	Healthcare Analytics	3

Electives

Students who choose to complete elective courses at MD Anderson may choose from the following course offerings.

HAA 3345	Directed Readings	1-3
HAA 4316	Telehealth Best Practices and Operations	3
HAA 4390	Independent Project	1-3
DI 4310	Teaching Strategies in Health Care Education	3
DI 4311	Instructional Design	3
HS 3333	Statistics	3

B.S. in Histotechnology

Histotechnology is the specialty that plays a fundamental role in detecting abnormalities of tissue cells. The application of theoretical and applied knowledge of biologic and chemical sciences is utilized to prepare tissue specimens for microscopic examination. This is an important part of the intricate process of scientific investigation used in establishing and confirming patient diagnosis and research.

Degree Offered

Bachelor of Science in Histotechnology

Program Administration

Program Director Mark A. Bailey, M.A., HTL(ASCP)^{CM}

Associate Program Director Toysha Mayer, D.H.Sc., HT(ASCP)

Executive Advisor Maria Gubbiotti, M.D., Ph.D.

Program Information

Mission

The mission of the School of Health Professions Program in Histotechnology, in concert with the mission and vision of the University of Texas MD Anderson Cancer center, is to develop and maintain a quality program in which our graduates are academically and technically competent to enter the workforce as entry-level histotechnologists. Therefore, our students and graduates will promote best practices and ethical standards associated with the Histotechnology discipline.

Objectives

The primary objective of the Histotechnology program is to offer entry-level routine histotechnology courses to the program's students as well as well as an introduction to advanced laboratory techniques such as:

- Digital Microscope Imaging
- Immunohistochemistry
- Laboratory Management
- Tissue Biopsy Grossing
- Tissue Biorepository

Our graduates are prepared to work in a variety of settings such as hospitals, medical schools, veterinary medicine, research, private independent laboratories, industry and local, state and federal agencies in both urban and rural settings.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Bachelor of Science degree enter either at the Junior level (two-year track) or Senior level (one year and professional tracks). Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section.

- **Applicants to the program** must have completed all core curriculum courses required by the TEC and all biology and chemistry courses required by the Board of Certification of ASCP.
- **A minimum GPA** of 2.5 on a 4.0 scale both overall and in science courses is required to be considered for admission. Cumulative, science and math GPA are factors for admissions. Special circumstances may be considered, but at the discretion of the Admissions Committee.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Histotechnology, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Two-Year Program

Students must complete a minimum of 60 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses:

- 4 SCH in Biology I
- 4 SCH in Biology II
- 4 SCH in General Chemistry I
- Additional 8 SCH in Biology and/or Chemistry

Refer to the prerequisite sheet (pdf) for details.

For the One-Year Program

Students must complete a minimum of 90 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses:

- 4 SCH in Biology I
- 4 SCH in Biology II
- 4 SCH in General Chemistry I
- Additional 18 SCH in Biology and/or Chemistry
- 18 SCH of upper-level courses

Refer to the prerequisite sheet (pdf) for details.

For the One-Year Professional Program

Students must complete a minimum of 90 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses:

- 4 SCH in Biology I
- 4 SCH in Biology II
- 4 SCH in General Chemistry I
- Additional 18 SCH in Biology and/or Chemistry
- 18 SCH of upper-level courses

In addition, students must meet the following additional requirements.

- Certified with ASCP(HT)
- Minimum of one year working experience in a Histotechnology Service Laboratory
- Currently working in a Histotechnology Service Laboratory that will serve as the clinical affiliate site

Refer to the prerequisite sheet (pdf) for details.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

**Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 121 SCH of coursework. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must be taken at MD Anderson

Graduation is in August. Upon graduation, students are eligible to take the national certification exam in histotechnology administered by the ASCP Board of Certification. Check with the program director for application deadlines and exam dates. Upon passing either exam, the student is considered a certified histotechnologist. The awarding of the degree is not contingent upon a student passing the national certification exam.

Curriculum

The comprehensive two-year program is composed of a didactic phase followed by directed clinical internships at affiliated hospitals and laboratories. During the didactic phase, formal lectures, demonstrations and rotations through clinical laboratories provide experience in routine and specialized procedures. Laboratory sessions are coordinated with lectures and cover the fundamentals of diagnostic laboratory procedures and are included in the didactic phase. The program maintains an extensive collection of reference books, microscopic slides and projection slides, Power Point presentations and microscopic digitized images for use in lectures and independent study. Students are expected to maintain high academic performance and display appropriate professional and ethical behavior during all phases of their education and training.

Accreditation

The Histotechnology program is accredited by, and the curriculum conforms to the standards published and monitored by NAACLS.

Current Affiliations

The Program in Histotechnology has developed education affiliations with clinical and research pathology laboratories and medical institutions in the Greater Houston area, so that students will develop expertise in a variety of settings and experience the breadth of opportunity available to a certified histotechnologist. During the clinical phase of instruction, training and supervision are provided in affiliated clinical laboratories. Visit the Histotechnology Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Two Year Program 62 SCH

Junior Year 24 SCH

	FALL 12 SCH	
HS 3101	Basic Techniques Lab	1
HS 3110	Medical Terminology	1
HS 3210	Laboratory Mathematics	2
HS 4100	Health Care Ethics	1
HS 4111L	Medical Microbiology Lab	1
HS 4300	Pathophysiology for Health Professions	3
HS 4310	Medical Microbiology	3
	SPRING 12 SCH	
HS 3102	Molecular Techniques Lab	1
HS 3300	Medical Immunology	3
HS 3340	Research Seminar	3
HS 4101	Diversity & Cultural Competence	1
HS 4161	Seminar in Healthcare	1
HS	Elective*	3

** Choose one of the following courses*

HS 3310	Quality in Healthcare	3
HS 3320	Medical Genetics	3

Senior Year 38 SCH

	FALL 13 SCH	
HS 4371	Management and Education	3
HT 4241	Histotechnology Lab Operations I	2
HT 4312	Theory & Practice of Histotechniques I	3
HT 4521	Histotechniques Laboratory Rotation I	5
	SPRING 12 SCH	
HS 3254	Immunohistochemistry	2
HT 4242	Histotechnology Lab Operations II	2
HT 4413	Theory & Practice of Histotechniques II	4
HT 4444	Theory of Special Stains	4
	SUMMER 13 SCH	
HT 4390	Histotechnology Capstone Review	3
HT 4522	Histotechniques Laboratory Rotation II	5
HT 4523	Histotechniques Laboratory Rotation III	5

One-Year and Professional Programs 40 SCH

Senior Year 40 SCH

	FALL 14 SCH	
HS 4100	Health Care Ethics	1
HS 4371	Management & Education	3
HT 4241	Histotechnology Lab Operations I	2
HT 4312	Theory & Practice of Histotechniques I	3
HT 4521	Histotechniques Laboratory Rotation I	5
	SPRING 13 SCH	
HS 3254	Immunohistochemistry	2
HS 4101	Diversity & Cultural Competence	1
HT 4242	Histotechnology Lab Operations II	2
HT 4413	Theory & Practice of Histotechniques II	4
HT 4444	Theory of Special Stains	4
	SUMMER 13 SCH	
HT 4390	Histotechnology Capstone Review	3
HT 4522	Histotechniques Laboratory Rotation II	5
HT 4523	Histotechniques Laboratory Rotation III	5

B.S. in Medical Dosimetry

Medical Dosimetrists are vital members of the radiation oncology team, working closely with radiation oncologists, medical physicists, and radiation therapists to create customized radiation treatment plans designed to target cancer while sparing normal tissue. In order to carry out this work, medical dosimetrists must develop a knowledge base that includes, but is not limited to, human anatomy, clinical disease processes, radiation physics, and computer technology.

Medical dosimetrists use multimodality imaging, including CT, MRI, and PET scans, to construct three-dimensional treatment plans that will allow the delivery of high doses of radiation to a tumor while minimizing the risk to sensitive surrounding tissues. In the course of their work, medical dosimetrists also contribute to excellence in patient care by participating in quality assurance and innovative clinical research.

Students are prepared for the technical, theoretical, and psychological aspects of a career in this field and acquire the professional skills of dose calculation, treatment design and quality assurance through intensive classroom, laboratory, and clinical education.

Degree Offered

Bachelor of Science in Medical Dosimetry

Program Administration

Program Director Mahsa Dehghanpour, Ed.D., CMD

Associate Program Director Jamie Baker, Ph.D., CMD

Executive Advisor George Perkins, M.D.

Program Information

Mission

To provide high quality didactic and technologically advanced clinical education in Medical Dosimetry and to graduate professional practitioners who are valued by radiation oncology employers, display excellent treatment planning and assessment skills, and remain active in the professional community and learning throughout their careers.

Vision

We shall be the premier educational program in medical dosimetry by providing innovative curricular, clinical and continuing education services to The University of Texas MD Anderson Cancer Center, the State of Texas and the world.

Goals

- Students will be clinically competent.
- Students will display critical thinking skills.
- Students will demonstrate professionalism.
- Students will display effective communication skills.
- The program will provide the community with entry-level medical dosimetrists.

Objectives

The Program in Medical Dosimetry is designed to prepare students for the technical, theoretical and psychological aspects of a career in this field. Students acquire the professional skills of dose calculation, treatment design and quality assurance through intensive classroom, laboratory and clinical education under the supervision of board-certified medical dosimetrists, physicists and radiation oncologists.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Bachelor of Science degree enter at the Junior level. Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

> **A minimum GPA** of 2.5 on a 4.0 scale both overall and in undergraduate courses is required to be considered for admission.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Medical Dosimetry, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Two-Year Program

Students must complete a minimum of 60 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses:

- 4 SCH in Anatomy and Physiology I
- 4 SCH in Anatomy and Physiology II
- 4 SCH in General Physics I
- 4 SCH in General Physics II
- 3 SCH in Calculus I
- 3 SCH Calculus II

Refer to the prerequisite sheet (pdf) for details.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

**Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 130 SCH of coursework. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must be taken at MD Anderson

Graduation is in August. Upon graduation, students are eligible to take the national certification exam in Medical Dosimetry administered by the MDCB. Check with the program director or visit the MDCB site for application deadlines and exam dates. Upon passing the exam, the graduate is considered a Certified Medical Dosimetrist (CMD). The awarding of the degree is not contingent upon a student passing the national certification exam.

Curriculum

This intensive two-year program is composed of didactic education and directed clinical training at MD Anderson clinics and affiliated hospitals. During the didactic phase, formal lectures cover dose calculations, treatment design, quality assurance and other field specific topics. Treatment planning laboratory sessions complement the lecture series.

Accreditation

The Program is accredited by and has conformed its curriculum to the standards and guidelines published and monitored by the JRCERT.

Current Affiliations

During the clinical phase of instruction, training and supervision are provided in a variety of locations. Visit the Medical Dosimetry Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedule below includes all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Two-Year Program 70 SCH

Junior Year 28 SCH

	FALL 14 SCH	
HS 4100	Health Care Ethics	1
HS 4300	Pathophysiology for Health Professions	3
MD 3201	Introduction to Radiation Treatment	2
MD 3302	Introduction to Treatment Planning I	3
MD 4102	Anatomy for Radiation Oncology	1
MD 4300	Introduction to Medical Dosimetry	3
RT 4101	Radiation Safety & Protection	1
	SPRING 14 SCH	
HS 4101	Diversity & Cultural Competence	1
MD 3303	Introduction to Treatment Planning II	3
MD 3304	Introduction to Clinical Medical Dosimetry	3
MD 4204	Aspects of Radiation Oncology	2
MD 4210	Radiation Biology	2
MD 4313	Clinical Radiation Oncology	3

Senior Year 42 SCH

	FALL 15 SCH	
MD 4301	Medical Dosimetry Physics I	3
MD 4302	Brachytherapy Dosimetry	3
MD 4303	Research in Radiologic Sciences I	3
*Clinical Education		6
	SPRING 15 SCH	
MD 4305	Medical Dosimetry Physics II	3
MD 4306	Research in Radiologic Sciences II	3
MD 4309	Interstitial & Intracavitary Dosimetry	3
*Clinical Education		6
	SUMMER 12 SCH	
MD 4401	Radiation Physics	4
MD 4508	External Beam Dosimetry	5
*Clinical Education		3

** Note that the following courses are offered each semester of the Senior Year. Program academic advisors will notify students as to which clinical courses to register for each semester.*

MD 4331	Clinical Education I	3
MD 4332	Clinical Education II	3
MD 4333	Clinical Education III	3
MD 4334	Clinical Education IV	3
MD 4335	Internship in Radiation Oncology	3

Free Elective Courses

If a student has taken a course in the Two-Year Curriculum as a prerequisite prior to entering the program, then that student will not be required to repeat the course. However, the student must substitute one of the following *Free Electives* with equivalent SCH in order to fulfill the minimum required SCH for graduation from the Medical Dosimetry program.

DI 4310	Teaching Strategies in Health Care Education	3
DI 4318	Promotional Strategies in Rad Sciences	3
DI 4320	Current Trends in Health Care Management	3
DI 4322	Effective Human Resources Management	3
DI 4323	Management Skills for New Supervisors	3
HS 3110	Medical Terminology	1
HS 3340	Research Methods	3
HS 4111	Medical Law	1
RT 4199	Special Topics in Radiation Therapy	1
RT 4309	Special Applications in Radiation Oncology	3

NOTE: Additional courses may be used as Free Electives with the approval of the program director.

B.S. in Medical Laboratory Science

The medical laboratory scientist is an essential member of the health care team, performing a myriad of laboratory procedures aimed at the diagnosis and treatment of disease.

Degree Offered

Bachelor of Science in Medical Laboratory Science

Program Administration

Program Director Brandy Greenhill, Dr.P.H., MLS(ASCP)^{CM}

Executive Advisor Jeffrey Tarrand, M.D.

Program Information

Mission

The MD Anderson Cancer Center Program in Medical Laboratory Science, in concert with the mission and vision of The University of Texas MD Anderson Cancer Center, is committed to the education of technically and academically competent graduates prepared to meet the immediate and future needs of the Medical Laboratory Science profession.

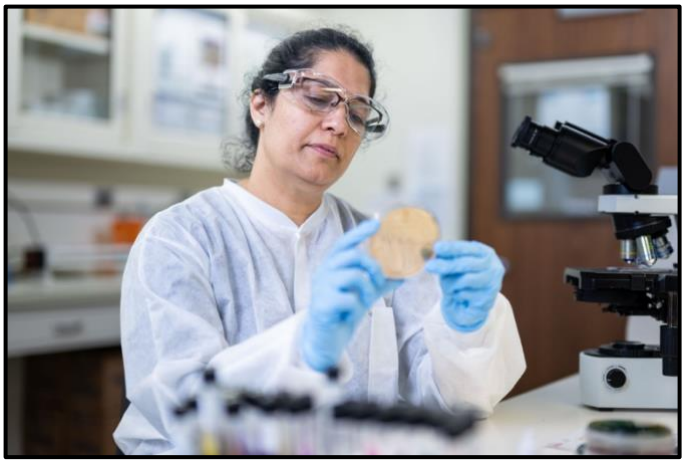
Goals

The faculty of the Program in Medical Laboratory Science is committed to the following.

- Providing the didactic and clinical instruction that offers the graduate the opportunity to prepare to
  - Perform procedures in all areas of the medical laboratory.
  - Integrate and correlate laboratory data.
  - Solve problems relating to the production of laboratory results.
- Maintaining an effective program of student development and learning.
- Leading the student in developing an understanding and appreciation for a total quality management program, the skills necessary to establish quality control measures, and to making appropriate decisions to maintain accuracy and precision.
- Meeting the future needs of the Medical Laboratory Science profession by including the following.
  - State-of-the-art procedures and instrumentation.
  - Courses that offer career alternatives.
  - Opportunities to participate in research and development of molecular techniques.
- Developing the framework for the graduate to maintain and grow in professional competence throughout his lifetime by promoting participation in continuing education activities of the laboratory, MD Anderson and the community.
- Communicating the necessity of obeying a professional code of conduct toward patients, visitors and all health care professionals and of demonstrating the highest regard for human dignity and life.

Objectives

- The Program in Medical Laboratory Science is designed to prepare students to perform medical laboratory analysis, make appropriate decisions and solve problems to become successful entry-level medical laboratory scientists.
- The program provides instruction and training in all the major areas of the medical laboratory through both didactic and clinical training. Most students enter the program to pursue a Bachelor of Science degree.
- The medical laboratory scientist is an essential member of the health care team, performing a myriad of laboratory procedures aimed at the diagnosis and treatment of disease.
- The technical procedures and complex instruments used in modern laboratory medicine require well-educated and technically proficient scientists. Medical laboratory scientists are problem solvers, technologists who use their knowledge and technical skills to operate and repair laboratory instruments, monitor quality control programs, produce high-quality patient test results and correlate test results with disease processes.
- The primary goal of the Medical Laboratory Science program is to provide the community with competent, entry-level medical laboratory scientists (medical laboratory scientists) who are prepared to meet the qualifications for certification in their profession.
- While many scientists choose to work in hospital laboratories, others opt to develop new testing procedures in diagnostic and research laboratories. Scientists with leadership ability and administrative skills manage the laboratory operations. Those interested in computer technology use their laboratory knowledge and skills in the management of laboratory information systems. Others provide educational programs to prepare the scientists for the future. There are even opportunities for scientists to serve as self-employed consultants.



Program Competencies

The Medical Laboratory Science curriculum offers the student the opportunity to obtain the following competencies.

- Accurate application of mathematic principles in the medical laboratory science domain of practice.
- Appropriate interpersonal and public speaking skills in the clinical and academic setting.
- Appropriate oral and written communication in the clinical and academic setting.
- Appropriate computer skills in the clinical and academic setting.
- Synthesis of information from primary and secondary sources using recognized research techniques.
- Critical reading and writing strategies to evaluate, interpret and analyze non-fiction, academic and professional readings.

- Knowledge of quality assurance through application of quality control and required documents for regulatory compliance.
- Correlation of disease processes with appropriate assays for diagnosis.
- Application of management principles in the medical laboratory science domain of practice.
- Ability to collect specimens and determine the criteria of acceptability and rejection.
- Ability to operate instrumentation, troubleshoot and document preventive maintenance.
- Ability to describe the theory and principle of operation of the test methodology for all areas of the clinical laboratory.
- Ability to perform appropriate assays with the ability and accuracy to determine the accuracy of results from interference substances.
- Ability to correctly perform appropriate manual procedures when necessary.
- Ability to apply knowledge of test limitations and select appropriate corrective action for out-of-limits situations.
- Ability to organize workflow to make efficient use of time and materials.
- Ability to differentiate between appropriate and inappropriate results by recognizing normal, abnormal and critical values and taking appropriate action where necessary.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Bachelor of Science degree enter at the Junior level. Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Medical Laboratory Science, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Two-Year Program

Students must complete a minimum of 60 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses.

