



TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER™

School of Medicine



2016-2017

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Equal Opportunity Statement

The School of Medicine is committed to a policy of equal opportunity for all, and will not discriminate on the basis of race, color, religion, age, sex, national origin, disability or veteran status.

School of Medicine Inquiries

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School of Medicine

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General Information



TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™

School of Medicine

Dean's Welcome

Steven L. Berk, M.D.
Dean of the School of Medicine



In almost every state in our country, medicine is being practiced by graduates of the Texas Tech University Health Sciences Center School of Medicine. We have an exciting story to tell... a story retold and reinvented each time a graduate makes a mark on the world.

Since 1969, we have graduated more than 4,000 physicians. Our original charter was to place more physicians in West Texas, an area of the state where many counties had none. Today, we are proud that more than 20 percent of the practicing physicians in West Texas graduated from our medical school and/or residency programs.

Our departments conduct research and foster scientific discovery that translate into better health solutions. From aging, cancer, diabetes, infectious diseases, and women's health – just to name a few – the School of Medicine's strategy to enhance research programs is through supporting the faculty, students, residents, and staff with every available professional resource and expertise. A major initiative for the school is to provide quality lab space, recruit creative, innovative research faculty, and to develop graduate students and postdoctoral fellows for lifelong careers in medical research. Accomplishments in recent years include: the renovation and construction of research space in Amarillo, El Paso, and Lubbock, continued and aggressive faculty recruitment with attractive start-up packages, substantial increases in endowed chairs and external funding and most recently, the addition of the F. Marie Hall SimLife Center, a simulation center with more than 24,000 square feet of space in Lubbock, which allows students from all disciplines to acquire a variety of skills through multi-modality instruction. In addition, simulation centers have been established in Amarillo and Permian Basin.

Texas Tech Physicians is the largest group practice in West Texas with more than 450 full-time clinical faculty from both the TTUHSC School of Medicine and the Paul L. Foster School of Medicine encompassing 108 counties in Texas and New Mexico. The wide range of specialties and sub-specialties comprising the practice allow us to touch the lives of more than 270,000 patients each year. A new state-of-the-art research building is available for students in Amarillo and the Permian Basin continues to increase facilities and programs. The recently established Paul L. Foster School of Medicine was formerly a regional campus and is now the first four-year medical school on the Texas-Mexico border.

I hope you share with me in the excitement of the many changes and positive efforts being made to make the School of Medicine a premier place to work, study, and receive the latest medical care and treatment in West Texas!

Administration

Board of Regents

Mickey L. Long, Chairman

John Steinmetz

Larry K. Anders

John Esparza

Debbie Montford, Vice Chairwoman

Tim Lancaster

Ronnie Hammonds

Jeremy Stewart, Student Regent

Christopher M. Huckabee

L. Frederick “Rick” Francis

Texas Tech University Health Sciences Center

Robert L. Duncan, Chancellor

Tedd L. Mitchell, M.D., President for the Health Sciences Center

Steven L. Berk, M.D., Dean, School of Medicine, Executive Vice President & Provost

Elmo Cavin, Executive Vice President Finance and Administration

Billy U. Phillips, Jr., Ph.D., Executive Vice President for Rural and Community Health

Rial Rolfe, Ph.D., M.B.A., Executive Vice President, Academic Affairs

P. Michael Conn, Ph.D., Senior Vice President for Research and Associate Provost

Kendra Burris, Assistant Vice Chancellor, Institutional Advancement

Ryan Henry, MBA, Vice President for Federal and State Relations

Cynthia Jumper, M.D., M.P.H., Vice President for Health Policy

Kim Peck, MD, Vice President for Diversity and Inclusion

Chip Shaw, Ed.D., Vice President for Information Technology & CIO

Sonya Castro-Quirno, MBA, Assistant Vice President for Compliance

TTUHSC Presidents

Grover Elmer Murray (1966-1976)

David Smith (1996-2002)

Maurice Cecil Mackey (1976-1979)

M. Roy Wilson (2003-2006)

Lauro Fred Cavazos (1980-1988)

John C. Baldwin (2007-2009)

Robert Lawless (1988-1996)

Tedd L. Mitchell, M.D. (2010-Present)

About Our School

TTUHSC Mission

The mission of the Texas Tech University Health Sciences Center is to improve the health of people by providing educational opportunities for students and health care professionals, advancing knowledge through scholarship and research, and providing patient care and service.

The Texas Tech University Health Sciences Center fulfills its higher education mission by achieving the following Institutional Goals:

- Train competent health professionals and scientists
- Increase externally funded, peer-reviewed research, especially NIH-funded research, and research focused on aging, cancer, and rural health
- Improve access to quality health care for TTUHSC's target populations
- Prepare health professions students for an increasingly diverse workforce and patient population
- Provide leadership in the development of partnerships and collaborations to improve community health
- Operate TTUHSC as an efficient and effective institution

TTUHSC Vision

Texas Tech University Health Sciences Center will be recognized nationally as a top-ranked health sciences university.

TTUHSC System and School of Medicine Statement of Diversity

The core foundational value of including the diverse cultures, lifestyles, personal beliefs and ideas of all those we serve – and serve alongside – provides a positive impact on the health of our regional, national, and global societies. As we pursue excellence in healthcare education, research, and patient care, we will be ever mindful of the strength that is gained through unity in diversity.