- 8 SCH in Anatomy and Physiology I & II, or Biology I & II
- 4 SCH in General Chemistry I with lab
- 4 SCH in General Chemistry II with lab
- 4 SCH in Organic Chemistry I with lab
- 4 SCH in Organic Chemistry II with lab, or Biochemistry

Refer to the prerequisite sheet (pdf) for details.

Advanced Placement

The School of Health Professions may accept and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

**Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty is consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for graduation with a baccalaureate degree in Medical Laboratory Science must have completed a minimum of 129 SCH of coursework. Within this requirement, the students must have completed the following:

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must have been earned at the School of Health Professions

Graduation is in August. Upon graduation, students are eligible to take the national certification exam administered by the ASCP. This exam is given throughout the year. Check with the program director for application deadlines.

Upon passing the certification examination, the student is considered a certified Medical Laboratory Scientist. The awarding of the degree is not contingent upon a student passing a national certification examination.

Curriculum

The Program in Medical Laboratory Science is a highly intensive course of study composed of didactic and clinical training. Didactic courses are presented in clinical hematology and hemostasis, clinical chemistry, clinical microscopy, microbiology, immunohematology, immunology, molecular diagnostics, human tissue typing and management.

The course of study will offer the student the opportunity to obtain the following .

- Fundamental knowledge to enter the profession as a capable medical laboratory scientist.

- Highly specialized skills that will broaden career opportunities.

During the clinical phase of instruction, training and supervision are provided at leading medical laboratories at sister medical institutions within the Texas Medical Center and beyond, in order that students may develop expertise in a variety of settings and experience the breadth of opportunity available to Medical Laboratory Scientists.

Accreditation

The MD Anderson Program of Medical Laboratory Science is accredited by and has confirmed its curriculum to the standards published and monitored by NAACLS.

Current Affiliations

During the clinical phase of instruction, training and supervision are provided in affiliated medical laboratories. Visit the Medical Laboratory Science Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedule below includes all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Two-Year Program 69 SCH

Junior Year 31 SCH

	FALL 14 SCH	
HS 3101	Basic Techniques Lab	1
HS 3210	Laboratory Mathematics	2
HS 3330	Pathology of Body Fluids	3
HS 4100	Health Care Ethics	1
HS 4111L	Medical Microbiology Lab	1
HS 4300	Pathophysiology for Health Professions	3
HS 4310	Medical Microbiology	3
	SPRING 17 SCH	
CL 4345	Hemostasis	3
HS 3102	Molecular Techniques Lab	1
HS 3300	Medical Immunology	3
HS 3310	Introduction to Quality Healthcare	3
HS 3333	Statistics	3
HS 3340	Research Methods	3
HS 4101	Diversity & Cultural Competence	1

Senior Year 38 SCH

	FALL 12 SCH	
CL 4200	Core Laboratory Techniques Laboratory	2
CL 4400	Clinical Chemistry	4
CL 4440	Clinical Hematology	4
HS 3270	Fundamentals of Writing and Critical Thinking	2
	SPRING 13 SCH	
CL 4210	Microbiology Student Lab	2
CL 4231	Immunohematology Lab	2
CL 4320	Diagnostic Microbiology	3
CL 4330	Immunohematology	3
HS 4371	Management and Education	3
	SUMMER 13 SCH	
CL 4260	Capstone	2
CL 4321	Clinical Microbiology	3
CL 4332	Clinical Immunohematology	3
CL 4530	Clinical Core Rotation	5

B.S. in Molecular Genetic Technology

Molecular genetic technologists study the role of DNA in oncology, Mendelian genetics, forensic identity, infectious disease, population genetics, and pre-and post-natal diagnosis.

Degree Offered

Bachelor of Science in Molecular Genetic Technology

Program Administration

Program Director Peter Hu, Ph.D., MLS(ASCP)^{CM} CG^{CM} MB^{CM}, FACSc, FASAHP

Associate Program Director Vibhuti Srivastava, Ph.D., MB(ASCP)^{CM}

Executive Advisor Rajyalakshmi Luthra, Ph.D.

Program Information

Mission

The MD Anderson Cancer Center Program in Molecular Genetic Technology, in concert with the mission and vision of The University of Texas MD Anderson Cancer Center, is committed to the education of technically and academically competent graduates prepared to meet the immediate and future needs of the Molecular Genetic Technology profession.

Objectives

The Molecular Genetic Technology program is designed to prepare students to become entry-level clinical molecular genetic technologists. The program provides instruction in major areas of the field such as:

- Cancer molecular genetic testing
- DNA forensic science testing
- Infectious disease testing
- Pre- and Post-natal genetic disorder testing

The curriculum provides didactic training followed by directed clinical training at affiliated hospitals and laboratories. Students may enter the program to pursue a Bachelor of Science degree and program faculty help each student develop a focal point related to the learner's area of interest. During their training, students learn how to detect DNA polymorphisms and interpret a variety of DNA and RNA assays. They also develop an understanding of the essential elements of statistics and population genetics.

While students study molecular diagnostic procedures such as recombinant DNA technology and its application to the clinical laboratory, their laboratory experiences may include but are not limited to the following.

- DNA and RNA extraction
- Hybridization methods
- Microarray technology
- Next generation sequencing
- PCR, primer design, real-time PCR and Melt Curve Analysis
- Sanger sequencing and fragment analysis

Students also focus on the specific applications of molecular techniques within such disciplines as:

- Bacteriology
- Forensics
- Genetic disease of inheritance
- Infectious disease
- Oncology
- Paternity

Professionals in the field have a wide range of career options. As the Human Genome Project has lead to the discovery of an increasing number of genes important in human disease processes, molecular genetic technologists will play an ever-increasing role in diagnostic patient care.

Employment opportunities include the following.

- Biotechnology companies
- Cancer centers
- Genetic counseling departments
- Forensic laboratories
- Pediatric clinics
- Research and teaching institutions
- Research, molecular cytogenetic and pathology laboratories

Some molecular genetic technologists combine administrative and managerial talent with their technical background to become laboratory or hospital administrators.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Bachelor of Science degree either enter at the Junior level (two-year track) or Senior level (one-year track). Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

> **A minimum GPA** of 2.5 on a 4.0 scale both overall and in science and mathematics courses is required to be considered for admission. Cumulative and prerequisite GPA are factors for admissions.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Molecular Genetic Technology, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Two-Year Program

Students must complete a minimum of 60 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses:

- 8 SCH in Biological Sciences
- 15 SCH in Chemistry to include Organic Chemistry or Biochemistry

Refer to the prerequisite sheet (pdf) for details.

For the One-Year Program

Students must complete a minimum of 90 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses:

- 3 SCH of Microbiology
- 3 SCH of Genetics
- 8 additional SCH in Biological Sciences
- 15 SCH in Chemistry to include Organic Chemistry or Biochemistry
- 12 SCH of upper-level courses

Refer to the prerequisite sheet (pdf) for details.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

**Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty is consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 136 SCH of coursework. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework.
- At least 25% of the total SCH required must be taken at MD Anderson.

Graduation is in August. Upon graduation, students are eligible to take the national certification exam in molecular biology administered by the ASCP Board of Certification.

Check with the program director for application deadlines and exam dates. Upon passing the exam, the student is considered a certified molecular genetic technologist. The awarding of the degree is not contingent upon a student passing the national certification exam.

Curriculum

This intensive two-year program is composed of a didactic phase followed by directed clinical training at affiliated hospitals and laboratories. During the didactic phase, formal lectures are presented on the principles of medical genetics, molecular and biochemical basis of genetic disease, hematology, clinical molecular genetics and molecular genetic technology. Laboratory sessions coordinated to lectures and covering the fundamentals of diagnostic laboratory procedures are included in the didactic phase.

Accreditation

The Molecular Genetic Technology program is accredited and has conformed its curriculum to the standards published and monitored by NAACLS.

Current Affiliations

During the clinical phase of instruction, training and supervision are provided in affiliated clinical laboratories. The locations are subject to change depending on availability on a year-to-year basis. Visit the Molecular Genetic Technology Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedules below include all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Two-Year Program 76 SCH

Junior Year 32 SCH

	FALL 14 SCH	
HS 3102	Molecular Techniques Lab	1
HS 3210	Laboratory Mathematics	2
HS 3330	Pathology of Body Fluids	3
HS 4100	Health Care Ethics	1
HS 4111L	Medical Microbiology Lab	1
HS 4300	Pathophysiology for Health Professions	3
HS 4310	Medical Microbiology	3
	SPRING 18 SCH	
HS 3203	Advanced Molecular Techniques	2
HS 3300	Medical Immunology	3
HS 3310	Introduction to Quality in Healthcare	3
HS 3320	Medical Genetics	3
HS 3333	Statistics	3
HS 3340	Research Methods	3
HS 4101	Diversity & Cultural Competence	1

Senior Year 44 SCH

	FALL 17 SCH	
CC 4120	Introduction to G-Band Karyotyping	1
GT 4300	Advanced Medical Genetics	3
HS 4110	Introduction to Clinical Molecular Genetic Technology	1
MG 4111	Bioinformatics for Clinical Diagnostics Lab	1
MG 4200	Bioinformatics for Clinical Diagnostics	2
MG 4211	Molecular Diagnostic Techniques	2
MG 4280	Concepts in Molecular Diagnostics	2
MG 4510	Molecular Diagnostic Techniques Laboratory I	5
	SPRING 13 SCH	
GT 4330	Genetics of Hematology Malignancies	3
MG 4281	Advanced Concepts in Molecular Diagnostics	2
MG 4290	Clinical Disease Application of Molecular Genetics	2
MG 4310	Molecular Diagnostic Techniques Laboratory II	3
MG 4320	Molecular Diagnostic Techniques Laboratory III	3
	SUMMER 14 SCH	
HS 4371	Management and Education	3
MG 4160	Genetic Technology Journal Club I	1
MG 4560	Molecular Diagnostics Clinic Rotation I	5
MG 4570	Molecular Diagnostics Clinic Rotation II	5

One-Year Program 46 SCH

Senior Year 46 SCH

	FALL 18 SCH	
CC 4120	Introduction to G-Band Karyotyping	1
GT 4300	Advanced Medical Genetics	3
HS 4100	Health Care Ethics	1
HS 4110	Molecular Genetics Technology	1
MG 4111	Bioinformatics for Clinical Diagnostics Lab	1
MG 4200	Bioinformatics for Clinical Diagnostics	2
MG 4211	Molecular Diagnostic Techniques	2
MG 4280	Concepts in Molecular Diagnostics	2
MG 4510	Molecular Diagnostic Techniques Laboratory I	5
	SPRING 14 SCH	
GT 4330	Genetics of Hematology Malignancies	3
HS 4101	Diversity & Cultural Competence	1
MG 4281	Advanced Concepts in Molecular Diagnostics	2
MG 4290	Clinical Disease Applications of Molecular Genetics	2
MG 4310	Molecular Diagnostic Techniques Laboratory II	3
MG 4320	Molecular Diagnostic Techniques Laboratory III	3
	SUMMER 14 SCH	
HS 4371	Management and Education	3
MG 4160	Genetic Technology Journal Club I	1
MG 4560	Molecular Diagnostics Clinic Rotation I	5
MG 4570	Molecular Diagnostics Clinic Rotations II	5

B.S. in Radiation Therapy

Radiation therapy involves the administration of ionizing radiation for the treatment of cancer and other related conditions. The field of Radiation Therapy presents the professional with the unique opportunity to blend the knowledge of mathematics, medical science, psychology and critical thinking while providing hands-on patient care.

Degree Offered

Bachelor of Science in Radiation Therapy

Program Administration

Program Director Shaun T. Caldwell, Ed.D., R.T.(R)(T)

Associate Program Director Sandra John-Baptiste, R.T.(T), CMD

Executive Advisor Eric A. Strom, M.D., F.A.C.R.

Program Information

Mission

The mission of the Radiation Therapy Program is to provide the highest quality of education to radiation therapy students through formal didactic and state-of-the-art clinical experiences that prepare the student to deliver superior patient care and treatment in all aspects of radiation therapy.

Vision

We shall be the premier provider of education for radiation therapy professionals based on best practices and research in radiation oncology.

Objectives

The MD Anderson Program in Radiation Therapy is designed to prepare students for a challenging career in cancer treatment through formal education including human anatomy, physiology, radiation therapy physics, radiation oncology, pathology, radiation biology, medical dosimetry, quality assurance and patient care.

Goals and Student Learning Outcomes

Our students will

- Be clinically competent.
- Be critical thinkers.
- Be effective communicators.
- Demonstrate professionalism.

Goal: Clinical Competence

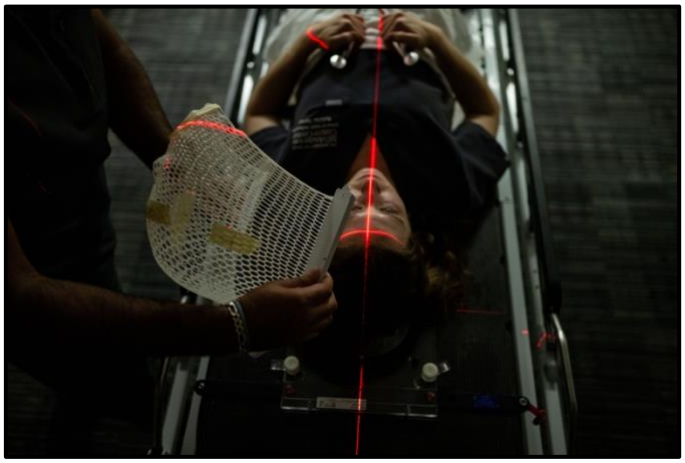
Student Learning Outcomes: The student will

- Accurately assess the patient's status prior to discharge from their care.
- Demonstrate reproduction of the patient's initial setup.
- Demonstrate superior patient care skills.

Goal: Critical Thinking

Student Learning Outcomes: The student will

- Evaluate and interpret data.
- Recognize discrepancies in treatment.
- Develop solutions to clinical situations.



Goal: Effective Communication

Student Learning Outcomes: The student will

- Communicate with patients
- Demonstrate written communication skills
- Demonstrate oral presentation skills

Goal: Demonstrate Professionalism

Student Learning Outcomes: The student will

- Discuss patient information and setup out of hearing of inappropriate people.
- Assume full responsibility for their actions.
- Accepts constructive criticism.

Program Admission Requirements

Admissions to Radiation Therapy is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a Bachelor of Science degree enter at the Junior level. Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

- **Candidates who completed the prerequisite courses** seven or more years before admission may need to update their academic skills. For specific information, contact the program director.
- **A minimum GPA** of 2.5 on a 4.0 scale for overall, science courses and prerequisites is required to be considered for admission. Cumulative and prerequisite GPA are factors for admissions.
- Clinical site evaluation.
- **Assessments to gauge knowledge** in anatomy and physiology, math and physics as well as soft skills (e.g., initiative, problem solving, decision making). The assessments will be administered on or prior to the interview date.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the School of Health Professions How to Apply page for application dates.

Enrollment Process

Once accepted into Radiation Therapy, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.

- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

Texas Core Curriculum

Students must complete the Texas Core Curriculum and prerequisite courses elsewhere prior to transferring into the School of Health Professions. The courses may be taken at any regionally accredited college/university. Refer to the Texas Core Curriculum section of this catalog.

For the Two-Year Program

Students must complete a minimum of 46 SCH that includes the Texas Core Curriculum (42 SCH) and the following courses:

- 3 SCH in Pre-Calculus
- 4 SCH in Anatomy and Physiology I
- 4 SCH in Anatomy and Physiology II
- 4 SCH in College Physics I
- 4 SCH in College Physics II

Refer to the prerequisite sheet (pdf) for details.

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

**Note: The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to School of Health Professions courses with the results being reported to the Registrar.

Graduation

Each candidate for a baccalaureate degree must complete a minimum of 126 SCH of coursework. Within this requirement, students must complete the following at MD Anderson:

- At least 40 SCH of upper-level coursework
- At least 25% of the total SCH required must be taken at MD Anderson

Upon completion of the curriculum, students will have demonstrated the professional skills necessary to plan, deliver and record a prescribed course of radiation including proton therapy.

Graduation is in August. Upon graduation, students may be eligible to take the national certification exam administered by the ARRT.

All applicants should determine American Registry of Radiologic Technologists website to determine examination eligibility prior to applying to the program. Upon passing the exam, the student is considered a certified Radiation Therapist. The awarding of the degree is not contingent upon a student passing the national certification exam.

Curriculum

The curriculum meets or exceeds the national curriculum of the ASRT. This intensive two-year program is composed of a didactic and directed clinical training at affiliated hospitals. Formal lectures cover human anatomy, physiology, radiation therapy physics, radiation oncology, pathophysiology, radiation biology, treatment planning, dosimetry, quality assurance and patient care.

Accreditation

The Radiation Therapy Program is accredited by and meets the standards and guidelines of the JRCERT.

Current Affiliations

During the clinical phase of instruction, training and supervision are provided in a variety of clinical sites. Visit the Radiation Therapy Program page for a list of current affiliations.

Course Listings

The semester-by-semester schedule below includes all courses needed to graduate, but the sequence and/or course offerings are subject to change.

Two-Year Program 80 SCH

Junior Year 44 SCH

	FALL 17 SCH	
DI 2301	Principles of Radiographic Exposure I	3
HS 4100	Health Care Ethics	1
HS 4300	Pathophysiology for Health Professions	3
RT 3101	Simulation and Treatment Techniques I	1
RT 3220	Clinical Education I	2
RT 4101	Radiation Safety & Protection	1
RT 4305	Patient Care in Radiation Oncology	3
RT 4306	Technical Radiation Oncology	3
	SPRING 15 SCH	
DI 2342	Principles of Radiographic Exposure II	3
HS 4101	Diversity & Cultural Competency	1
HS 4303	Advanced Pathophysiology for Radiation Therapy	3
RT 3103	Simulation and Treatment Techniques II	1
RT 3221	Clinical Education II	2
RT 4210	Radiobiology	2
RT 4302	Anatomy for Radiation Oncology	3
	SUMMER 12 SCH	
DI 4350	Introduction to CT	3
HS 4111	Medical Law	1
RT 3222	Clinical Education III	2
RT 4312	Quality Management in Radiation Therapy	3
RT 4390	Adaptive Radiation Therapy	3

Senior Year 36 SCH

	FALL 12 SCH	
DI 4300	Research Techniques in Radiologic Sciences	3
DI 4304	Sectional Anatomy	3
RT 4310	Radiation Therapy Physics	3
RT 4320	Clinical Education IV	3
	SPRING 12 SCH	
DI 4301	Research Project	3
RT 4311	Radiation Therapy Treatment Planning and Dosimetry	3
RT 4314	Clinical Radiation Oncology	3
RT 4321	Clinical Education V	3
	SUMMER 12 SCH	
RT 3345	Directed Readings	3
RT 4156	Individual Project	1
RT 4295	Capstone	2
RT 4309	Special Applications in Radiation Oncology	3
RT 4322	Clinical Education VI	3

A.T.C. in Mammography

Mammography is a specialized imaging modality that uses ionizing radiation to produce high-quality, multidimensional soft-tissue breast imaging displays. This one-semester program offers radiologic technologists a pathway to expand their knowledge in mammography while completing an Advanced Technical Certificate. The program prepares the student for various careers in hospitals, clinics, and other healthcare organizations.