School of Medicine Mission

Founded in 1969, the TTUHSC School of Medicine has continually worked to address the shortage of physicians in West Texas by providing innovative educational opportunities to medical student and residents that are intended to supply competent and compassionate medical professionals for a geographically expansive area. The medical education program provides sound inter-disciplinary training that integrates basic sciences knowledge and clinical skill and focuses on high standards and comprehensive evaluation. The research strategy of the school concentrates on collaborative efforts that enhance the clinical programs relevant to the region and provide advanced training opportunities for students and residents. Centers of excellence guide research endeavors in many areas giving special attention to cancer treatment, women's health, aging, addiction, and other disease processes. The clinical practice strives to utilize state-of-the-art technology to effectively meet the growing needs of a diverse and largely rural patient population through strong partnerships with clinical affiliates.

School of Medicine Vision

To be recognized regionally and nationally for innovation and collaboration — great people with great ideas.

Texas Tech University Health Sciences Center and Lubbock

The Texas Tech University Health Sciences Center School of Medicine was created by the 61st Texas Legislature in May 1969, as a multi-campus regional institution with Lubbock as the administrative center and with other regional campuses at Amarillo, El Paso, and Odessa. The lack of a single focus of population density dictated the regionalization of medical education in West Texas, which comprises 48% of the landmass of the state and encompasses 12% of its population. The School of Medicine is one of five schools in the Health Sciences Center. The other four being the Schools of Nursing, Allied Health Sciences, Pharmacy, and the Graduate School of Biomedical Sciences. All five schools are committed to regionalized, multi-campus educational experiences.

The School of Medicine formally opened in August of 1972 with a first-year class of 36 and a third-year class of 25 students. The Texas Tech University Health Sciences Center was established in 1979, eventually ushering in the Schools of Allied Health, Nursing, Biomedical Sciences, and Pharmacy. From 1980 to 1994, the school accepted 100 first year students for a total of 400 in the student body. In 1993, class size was increased by the Texas State Legislature to 120 in each first year class beginning with the class entering in the fall of 1994. In 2000, the Legislature approved a class increase to 200; however, a smaller class size of 140 has been maintained through the entering year 2011. In 2012 the entry class size increased to 150 and remained at that size until 2014 when it increased to 180, where it remains today. Primary consideration is given to residents of Texas and the contiguous counties of New Mexico and western Oklahoma. Other out-of-state applicants may be considered on an individual basis if they have outstanding academic credentials.

The school has as its major objectives the provision of quality medical education and the development of programs to meet appropriate health care needs of the 108 counties of West Texas. The school has a full-time faculty of 574 with 48 part-time faculty and 891 volunteer faculty.

The goal of populating West Texas with physicians is currently being achieved with 20% of the region's doctors having been trained at the Texas Tech University Health Sciences Center. TTUHSC is currently expanding even further, with the October 2003 legislation that approved a four-year medical school in El Paso. The goal of the School of Medicine, however, has yet to be reached. The region is still severely underserved in certain sections of the service area despite the presence of the HSC health care institutions scattered throughout the region. This is why special attention is paid to applicants who are from the West Texas.

Lubbock offers clinical experiences at University Medical Center, Covenant Medical Center, Veterans Administration Outpatient Clinic, Garrison Geriatric Care Center, and the Montford Psychiatric Prison Hospital. In January 2004, the Texas Tech University Health Sciences Center Academic Classroom Building was opened in Lubbock. The facility includes two large state-of-the-art auditoriums, along with a new histology laboratory that is also designed for computer-based curriculum. In 2007, a new 150,000 square foot medical pavilion was opened housing the ambulatory clinics for six specialties with plans for continued expansion and development.

Amarillo Campus

The Amarillo campus began in 1972 with the forming of the medical school in Lubbock. Elective rotations for students were performed in space borrowed from the Northwest Texas Hospital and the VA Medical Center. In 1975, the Amarillo HSC established its own permanent location. In 1978, the first medical school class of five students entered the Amarillo campus. That number has steadily risen to 65 third- and fourth-year students in September 2006. In Amarillo, clinical education is provided in area hospitals and health care facilities. These include Northwest Texas Hospital, Baptist St. Anthony Hospital, Don and Sybil Harrington Cancer Center, the Psychiatric Pavilion, and the Veterans Administration Hospital of Amarillo.

Permian Basin Campus

The Permian Basin (Odessa) campus was established in 1979 and serves as a resident training facility for the Permian Basin and surrounding communities in Family and Community Medicine, General Surgery, Internal Medicine, Obstetrics/Gynecology and Geriatrics. In the Midland-Odessa area, clinical sites are Medical Center Hospital (Odessa) and Memorial Hospital (Midland).

Medical Students and the Multi-Campus System

The first two years are offered on the Lubbock campus, contiguous with Texas Tech University. The recreational and cultural resources of the University are available to the medical students. For clinical studies, each class is currently divided with approximately 40-50 students in Amarillo, 80-100 students in Lubbock, and 20-30 students at the Permian Basin Campus. Beginning in 2016 the Lubbock campus will offer third and fourth year educational experiences at both University Medical Center and Covenant Health System.

Assignments to the regional campuses are based to the extent possible on a preference form that each student will complete prior to being assigned to any of the three campuses. At the beginning of the first year, there is an active orientation program that includes time with students with representatives from the respective regional campuses to which each student has been assigned.

At each regional center, clinical students in their third-year rotate through the basic clinical clerkships in Internal Medicine, Surgery, Obstetrics/Gynecology, Psychiatry, Pediatrics, and Family Medicine. The students are provided a diverse experience in community hospitals and in the School of Medicine's ambulatory clinics. In the fourth year, students may take elective experiences at any of the regional campuses and at other institutions.

The educational program at each regional center is comparable as indicated by the number and types of patients seen by students and by student performance on measures such as National Board of Medical Examiners subject exams, oral examinations, departmental examinations, and clinical ratings by faculty.

The goals of these programs are to develop competent, compassionate, professional physicians who provide the highest quality of care for the citizens of West Texas and beyond, who participate in scholarly activity, and who provide academic and community leadership. To assure the best possible education, the School of Medicine holds all programs to high academic and professional standards. These standards include those promulgated by the Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties.

Graduate Medical Education (GME)

In addition to the four-year curriculum leading to the M.D. degree, the Texas Tech University Health Sciences Center School of Medicine provides graduate training on all four campuses (Amarillo, El Paso, Lubbock, and Odessa). The specialty (residency) programs include Anesthesiology, Dermatology, Emergency Medicine, Family Medicine, Internal Medicine, Obstetrics & Gynecology, Ophthalmology, Orthopedic Surgery, Pathology, Pediatrics, Psychiatry, Surgery, Transitional Year, and Urology. The sub-specialty programs (fellowships) include Pain Management, Cardiology, Geriatrics, Sports Medicine, and Nephrology.

For the latest detailed information on Texas Tech University Health Sciences Center residency programs, visit: <http://www.ttuhscc.edu/som/gme>

Accreditation

The Texas Tech University Health Sciences Center is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, masters, doctoral, and professional degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of the Texas Tech University Health Sciences Center. The Commission should be contacted only if there is evidence that appears to support the institution's significant non-compliance with a requirement or standard.

Office of Admissions



Kim Peck, M.D., Associate Dean of Admissions and Diversity

Linda Prado, Director of Admissions

Louis Perez, Associate Director of Admissions

Jaclyn Roberts, Assistant Director of Recruitment and Special Programs

Location: 2B116

Mail Stop: 6216

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Web: <http://www.ttuhsoc.edu/som/admissions>

 <https://www.facebook.com/ttuhsocsom/>

The Admissions Process

General Philosophy

Texas Tech University Health Sciences Center School of Medicine invites applications from qualified residents of the state of Texas and the adjacent counties of eastern New Mexico and southwestern Oklahoma that comprise the service area of the Health Sciences Center. Out-of-state residents will be considered on an individual basis. Only 10% of the class can be from out of state, so an applicant should have competitive academic credentials to apply (e.g. 3.6 overall GPA or higher an MCAT score of 32 or higher and an MCAT2015 score of 506 or higher). It is the goal of TTUHSC School of Medicine to accept only those students who are guaranteed to complete the full four years of the curriculum based on citizenship or permanent resident status. Therefore, only applicants who are permanent U.S. residents or U.S. citizens will be considered for interview and admission. One hundred eighty students are selected for each entering class. This total includes FMAT, M.D./M.B.A., M.D./MPH, M.D./Ph.D., J.D./M.D., AAMC Early Decision, Joint Admission Medical Program, and Special Undergraduate Honors Agreement students. The Admissions Committee carefully examines each application for the personal qualities and proven academic ability to determine potential as an effective and competent physician. If all other qualifications are equal, some consideration may be given to individuals with ties to the West Texas region. While evidence of high intellectual ability and a strong record of scholastic achievement are vital for success in the study of medicine, the Admissions Committee recognizes as essential the qualities of compassion, motivation, maturity, personal integrity, and the ability to communicate effectively as traits of the consummate physician. Letters of evaluation from pre-professional advisors and/or physicians are also considered, and the ability to balance academic achievement with extracurricular and/or work activities is examined. Those applicants who possess both the cognitive and non-cognitive traits that indicate likelihood of academic and professional success are invited for personal interview. There is no discrimination on the basis of race, color, religion, age, sex, national origin, disability or veteran status. In 1997, legislation established that evidence of a financially or educationally disadvantaged background of an applicant may be considered in the total evaluation of the application. In 2003, the U.S. Supreme Court upheld the position maintained by applicants to the University of Michigan that race and national origin/ethnicity may be considered among other criteria for admission purposes in order to obtain diversity in its student body. *Grutter v. Bollinger*, 539 U.S. 306,327, 156 L. Ed. 2d 304 123 S. Ct. 2325 (2003).

Therefore, at Texas Tech University Health Sciences Center, the Admissions Committee considers such factors as race/ethnicity in addition to many other factors, including first generation college graduate,

multilingual proficiency, socio-economic background while attending elementary/secondary school, responsibilities while attending school such as employment or assisting in the care of brother/sisters, community involvement as well as other life circumstances.

In summary, a number of both cognitive and non-cognitive factors are used in the evaluation of applicants to medical school. No single factor is used exclusively to admit or to eliminate admission of an applicant to medical school at Texas Tech. The Committee examines each applicant for overall suitability, and it makes an effort to select a class of 180 individuals with varied backgrounds, interests, and life experiences resulting in a stimulating and broadening learning environment within the medical curriculum.

Undergraduate Course Requirements

At least three years of study (90 semester hours or the equivalent in quarter hours) from an accredited United States or Canadian college or university are required. A baccalaureate degree is required.