Certificate Offered

Advanced Technical Certificate in Mammography

Program Administration

Program Director: Advanced Imaging Programs William Undie, Ed.D., R.T.(R)(T)(ARRT)

Associate Program Director: CT, CT/VI and M Claudia Tamara, D.D.S., R.T.(CT)(N)(ARRT), CNMT

Executive Advisor Aurelio Matamoros, M.D.

Program Information

Mission

The mission of the Advanced Technical Certificate Program in Mammography is to train and create competent professionals for the performance of diagnostic studies that will have a positive impact on the prevention and management of breast cancer and other related diseases.

Vision

The Advanced Technical Mammography Certificate Program will strive to provide excellence in the academic and clinical training of future professionals while at the same time facilitating compassionate and outstanding patient care.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing an Advanced Technical Certificate in Mammography enter as a non-degree seeking student. Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

- **A minimum overall GPA** of 2.5 on a 4.0 scale. Cumulative and prerequisite GPA are factors for admissions.
- **ARRT certification** in Radiography (R).
- **Associate's degree** or higher.
- **CPR** certification through the American Heart Association certification.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the Mammography How to Apply page for application dates.

Enrollment Process

Once accepted into the certificate program, enrollment is dependent on factors that include the following.

- Proof of successful assessment of the **Texas Success Initiative** (TSI). Refer to the TSI section of this catalog.
- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Prerequisites

Several physical education and military sciences are not acceptable for discipline-specific prerequisites.

For the One-Semester Certificate Program

All students must have earned an associate's degree or higher to satisfy the ARRT requirements for candidates seeking a certification after 2015.

Students must be certified by the ARRT (R).

Advanced Placement

The School of Health Professions accepts and/or awards credit through the following examination programs*.

- College level examination program of the College Board
- Comprehensive departmental examinations
- Regionally accredited military training programs

** The student who is admitted or readmitted will undergo an evaluation process related to awarding course credits, if applicable.*

Recommendations from the School of Health Professions' academic departments are followed regarding minimum score requirements, level of credit and amount of credit to be awarded. Program faculty are consulted to determine if credit recommendations equate to specific School of Health Professions courses. The internal comprehensive departmental examination program provides a local means for establishing knowledge of the School of Health Professions course content in areas not covered by the above examination program. Programs may elect to administer examinations that cover material specific to the School of Health Professions courses with the results being reported to the Registrar.

Certificate Completion

Each candidate for a certificate must complete 16 SCH of coursework and a two-day Mammography Registry Review, all of which must be taken at MD Anderson.

The Registry Review is preparation for the national credentialing ARRT Mammography examination. The training grants 16 continuing education credit hours (CECH) that can be used as part of the structured education requirement for ARRT. The course meets the final two days of the semester.

Upon completion of the curriculum, students will have demonstrated the professional skills necessary to work with ionizing radiation to produce medical images in diagnostic imaging or radiology departments of hospitals, and medical clinics or freestanding imaging centers.

Curriculum

The curriculum meets or exceeds the curriculum recommendations of the American Society of Radiologic Technologists (ASRT). This intensive one-semester program is composed of a didactic phase followed by directed clinical training at affiliated hospitals.

Accreditation

The Diagnostic Imaging Program is accredited by and has conformed its curriculum to the standards and guidelines published and monitored by the JRCERT.

Current Affiliations

During the clinical phase of instruction, training and supervision are provided in a variety of clinical sites. Visit the Diagnostic Imaging Program page for a list of current affiliations.

Course Listings

The semester schedule below includes all courses needed for completion, but the sequence and/or course offerings are subject to change.

One-Semester Program 16 SCH + 16 CECH

Coursework 16 SCH

MM 4400	Patient Care	4
MM 4401	Image Production	4
MM 4402	Procedures	4
MM 4403	Internship	4

Mammography Registry Review 16 CECH

	Day 1	8
	Day 2	8

P.B.C. in Molecular Genetic Technology

This certificate program is designed for bachelor's level students with an interest in molecular genetics and its application in diagnostic procedures. Students will be introduced to the fundamental principles of molecular genetics, gene regulation and practical techniques used in clinical diagnostics. The comprehensive certificate program covers essential topics on molecular genetics and techniques such as nucleic acid extraction, amplification methods, sequencing technologies, and analysis tools for detecting and characterizing genetic mutations, infectious agents, and biomarkers associated with diseases. Emphasis is placed on understanding the concepts underlying molecular laboratory techniques, where students gain proficiency in assay composition, result interpretation, and understanding quality control measures essential for accurate and reliable molecular diagnostics in healthcare settings.

Certificate Offered

Post-Baccalaureate Certificate in Molecular Genetic Technology

Program Administration

Program Director Peter Hu, Ph.D., FACSc, FASAHP

Associate Program Director Vibhuti Srivastava Ph.D., MB(ASCP)^{CM}

Executive Advisor Rajyalakshmi Luthra, Ph.D.

Program Information

Mission

The mission of the Certificate in Molecular Genetic Technology Program is to train existing laboratory professionals and create competent professionals for the performance of molecular diagnostic testing that will have a positive impact on the prevention and management of genetic diseases.

Vision

The Certificate in Molecular Genetic Technology Program will strive to provide excellence in the academic and clinical training of future professionals while at the same time facilitating compassionate and outstanding patient care.

Program Admission Requirements

Admissions to the program is competitive and holistic. Meeting the minimum requirement does not guarantee acceptance. Students pursuing a certificate in Molecular Genetic Technology enter as a non-degree seeking student. Application and supporting documents must be submitted in applyUTH.

Applicants must satisfy the General Requirements for admission as listed in the Admissions section in addition to the following.

- **A minimum overall GPA** of 2.5 on a 4.0 scale. Cumulative and prerequisite GPA are factors for admissions.
- **Bachelors' degree in a clinical lab sciences or biology or a related discipline,** or higher.

Applicants should begin the application process **three to six months prior** to the application deadline to ensure all documents are received and processed by the Office of the Registrar by the due date. Refer to the Molecular Genetic Technology How to Apply page for application dates.

Enrollment Process

Once accepted into the certificate program, enrollment is dependent on factors that include the following.

- Ability to meet the School of Health Professions Nonacademic Technical Standards.
- Proof of current health immunizations.
- Satisfactory completion of a drug screen and background check.

Nonacademic Requirements

Refer to the Nonacademic Technical Standards section of this catalog.

Certificate Completion

Each candidate for a certificate must complete 12 SCH of coursework all of which must be taken at MD Anderson. Upon completion of the curriculum, students will have demonstrated the understanding of molecular diagnostic concepts and commonly used molecular techniques/tests.

Curriculum

This intensive certificate program is composed of a didactic phase only.

Course Listings

The semester schedule below includes all courses needed for completion, but the sequence and/or course offerings are subject to change.

One-Semester Program 12 SCH

Coursework 12 SCH		
MG 4240	Introduction to Molecular Genetics	2
MG 4250	Fundamentals of Molecular Diagnostic Genetics	2
MG 4460	Advanced Concepts of Molecular Genetics	4
MG 4470	Advanced Molecular Diagnostic Genetics	4

Course Descriptions

Cytogenetic Technology

CC 4120 Introduction to G-band Karyotyping 1 SCH
A detailed study of human G-banded chromosomes. Includes instruction in banding pattern recognition, polymorphic variation and determination of band level and the International System for Human Cytogenetic Nomenclature (ISCN). Includes classroom instruction and hands-on experience.
Course Fee: $40.00

CC 4152 Prenatal Cytogenetics 1 SCH
A study of indications for prenatal diagnosis and the procedures used to obtain specimens for such diagnoses: ultrasonography, cordocentesis, amniocentesis and CVS; biochemical assays for metabolic diseases; problems encountered in prenatal chromosome analysis; teratology; and explanations and demonstrations of prenatal cytogenetic techniques and procedures.

CC 4181 Independent Research Project II 1 SCH
This course is designed to allow students to have the opportunity to conduct independent research activities with guidance from their faculty advisor. Students are required to submit a formal proposal for review and approval by the program faculty.
Course Fee: $38.11
Prerequisite: CC 4280

CC 4210 Molec & Biochem Basis of Genetic Disease 2 SCH
A comprehensive study of cytogenetic disease using case studies. The relationships between molecular defect and the nature of its clinical pathology will be explored through the examination of biochemical pathways affected such as metabolic, transport, neurological and muscle and bone. In addition, cytogenetic analysis will be examined through the pre-analytical and analytical and post-analytical process. Students will build a foundation of critical decision-making and an understanding of the principles of the molecular and biochemical basis of cytogenetic disease.

CC 4240 Advanced Cytogenetic Lab Techniques 2 SCH
A comprehensive study of the cytogenetic analysis of solid tumors. Course includes the study of tumor origin and development, mechanisms of transformation in carcinogenesis and random versus nonrandom findings in human solid tumors. The student will also study the mutagenic effects derived from lifestyle and environmental factors as they relate to malignant disease. This course combines both lecture and laboratory experience into one integrated learning experience.
Course Fee: $38.11

CC 4250 Clinical Cytogenetics 2 SCH
A comprehensive study of chromosome morphology and terminology, general principles of clinical cytogenetics, abnormalities of chromosome number and structure, disorders of autosomes, sex chromosome disorders, the X chromosome, the Y chromosome, congenital versus acquired abnormalities and the ISCN.
Course Fee: $35.00

CC 4251L Clinical Cytogenetics 2 SCH
In this laboratory students will perform microscopic slide analysis of peripheral blood and bone marrow cases, and identify chromosome numerical and structural abnormality, applying standard analysis and reporting practices such as band level and ISCN.
Course Fee: $35.00

CC 4280 Independent Research Project I 2 SCH
This course is designed to provide students with an opportunity to independently explore a research area of interest related to cytogenetic technology. Students will perform a literature review. Class discussions will explore experimental design and searching the research literature.

CC 4320 Special Topics in Genetics 3 SCH
This course will introduce the student to the newest methodologies and topics in genetics. Current topics include spectral karyotyping, creation of BAC clone FISH probes, DNA sequencing, array comparative genomic hybridization (aCGH) and use of online genetic databases.
Course Fee: $30.00

CC 4390 Advanced Topics in Cytogenetics 3 SCH
This will be a capstone course where students work on case studies to develop their problem solving skills in a clinical cytogenetic environment. Students will also participate in a national review in clinical cytogenetics. Finally, students will show mastery of the field of cytogenetics through practice exams and eventually taking a comprehensive cytogenetic exam.
Prerequisite: GT 4300

CC 4521 Clinical Cytogenetic Rotation I 5 SCH
This laboratory rotation complements, expounds on and practically applies the study of cytogenetic procedures and techniques used in diagnosis of chromosomal disorders. This laboratory rotation also provides the students an opportunity to observe and participate in the testing algorithms and reflex testing that occur in this type of cytogenetic testing environment.
Course Fee: $38.11
Prerequisite: CC 4152 and CC 4250

CC 4530 Basic Laboratory Techniques 5 SCH
A comprehensive study of maintaining laboratory quality control in accordance with federal, state and local regulations, as well as College of American Pathologist on-site inspections and proficiency testing. Also, a study of laboratory skills as they apply to amniotic fluid, chorionic villus sampling, abortus tissue, blood, bone marrow and solid tissue samples with respect to transporting, preparing, culturing, harvesting, banding, analyzing, photographing, karyotyping and reporting final results of specimens. Students will also be instructed in fluorescent in situ hybridization techniques and computer imaging of cytogenetic specimens.
Course Fee: $40.00

CC 4531 Clinical Cytogenetic Rotation II 5 SCH
This laboratory rotation provides the student with comprehensive practical applications in all aspects of the cytogenetic study of hematological malignant disease: specimen preparation, culture and harvest, banding techniques, microscopic cell analysis, photographic techniques, karyotype preparation, evaluation, probe application and ISCN. Quality control procedures and safety considerations are stressed.
Course Fee: $35.00
Prerequisite: GT 4330

Medical Laboratory Science

CL 4200 Core Laboratory Techniques Laboratory 2 SCH
Laboratory emphasizes hands-on instruction in analytical and special chemistry procedures used to determine the composition of blood and urine, analytical techniques used to measure coagulation, perform manual procedures to quantify and identify cells in peripheral blood and operate, maintain and problem-solve procedures on a wide range of instruments.
Course Fee: $47.00

CL 4210 Microbiology Student Laboratory 2 SCH
Student laboratory emphasizes the utilization of morphological, biochemical and serological characteristics for microorganism identification.

CL 4231 Immunohematology Laboratory 2 SCH
Laboratory emphasizes hands-on instruction in basic blood bank techniques, resolution of compatibility problems and advanced antibody identification methods.
Corequisite: CL 4330

CL 4260 Capstone Seminar 2 SCH
This course provides an integration of the information obtained by laboratory testing in the various laboratory disciplines.
Course Fee: $45.00
Prerequisites: CL 4320, CL 4330, CL 4345, CL4400, CL4440, HS 3330

CL 4320 Diagnostic Microbiology 3 SCH
This is a comprehensive study of clinically important aerobic and anaerobic bacteria, protozoan, helminthic, and arthropod parasites, and clinically important viruses of medical significance in humans. Course will also discuss the clinically important fungi and their interaction with the human host and recognized species of mycobacteria that are known to cause disease in human hosts. In addition, the course includes a study of serological techniques such as agglutination, precipitation, enzyme immunoassay, immunofluorescence and the utilization of growth characteristics and biochemical tests to correlate disease to microorganism and evaluate antibiotic susceptibility.

CL 4321 Clinical Microbiology 3 SCH
Clinical laboratory study of the utilization of morphological biochemical and serological characteristics for microorganism identification.
Course Fee: $50.0
Prerequisite: CL 4320

CL 4330 Immunohematology 3 SCH
An in-depth study of the basic principles of immunology, human blood group systems, blood group genetics and the theory and application of blood bank techniques.

CL 4332 Clinical Immunohematology 3 SCH
Clinical laboratory study of the serodiagnostic studies of blood group identification and transfusion service procedures.
Course Fee: $50.00
Prerequisite: CL 4231, 4330

CL 4345 Hemostasis 3 SCH
An analysis of the mechanisms of hemostasis, the analytical techniques used to measure coagulation and the correlation of test results with hemostatic disorders.

CL 4400 Clinical Chemistry 4 SCH
A comprehensive study of the methods used to determine the chemical composition of body fluids. Study includes principles of analytical procedures and the correlation of test results with normal and abnormal physiological states including the study of special chemistry techniques, electrophoresis, radioimmunoassay, enzyme immunoassay and nephelometry.
Course Fee: $40.00

CL 4440 Clinical Hematology 4 SCH
A comprehensive study of the formation of blood cells, functions of the hematopoietic system, related hematological disease, instrumentation and manual procedures to quantify and identify cells and analysis of the maturation cell sequence in peripheral blood, and the morphological characteristics of these cells. Flow cytometry will also be discussed.
Course Fee: $40.00

CL 4530 Clinical Core Rotation 5 SCH
Clinical laboratory study of blood cell counts and special procedures, using manual and automated methodology. Operation, maintenance and troubleshooting of the hematological high volume analyzers. Manual cell counting and morphological interpretation of blood and bone marrow cells.
Course Fee: $50.00
Prerequisites: CL 4345, CL 4400, CL 4440, HS 3330

Cytotechnology

CT 4101 Introduction to Cytotechnology 1 SCH
The student is introduced to the ethics and liability of the profession, the use of the light microscope and the professional role of the cytotechnologist. The course also includes lectures on the basic cellular structure and function, cell division, the origins of clinical cytology, evaluation of the cell sample and slide marking.

CT 4102 Theory & Practice of Cytopreparatory Techniques I 1 SCH
The course consists of the basic study and practice of techniques used for handling cytological specimen preparation and fixation and staining of specimens for cytological study, including compliance with laboratory safety, biohazard precautions and HPV testing.
Course Fee: $40.00

CT 4112 Gynecologic Diagnostic Laboratory III 1 SCH
The course consists of advanced application of cytodiagnostic criteria for microscopic analysis (screening, detecting, marking and diagnosing) and reporting cervicovaginal specimens on conventional and Thin Prep monolayer preparations in conjunction with clinical history. Quality control and clinical ethics are included.

CT 4116 Comprehensive Cytopathology 1 SCH
Medical terminology and comprehensive cytopathology theory review of Gynecological, Non Gynecological and Fine needle aspiration body sites/organs.

CT 4120 Laboratory Operations 1 SCH
Introduction to quality control and assurance, laboratory regulations, inventory methods, budgeting, information systems and leadership.

CT 4213 Nongynecologic Diagnostic Laboratory II 2 SCH
The course consists of an advanced study of cytomorphological features of respiratory, gastrointestinal, urinary and central nervous systems and effusions for microscopic and clinical analysis of exfoliative Non-Gynecologic specimens. The students will have hands-on laboratory experience.
Course Fee: $38.11

CT 4303 Gynecologic Cytopathology 3 SCH
Students will study the normal anatomy, physiology and benign and malignant pathology of the female genital tract and corresponding cytomorphological features, as well as the value of cytological diagnosis in patient management.

CT 4306 Nongynecologic Diagnostic Laboratory I 3 SCH
The course consists of the application of cytomorphological features of the respiratory system and gastrointestinal tract for microscopic and clinical analysis of exfoliative Non-Gynecologic specimens from these organs. The students will have hands-on laboratory experience.
Course Fee: $40.00

CT 4307 Nongynecologic Cytopathology II 3 SCH
Students will study the normal anatomy and physiology of the urinary tract, central nervous system and body cavities. They learn cytomorphology of benign and malignant conditions of these organs/sites.