Course work from non-U.S. or Canadian schools will be accepted only if it appears, with a grade, on the transcript of a U.S. or Canadian college or university as an individual course. "Lump sum" credit is not acceptable. All prerequisite courses for medical school must have been taken for credit at an accredited U.S. or Canadian college or university.

Specific course requirements have been kept at a minimum to allow and encourage the student to have a broad and well-rounded education. There are no specific requirements for undergraduate majors or minors. The Admissions Committee reviews the academic challenge provided by course selection and gives preference to students with a broad educational background.

Prerequisite Course Listing

Required Courses	Duration	Semester Hours
General Biology or Zoology	1 year	6
Upper Division Biology	1 year	6
Biology Labs		2
General Chemistry	1 year	6
General Chemistry Labs		2
Organic Chemistry	1 year	6
Organic Chemistry Labs		2
Physics	1 year	6
Physics Labs		2
English	1 year	6
Statistics as offered by Math Dept.	½ year	3
Biochemistry (may be used toward fulfilling the Biological Sciences or Chemistry requirement)	½ year	3

Pre-requisite courses must be completed by the time the applicant matriculates into medical school, not necessarily when the application is made. It is in the best interest of the applicant to have completed as many of the prerequisite courses as possible, however.

Proficiency in verbal and written communication is essential. A basic knowledge of conversational Spanish is desirable, but is not required.

Official Admission Timeline Recommendations & Required Deadlines

Date	Classification	Description
Year 1		
Fall	Freshman	<ul style="list-style-type: none"> • Focus on grades, take no more than 15 hours of coursework • Research and begin prerequisite courses: Chemistry, Biology, Physics, etc. • No MCAT preparation • Little or no health care exposure • Join a premedical organization or society
Spring	Freshman	<ul style="list-style-type: none"> • Focus on coursework, but begin weekly healthcare exposure
Summer	Freshman/New Sophomore	<ul style="list-style-type: none"> • Continue with coursework • Taking pre requisites during summer is not recommended • Focus on health care exposure
Year 2		
Fall	Sophomore	<ul style="list-style-type: none"> • Focus on academics, prerequisites • Continue healthcare exposure • Establish solid relationships with mentors, professors, MDs, or other supervisors that could write Letters of Evaluation
Spring	Sophomore	<ul style="list-style-type: none"> • Begin researching medical schools, fees, towns of the schools • Begin research into formal MCAT preparation courses • Continue to focus on academics, healthcare exposure
Summer	Sophomore/New Junior	<ul style="list-style-type: none"> • Explore possible research opportunities, premedical academies, or other scientific internships • Take summer school courses if needed (not prerequisites) • Focus on healthcare exposure if no internship presents itself

Date	Classification	Description
Year 3		
Fall	Junior	<ul style="list-style-type: none"> • Begin composing of personal statement for medical school application • Approach prospective letter of evaluation writers and seek feedback on performance under their supervision • Revisit degree plan to make sure nothing is missed • Sit down with pre-medical advisor to confirm status, receive guidance • Maintain good grades • Commence MCAT preparation (if Organic Chemistry I and Physics I have been completed) • Explore and prepare application for premedical academies
Spring	Junior	<ul style="list-style-type: none"> • Visit prospective medical schools • Continue preparations for summer internship applications • Prepare mentally, financially, logistically, for medical school application / interviewing season • Application for Texas State medical schools opens May 1 • Early submission of application is recommended for prime interviewing opportunity • Remain active with premedical / service organizations • It is recommended that the spring administration of MCAT is taken
Summer	Junior/Early Senior	<ul style="list-style-type: none"> • Attend summer premedical camp / academy (if applicable) • Submit medical school applications, (main and secondary applications) • Attend summer school to catch up with coursework (if applicable) • Texas medical school interviews typically begin early to mid-August

Date	Classification	Description
Year 4		
Fall	Senior	<ul style="list-style-type: none"> • Continue preparations for medical school interviews • Maintain grades • Continue with healthcare exposure
Spring	Senior	<ul style="list-style-type: none"> • Submit rank list of medical schools where interviewed. Due January 15 • “Match Day,” the day when students discover where they will be going to medical school is Feb. 1 (Note: non-residents, special programs acceptances begin October 15. Also, note that the TMDSAS medical schools begin rolling admission Nov. 15) • Maintain grades and course schedule in order to graduate on time. • (If not accepted) Sit down with premedical advisor and develop a plan as to improve application for next interview season. It is not recommended to wait to start doing this after mid-March.
Summer	NA	<ul style="list-style-type: none"> • (If Accepted) Travel, do some extracurricular activities • Prepare to move to respective medical school • Medical school classes begin early August

Medical College Admission Test (MCAT)

Completion of the Medical College Admission Test (MCAT) within 5 years of matriculation is a requirement for admission. The Admissions Committee recommends that the test be taken in the spring of the year in which application will be made. Registration information may be obtained from:

Phone: (202) 828-0600

Email: mcats@aamc.org

Web: <https://students-residents.aamc.org/applying-medical-school/taking-mcat-exam/>

Application to TTUHSC School of Medicine

In order for an applicant's application to be evaluated for a prospective interview, all aspects of the application must be submitted, received, and processed by the Office of Admissions. This process can take 4-6 weeks if everything required is submitted at the same time to the Texas Medical and Dental School Application Service (TMDSAS). Ten of the eleven Texas medical schools, the three dental schools and the veterinary school have developed a common application, administered and processed through the TMDSAS, currently based out of Austin. TTUHSC also has a secondary application which must be completed by all applicants.

The following elements must be received by the Office of Admissions in order to constitute a complete application:

Required Elements

Main, TMDSAS Application	Submitted electronically. https://www.tmdsas.com/
Main, AMCAS Application NOTE: Required for MD/PhD or JD/MD applicants only.	Submitted electronically. http://www.aamc.org/students/amcas/start.htm
TTUHSC School of Medicine Secondary Application	Submitted electronically. Once your primary application has been received, you will receive an invitation to complete the secondary. Please note that this includes processing time by your primary application service provider and the Office of Admissions. For more information please visit: https://www.ttuhsu.edu/som/admissions/secondaryapp/default.aspx
Letters of Evaluation	All letters declared by the applicant on the TMDSAS application must be received. AMCAS applicants must submit declared letters through the AMCAS application.
MCAT Scores	No more than 5 years old from the time of the expected date of matriculation.
All other required information in the way of supporting documents.	This can include proof of Texas / U.S. residency (if applicable) Supporting documents does include all transcripts from all schools attended, submitted to TMDSAS.

Application Timeline

The Fall of 2006 marked the beginning of a new application process for the Texas medical schools with the exception of Baylor College of Medicine.

Medical School Application Dates

Early May	Applications become available; medical school secondary applications become available
Early to Mid-June	TTUHSC School of Medicine receives first batch of submitted applications; file evaluations begin
Early August	Interviewing season begins at TTUHSC School of Medicine
Late Sept. early Oct.	Application Deadline
November 15	Rolling Admissions Session begins; open acceptance period to applicants
December 31	Rolling Admissions Session ends; interviewing season at TTUHSC School of Medicine ends
January 20	Deadline for applicant preferences and school rank lists; even if accepted by school(s) during the rolling admission period
February 1	Texas Medical School Match Day; all remaining applicants learn about matching to a medical school
February 2	Rolling Admissions Session 2 begins; alternate list formulated at TTUHSC School of Medicine (released by mid-March)
May 15	Deadline for applicants holding multiple seats to declare desired school
Late July - Early August	Rolling Admissions Session 2 ends as the first year medical student class orientation begins; previous admissions season is officially concluded.



Texas Medical & Dental Schools Application Service (TMDSAS)

Applications will be available in early May of the year of application and are due at the end of September or beginning of October as TMDSAS deems necessary. All supporting documents must be submitted by October 15. (Letters of evaluation, transcripts, etc.) The main application can be accessed and submitted on the web from the Texas Medical and Dental Schools Application Service (TMDSAS). In addition, official transcripts and letters of recommendation should be sent to the application service office. TMDSAS also requires other logistical elements to be submitted. Please visit the TMDSAS website to learn more.

The Texas State application and more information on general requirements is available at the following URL:

TMDSAS application: <http://www.tmdsas.com/>

American Medical College Application Service (AMCAS) (M.D./Ph.D. and J.D./M.D. applicants only)

The AMCAS application is required for applicants to the M.D./Ph.D. or J.D./M.D. programs only. All other applicants to the Texas Tech University Health Sciences Center School of Medicine are required to apply through TMDSAS. Applications will be available in early May of the year of application and are due no later than the end of September or early October. This deadline includes all supporting documents as well. (Letters of evaluation, transcripts, etc.) Letters of evaluation should be submitted through the main application. The main application can be accessed and submitted on the web from the American Medical College Application Service (AMCAS). In addition, official transcripts should be sent to the Application Service office. AMCAS also requires other logistical elements to be submitted. Please visit the AMCAS website to learn more.

The AMCAS application and more information on general requirements is available at the following URL:

AMCAS application: <http://www.aamc.org/students/amcas/start.htm>

TTUHSC School of Medicine Secondary Application

TTUHSC School of Medicine also requires a Secondary Application. All applicants applying to the Texas Tech University Health Sciences Center School of Medicine are required to submit a completed Secondary Application. Applicants applying to multiple programs are only required to submit one single Secondary Application. For example, an applicant applying to the M.D./Ph.D. program through AMCAS and the M.D. program through TMDSAS is only required to submit one secondary application. For more information, including Secondary Application instructions, please visit the address below. Please note that there is a \$60 secondary application fee.

Secondary application: <https://www.ttuhschool.edu/som/admissions/secondaryapp/>

File Evaluation & Interview

(June 9 ~ December 20)

Each completed application will be reviewed by the Admissions Evaluation Committee and personal interviews will be offered to those students deemed most competitive for admission. All interviews are conducted at the Lubbock campus.

On the day of the interview, there is also an opportunity to tour the medical school and talk with students. Each applicant, who has been sent an interview invitation, and is applying through the regular MD program, is given two (2), 20-minute interviews; by members of the Admissions Interview Committee. Applicants who are invited to interview and are applying to a dual degree program or Family Medicine Accelerated Track (FMAT) are given at least three (3) interviews, two (2) for the medical school, and one (1) to two (2) or more, from the partnering program. Additional interviews may be scheduled for dual degree applicants.

After the interviews, the Admissions Selection Committee considers the applicant's entire application in a holistic review that includes: letters of evaluation, interviewer comments and scores and any other pertinent information. Any applicant who is offered an acceptance to medical school must accept or decline the offer in writing or by email.