CT 4308 Gynecologic Diagnostic Laboratory II 3 SCH
The course consists of the application of cytodiagnostic criteria for microscopic analysis (screening, detecting, marking and diagnosing) and reporting cervicovaginal specimens in conjunction with clinical history. SurePath preparations are used as study material.
Course Fee: $38.11

CT 4309 Fine-Needle Aspiration Cytopathology 3 SCH
The study of normal anatomy and cytology of benign and malignant pathology and corresponding cytomorphological features of fine-needle aspiration specimens from lung, breast, thyroid, salivary gland, liver, pancreas, kidney, adrenal gland, bone, soft tissue, skin and lymph nodes.

CT 4310 Fine Needle Aspiration Diagnostic Lab 3 SCH
The students will have hands-on laboratory experience as they learn to apply cytodiagnostic criteria and develop practical expertise in microscopic and clinical analysis of fine-needle aspiration specimens from lung, breast, thyroid, salivary gland, liver, pancreas, kidney, adrenal gland, bone, soft tissue, skin and lymph nodes with clinical correlation.

CT 4404 Gynecologic Diagnostic Laboratory I 4 SCH
The course consists of basic application of cytodiagnostic criteria for microscopic and clinical analysis (screening, detecting, marking and diagnosing) and reporting cervicovaginal specimens in conjunction with clinical history. Conventional pap smears and monolayer preparations of gynecologic specimens are used. The students will have hands-on laboratory experience.
Course Fee: $40.00

CT 4405 Nongynecologic Cytopathology I 4 SCH
Students will study the normal anatomy, physiology and benign and malignant pathology with corresponding cytomorphological features of the respiratory system and gastrointestinal tract. The value of cytological diagnosis in patient management is included.

CT 4615 Clinical Rotation I 6 SCH
The student will have the opportunity to continue developing their microscopic and diagnostic skills in various clinical affiliate laboratories.
Course Fee: $47.00

CT 4616 Clinical Rotation II 6 SCH
The student will have the opportunity to continue developing their microscopic and diagnostic skills in various clinical affiliate laboratories.
Course Fee: $47.00

Diagnostic Genetics and Genomics

DG 6100 Clinical Research Seminar 1 SCH
Seminar based course that covers topics in genetics and related fields.
Course Fee: $35.00

DG 6110 Bioinformatics in Diagnostic Genetics Lab 1 SCH
This course is an introduction to Bioinformatics – rapidly evolving science at the interface of computers and diagnostic genetics and genomics - with emphasis on molecular evolutionary and key algorithmic foundations. Thus, this course provides a conceptual framework underlying much of modern bioinformatics. Moreover, students will gain hands on experience with computer programs useful for context-driven analyses, data mining and discovery and characterization of gene/RNA/protein/genome sequences, evaluation of DNA/RNA/protein molecules as putative diagnostic markers through basic comparative genomic analyses applications based on Dynamic Programming, Hidden Markov Models, Bayesian Probability, Euler and de-Bruijn graphs, Burroughs-Wheeler transform etc. Students are assigned an independent project (*PICCDIn*) to demonstrate their aptitude and active learning skills (theoretical and Lab-based) through development of a bioinformatics pipeline epidemiological surveillance bacterial and viral genome sequences. This course runs in tandem with DG6320 (Bioinformatics in Diagnostic Genetics). This course is a part of the Project-based Integrated Core Curriculum Development Initiative (PICCDIn).
Course Fee: $50.00

DG 6181 Advanced Molecular Biology and Techniques 1 SCH
Comprehensive descriptions of the methods to study the molecular biology of DNA, RNA, small non-coding RNAs, chromatin dynamics, genome structure, function and regulation; advanced molecular biological methods discussed include ddPCR; mulitplex-PCR and Realtime-PCR; NGS, including DNA/RNA/sncRNA library preparations.

DG 6201 Advanced Practice I C 2 SCH
This is a hypothesis-based original research study. Student must fulfill the requirements of a master's level applied research work including an approved proposal by the faculty advisor and the Diagnostic Genetics core committee 1 month before the beginning of the term. Graduation with an applied research project is subject to approval by the applied research committee and program core committee requires the student to present their projects to a faculty committee both orally and in writing.
Course Fee: $50.00

DG 6240 Abnormal Case Studies and Comprehensive Review 2 SCH
A continuation of DG6120 Intermediate Karyotyping. This advanced course in G-banded chromosome identification requires students to apply cytogenetic knowledge and karyotyping skills to solve either complex pre/postnatal or oncologic cytogenetic cases. Students will be required to apply the International System for Human Cytogenetic Nomenclature (ISCN) for their analysis and present their case studies.
Course Fee: $38.11

DG 6250 Clinical Cytogenetics I 2 SCH
A combined learning experience of lecture instruction, and class discussion on general principles of clinical cytogenetics. Students will be exposed to the basics of clinical cytogenetics to describe human chromosomes and chromosomal abnormalities associated with human disorders. Variations in autosomal and sex chromosome number and structure associated with multiple congenital anomalies, intellectual disabilities and developmental delay will be studied in detail. The course will also overlap with some of the laboratory techniques and its importance in identifying newer microdeletion and duplication syndromes. Apart from this, mechanisms involved in meiotic outcomes, congenital versus acquired abnormalities, mosaicism will be studied and discussed. Students will gain diagnostic and interpretive skills in a variety of cytogenetic problems.
Course Fee: $50.00

DG 6280 Concepts in Molecular Diagnostics 2 SCH
The primary goal of this course is to familiarize students with the fundamental molecular, pathologic, genetic and genomic concepts that drive the development and practice of 'diagnostics genetics'. Course discussions held within the framework of evidence-based lab medicine focus on the contributions of diagnostic genetics and genomics in disease diagnosis, prevention and in personalized therapy. Topics comprise four overlapping areas: 1) Theoretical foundations of Molecular Diagnostic Techniques 2) Concepts in Genomics and Transcriptomics; 3) Established Applications of Molecular Methods: Cancer and Infectious Disease Diagnostics; Pharmacogenomics and related topics; and, 4) Development and Evaluation of New Molecular Tests - via PICDIn and critical analyses of recent publications. Where required, appropriate CLIA requirements and CLSI guidelines will be discussed to highlight the implementation of Quality Assessment (QA) and Quality Control (QC) in molecular diagnostic tests.

DG 6290 Diagnostic Molecular Pathology 2 SCH
Focuses on the specific applications of molecular techniques within a variety of disciplines. The disciplines covered include molecular cytogenetics, immunology, infectious diseases, oncology, prenatal and postnatal disorders and transplantation immunology. Participants will be evaluated by both theoretical and application knowledge through exams and a written paper.

DG 6320 Bioinformatics in Diagnostic Genetics I 3 SCH
This course is an introduction to Bioinformatics – rapidly evolving science at the interface of computers and diagnostic genetics and genomics - with emphasis on molecular evolutionary and key algorithmic foundations. Thus, this course provides a conceptual framework underlying much of modern bioinformatics. Moreover, students will gain hands on experience with computer programs useful for context-driven analyses, data mining and discovery and characterization of gene/RNA/protein/genome sequences, evaluation of DNA/RNA/protein molecules as putative diagnostic markers through basic comparative genomic analyses applications based on Dynamic Programming, Hidden Markov Models, Bayesian Probability, Euler and de-Bruijn graphs, Burroughs-Wheeler transform etc. Students are assigned an independent project (*PICCDIn*) to demonstrate their aptitude and active learning skills (theoretical and Lab-based) through development of a bioinformatics pipeline epidemiological surveillance bacterial and viral genome sequences. This course runs in tandem with DG6110 (Bioinformatics Labs). This course is a part of the Project-based Integrated Core Curriculum Development Initiative (PICCDIn).

DG 6333 Quantitative Research and Biostatistics 3 SCH
An overview of inferential statistics as a foundation for subsequent linear regression analysis and model development. Big Data analysis using R, focusing on Linear and Logistic Regression, Classification, Resampling methods, Variable selection, Shrinkage and Dimension reduction methods. Emphasis on model development and analysis for diagnostic applications.

DG 6340 Bioinformatics in Diagnostic Genetics II 3 SCH
This course will introduce the students to Advanced Bioinformatics toolkits with special emphasis on (i) Molecular Phylogenetic and Population Genetics and (ii) post Next-Generation Sequencing Analytical Strategies pipelines. Students will be introduced to theoretical foundations of advanced phylogenetic hypothesis testing, including model selection, detection of recombination and selection from MSAs, comparison of phylogenies etc. Students will learn to measure fundamental population genetic statistics such as mutation and recombination rates, linkage disequilibrium, gene flow, genetic differentiation with using human and other reference sequence datasets. Students will focus on analyzing and validating SNP and SNVs from whole genome and exome sequencing datasets; will learn to implement the RNA-seq analysis for quantifying gene expression in disease and control cases; and will learn ChiP-seq data analysis using reference sequence data sets. Students will learn to implement advanced molecular phylogenetic tools for testing tumor evolution and other diseases. Students will be assigned an independent project to perform sophisticated bioinformatics analysis on high throughput NGS data, which could be from their own thesis projects (if thesis involves NGS analysis) or assigned by the Faculty (if thesis does not involve NGS analysis).
Course Fee: $38.11

DG 6360 Clinical Cytogenetics II 3 SCH
This course will describe the identification skills of human chromosome by group, size and centromere location. Outline key landmarks using band patterns of each chromosome to master the identification skills in paring chromosomes; describe the principles, application of international standard chromosome nomenclature (ISCN) guidelines for karyotype interpretation; describe the significance of prenatal cytogenetics and outline the stages in embryogenesis including early prenatal and fetal development; describe pregnancy loss, identifying signs, symptoms and outcome with chromosome abnormalities; describe principles of invasive and non-invasive prenatal diagnostic procedures and advances in prenatal cytogenetics. Outline the interpretation of the results, ethical issues and genetic counselling in prenatal diagnosis; describe the significance of cancer cytogenetics in diagnosis of Hematological, Lymphoid neoplasms and solid tumors. Outline the preparation of different samples for cytogenetics and molecular cytogenetic analysis; describe the pathological features of leukemia's, lymphomas and tumors of different tissues based on histological features and associated chromosomal abnormalities; and describe how to interpret chromosomal and FISH analysis results of simple and complex karyotypes and to write mock case reports

DG 6401 Advanced Practice I 4 SCH
This is a hypothesis-based original research study. Student must fulfill the requirements of a master's level applied research work including an approved proposal by the faculty advisor and the Diagnostic Genetics core committee 1 month before the beginning of the term. Graduation with an applied research project is subject to approval by the applied research committee and program core committee, and requires the student to present their projects to a faculty committee both orally and in writing.
Course Fee: $40.00

DG 6470 Advanced Topics and Case Studies in Clinical Cytogenetics 4 SCH
This course will describe the overview and applications of advanced topics associated with the cancer cytogenetics including Flow cytometry, Plasma Cell enrichment studying Plasma Myeloma; describe the principles, application of specialized techniques in molecular cytogenetics including Spectral karyotyping (SKY), Spectral color banding (SCAN) and Multicolor FISH (MFISH); describe the significance of the guideline recommendations for analyzing and reporting of HER2 and Hematological malignancies; describe the significance of chromosomal arrangements for cancer prognosis and treatment; describe the overview and application of advanced topics like chromosome confirmation capture - HiC and CRISPER and chromosome translocations; describe the principles, application of Optical mapping in present day cytogenetics to solve undiagnosed Genetic defects and complex Hematological Malignancies; describe the significance of the guideline recommendations from American college of Medical genetics and Genomics (ACMGG) for analyzing and reporting of Neoplasms, Solid tumors; and describe the significance of the guideline recommendations from American college of Medical genetics and Genomics (ACMGG) for analyzing and reporting of Chromosomal microarray (CMA) in prenatal, Postnatal and cancer samples.
Course Fee: $38.11

DG 6501 Advanced Practice III 5 SCH
This is a continuation of DG 6601 Advanced Practice II course. All rules and regulations for completion of the thesis project apply.

DG 6510 Advanced Diagnostic Molecular Laboratory Techniques 5 SCH
This course will provide hands-on opportunities to students to develop and apply their technical skills to aid in the *diagnosis, prognosis and management* of complex human diseases and hospital-based pathogen outbreaks. Students will conduct and interpret the outcomes of molecular diagnostic tests on archived, PHI-stripped, samples from patients, control DNAs and/or otherwise healthy individuals. Students learn, 1) to handle and process human tissues and fluids and infectious pathogens isolated from human patients and extract and purify their DNA and RNA via a variety of methods in a *BSL2-safety environment*; 2) to perform QA-QC tests on cellular DNA/RNA and synthetic DNA/cDNA molecules via a variety of methods including, conventional (e.g., electrophoresis) and emergent methods like Biochips; 3) to manipulate purified DNA/RNA/cDNA molecules via well-established methods such as PCR and its variations to the recently emerged and rapidly maturing applications and technologies such as MLST and whole genome sequencing using next-generation sequencing technologies; and 4) to diagnose disease, provide disease prognosis and to genotype bacterial pathogens. Students are assigned an independent project to demonstrate their aptitude and active learning skills (theoretical and Lab-based) through execution of experimental and bioinformatics workflows involved in epidemiological surveillance of bacterial and viral genome and transcriptome sequences. This course is a part of the Project-based Integrated Core Curriculum Development Initiative (PICCDIn).
Course Fee: $45.00

DG 6521 Clinical Cytogenetics Rotation I 5 SCH
This laboratory rotation involves in-depth study of the different cytogenetic techniques and methods used in constitutional chromosome disorders diagnosis. This laboratory rotation also provides the students an opportunity to observe and participate in the testing algorithms and reflex testing that occur in prenatal and postnatal cytogenetic testing environment. Student is required to perform case studies and prepare a presentation to the laboratory host rotation.
Course Fee: $35.00

DG 6530 Clinical Cytogenetic Laboratory Techniques 5 SCH
This course will provide a comprehensive overview of all types of traditional cytogenetic techniques as well as molecular cytogenetic studies by fluorescence in situ hybridization. The course goal is to achieve entry-level competency in the workup of patients with constitutional chromosome abnormalities through both didactic and hand-on instruction. Various aspects of quality control and assurance associated with good laboratory practice for most routine cytogenetic methods will be performed and discussed. Students will maintain laboratory notebooks documenting the standard operating procedures with troubleshooting notations.
Course Fee: $50.00

DG 6531 Clinical Cytogenetics Rotation II 5 SCH
This laboratory rotation provides the student with intensive study of test procedures and practical application of theory topics in all aspects of the hematological malignant cytogenetic study. Analytical methodologies, as well as the correlation of cytogenetic and molecular cytogenetic tests with hematologic disorders are emphasized. Quality control procedures and safety considerations are incorporated to the process of problem solving and troubleshooting. The course also competency tests students regarding to microscopic cell analysis, photographic techniques, karyotype preparation, evaluation, FISH signal quantitation and ISCN issues. Student is required to perform case studies and prepare presentations to the laboratory host rotation.
Course Fee: $35.00

DG 6560 Clinical Molecular Rotation I 5 SCH
This clinical laboratory rotation includes the study of molecular diagnostic procedures utilizing recombinant DNA technology and its application to the many aspects of the clinical laboratory. Laboratory experiences may include but not limited to DNA specimen handling and processing, DNA extraction, DNA purification, Southern blot analysis, probe preparation and utilization, PCR, primer design, Real-Time PCR, microarray, FISH and DNA sequencing.
Course Fee: $35.00

DG 6570 Clinical Molecular Rotation II 5 SCH
This clinical laboratory rotation is a continuation of DG6560. This clinical laboratory rotation includes the study of molecular diagnostic procedures utilizing recombinant DNA technology and its application to the many aspects of the clinical laboratory. Laboratory experiences may include DNA specimen handling and processing, DNA extraction, DNA purification, Southern blot analysis, probe preparation and utilization, PCR, primer design, Real-Time PCR, microarray, FISH and DNA sequencing.
Course Fee: $35.00

DG 6601 Advanced Practice II 6 SCH
This is a continuation of DG 6401 Advanced Practice I course. All rules and regulations for completion of the thesis project apply.
Course Fee: $38.11

DG 6701 Advanced Practice II C 7 SCH
This is a continuation of DG 6401 Advanced Practice I course. All rules and regulations for completion of the thesis project apply.
Course Fee: $38.11

Diagnostic Imaging

DI 2200 Introduction to Radiologic Sciences 2 SCH
This course provides a professional overview of the program, including elementary radiation protection and medical terminology. Students are required to complete hands-on laboratory assignments.

DI 2221 Patient Care in Radiologic Sciences 2 SCH
The course presents the student with information about patient care and management in radiology. CPR certification and psychosocial aspects of patient care are also introduced.

DI 2261 Clinical Education I 2 SCH
This course provides the student with clinical experience in radiography. Students must demonstrate ARRT and program competencies.
Course Fee: $35.00

DI 2262 Clinical Education II 2 SCH
This course is a continuation of DI 2261.
Course Fee: $47.00

DI 2301 Principles of Radiographic Exposure I 3 SCH
The student will learn darkroom procedures, theory of radiation production, image production and radiographic equipment. Students are required to complete hands-on laboratory assignments.
Course Fee: $40.00

DI 2331 Radiographic Anatomy & Positioning I 3 SCH
The student is introduced to radiographic anatomy, proper positioning, radiographic protocols and radiographic production in the laboratory. Students are required to complete hands-on laboratory assignments.
Course Fee: $40.00

DI 2332 Radiographic Anatomy & Positioning II 3SCH
This course is a continuation of DI 2331. Students are required to complete hands-on laboratory assignments.
Course Fee: $38.11

DI 2333 Radiographic Anatomy & Positioning III 3 SCH
This course is a continuation of DI 2332. Students are required to complete hands-on laboratory assignments.

DI 2342 Principles of Radiographic Exposure II 3 SCH
This course continues the study of radiographic imaging, instrumentation, image production and factors affecting image quality. Students are required to complete hands-on laboratory assignments.
Course Fee: $38.11

DI 3100 Capstone: Registry Review 1 SCH
This course presents the student with a review of didactic and clinical applications in radiography.

DI 3235 Radiographic Anatomy and Positioning V 2 SCH
This course is a continuation of DI 3334. Students are required to complete hands-on laboratory assignments.
Course Fee: $38.11

DI 3322 Critical Care in Radiologic Sciences 3 SCH
This course focuses on imaging the trauma patient. Topics include critical care of patients in the imaging department, pathology and patient prognosis.

DI 3334 Radiographic Anatomy & Positioning IV 3 SCH
This course is a continuation of DI 2333. Students are required to complete hands-on laboratory assignments.
Course Fee: $45.00

DI 3343 Digital Imaging & Quality Management in Radiology 3 SCH
This course will instruct the student in the development of a quality management program in Radiology.
Course Fee: $45.00

DI 3345 Directed Readings 1-3 SCH
Directed reading and research, followed by the writing of a report or the creation of a project. SCH are based on size, length and depth of paper or project.