Rolling Admissions Session

(November 15 – December 31)

Beginning in the Fall of 2006, the Texas medical schools offered a dual rolling admissions / match system. During the rolling admission period, a medical school can make an offer of acceptance to any Texas Resident applicant who has interviewed. An applicant can potentially receive offers from multiple medical schools during this period. TTUHSC School of Medicine will be very proactive in recruiting desired applicants during this pre-match offer period. On December 31, this process is suspended.

The Texas Match

(January 20 – February 1)

TTUHSC School of Medicine participates in the match with the other Texas schools listed on the application form. The Match system in which TTUHSC School of Medicine has participated since 1999 will continue. All interviewed TMDSAS applicants, whether they have been accepted to a Texas medical school during the Rolling Admission Session or not, will enter into the Match. It is important to understand that an applicant does not give up his/her place in a medical school where he/she received an offer during the rolling admissions session (except for those from which the applicant withdrew prior to the match). Interviewed applicant preference lists and medical school rank lists are due on January 20. Match Day, the day where interviewed applicants find out about their status, will be February 1. Results of the Match will be released by TMDSAS on February 1.

For complete and current information regarding acceptance and match information please visit the TMDSAS website: http://www.tmdsas.com/medical/acceptance_Match_info.html

Development of Alternate Pool (TTUHSC School of Medicine)

(February 2 – Early-August)

After the Match, the Director and Associate Dean of Admissions, in consultation with the Dean of the School of Medicine, will formulate an official “alternate pool” from interviewed applicants that remain available after the rolling admission session, and the Match. In the event an accepted applicant gives up his/her seat in the class, a replacement will be selected from the alternate pool. The applicants selected for the alternate pool are not placed in a rank order. Applicants may be selected from the alternate pool up until the beginning of orientation at TTUHSC School of Medicine.

Scholarship Information

TTUHSC School of Medicine offers competitive scholarships to qualified medical students. The Scholarship Committee meets semi-annually to award scholarships to deserving students.

To receive a scholarship, a student must remain in good academic and non-academic standing for the entire academic year. A student must also complete scholarship acknowledgement form and the acceptance form as described in the scholarship notification. All scholarships are a one-time scholarship award and are based on the availability of funds.

To renew a scholarship or to be considered for a scholarship, students must submit an [application](#) annually by April 30th and submit a FAFSA application to Financial Aid to be considered. Applications must be submitted to the location where your designated campus assignment is set, for the term you are applying for. Late application deadline is October 1st and late applicants will be considered on a first come, first served basis dependent on any unclaimed scholarships and cannot be guaranteed.

Matriculation Policies

Criminal Background Check

In order to provide a safe environment for patients, visitors, faculty, employees, and students at TTUHSC, the conduct of criminal background checks was instituted as of September 1, 2006. Compliance with this policy will be required of all prospective medical students. Criminal background checks (CBCs) allow the university to evaluate whether TTUHSC students are qualified, eligible, and possess the character and fitness to participate in clinical care and/or clinical rotation sites at TTUHSC or participating institutions.

Therefore, per the TTUHSC Operating Policy and Procedure 10.20, in order to complete matriculation to the TTUHSC School of Medicine, all prospective matriculants will submit a background check, through a prescribed vendor, to the TTUHSC Office of the Registrar. Refusal to complete the self-disclosure/criminal background check will preclude the student from admission and matriculation. All criminal history provided is confidential and shall be protected from disclosure to the greatest extent provided by law. It must be noted by the applicant, that matriculation will be completed only after receipt and review of the release form, self-disclosure information, and receipt of the subsequent background check record indicating no criminal history, unless otherwise indicated. Where a record of criminal history exists, each prospective matriculant will be evaluated individually, and recommendations for enrollment or withdrawal/revocation of acceptance/admission will be made by the School of Medicine.

Admissions Policies for Non-Residents of Texas

Non-resident applicants to the participating TMDSAS Texas schools are not subject to the Texas Match. Acceptance of non-resident, interviewed applicants begins October 15th.

TTUHSC School of Medicine is a Texas state school and is required by law to have 90% of the entering class made up of qualified Texas residents.

Determining Texas Residency

Applicants to TTUHSC School of Medicine must be a Texas resident at the time of application to be eligible for admission as a Texas resident. If however, reclassification as a Texas resident occurs after the deadline of the application but before matriculation into medical school, the applicant will be admitted as a Texas resident.

As stated by the Texas Higher Education Coordinating Board Rules & Regulations for Determining Residency Status:

If an applicant is a dependent (of parents, etc.)

- a. The residency of the parent who has custody at the time of application if parents are divorced;
- b. The residency of the parent who has claimed the individual as a dependent for Federal Income Tax purposes both for the year in which the individual is applying and for the preceding tax year; OR
- c. The residency of the parent with whom the individual has resided for the 12-month period preceding application to medical/dental school.

To qualify as a Texas resident for application purposes, an independent individual 18 years of age or over who has come from outside Texas must reside in Texas and be gainfully employed for a 12-month period preceding the date of application to medical-dental school. Evidence must also be provided that the 12-month residence was for the purpose of establishing residence in the state and not for the purpose of attending an educational institution.

An individual 18 years of age or over who resides out of the state or who has come from outside Texas and registers in an educational institution before having resided in Texas for a 12-month period shall be classified as a nonresident student and will remain a nonresident as long as the residence of the individual in Texas is primarily for the purpose of attending an educational institution.