DI 3346 Professional Development Independent Study 1-3 SCH
Attendance of educational sessions at district, state, regional or national conferences. Consent of instructor required. 12 documented contact hours per each (32 CE) credit for a maximum of 3 credits.
Repeatable

DI 3360 Clinical Education III 2 SCH
This course is a continuation of DI 2262.
Course Fee: $35.00

DI 3361 Clinical Education IV 3 SCH
This course is a continuation of DI 3360.
Course Fee: $47.00

DI 4201 Radiation Safety and Protection 2 SCH
This course requires the student to demonstrate a detailed understanding of atomic structure, types of ionizing radiation, radiation detection devices, units of measurement, personal and public radiation safety practices and dose limitations from brachytherapy sources and external beam radiation devices. The course identifies radiation regulatory and advisory agencies and the specific requirements of each.

DI 4210 Radiobiology 2 SCH
This course presents the students with cellular, subcellular and tissue biology. The course requires the students to discriminate between types of cellular damage caused by ionizing radiation. Additionally, students are exposed to proliferation kinetics, fractionated radiotherapy, acute and chronic effects of radiation on human cells and body systems, principles of linear energy transfer and relative biologic effectiveness and the impact of radiosensitizers and radioprotectors on patient treatment.
Course Fee: $38.11

DI 4300 Research Techniques in Radiologic Sciences 3 SCH
This course will teach the student the principles and methods of conducting practical research in health care.
Course Fee: $45.00

DI 4301 Research Project 3 SCH
This course will prepare the student to complete a research project.

DI 4304 Sectional Anatomy 3 SCH
This course will provide a review of the gross anatomy of the entire body. Detailed study of gross anatomical structures will be conducted systematically for location, relationship to other structures and function. Structures are located and identified in axial (transverse), sagittal, coronal and orthogonal (oblique) planes. Illustrations and anatomic images will be compared with MR, ultrasound and CT images in the same imaging planes and at the same level when applicable. The characteristic appearance of each anatomical structure as it appears on CT, MR and ultrasound, when applicable, will be stressed.
Course Fee: $45.00

DI 4310 Teaching Strategies in Health Care Education 3 SCH
This course will teach the student how to analyze learning theories with an emphasis on adult learners and the elements of quality education.
Course Fee: $38.11

DI 4311 Instructional Design 3 SCH
This course will instruct the student in the theory and application of instructional design in health care education and training.

DI 4312 Patient Education 3 SCH
This course will teach the student how to plan, develop and assess patient education products and methods.

DI 4313 Education Internship I 3 SCH
In this course the student applies advanced technical skills as well as concepts in the area of professional elective major.
Course Fee: $47.00

DI 4314 Education Internship II 3 SCH
This course is a continuation of DI 4313.
Course Fee: $35.00

DI 4315 Issues in Health Care Education 3 SCH
This course will introduce the student to the current trends and issues related to Health Science Education.

DI 4316 Leadership in Radiologic Sciences 3 SCH
This course will prepare the student for technical and professional involvement, defusing emotionally charged situations, coaching, team building, setting and reaching goals.
Course Fee: $38.11

DI 4317 Staff Development 3 SCH
Topics covered in this course include: building trust, establishing expectations, performance evaluation and reviews, giving constructive criticism and principles of motivation.

DI 4318 Promotional Strategies in Rad Sciences 3 SCH
This course will teach the student how to develop patient, physician and community programs to promote health care services.

DI 4319 Fiscal Analysis in Health Care 3 SCH
This course will provide the student with the skills necessary for managing the financial and technical aspects of radiology and radiation oncology.

DI 4320 Current Trends in Health Care Management 3 SCH
This course will prepare the student to analyze and manage trends in health care management and delivery systems.

DI 4321 Operations Management 3 SCH
This course introduces the student to current practices in billing and reimbursement for health care services.

DI 4322 Effective Human Resources Management 3 SCH
This course will teach the student about staff recruitment, retention techniques and laws related to resource management. Topics include hiring and terminating personnel and issues of harassment and discrimination.
Course Fee: $38.11

DI 4323 Management Skills for New Supervisors 3 SCH
This course will teach the student about transitioning from a Professional Employee to a Supervisor.

DI 4324 Management Internship I 3 SCH
In this course, the student applies advanced technical skills as well as concepts in the area of professional elective major.
Course Fee: $47.00

DI 4326 Individual Projects 3 SCH
This course consists of special research projects assigned to the students.

DI 4328 Management Internship II 3 SCH
Course Continuation of DI 4314.
Course Fee: $50.00

DI 4350 Introduction to CT 3 SCH
This course will teach the student about digital imaging in routine and specialized 2-D and 3-D images, data management and fusion practices.

DI 4351 CT Physics I 3 SCH
Course content will deliver a basic understanding of the physical principles and instrumentation involved in CT. The historical development and evolution of CT will be reviewed. A brief introduction to computer systems will be covered which will include a review of digital image fundamentals and computers in diagnostic imaging. CT image processing will be examined and will include image formation, digitization processing techniques and hardware. CT systems and operations will be studied and will include CT x-ray tube technology; collimators and filters; gantry and detectors, characteristics and function. CT image reconstruction will be studied and will include image reconstruction from projections and reconstruction algorithms. CT image formation, processing and presentation will be included. Content will delve into image manipulation, image quality and factors affecting quality. Radiation safety and patient dose reduction techniques will be introduced.
Course Fee: $50.00
Prerequisites: Admission to the CT or CT/VI program

DI 4352 CT of the Nervous System 3 SCH
Content provides detailed coverage of procedure protocols for CT imaging of the Nervous System. Protocols include, but are not limited to, indications for the procedure, patient education, preparation, orientation and positioning, patient history and assessment, contrast media usage, scout image, selectable scan parameters and archiving of the images. Protocols will be taught for differentiation of specific structures, patient symptomology and pathology. Images studied will be reviewed for quality, anatomy and pathology. Procedure protocols vary from facility to facility and normally are dependent on the preferences of the radiologists. Content provides thorough coverage of common diseases diagnosable via CT. Each disease or trauma process is examined from its description, etiology, associated symptoms and diagnosis with appearance on CT images.
Course Fee: $50.00
Prerequisites: Admission to the CT or CT/VI program

DI 4353 CT Physics II 3 SCH
This advanced course in CT is designed to assist the technologist in understanding the key concepts of advanced scanning techniques, provide an in-depth study of contrast agents used in CT and quality assurance. This course will include the physical principles, instrumentation, image quality considerations, patient dose considerations and clinical applications of the following advanced practices: Mobile CT, Helical CT, , Real-time Fluoroscopic CT, 3D CT, CT Angiography, Endoscopy (Virtual) CT, Cardiac CT, Positron Emission CT (PET-CT), Single Photon Emission CT -CT (SPECT-CT) and Functional CT.
Course Fee: $38.11
Prerequisite: DI 4351

DI 4354 CT of the Chest, Abdomen & Pelvis 3 SCH
The course content provides detailed coverage of procedure protocols for CT imaging of the chest (to include thorax), abdomen and pelvis (male and female). Protocols include, but are not limited to, indications for the procedure, patient education, preparation, orientation and positioning, patient history and assessment, contrast media usage, scout image, selectable scan parameters, filming and archiving of the images. Protocols will be taught for differentiation of specific structures, patient symptomology and pathology. Images studied will be reviewed for quality, anatomy and pathology. Procedure protocols vary from facility to facility and normally are dependent on the preferences of the radiologists. Terms associated with these pathologies will be included.
Course Fee: $38.11
Prerequisite: DI 4304

DI 4355 Special Topics in CT & VI 3 SCH
Advances in Vascular and Nonvascular Interventional techniques and procedures for diagnostic imaging and therapeutic treatment will be discussed. New and emerging equipment and imaging modalities/options will be discussed.
Prerequisite: Admission to the CT or CT/VI Program

DI 4356 CT of the Extremities 3 SCH
Content provides detailed coverage of procedure protocols for CT imaging of the upper and lower extremities. Protocols include, but are not limited to, indications for the procedure, patient education, preparation, orientation and positioning, patient history and assessment, contrast media usage, scout image, selectable scan parameters, filming and archiving of the images. Protocols will be taught for differentiation of specific structures, patient symptomology and pathology. Images studied will be reviewed for quality, anatomy and pathology. Procedure protocols vary from facility to facility and normally are dependent on the preferences of the radiologists. Terms associated with these pathologies will be included.
Course Fee: $38.11

DI 4357 CT Comprehensive Review 3 SCH
Course content will integrate clinical skills and classroom theories in a comprehensive study of CT physics, instrumentation, safety, contrast agents, procedures and quality assurance.

DI 4358 Vascular/Nonvascular Interventional Procedures 3 SCH
Course content is designed to present a systematic approach to the techniques and procedures technologists use in the performance of select vascular and nonvascular interventional procedures.
Course Fee: $38.11
Prerequisite: Admission to the CT or CT/VI program

DI 4359 VI Comprehensive Review 3 SCH
Exam-specific content components that outline the ARRT Registry will be covered. Couse content will include equipment and instrumentation, patient care, vascular and interventional procedures to include neurologic, thoracic, abdominal, GU and GI nonvascular, peripheral, dialysis management and venous access.
Course Fee: $38.11

DI 4361 MRI Physics I 3 SCH
Course content introduces the student to the physics and instrumentation of MRI. The historical evolution of MRI is discussed. Students will be presented with the concepts of MRI including components of a system, MR imaging principles and an understanding of basic MR pulse sequences and introduction to MR angiography. Imaging parameters, tissue characteristics and artifact reduction techniques will be presented. Content includes an in-depth study of MRI safety.
Course Fee: $50.00
Prerequisite: Admission to the MRI program

DI 4362 MRI Procedures III 3 SCH
Content is designed to provide students with a review of the anatomy of the central nervous system (brain and spine) and its MR tissue characteristics. The student will review various imaging techniques and the design of specialized receiver coils. Magnetic resonance angiography of brain vasculature will be introduced. Spectroscopy and Functional Imaging of the nervous system will be introduced. Field strength specific optimization of neuro protocols will be covered. Common pathology seen on MR images of the central nervous system will be presented.
Prerequisite: Admission to the MRI program

DI 4363 MRI Physics II 3 SCH
Content covers evaluation of organ function and diagnosis of disease processes using advanced MRI procedures with emphasis on spectroscopy, functional MR, perfusion/diffusion and parallel imaging. Course content will also include an in-depth study of MRI contrast agents and quality assurance in MR imaging, including requirements for ACR accreditation in MRI. An introduction to MRI site planning and administration will be included.
Course Fee: $38.11
Prerequisite: DI 4361

DI 4364 MRI Procedures I 3 SCH
This course will focus on MR imaging and angiography of the extremities that will include a review of the musculoskeletal system anatomy and an understanding of the MR tissue characteristics. Pathology of the musculoskeletal system will be discussed. Differences in anatomy between adult and pediatric patients and how these differences will affect the MR tissue characteristics will be presented. Content will include a review of specialized coils and optimal scanning techniques for use with children and adults, including field strength specific extremity protocol optimization. Differences in pathology and specific pediatric pathology also will be discussed.
Corequisite: DI 4361

DI 4365 Special Topics and Future Directions in MRI 3 SCH
Course content will cover current topics and future directions in MR Imaging: such as interventional MRI including surgery, biopsy and MR-guided minimally invasive treatment delivery. This includes a review of anatomy, pathology and imaging protocols for MRI. Content will include in-depth study of magnet safety, pharmacology, patient care and assessment that will include magnet-related emergencies in relation to MRI. MRI quality assurance as it relates specifically to MRI will be discussed.
Prerequisite: DI 4361

DI 4366 MRI Procedures II 3 SCH
Content is designed to provide students with a review of the anatomy of the thorax, mediastinum, abdomen and the pelvis including the male and female reproductive systems with an understanding of the MR tissue characteristics. The student will review motion suppression techniques, such as respiratory and cardiac triggering and the design of specialized receiver coils. The use of magnetic resonance angiography to visualize the blood vessels will be discussed, as well as field strength specific optimization of body imaging protocols. Pathology of the thorax, mediastinum, abdomen and pelvis as demonstrated through MR imaging will be presented.
Course Fee: $38.11

DI 4367 MRI Comprehensive Review 3 SCH
Course content will integrate clinical skills and classroom theories in a comprehensive capstone of key MRI concepts in physics, instrumentation, safety, contrast agents, procedures and quality assurance.
Course Fee: $50.00
Prerequisites: DI 4361, 4363, 4364, 4366

DI 4390 MRI Internship I 3 SCH
In this course the student applies advanced technical skills as well as concepts in the area of MRI. Students will be introduced to the MR imaging suite, equipment and coils. Students will be familiar with MR imaging procedures with consideration to MR safety, preparation of the exam room, scanner interface, selection of coils, patient care and preparation.
Course Fee: $47.00
Prerequisite: Admission to the MRI program

DI 4391 MRI Internship II 3 SCH
Course continuation of DI 4390
Course Fee: $35.00
Prerequisite: Advisor approval

DI 4392 MRI Internship III 3 SCH
Course continuation of DI 4391.
Course Fee: $50.00
Prerequisite: Admission to the MRI program

DI 4393 CT Internship I 3 SCH
In this course the student applies advanced technical skills as well as concepts in the area of professional elective major. Content is designed to provide an overview of CT use in the clinical setting. Understanding the equipment, protocols, patient care and patient positioning will be studied and practiced as they relate to successful CT imaging. The clinical internship will focus on image critique, sectional anatomy and pathology as seen on images. Internship course progression will be based on competencies completed with the previous internship.
Course Fee: $47.00
Prerequisite: Admission to the CT or CT/VI program and Advisor approval

DI 4394 CT Internship II 3 SCH
Course Continuation of DI 4393.
Course Fee: $35.00
Prerequisite: Advisor approval

DI 4395 CT Internship III 3 SCH
Course Continuation of DI 4394.
Course Fee: $47.00
Prerequisite: Advisor approval

Diagnostic Medical Sonography

DS 3103 Intro to Vascular Sonography 1 SCH
Introduction to basic non-invasive vascular theories. Emphasizes image orientation, transducer handling and identification of anatomic structures.

DS 3201 General Ultrasound 1 SCH
An introduction to the profession of sonography and the role of the sonographer. Emphasis on medical terminology, ethical/legal aspects, written and verbal communication and professional issues relating to registry, accreditation, professional organizations and history of the profession.
Course Fee: $45.00

DS 3211 Clinical Internship I 2 SCH
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional.
Course Fee: $35.00

DS 3221 Sonography Physics I 2 SCH
Basic acoustical physics and acoustical waves in human tissue. Emphasis on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission and resolution of sound beams.

DS 3222 Sonography Physics II 2 SCH
Continuation of Sonographic Physics I. Includes interaction of ultrasound with tissues, mechanics of ultrasound production and display, various transducer designs and construction, quality assurance, bioeffects and image artifacts. May introduce methods of Doppler flow analysis.

DS 3262 Gynecological Pathology 2 SCH
Detailed study of normal and pathological gynecology as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

DS 3264 Sonography of Superficial Structures 2 SCH
Detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

DS 3312 Clinical Internship II 3 SCH
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional.
Course Fee: $47.00

DS 3341 Abdominal Ultrasound 3 SCH
Normal anatomy and physiology of the abdominal and pelvic cavities as related to scanning techniques, transducer selection and scanning protocols 3 credits

DS 3343 Obstetrics Sonography 3 SCH
Detailed study of obstetrics as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

DS 3361 Abdominal and Pelvic Pathology 3 SCH
Pathologies and disease states of the abdomen and pelvis as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols. Emphasizes endocavitary sonographic anatomy and procedures including pregnancy.

DS 3363 Neurosonology 3 SCH
Detailed study of the normal and pathological neonatal head structures.

DS 3371 Sonography Lab I 3 SCH
Practical application in the lab identifying the sonographic appearances of normal abdominal and pelvic structures small parts or superficial structures; apply the appropriate scanning techniques, transducer selection and scanning protocols.
Course Fee: $50.00

DS 3372 Sonography Lab II 3 SCH
Practical application in the lab identifying the sonographic appearances of normal abdominal and pelvic structures small parts or superficial structures; apply the appropriate scanning techniques, transducer selection and scanning protocols.
Course Fee: $38.11

DS 3373 Sonography Lab III 3 SCH
Practical application in the lab identifying the sonographic appearances of normal abdominal and pelvic structures small parts or superficial structures; apply the appropriate scanning techniques, transducer selection and scanning protocols.
Course Fee: $35.00

DS 4100 Registry Review 1 SCH
Prepare the student for the registry through mock registry.
Course Fee: $38.11

DS 4142 Special Topics in DMS 1 SCH
Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

DS 4246 Sonography of Small Parts 3 SCH
Detailed study of normal and pathology of the breast and muscular skeletal system as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

DS 4265 Pediatric Sonography 2 SCH
Normal and pathological pediatric sonography.

DS 4302 Principles of Vascular Technology 3 SCH
Introduction to non-invasive vascular technology modalities. Includes 2D imaging, Doppler, plethysmography and segmental pressures. Emphasis on performing basic venous and arterial imaging and non-imaging exams.

DS 4303 Advanced Non-Invasive Vascular Technology 3 SCH
Non-invasive vascular concepts. Includes harmonics, contrast, power Doppler, digital intraoperative, intravascular, abdominal vascular, graft surveillance, vascular interventions and research. Emphasizes extensive review of case studies, technical reporting, preliminary interpretation and registry review.

DS 4311 Clinical Internship III 3 SCH
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional.
Course Fee: $47.00

DS 4312 Clinical Internship IV 3 SCH
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional.
Course Fee: $35.00

DS 4345 Sonography of High Risk Obstetrics 3 SCH
Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

DS 4351 Doppler Ultrasound 3 SCH
Doppler and hemodynamic principles relating to arterial and venous imaging and testing.
Course Fee: $38.11

DS 4374 Sonography Lab IV 3 SCH
Practical application in the lab identifying the sonographic appearances of normal abdominal and pelvic structures small parts or superficial structures; apply the appropriate scanning techniques, transducer selection and scanning protocols.
Course Fee: $50.00

DS 4375 Sonography Lab V 3 SCH
Practical application in the lab identifying the sonographic appearances of normal abdominal and pelvic structures small parts or superficial structures; apply the appropriate scanning techniques, transducer selection and scanning protocols.
Course Fee: $38.11

Genetic Technology

GT 4300 Advanced Medical Genetics 3 SCH
A study of the role of genetics in medicine. This course will allow the students to understand the basic genetic principles and their applications in clinical genetics. This course focuses on applying genetic principle in real clinical situations.

GT 4330 Genetics of Hematology Malignancies 3 SCH
This course is a comprehensive study of the principles and procedures used in the cytogenetic analysis of peripheral blood and bone marrow in the study of malignant processes, especially hematological ones. The course emphasizes the chromosome abnormalities and the affected gene/s occurring in leukemias and lymphomas and their clinical significance.

Healthcare Analytics and Advocacy

HAA 3345 Directed Readings 1-3 SCH
This course provides the student with the skills to read, critically analyze, synthesize, and share findings regarding professional literature in APA 7th Ed. written format.

HAA 4211 Medical Law 2 SCH
This course introduces the student to medical law and case studies in health care practice.

HAA 4311 Understanding Community Health Needs 3 SCH
This course introduces research and education, which analyze determinants of community healthcare as well as interventions and policies designed foster parity within health care and treatment.

HAA 4312 Global Health Practices 3 SCH
This course introduces the student to measurement and status of health and outcomes at a global level; understanding the impact of factors that influence disease prevention, research, treatment and post care. Understanding the impact of these aspects allows for a comparative case study model to illustrate these approaches.

HAA 4313 Health Across the Lifespan 3 SCH
This course examines health across the lifespan. An evidence-based, interdisciplinary approach to the complex interplay of factors impacting health across the lifespan is presented.

HAA 4314 Resources and Support for Complex Health Scenarios 3 SCH
This course will explore complex health scenarios, with approaches to helping patients with complex health needs.

HAA 4316 Telehealth Best Practices and Operations 3 SCH
This course will provide the foundation science for telehealth practice by comparing and contrasting telehealth with the standards for healthcare delivery. Various applications, benefits and challenges of telehealth delivery will be explored recognizing the provider and facilitator roles within the inter-professional team. Course delivery is on-line, interactive, self-paced.

HAA 4321 Understanding Patient Needs 3 SCH
This course explores myriad influences on the needs of the patient, with attention also paid to the family and health care provider.

HAA 4322 Affective Mentorship 3 SCH
This course provides the skills to build successful professional mentoring relationships across cultural differences.

HAA 4323 Organizational Behavior in Healthcare 3 SCH
This course presents effective strategies in management and leadership across cultural differences within a care centric work environment to create trust, respect and inclusiveness within healthcare teams.

HAA 4324 Seminar in Population Health 3 SCH
The student will demonstrate knowledge of content areas through projects and presentations in population health, including delivery and outcomes, and risk identification.

HAA 4331 Patient Advocacy 3 SCH
This course will provide an understanding of this specialization in health care concerned with advocacy for patients, survivors and other populations.

HAA 4332 The Role of the Patient Advocate 3 SCH
This course will allow students to understand the role of an advocate. The primary roles of support, education, liaisons, policy and development of the framework for patient related outcomes.

HAA 4333 Health Care Policy and Practice 3 SCH
This course provides an understanding of the critical role of systematic evaluation in assessing the effectiveness of health services programs and policies.

HAA 4334 Seminar in Patient Advocacy 3 SCH
Health care advocates will be invited to share their knowledge and experiences in the patient advocacy field.

HAA 4340 Leadership in Healthcare 3 SCH
Students will be assigned to practice with a mentor in an advocacy setting. The students will demonstrate their knowledge of content areas through projects, presentations and team activities.

HAA 4345 Healthcare Analytics 3 SCH
This course will provide the student an opportunity to demonstrate mastery of the principles and concepts of diversity, disparities and advocacy. Students will complete projects and activities associated with challenges in the current health care environment.

HAA 4390 Independent Project 1-3 SCH
This course is designed to provide the student with professional behaviors and performance in the health care setting. Students will explore the complexity of issues related to disparities, diversity, and/or advocacy in the health care setting and the benefits of working on an interdisciplinary team under the guidance of a faculty advisor.
Prerequisites: Advisor approval of project and registration

Health Science

HS 3101 Basic Techniques Lab 1 SCH
An introduction to basic clinical laboratory skills common to all diagnostic programs. Emphasis on laboratory safety, chemical storage, solution preparation, serial dilutions, proper waste disposal, proper use of pipettes and micropipettes, and proper use of balances, centrifuges, vortexes, pH meters and spectrophotometers. Also included in this course are various applications related to other laboratory science disciplines such as basic microscopy, slide preparation and hematological cell identification.
Course Fee: $50.00

HS 3102 Molecular Techniques Lab 1 SCH
This course serves a dual purpose in solidifying the basic laboratory fundamentals before introducing the student to the basic techniques of the molecular lab. First, the student is provided with a practical foundation in proper laboratory safety practices, pipetting, micropipetting, serial dilution and solution preparation before introducing the student to the basic molecular techniques of genomic DNA extraction, quantitation and gel electrophoresis. Also included in this course are various applications related to other laboratory science disciplines such as basic microscopy, slide preparation, hematological cell identification, as well as an introduction to karyotyping and commercial FISH. Effectively, the student sees a more comprehensive introduction to the basic lab with an emphasis on those bench skills foundational to performing the most basic techniques of the molecular lab.
Course Fee: $38.11

HS 3110 Medical Terminology 1 SCH
This course is an introduction to medical terminology. Emphasis is on word roots, prefixes, suffixes, spelling and analysis of unfamiliar terms. Additional background information on the anatomy that relates to various body systems will be discussed. Included is a review of the principles of mathematics and statistics used in clinical laboratories. Course presentation includes introduction to the operation of a laboratory information system. Course delivery is on- line, interactive, self-paced.

HS 3120 Introduction to Cytogenetics 1 SCH
A detailed study of human G-banded chromosomes. Includes instruction in banding pattern recognition, polymorphic variation, determination of band level and a brief touch on the International System for Human Cytogenetic Nomenclature (ISCN). Includes classroom instruction, hands-on experience and online practice.

HS 3203 Advanced Molecular Techniques 2 SCH
A continuation of the HS3101 Basic Techniques Laboratory I course where basic techniques introduced in the previous course are reinforced and built upon through an objective based approach schema in which students presented with a scenario simulating either the clinical or research molecular lab are required to process samples from receipt to report. At the bench, students learn the effective organizational and technical skills for processing multiple samples for gDNA extraction from a variety of specimen types, DNA quantitation, PCR amplification, gel electrophoresis and proper visualization and documentation of results. There is a greater focus on carrying out experimental objectives in accordance with proper quality assurance and quality control guidelines while placing a stronger emphasis on delivering timely, accurate and reproducible results. Proper documentation habits are adhered throughout the experimental process from sample receipt to final analysis and reporting of experimental results. PCR troubleshooting basics, restriction digestion and restriction mapping, as well as an introduction to molecular cloning. Effectively, the student solidifies a very strong foundation in all the basic techniques of the molecular lab with an introduction to those further applications that will be reinforced and built upon in the Senior Year.
Course Fee: $38.11

HS 3210 Laboratory Mathematics 2 SCH
The basic principles and theory of clinical, biochemical and analytical laboratory math related calculations. It includes basic operations such as problem solving using percentiles, rates, ratios, mole ratios, molality, pH, conversions, solving for proportions and more.

HS 3254 Immunohistochemistry 2 SCH
A comprehensive course that deals with the fundamentals of immunohistochemistry as applied to the theory and practical techniques in histopathology. The students acquire basic knowledge of how immunology is applied in the development of immunohistochemistry reagents and techniques. The course provides hands-on experience in performing immunohistochemistry staining procedures using different detection systems to localize and visualize reactions in histological and cytologic preparations. Emphasis will be placed on the clinical significance of diagnostic and prognostic indicators used in immunohistochemistry techniques. Troubleshooting and standardization of reagents are emphasized in this course.
Course Fee: $38.11

HS 3270 Fundamentals of Writing and Critical Thinking 2 SCH
This course is designed to provide health professions students with resources for improving critical thinking skills. The course will introduce basic concepts of critical thinking through integration into interactive case studies, problem based scenarios and project design assignments. The specific objectives of this course coincide with the School of Health Professions' definition of critical thinking.

HS 3300 Medical Immunology 3 SCH
This course focuses on the basic concepts in immunology and covers general properties of immune responses; cells and tissues of immune system; lymphocyte activation and specificity; effector mechanisms; immunity to microbes; immunodeficiency and AIDS; autoimmune diseases; transplantation. Course delivery is a blend of lecture and on line, self-paced activities.
Course Fee: $38.11

HS 3310 Introduction to Quality Healthcare 3 SCH
This course will provide an overview of the history, development and application of quality concepts. The components of quality management, quality assurance and quality control will be addressed through discussions and assignments on the history of quality, the different approaches to quality, such as Six Sigma and ISO standards and how to define, implement and ensure compliance to the quality assurance and quality control process.

HS 3320 Medical Genetics 3 SCH
This course is a study of the role of genetics in medicine including: Mendelian genetics, multifactorial inheritance, DNA structure, chromosome structure, population genetics, mutation rates, ethnicity of disease and genetic mapping. A comprehensive review of the cell cycle, mitosis and meiosis and pedigree analysis is incorporated as well.
Course Fee: $38.11
Prerequisite: Admission to CGT, CT, HTL or MGT Program

HS 3330 Pathology of Body Fluids 3 SCH
This course is a study of the anatomy and physiology of the kidney and the formation, elimination and composition of urine. Various body fluids (CSF, Synovial, Pleural, Serous, etc.) will be studied and associations made with various disease states. Interpretation of urinary and body fluids elements, chemical assays and the correlation with normal and abnormal physiology: Course delivery is a blend of lecture and on line, self-paced activities.
Prerequisite: Admission to the CLS, CGT, CT or MGT Program

HS 3333 Statistics 3 SCH
This course provides an introduction to statistical techniques. Emphasis will be placed on probability and probability distributions, sampling and descriptive measures, inference and hypothesis testing, linear regression and analysis of variance.

HS 3340 Research Methods 3 SCH
This research methods course will introduce the basic language and concepts of empirical research with emphasis on the applicability of research methodology in health care. Students will have the opportunity to learn how to search the peer-reviewed journal databases available to them through the Research Library. They will then critique and review their references, learn how to make an outline and write a literature review on their assigned topic. Curriculum will include a blend of lectures, group work, presentations by guest researchers and development of a group research poster.

HS 4100 Health Care Ethics 1 SCH
This course content is designed to establish a foundation and set parameters of professional practice for health care professionals. The emphasis will be on developing the background for the resolution of ethical dilemmas through ethical reasoning, ethical obligations in health professional-patient relationships and just allocation of scarce health care resources.

HS 4101 Diversity & Cultural Competence 1 SCH
This course is designed to provide each student with a fundamental understanding of the concepts of cultural competency, diversity and inclusion. The course content of each module emphasizes the following seven culturally competent areas of diversity: Building Relationships across Culture; Communication Across Differences; Conflict resolution Across Cultures; Microinequities within the Workplace; Diversity and Inclusion; Abilities: A Journey from Exclusion to Inclusion; Spirituality and health care practices.

HS 4110 Molecular Genetics Technology 1 SCH
The study of clinical laboratory molecular diagnostic procedures utilizing recombinant DNA technology and its application to the many aspects of the clinical laboratory.
Course Fee: $38.11

HS 4111 Medical Law 1 SCH
This course introduces the student to medical law and case studies in health care practice.

HS 4111L Medical Microbiology Lab 1 SCH
The course utilizes biochemical, morphological and serological techniques to illustrate concepts from the lecture course relating to microbial structure, metabolism, virulence and transmission. Students also receive instruction on proper technique and procedures for a number of different tests, including culturing, staining, carbohydrate utilization, immunoassays and microscopy.
Course Fee: $50.00

HS 4160 Critical Scientific Analysis 1 SCH
Students will analyze current scientific publications for research questions, hypothesis, study design and statistical analysis and the application of proper scientific formats in the clinical laboratory professions. Students will complete pre-session assignments, participate in group discussion and present their group findings.

HS 4161 Seminar in Healthcare 1 SCH
Seminar-based course covering topics in the medical laboratory sciences.

HS 4170 Special Topics I 1 SCH
A review of the principles of mathematics and statistics used in the clinical laboratories, this course presentation includes an introduction to the selection and operation of a laboratory information system.

HS 4300 Pathophysiology for Health Professions 3 SCH
This course is designed to provide basic knowledge in pathophysiology in preparation for professional studies in the health sciences. Topics covered include central concepts of pathophysiology of the cells and tissues and alterations in organs and systems with an emphasis on carcinogenesis. Appropriate diagnostic and treatment procedures are covered.

HS 4303 Advanced Pathophysiology for Radiation Therapy 3 SCH
This course provides the knowledge in pathophysiology by organ and systems. A focus on diseases and treatment of the radiation therapy patient are emphasized.

HS 4310 Medical Microbiology 3 SCH
This course is the study of the utilization of morphological, biochemical, serological, disease inducing characteristics for microorganism, fungi, mycobacterium and virus identification. Course delivery a blend of lecture and on-line, self-paced activities.

HS 4371 Management and Education 3 SCH
This course covers laboratory management and educational methodologies. It includes management and motivational theories, communication skills, regulatory and accreditation requirements, budget and strategic planning, curriculum design and examination instruction. Course delivery is on-line, interactive, self-paced.

Histotechnology

HT 4241 Histotechnology Lab Operations I 2 SCH
In this course, students will study the applications of laboratory operations. This course will review the metric system as utilized and applied to histotechnology. General staining considerations, cytotechnology specimen preparation, decalcification, solution preparations and safety in the laboratory will be emphasized.

HT 4242 Histotechnology Lab Operations II 2 SCH
This course is a continuation of HT 4241 with emphasis on the laboratory operations as applied to special staining techniques in the microscopic identification of carbohydrates, lipids, nucleic acids, enzymes, amyloid, pigments and minerals and cytotechnology staining. Students will prepare reagents to use in performing these special staining techniques. Laboratory management principles will also be discussed.
Course Fee: $38.11

HT 4312 Theory & Practice of Histotechniques I 3 SCH
This course consists of the principles of routine histologic techniques and the basic principles, components and use of instruments in the histopathology laboratory. The students will acquire basic knowledge in the theory of fixation and processing/embedding for routine tissue processing staining Students will also acquire basic knowledge in the theory and practical application of microtomy, cryosectioning and routine staining. Students will learn to use various chemicals and equipment. Preventive maintenance, troubleshooting and comparison of types of equipment are also discussed. Principles and establishment of quality control methods and maintenance of records are presented. Current federal regulations dealing with accreditation of laboratories and safety procedures are also discussed.

HT 4390 Histotechnology Capstone Review 3 SCH
The course is a Capstone review course that will review all aspects of histological techniques inclusive of fixation; processing & embedding; microtomy; cryosectioning; routine, special, enzyme, and IHC staining; solution preparation laboratory math; microscopy; and laboratory management and safety.

HT 4413 Theory & Practice of Histotechniques II 4 SCH
The course is a continuation of HT 4312 and consists of the principles of routine histologic techniques and the basic principles, components and use of instruments in the histopathology laboratory. The students will acquire intermediate to advanced knowledge in the theory of fixation and processing/embedding for routine tissue processing. Students will also acquire intermediate to advanced knowledge in the theory and practical application of microtomy, cryoscectioning and routine staining. Students will learn to use various chemicals and equipment. Preventive maintenance, troubleshooting and comparison of types of equipment are also discussed. Principles and establishment of quality control methods and maintenance of records are presented. Current federal regulations dealing with accreditation of laboratories and safety procedures are also discussed.

HT 4444 Theory of Special Stains 4 SCH
This course studies the theory underlying the principles and techniques of special staining as applied to microscopic identification of connective tissue, muscle, neurological tissues, carbohydrates, lipids, proteins, blood elements, pigments and minerals. The clinical significance of these stains in diagnoses will be discussed.

HT 4521 Histotechniques Laboratory Rotation I 5 SCH
This course consists of supervised beginning-level clinical practice in the histopathology student laboratories. Students will rotate through selected areas of the histopathology laboratory to include tissue processing, embedding, microtomy, routine and special staining.
Course Fee: $50.00

HT 4522 Histotechniques Laboratory Rotation II 5 SCH
This course involves supervised intermediate-level internship at MD Anderson or affiliate site in selected areas of histopathology to include frozen sectioning, tissue processing and embedding, decalcification, transmission electron microscopy, microtomy and routine and special staining.
Course Fee: $35.00

HT 4523 Histotechniques Laboratory Rotation III 5 SCH
This course involves supervised advanced-level internship MD Anderson or affiliate site in specialized areas of histopathology including frozen sectioning, special staining, in situ hybridization, microtissue arrays and cytotechnology.
Course Fee: $35.00

Medical Dosimetry

MD 3201 Introduction to Radiation Treatment 2 SCH
This course will introduce students to different aspects of radiation treatment including machine parameters, treatment administration and patient care issues.
Course Fee: $35.00

MD 3302 Introduction to Treatment Planning I 3 SCH
This is a lab-based course which provides students with the hands-on experiences. In this course, junior students will be taught about the treatment planning system and learn the procedures needed to develop radiation treatment plan for different disease sites.
Course Fee: $35.00

MD 3303 Introduction to Treatment Planning II 3 SCH
This course is a continuation of MD 3302. In this course students learn the procedures to develop more complex treatment planning for different disease sites.
Course Fee: $38.11
Prerequisite: MD 3302

MD 3304 Introduction to Clinical Medical Dosimetry 3 SCH
In this course students learn about different aspects of the medical dosimetry profession including treatment planning, image fusion, verification calculation and plan presentation.

MD 4102 Anatomy for Radiation Oncology 1 SCH
This course presents each student with an anatomical study of the human body in topographical, sagittal, transverse and coronal planes. Treatment planning techniques for the body sections are discussed.

MD 4204 Aspects of Radiation Oncology 2 SCH
This course presents the students with various aspects of radiation oncology. Students are presented with different aspects of medical dosimetry practice other than treatment planning, which include electronic charting, treatment error corrections and other professional responsibilities and opportunities.

MD 4210 Radiation Biology 2 SCH
This course presents the students with cellular, subcellular and tissue biology. The course requires the students to discriminate between types of cellular damage caused by ionizing radiation. Additionally, students are exposed to proliferation kinetics, fractionated radiotherapy, acute and chronic effects of radiation on human cells and body systems, principles of linear energy transfer and relative biologic effectiveness and the impact of radiosensitizers and radioprotectors on patient treatment.
Course Fee: $38.11

MD 4300 Intro to Medical Dosimetry 3 SCH
This course is an introduction to medical dosimetry which includes introduction to terms used in radiation oncology, math review, characteristics of radiation used for treatment, SSD and SAD techniques of dose calculation, and verification calculation. Students are assigned to work individually on a case study and present their findings to their peers in the classroom setting.