(Texas Higher Education Coordinating Board Standing on Foreign Student Residency)

Only those foreign citizens who are living in this country under a visa permitting permanent residence of who are permitted by Congress to adopt the U.S. as their domicile while they are in this country or have filed a declaration of intention to become a U.S. citizen are eligible to be classified a Texas resident if they have otherwise met the requirements for establishing residency.

Military personnel stationed in Texas are considered non-residents unless:

- a. The member was a Texas resident upon entry into the service and Texas continues to be his/her state of legal residence while in the military.
- b. The member abandoned his/her prior state of residency and established a domicile in Texas at least 12 months before applying to medical/dental school and the member has otherwise met the requirements for establishing residency.

A residence questionnaire **MUST** be filed if the state of residence has been changed while in the military.

Residency can change during the application period. All schools are notified at the time a change of residency occurs. Tuition is based upon residence status at the time of registration.

If Texas residency is questionable, it is necessary to complete a Residence Questionnaire so that proper residency may be determined. A copy of the Questionnaire may be obtained from the Texas Medical & Dental Schools Application Service (TMDSAS). A formal medical school application must be submitted to TMDSAS before the questionnaire will be processed. A final determination of residency will be sent to the applicant and the schools to which the applicant has applied.

For more information regarding residency please visit the following websites.

TMDSAS: <http://www.tmdsas.com/medical/residency.html>

Texas Higher Education Coordinating Board:

<http://www.collegeforalltexas.com/index.cfm?ObjectID=6D1466D9-AEA5-DE00-C12F3F75E7367718>.

Establishing Texas Residency

Under Texas state law, an applicant or enrolled student is classified as either 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.

To qualify as a Texas resident, an individual who is a U.S. citizen or permanent resident immigrant must live in Texas for at least 12 consecutive months without attending any institution of higher education. Registration in a college or university in Texas during this 12-month period is interpreted under law as demonstrating only an intention to make use of the state's higher education system, and not an intention to establish domicile in Texas. An applicant or student who is claimed as a dependent on a parent's most recent federal income tax return will be classified based on the parent's qualification for residency. International students eligible to establish legal domicile in Texas may also qualify for Texas resident status.

An individual's residency classification is based on information from his or her 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 Residency Questionnaire form, which provides more detailed background information than is available from the admission application.

The Residency Questionnaire can be obtained via the TMDSAS website:

<http://www.tmdsas.com/medical/residency.html>

Special Considerations

AAMC Early Decision Program (EDP)

The school does have a program whereby exceptionally well-qualified students can receive a decision on their applications by September 15 in the year prior to matriculation. Applications from individuals requesting Early Decision must be completed by August 1, and interviews will be set up shortly thereafter. A person who applies for Early Decision commits to apply only to TTUHSC School of Medicine prior to September 15 and commits to matriculate at TTUHSC School of Medicine if the position is offered. Applicants will be notified of the Committee's decision on or before September 15. If an individual is not accepted under the Early Decision Program plan, that applicant will still be considered in the regular applicant pool and may also then apply to any other medical schools. Early Decision applicants to TTUHSC

School of Medicine must have taken the MCAT and must be a Texas resident. Early Decision applicants to TTUHSC School of Medicine must have received a score of 30 or greater on the old MCAT and must be Texas residents. Applicants with an MCAT2015 score will be given preference based on the competitiveness of their score.

Deferment of Matriculation

Under extenuating circumstances, an applicant who has been accepted for enrollment in the fall may request, in writing, deferment until the following fall. Such a request will be considered by the Associate Dean of Admissions and may be granted for a period not to exceed one year. During the year of deferment, the student may not apply to any other medical school.

Application for Admission in Advanced Standing (*Medical School Transfer*)

Applications for advanced standing are reviewed and considered on an individual basis. Texas residents enrolled in good standing in LCME accredited U.S. or Canadian medical schools are eligible to apply. Such applicants must have written permission from their Dean of Student Affairs for possible transfer; may be interviewed before acceptance, and must have taken and passed Step I of the United States Medical Licensing Examination (USMLE-I) as conditions for acceptance in advanced standing.

The guidelines and criteria for advanced standing admission and the transfer application are available at: http://www.ttuhschool.edu/som/admissions/adv_admiss.aspx

All applicants for advanced standing must be bona fide Texas residents with at least 90 hours of undergraduate study in an accredited U.S. or Canadian college or university. The TTUHSC School of Medicine does not accept transfer applications from students or graduates of schools not accredited by the Liaison Committee on Medical Education (LCME). The applicant must have completed the second year of medical school. Advanced placement into the fourth year is not considered. Applicants from related fields such as dentistry, or those who have taken medical basic science courses as a graduate student, may be considered on an individual basis, but may be required to apply as a first year student regardless of the degree field. A student, who has been dismissed from, or has withdrawn from another medical school, is not eligible for consideration unless the former school indicates in writing its willingness to reconsider the student for admission. A completed application and filing fee of **\$50.00** must be received by no later than May 1st. Official transcripts from all undergraduate colleges, graduate schools, and medical schools must be submitted. A letter of recommendation and evaluation must be submitted by the Dean of the school where the applicant is currently enrolled.