MD 4301 Medical Dosimetry Physics I 3 SCH
This course teaches basic theories and calculations for radiation oncology including the structure of matter, nuclear transformation, x-ray production and quality, radiation generators, interaction and measurement of ionizing radiation and absorbed dose measurement.

MD 4302 Brachytherapy Dosimetry 3 SCH
This course teaches the physics of brachytherapy including source characteristics, dosimetry systems and dose calculations.

MD 4303 Research in Radiologic Sciences I 3 SCH
This course is an introduction to basic research concepts. Development of a research project begins. Students conduct literature review and construct their introduction and literature review sections of their final paper.
Course Fee: $35.00

MD 4305 Medical Dosimetry Physics II 3 SCH
This course is a continuation of MD 4301 that teaches basic theories and calculations for radiation oncology and includes classical and modern radiation therapy.
Prerequisite: MD 4301

MD 4306 Research in Radiologic Sciences II 3 SCH
This course is a continuation of MD 4303, with projects finalized. Students complete data collection and analysis and construct their final manuscript.
Course Fee: $38.11
Prerequisite: MD 4303

MD 4309 Interstitial & Intracavitary Dosimetry 3 SCH
This course focuses on interstitial and intracavitary brachytherapy such as GYN malignancies, prostate seed implant, eye plaque, accelerated partial breast irradiation and manual and after loading interstitial implants. Patient care in brachytherapy and sterile procedures will also be discussed.
Course Fee: $38.11
Prerequisite: MD 4302.

MD 4313 Clinical Radiation Oncology 3 SCH
This course presents an in-depth study of multidisciplinary treatment of the cancer patient from the clinician's viewpoint. Students are required to master concepts specific to site-specific disease including histopathology, etiologic and epidemiology factors, detection and diagnosis, tumor stage and grade, routes of metastases, dose fractionation and prognostic factors. This course is designed to approach each cancer type by anatomic system, addressing treatment factors with increasing degrees of complexity.
Course Fee: $35.00

MD 4331 Clinical Education I 3 SCH
In this course students are supervised in a clinical practice setting and learn different aspects of advanced medical dosimetry. Students are involved in hands-on activities in the clinical practice setting.
Course Fee: $50.00
Prerequisite: MD 3304

MD 4332 Clinical Education II 3 SCH
In this course students are supervised in a clinical practice setting and learn different aspects of advanced medical dosimetry. Students are involved in hands-on activities in the clinical practice setting.
Course Fee: $50.00
Prerequisite: MD 3304

MD 4333 Clinical Education III 3 SCH
In this course students are supervised in a clinical practice setting and learn different aspects of advanced medical dosimetry. Students are involved in hands-on activities in the clinical practice setting.
Course Fee: $50.00
Prerequisite: MD 3304

MD 4334 Clinical Education IV 3 SCH
In this course students are supervised in a clinical practice setting and learn different aspects of advanced medical dosimetry. Students are involved in hands-on activities in the clinical practice setting.
Course Fee: $50.00
Prerequisite: MD 3304

MD 4335 Internship in Radiation Oncology 3 SCH
In this course students are supervised in a clinical practice setting and learn different aspects of advanced medical dosimetry. Students are involved in hands-on activities in the clinical practice setting.
Course Fee: $50.00
Prerequisite: MD 3304

MD 4401 Radiation Physics 4 SCH
In this course, students will learn about applications of radiation in medicine. Radiation measurement, different types of radiation detectors, late effects of radiation, dose to non-target structures, impact of treatment modifiers, fetal dose consideration, electronic risk following pacemaker irradiation and different imaging modalities will be discussed.

MD 4508 External Beam Dosimetry 5 SCH
This is a continuation of MD 4301 and MD 4305 that teaches basic theories and calculations for radiation oncology.
Prerequisites: MD 4301, 4305

MD 5301 Radiation Physics 3 SCH
This course includes topics in radiation safety and protection, MU calculations for SSD and SAD techniques, atomic physics, radiation productions, interaction of ionizing radiations, treatment planning and electron beam therapy.

MD 5302 Radiation Oncology Principles and Practice 3 SCH
This seminar course includes a variety of relevant information important for practicing medical dosimetrists. A summary of radiation biology principles is provided. In addition, computers and networking in a radiation treatment clinic are examined. Clinical topics such as deformable registration, AI in radiation oncology, implanted devices, professional conduct and development, and healthcare ethics will be discussed.

MD 5310 Clinical Practicum I 3 SCH
In this clinical course, students learn how to construct treatment planning for various body sites. Cross sectional anatomy, patient care, verification calculation, image transport, Record and Verification system, patient chart, fusion/composite planning/QA (if applicable), communication with the rad-onc team, and billing associated with these plannings are included.

MD 5320 Clinical Practicum II 3 SCH
In this clinical course, students learn how to construct treatment planning for various body sites. Cross sectional anatomy, patient care, verification calculation, image transport, Record and Verification system, patient chart, fusion/composite planning/QA (if applicable), communication with the rad-onc team, and billing associated with these plannings are included.

MD 6301 Brachytherapy for Medical Dosimetrists 3 SCH
This course introduces students to brachytherapy and concepts related to this technique for calculations and planning. Common radionuclides used in brachytherapy, their characteristics, including half-life, energy, exposure rate constant, half-value layer, and typical clinical use will be discussed. Concepts of activity, apparent activity, air KERMA strength, exposure rate, equivalent mg hours of Radium (mgRaeq), and associated calculations will be introduced. Brachytherapy treatment methods including treatment procedure and devices, implantation techniques, isodose selection, dose rate, treatment planning, and critical structure will be presented.

MD 6302 Modern Topics in Radiation Oncology 3 SCH
This seminar introduces more advanced topics in medical dosimetry. Various imaging modalities are reviewed. Dose correction calculations due to clinical misadministration are discussed. Various treatment modalities such as 3D and IMRT will be presented. The principles of Total Body Irradiation along with a discussion of quality assurance requirements are explained.

MD 6310 Clinical Practicum III 3 SCH
In this clinical course, students learn how to construct treatment planning for various body sites. Cross sectional anatomy, patient care, verification calculation, image transport, Record and Verification system, patient chart, fusion/composite planning/QA (if applicable), communication with the rad-onc team, and billing associated with these plannings are included.

MD 6303 Capstone Seminar 3 SCH
The capstone seminar explores the advanced principles of proton therapy, IGRT, adaptive planning, knowledge-based treatment planning, SBRT, SRS, SRT, respiratory motion management and deep inspiration breath hold. Students utilize research methodologies to choose and research about an advanced topic in radiation oncology to construct a paper.

MD 6320 Clinical Internship 3 SCH
In this clinical course, students learn how to construct treatment planning for various body sites. Cross sectional anatomy, patient care, verification calculation, image transport, Record and Verification system, patient chart, fusion/composite planning/QA (if applicable), communication with the rad-onc team, and billing associated with these plannings are included.

Molecular Genetic Technology

MG 4111 Bioinformatics for Clinical Diagnostics Lab 1 SCH

This is the lab course to MG 4200 Bioinformatics for Clinical Diagnostics I course. Students will learn how to access, manage, and analyze biological information using computer applications for purposes such as obtaining biological sequences and performing clinical research and development, assay design, and data analysis.
Course Fee: $45.00

MG 4160 Genetic Technology Journal Club I 1 SCH

Seminar-based course that covers topics in genetics and related fields.

MG 4200 Bioinformatics for Clinical Diagnostics 2 SCH

This course will introduce the students to the clinical applications of information technology and computer-based science. Students will learn how to access, manage and analyze biological information using computer applications for purposes such as obtaining biological sequences and performing clinical research and development, assay design and data analysis.

MG 4211 Molecular Diagnostic Techniques 2 SCH

This course will provide participants with a didactic understanding of laboratory process and procedures. The topics covered may include information related to sample storage and transport requirements for integrity, purpose of reagents and parameters used in molecular applications and theoretical understanding of platform methodologies, data analysis and trouble shooting.
Course Fee: $38.11

MG 4240 Introduction to Molecular Genetics 2 SCH

This introductory course in molecular genetics offers a comprehensive exploration of the fundamental principles underlying the structure, function, and inheritance of genetic material. The course covers essential topics in molecular diagnostics, principles of genetics, nucleic acid chemistry and basic molecular theory including nucleic acid structure, DNA replication, transcription, translation, gene architecture and genetic variation.

MG 4250 Fundamentals of Molecular Diagnostic Techniques 2 SCH

This course offers a concise introduction to the fundamental principles and applications of molecular diagnostics. Students will explore key concepts underlying basic laboratory techniques, and the significance of molecular diagnostics in disease detection and personalized medicine.

MG 4280 Concepts in Molecular Diagnostics 2 SCH

This course focuses on the role of genetics in medicine and related molecular testing methodologies. The course aims to highlight the importance of genetics and its role in disease by providing a link between disease diagnosis, prognosis, prevention and treatment with molecular testing options and applications through case-based analysis. Topics may include diseases or disorders in the areas of oncology, inherited and infectious disease and oncology as well as applications including pharmacogenomics and next generation sequencing.

MG 4281 Advanced Concepts in Molecular Diagnostics 2 SCH

This course is a continuation of both MG 4200 Bioinformatics for Clinical Diagnostics and MG 4280 Concepts in Molecular Diagnostics courses, focusing on the role of genetics in medicine and related bioinformatic methodologies. The course aims to examine in greater detail the role of clinical molecular testing in refining diagnosis, prognosis and treatment decisions by learning and applying bioanalytical tools.

MG 4290 Clinical Disease Applications of Molecular Genetics 2 SCH

Focuses on the specific applications of molecular techniques within a variety of medical disciplines. The disciplines covered may include but not limited to molecular oncology, molecular pre/post-natal testing and molecular infectious disease testing.

MG 4310 Molecular Diagnostic Techniques Laboratory II 3 SCH

This lecture/laboratory course will introduce the student to human identity testing. The course provides an application of skills such as serology, DNA extraction, amplification, quantitation, capillary electrophoresis, fragment analysis and population genetics for forensic DNA analysis and / or paternity testing as well as basic genetic genealogical approaches.
Course Fee: $38.11

MG 4320 Molecular Diagnostic Techniques Laboratory III 3 SCH

This course will provide participants with in-depth understanding of advanced laboratory processes and procedures. The topics covered include a practical and theoretical understanding of platform methodologies including real-time PCR expression analysis, microsatellite instability, methylation-specific PCR, Sanger sequencing and Next Generation sequencing. Data analysis, statistical evaluation and troubleshooting are also covered.
Course Fee: $38.11

MG 4460 Advanced Concepts of Molecular Genetics 2 SCH

This course offers a focused and advanced study of molecular genetics, aiming to deepen students' understanding of complex genetic mechanisms and current diagnostic trends. Course is designed as an in-depth exploration of advanced genetics concepts and applications in molecular diagnostics building upon foundational knowledge. This course delves into sophisticated molecular mechanisms, genome analysis, and the genetic principles and their applications in diagnostic genetics.
Prerequisites: MG 4240, MG 4250

MG 4470 Advanced Molecular Diagnostic Techniques 2 SCH

This course provides a comprehensive overview of the advanced methodologies employed in the identification and analysis of genetic disorders at the molecular level. The course provides an in-depth examination of advanced diagnostic tools essential for the identification, characterization, and interpretation of genetic anomalies.
Prerequisites: MG 4240, MG 4250

MG 4510 Molecular Diagnostic Techniques Laboratory I 5 SCH

The course will provide participants with hands on laboratory experience in: performing molecular techniques such as DNA extraction, purification and quantification; preparing and viewing gel electrophoresis; conducting PCR and Real-Time PCR experiments; and designing primers and performing Sanger sequencing with assay optimization and troubleshooting.
Course Fee: $50.00

MG 4560 Molecular Diagnostics Clinical Rotation I 5 SCH
This clinical laboratory rotation includes the study of molecular diagnostic procedures utilizing recombinant DNA technology and its application to the many aspects of the clinical laboratory. Laboratory experiences include DNA specimen handling and processing, DNA extraction, DNA purification, Southern blot analysis, probe preparation and utilization, PCR, primer design and Real- Time PCR.
Course Fee: $50.00

MG 4570 Molecular Diagnostics Clinical Rotation II 5 SCH
This clinical laboratory rotation is a continuation of MG 4560. This clinical laboratory rotation may include the study of molecular diagnostic procedures utilizing recombinant DNA technology and its application to the many aspects of the clinical laboratory. Laboratory experiences may include DNA specimen handling and processing, DNA extractions, DNA purification, Southern blot analysis, probe preparation and utilization, PCR, primer design and Real-Time PCR.
Course Fee: $50.00

Mammography

MM 4400 Patient Care 4 SCH
The content of this course is intended to provide the student with an overall understanding of patient interactions and management. This includes general patient communication regarding the mammographic procedure protocols as well as patient education including guidelines for mammographic screening and patient radiation dose. This course also provides extensive information on patient assessment and breast cancer treatment options including surgical, nonsurgical, and reconstruction options.

MM 4401 Image Production 4 SCH
This course is designed to assist the student in understanding the basic principles of Mammography imaging acquisition and quality assurance. This includes digital acquisition and display, mammographic imaging system characteristics, medical informatics, procedure imaging techniques, and image evaluation. In addition, the content provides detailed information regarding accreditation, certification, and the Mammography Quality Standards Act (MQSA) regulations.

MM 4402 Procedures 4 SCH
This course is designed to teach the student anatomy, physiology, and pathology of the breast. In addition, the content of this course provides comprehensive instruction in mammographic positioning, special needs, and imaging procedures. The course provides the general protocol guidelines as established by the American College of Radiology (ACR). These procedures include both mammography screening and diagnostic imaging examinations as well as special procedures such as breast ultrasound, breast MRI, molecular breast imaging, and interventional procedures.

MM 4403 Internship 4 SCH
This course allows the student to apply all aspects of mammographic imaging while in the clinical setting. This experience enhances the student's understanding of routine screening and diagnostic mammographic protocols as well as that of special procedures. In addition, clinical rotations allow the student to complete experience requirements set by the American Registry of Radiologic Technologists (ARRT) for those seeking accreditation and certification in this advanced imaging modality.

Radiologic Sciences

RS 5310 Fundamentals of Health Care Systems 3 SCH
The purpose of this course is to provide students with an overview of the U.S. health care structure and components of health services delivery. The course reviews the evolution, structure and current issues in the health care system and examines the unique features of health care as a product including the changing relationships between patients, healthcare professionals, public and private third-party payers, regulators, reimbursement methods and technology. It also reviews legislative reforms, budget debates in the U.S Congress and the financing of health care programs including the Affordable Care Act, Medicare and Medicaid.

RS 5311 Strategic Management and Business Policy 3 SCH
The purpose of this course is to explore and selectively apply modern concepts of strategic management skills and techniques to simulate various strategic situations. Students explore the role of strategic planning in achieving organizational performance and key concepts in strategic planning, including identifying the relationship of the plan to the organization's mission, values and vision; assessing the competition; identifying external influences and resources; forecasting trends in organization performance and setting goals. Students apply course concepts, including strengths, weaknesses, opportunities and threats (SWOT) analysis as they research and develop components of strategic plan for a specific health care organization. The course also examines how policies in each functional area are integrated into an overall competitive strategy.

RS 5312 Research Methodology 3 SCH
This course provides an opportunity for students to establish or advance their understanding of research through critical exploration of social or clinical issues. Students will develop statistical vocabulary and the elements of the research process within quantitative and qualitative approaches. They will use these theoretical underpinnings to critically review literature relevant to their field of interests.

RS 5313 Legal and Ethical Fundamentals of Healthcare 3 SCH
This class is designed to provide a general introduction to the legal and ethical environment of health services administration. It examines principles and practical applications of the laws that affect the operational decisions of health care providers, payors and administrators. The course focuses on required knowledge of laws and regulations developed by policymakers that impact healthcare organizations. Also examined, are key laws that govern patient care delivery, employee relations, contracts and fraud. Emphasis is placed on legal and regulatory guidelines that administrators must follow as they design and implement policies and practices within the healthcare organizations.

RS 6125 CIIP Examination Review 1 SCH
This course reviews the objectives for the American Board of Imaging Informatics (ABII) examination to become a Certified Imaging Informatics Professional (CIIP) and allows students to become familiar with the ABII and the Society for Imaging Informatics in Medicine (SIIM) and prepare for the ABII CIIP certification examination.

RS 6219 Project Management Internship 2 SCH
This course requires completion of a supervised practical experience related to imaging informatics.

RS 6311 Health Care Financial Management 3 SCH
This course is an introduction to health care finance and description of the current financial environment in which health care organizations function. It explores the basics of financial and managerial accounting and presents concepts that are critical to making thorough financial decisions to improve the cost effectiveness of the organization. Students interpret and analyze the financial statements of a business, use and analyze financial ratios, utilize variance analysis, understand and implement operating and capital budgeting and develop knowledge of the business planning process.

RS 6312 Human Resource Management in Health Professions 3 SCH
The purpose of this course to provide a foundation of knowledge and skills applicable to the current issues and challenges in health care human resource management. It focuses on developing human resources management and leadership strategies that can be utilized to solve various management and operational issues. These include recruitment and selection of employees, benefits and compensation management, privileging and credentialing of health professionals, performance evaluations, staffing plans, labor relations and labor laws relevant to health care organizations. Students examine the theory and practice of managing individuals and groups through motivation, communication, teamwork, collaboration, leadership, organizational change, negotiation, conflict management and resolution.

RS 6313 Adult Learning and Instruction 3 SCH
This course will discuss the recent research concerning the concept of adult learning and how this can be applied in design and implementation of effective adult instruction. The learning theories, principles and practices of adult learning and how they can be incorporated into adult instruction will also be discussed.
Course Fee: $40.00

RS 6314 Critical Thinking Strategies in Higher Education 3 SCH
This course will provide a foundation of knowledge on theories of critical thinking and how they can be applied in higher education curriculum. Students will learn a variety of critical thinking strategies to incorporate into their lesson plans in order to create an active learning environment for their adult learners.
Course Fee: $40.00

RS 6315 Curriculum Development and Evaluation 3 SCH
This course provides the essential processes of curriculum development in higher education and the evaluation process for its continuous improvement. The course will also discuss the challenges of administering curriculum and the roles of leadership and administration.

RS 6316 Health Resources and Policy Analysis 3 SCH
This course examines factors that affect performance outcomes within healthcare organizations; methods to monitor, adjust and improve performance; techniques and tools of quantitative analysis of operations and decision making. Additional emphasis is also placed on staffing, scheduling, productivity and supply chain and reengineering of work processes using flowcharts. Students explore performance data to identify trends and variation based on current operations and those resulting from changes and improvements.

RS 6317 Thesis 3 SCH
This course provides an opportunity for the students to research a topic related to their area of specialization and present and defend it before their faculty members. As a result of this course, students will enhance their understanding of the topic based on the latest research studies and their own experiences.
Course Fee: $38.11

RS 6318 Health Informatics and Technology Management 3 SCH
This course examines the realm of Health Care Information Systems (HCIS) and provides the student with the opportunity to develop an understanding of basic information technology, clinical and administrative applications of health care information systems. Emphasis is placed on how these platforms make available information that facilitate patient care, improved management of medical records, enhancement of supply inventory management and improve vendor contracting and management. Students also explore Web-based systems for increasing consumer knowledge, confidentiality of information systems, organizational compliance and data sets. Additional topics relating to patient confidentiality are also discussed including HIPAA and electronic health records.

RS 6319 Internship 3 SCH
This course consists of a minimum of two weeks of supervised internship in an area of health care administration or educational leadership. Students will receive academic credit for supervised professional training and experience in an actual work environment. The practicum is an ongoing seminar between the student, faculty and employment supervisor, and requires submission of progress material as established in the Internship Application and Learning Agreement.
Course Fee: $50.00

RS 6320 Revenue Cycle Management and Coding Strategies 3 SCH
This course is designed to provide students the opportunity to understand the basic processes of revenue cycle management and coding strategies in healthcare organizations. The course emphasis will focus primarily in specific areas, such as Radiology, Nursing, Public Health, and Clinical Lab Science.

RS 6321 Image Management and Clinical Engineering 3 SCH
This course focuses on medical imaging informatics management, including the requirements and ergonomics of a viewing room, workflow processes, quality control, import and export of images in PACs and support for imaging modalities.

RS 6322 Systems Management 3 SCH
This course details the requirements for an optimal, cost-effective system capacity, including disaster plan recovery and business continuity strategies, data migration procedures, security and privacy maintenance and user feedback mechanisms.

RS 6324 Procurement and Operations 3 SCH
This course explores procuring a system and implementing policies and procedures, including conducting a needs assessment, selecting a vendor, negotiating contracts with vendors and ensuring compliance with federal regulations.

RS 6330 Accreditation of Radiologic Science Educational Programs 3 SCH
This course provides a comprehensive overview of programmatic accreditation of radiologic science educational programs, including the purpose of accreditation, standards for quality learning and student outcomes/assessment plans.

Radiation Therapy

RT 3101 Simulation and Treatment Techniques I 1 SCH
This course is taught in the clinical and virtual settings. Students are required to demonstrate accurate simulation and/or treatment set-up procedures and patient immobilization for basic to intermediate radiation therapy treatment protocols.
Course Fee: $38.00

RT 3103 Simulation and Treatment Techniques II 1 SCH
Continuation of RT 3101. This course is taught in the clinical and virtual settings. Students are required to demonstrate accurate simulation and/or treatment set-up procedures for intermediate to advanced radiation therapy treatment protocols.

RT 3220 Clinical Education I 2 SCH
This course provides supervised clinical education in which students are assigned to a specific patient. The student will observe the patient from consultation through treatment. Students are required to present in a formal setting the educational findings related to their patient's treatment regimen. Students must demonstrate competency in block fabrication, patient immobilization, patient transfer techniques, bolus, vital signs and basic patient care. Students are assigned a mentor for the development of a master-apprentice relationship.
Course Fee: $47.00

RT 3221 Clinical Education II 2 SCH
Continuation of RT 3220.
Course Fee: $35.00
Prerequisite: RT 3220

RT 3222 Clinical Education III 2 SCH
Continuation of RT 3221.
Course Fee: $50.00
Prerequisite: RT 3221

RT 3345 Directed Readings 1-3 SCH
Directed reading and research, followed by the writing of a report or the creation of a project. SCH are based on size, length and depth of paper or project.

RT 4101 Radiation Safety & Protection 1 SCH
This course requires the student to demonstrate a detailed understanding of atomic structure, types of ionizing radiation, radiation detection devices, units of measurement, personal and public radiation safety practices and doses of external beam radiation devices. The course identifies radiation regulatory and advisory agencies and the specific requirements of each.

RT 4156 Individual Projects 1 SCH
This course is designed to provide a review of knowledge in clinical oncology in preparation for the registry examination. Topics cover the concepts of various cancers, staging and treatment techniques. Appropriate diagnostic and treatment procedures are also covered. Students are required to design, develop and present specific individualized projects.

RT 4199 Special Projects in Radiation Therapy 1 SCH
This course is designed for individual projects, research, special seminars, or further investigation of topics in radiation oncology.

RT 4210 Radiobiology 2 SCH
This course presents the students with cellular, subcellular and tissue biology. The course requires the students to discriminate between types of cellular damage caused by ionizing radiation. Additionally, students are exposed to proliferation kinetics, fractionated radiotherapy, acute and chronic effects of radiation on human cells and body systems, principles of linear energy transfer and relative biologic effectiveness and the impact of radiosensitizers and radioprotectors on patient treatment.

RT 4295 Capstone 2 SCH
This course is capstone preparation for national certification and licensure.

RT 4302 Anatomy for Radiation Oncology 3 SCH
This course addresses the anatomical study of the human body in topographical, sagittal, transverse and coronal planes.

RT 4305 Patient Care in Radiation Oncology 3 SCH
The focus of this course is providing the student with advanced skills in oncologic patient care and assessment. Students are required to demonstrate, under varying patient conditions, physical and psychological assessment, cause and effect of clinical laboratory values, management of oncologic emergencies and treatment regimens of radiation induced site-specific treatment side effects. This course contains a laboratory component.
Course Fee: $38.00

RT 4306 Technical Radiation Oncology 3 SCH
Students master basic concepts of radiation therapy and the technical aspects of radiation oncology, including custom block, mold and immobilization fabrication, intensity modulated radiation therapy, stereotactic radiosurgery, intraoperative radiotherapy and brachytherapy. Principles of surgery and oncology are presented. Students are required to participate in hands-on simulation laboratory activities. A detailed study is presented of the operation and function of radiotherapeutic equipment to include linear accelerators, cobalt units, superficial and orthovoltage units. Students are required to identify equipment faults and the appropriate responses to clearing faults.

RT 4309 Special Applications in Radiation Oncology 3 SCH
This course presents principles of advanced practice, such as fusion imaging, respiratory gating and stereotactic radiosurgery, as well as current advancements in treatment techniques.

RT 4310 Radiation Therapy Physics 3 SCH
This course reviews atomic structure, interactions with matter and inverse square law. Equivalent Square and interpolation of data are introduced. Acquisition of radiation beam data, parameters required in accurate dose calculation, the effects of wedges, blocking, filters and beam configuration are discussed. Students are required to demonstrate accurate dose calculations for various beam configurations.

RT 4311 Radiation Therapy Treatment Planning and Dosimetry 3 SCH
This course stresses the application of brachytherapy calculative techniques, evaluation of distributions to calculate implant duration, analysis of emerging technology and terminology as they relate to current practice, comparing and contrasting hand calculations and combinations to computer output and applying formula calculations to advanced and complex treatment problems. Specific disease and site-specific concepts of treatment planning and medical dosimetry are presented. Students demonstrate their understanding of external photon and electron beam treatment planning in the production and analysis of treatment plans for head and neck, central nervous system, thoracic, breast, abdominal and pelvic tumors.
Prerequisite: RT 4310

RT 4312 Quality Management in Radiation Therapy 3 SCH
This course is an in-depth study of quality management and quality assurance components in radiation oncology. Students are required to demonstrate the knowledge and skills to develop a quality management program that includes allocation of human and physical resources; quality assurance and acceptance testing of linear accelerators, simulators and brachytherapy sources; patient and personnel protection policies; and patient and professional satisfaction. Data collection and analysis of quality indicators are required. Students are required to complete a hands-on laboratory component.

RT 4314 Clinical Radiation Oncology 3 SCH
This course presents an in-depth study of multidisciplinary treatment of the cancer patient from the clinician's viewpoint. Students are required to master concepts specific to site-specific disease including histopathology, etiologic and epidemiology factors, detection and diagnosis, tumor stage and grade, routes of metastases, dose fractionation and prognostic factors. This course is designed to approach each cancer type by anatomic system, addressing treatment factors with increasing degrees of complexity.
Course Fee: $35.00

RT 4320 Clinical Education IV 3 SCH
This course provides supervised clinical education in which students are required to demonstrate ARRT competency in treatment planning and delivery, quality assurance, patient care, block and mold fabrication, brachytherapy procedures along with advanced program competencies and professional growth. Students are assigned a mentor for the development of a master-apprentice relationship.
Course Fee: $47.00

RT 4321 Clinical Education V 3 SCH
This course provides supervised clinical education in which students are required to demonstrate ARRT competency in treatment planning and delivery, quality assurance, patient care, block and mold fabrication, brachytherapy procedures along with advanced program competencies and professional growth. Students are assigned a mentor for the development of a master-apprentice relationship.
Course Fee: $35.00
Prerequisite: RT 4320

RT 4322 Clinical Education VI 3 SCH
This course is a continuation of RT 4321. Students are assigned a mentor for the development of a master-apprentice relationship and will be responsible for a demonstration of final competency.
Course Fee: $50.00
Prerequisite: RT 4321

RT 4340 Independent Research Project 1-3 SCH
This course is designed to allow students to have the opportunity to conduct independent research activities with guidance from their faculty advisor. Students are required to submit a formal proposal for review and approval of the program faculty.
Repeatable up to 3 times

RT 4345 Literature Review 1-3 SCH
Directed reading and research, followed by the writing of a report or the creation of a project. SCH are based on size, length and depth of paper or project.
Repeatable up to 3 times

RT 4346 Professional Development 1-3 SCH
Attendance of educational sessions at district, state, regional or national conferences and/or attend specifically enhanced clinical education sessions to improve clinical skills and/or demonstrate continued competency. Twelve documented contact hours per SCH for a maximum of 3 SCH.
Repeatable up to 3 times

RT 4355 Seminar Independent Study 1-3 SCH
This course is designed to provide a review of knowledge in clinical oncology in preparation for the registry examination. Topics cover the concepts of various cancers, staging and treatment techniques. Appropriate diagnostic and treatment procedures are also covered. Students are required to design, develop and present specific individualized projects.
Repeatable up to 3 times

RT 4390 Adaptive Radiation Therapy 3 SCH
Students will demonstrate problem-solving and critical thinking skills related to the verification of treatment accuracy using various imaged guided techniques. Situations presented will require technical and professional judgment as they relate to accuracy of patient treatment.
Course Fee: $38.11

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MD Anderson Institutional Policies

All MD Anderson personnel, including SHP Students, can access any MD Anderson policy by accessing DocTract. To access the policies, students must enter their MD Anderson email and password and verify with DUO. The policies listed below pertain specifically to SHP Students and their respective links can only be accessed while on the VPN at home or on campus.

ACA0019: The University of Texas MD Anderson Cancer Center School of Health Professions Student Travel Safety Policy

PurposeThe purpose of this policy is to set forth special rules outlined by the Board of Regents of The University of Texas System (Regents' Rule 50601) and Texas Education Code, Sec. 51.950, to inform The University of Texas MD Anderson Cancer Center (MD Anderson) Students and employees who participate in certain Student travel activities of important safety rules.

Link to ACA0019

ACA1222: Student Rights Under the Family Educational Rights and Privacy Act (FERPA)

This policy sets standards to protect the privacy and records access rights that apply to records maintained by or for The University of Texas MD Anderson Cancer Center (MD Anderson) about its current and former Students by complying with the Family Educational Rights and Privacy Act (FERPA) at all times.

Link to ACA1222

ACA1264: The University of Texas MD Anderson Cancer Center School of Health Professions Conduct and Discipline Policy

The purpose of the policy is to explain the University of Texas MD Anderson Cancer Center (MD Anderson) School of Health Professions (SHP) regulations concerning Student conduct and discipline.

Link to ACA1264

ACA3591: Student Organizations Policy for School of Health Professions Students

This policy establishes guidelines, procedures, and responsibilities for all Student Organizations at The University of Texas MD Anderson Cancer Center (MD Anderson) School of Health Professions (SHP).

Link to ACA3591

ACA3593: School of Health Professions Student Store Transactions Policy

This policy provides guidelines for all monetary transactions at The University Texas MD Anderson Cancer Center (MD Anderson) School of Health Professions (SHP) student store, which operates using a cashless system. This policy assigns responsibilities for the handling and security of such cashless transactions.

The Student Store Inventory promotes student engagement and increases community visibility for the SHP.

Link to ACA3593

ACA3655: Student Pregnancy and Parenting Non-Discrimination Policy

This policy establishes the institution’s commitment to providing an academic environment that is free from discrimination against Pregnant Students or Parenting Students in accordance with the Texas Education Code, Section 51.982, and other applicable laws. These laws include Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex (including pregnancy discrimination) in education programs or activities; Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of a disability (including disabilities based on temporary medical conditions from pregnancy); and Title II of the Americans with Disabilities Act of 1990 (ADA), which prohibits discrimination against individuals with disabilities in public schools, such as institutions of higher education.

Link to ACA3655

ACA3658: School of Health Professions Student Disabilities Accommodations Policy

This policy provides guidelines to ensure non-discriminatory academic-related decisions and, where necessary, provide Reasonable Accommodations to qualified individuals with disabilities.

Link to ACA3658

ACA3684: Leave of Absence for School of Health Professions Students Policy

This policy provides guidelines for requesting a temporary interruption of enrollment from The University of Texas MD Anderson Cancer Center (MD Anderson) School of Health Professions (SHP), and the conditions of and process for a Student to return to active status and enrollment.

Link to ACA3684

School of Health Professions Policies

SHP01: Admission of Applicants with Dismissals

PURPOSE

The purpose of the policy is to establish review procedures concerning applicants with previous dismissals from institutions of higher education other than the School of Health Professions.

POLICY STATEMENT

It is the policy of the School of Health Professions to follow the procedures outlined below during the admissions process for applicants previously dismissed from other institutions of higher education.

SCOPE

Compliance with this policy is the responsibility of all SHP faculty and students and other members of MD Anderson's workforce.

TARGET AUDIENCE

The target audience for this policy includes, but is not limited to, all faculty, students, program admission committee members, other members of MD Anderson's workforce, and all applicants to the School of Health Professions who have been previously dismissed from other institutions of higher education.

DEFINITIONS

Academic program: A graduate or undergraduate program of the School of Health Professions.

Admissions process: The process of individuals applying for admission to the School of Health Professions that may include, but is not limited to, the application, interview, testing, and review by the program admissions committee.

Dismissal: An applicant's involuntary separation from an institution of higher education based on academic and/or disciplinary (conduct/behavioral) reasons.

Previously dismissed applicant: A person applying for admission to the School of Health Professions who has been previously dismissed from another institution of higher learning for academic and/or disciplinary (conduct/behavioral) reasons.

Program admissions committee: The committee each academic program forms to review applicants for admission to their academic program.

PROCEDURE

1.0 Requests for information

If it becomes known during the admissions process that an applicant to the School of Health Professions has been dismissed from another institution of higher learning, the program admissions committee may request additional information regarding the circumstances of the dismissal to decide if the previously dismissed applicant is eligible for admission to the School of Health Professions.

A. The program admissions committee may request from the previously dismissed applicant specific information of the dismissal, which may include, but is not limited to, background, charges filed, and date(s) of occurrence.

B. The program admissions committee may request a release of information from the previously dismissed applicant to obtain official records of the dismissal from their previous institution.

2.0 Request actions

The previously dismissed applicant may or may not accept the requests for additional information and/or release of information.

3.0 Review

After review of all available information, the program admissions committee will

A. decide if the previously dismissed applicant is eligible for admission to the School of Health Professions, and

B. inform the previously dismissed applicant if they are eligible for admission to the School of Health Professions.

4.0 Falsification of data

Any falsification of data by the previously dismissed applicant may result in ineligibility of admission to the School of Health Professions.

SHP02: Student Readmission

PURPOSE

The purpose of the policy is to identify the conditions in which previously dismissed students may be readmitted to the School of Health Professions and its programs after a separation from the school due to academic and/or disciplinary (conduct/behavioral) dismissal.

POLICY STATEMENT

It is the policy of the School of Health Professions that each program admissions committee may readmit, with or without conditions, or deny readmission to previously dismissed students from the School of Health Professions with the option to reapply.

SCOPE

Compliance with this policy is the responsibility of all faculty, students, and other members of MD Anderson's workforce.

TARGET AUDIENCE

The target audience for this policy includes, but is not limited to, all SHP faculty and students, program admission committee members, other members of MD Anderson's workforce, and previously dismissed students from the School of Health Professions and its programs after a separation from the school due to academic and/or disciplinary (conduct/behavioral) dismissal.

DEFINITIONS

Academic program: A graduate or undergraduate program of the School of Health Professions.

Admissions process: The process of individuals applying for admission to the School of Health Professions that may include, but is not limited to, the application, interview, testing, and review by the program admissions committee.

Letter of admission: The letter sent to applicants offering admission to a specific academic program in the School of Health Professions, which may or may not include conditions for admissions.

Previously dismissed student with the option to reapply: A person applying for admission to the School of Health Professions who

1. has been previously dismissed from the School of Health Professions for academic and/or disciplinary (conduct/behavioral) reasons, and
2. is allowed to apply for readmission to the School of Health Professions as stated in their dismissal letter.

Program admissions committee: The committee each academic program forms to review applicants for admission to their academic program.

PROCEDURE

1.0 Policy Overview

1.1 Program admissions committees will either offer readmission or deny readmission to previously dismissed students who are reapplying to the School of Health Professions.

1.2 The offer of readmission is either with or without conditions as stated in the official letter of admission.

2.0 General Instructions for readmittance with conditions

2.1 Previously dismissed students with the option to reapply who are offered readmission to an academic program of the School of Health Professions will receive specific conditions in their official letter of admission. The student must accept the conditions by the deadline date stated in their letter of admission.

2.2 Conditions of readmission may include, but are not limited to, the following.

A. Repeating courses with unsatisfactory grades earned.

B. Repeating single, multiple, or all courses previously taken at the School of Health Professions.

Typically considered for students who have been separated from the SHP program for more than one year.

C. Academic probation.

- Probationary period may include one or more semesters.
- Probationary criteria may include dismissal from the program and the SHP, without appeal, if the student earns an unsatisfactory grade or repeats identical or similar inappropriate behaviors to those presented in the original case for dismissal.