Other Degree Programs

The Family Medicine Accelerated Track (FMAT) Program

For those students interested in pursuing a career in Family Medicine, TTUHSC School of Medicine offers an innovative curriculum that allows for completion of the M.D. degree in 3 years. The FMAT Program is 6 years total with the students proceeding directly into one of TTUHSC's Family Medicine Residency Programs after completion of the 3 year M.D. curriculum. The F-MAT program will offer students a seamless transition between their pre-doctoral and residency training settings and curricula as they spend two years in Lubbock, followed by at least 4 years on the campus (Amarillo, Lubbock, or Permian Basin) where they will complete both the final year of medical school and three years of family medicine residency training. Ten students will be chosen from each TTUHSC School of Medicine first year class and will be notified of their selection early in the second semester of first year. Preference will be given to students with expressed interest in Primary Care/Family Medicine, academic performance (including grades from fall semester of year 1 placing the student in the top 50% of the class), as well as interviews with members of the FMAT faculty.

Web: <http://www.ttuhsoc.edu/som/fammed/fmat/default.aspx>

The M.D./M.B.A. Dual Degree Program

In this dual degree program, the student will receive both M.D. and M.B.A. degrees within the four years of medical school. The intent of this program is to produce outstanding physicians with additional insight into the intricacies of health care management systems, finance, economics and delivery. With this educational background, physicians will have an advanced business background to use as they develop their medical practices and begin their careers.

In the program structure, students will complete the 42-hour M.B.A HOM program in 24 months, including the summers before and after the first-year medical school curriculum. Six hours of this 42 hour program is coursework that is completed in the school of medicine. This is possible due to course offerings in-class and online, courses that are taught in an accelerated seven week format and coursework that is accepted from the school of medicine. The flexibility of the program allows for the student to complete the required (administrative) field experience anywhere in the country without extending the program of study.

Areas of study include accounting, finance, leadership and ethics, management strategy, business decision-making skills and methods, business information systems, as well as other core skills in the business curriculum. For a broader knowledge of the organizational context in which health care is provided, students will complete a four-course concentration in Health Organization Management (HOM) with emphasis on healthcare quality, efficiency, and payment systems as part of the program.

The M.B.A. (HOM) program is accredited by AACSB and is unique among accredited programs in that it can be completed in the four years of medical school. This accreditation assures the prestige and enhances the value of M.D./M.B.A.

There is a requirement by the Texas Tech University Graduate School that applicants to its graduate programs in the College of Business take the GMAT. For M.D./M.B.A. applicants this has been waived in lieu of the MCAT. Further information about M.D./M.B.A and other graduate programs offered through the Rawls College of Business Administration may be obtained by contacting:

Office of Admissions
TTUHSC School of Medicine
3601 4th Street, STOP 6216
Lubbock, TX 79430
Phone: (806) 743-2297
Fax: (806) 743-2725

Health Organization Management
M.B.A. & M.D./M.B.A. Program
Texas Tech University
Box 42101
Lubbock, TX 79409-2101
Phone: (806) 834-2137
Fax: (806) 742-2308

Web: <http://www.ttuhs.edu/som/admissions/mba.aspx>

Web: <http://www.depts.ttu.edu/rawlsbusiness/graduate/dual-degree/mba-md/index.php>

The M.D./Ph.D. Dual Degree Program

For those students interested in pursuing a career in academic medicine as a physician-scientist, enrollment in both the School of Medicine and the Graduate School of Biomedical Sciences is available. A program of study has been designed to permit the student to complete the requirements of both the M.D. degree and the Ph.D. degree. Accepted M.D./Ph.D. students will receive both stipend support and tuition (medical and graduate program) scholarships throughout the combined degree program. This program is designed to be completed in six to seven years and will provide the student with rigorous training in both clinical medicine and biomedical research. Students interested in this program should so indicate on the application form through the American Medical College Application Service (AMCAS) at: <http://www.aamc.org/students/amcas/start.htm>

Application Procedures

Students will apply through the American Medical College Application Service (AMCAS) at <http://www.aamc.org/students/amcas/start.htm>. It is highly recommended that the student mention their research interest in their personal statement submitted with the AMCAS application. This information will assist the GSBS in selecting appropriate faculty to interview the applicant. A secondary application is also required and information can be found at <https://www.ttuhs.edu/som/admissions/secondaryapp/>.

Admission

Students who have been admitted to the M.D./Ph.D. program begin graduate studies during the summer session preceding their first year of the medical school curriculum. During the summer session, major emphasis is placed on introduction to research with the goal of selecting an advisor and a research problem to be developed as the student's Ph.D. dissertation research.

Enrollment Pattern

Semester	Year 1	Year 2	Years 3-5	Years 6-7
Summer	GSBS	GSBS	GSBS	SOM
Fall	SOM	SOM	GSBS	SOM
Spring	SOM	SOM	GSBS	SOM

Research Honors Program

This program has been established to provide an opportunity for selected medical students to pursue an in-depth research program with a faculty member of their choice. This Research Honors elective requires one year in addition to the four basic years of the medical curriculum and normally occurs between the second and third medical school years. While no credit toward graduation is granted during this year of enrollment, successful completion of the program will be acknowledged by the designation of "Research Honors" on the student's diploma. A variety of financial support mechanisms are available for this research experience.

The M.D./MPH Dual Degree Program

The Master of Public Health Program at TTUHSC will prepare health professionals to practice skillful and evidence-based preventive public health; conduct and communicate research that informs the diverse fields within public health; and provide interdisciplinary expertise in the service of academic, professional and community-based public health organizations. The joint program is a four year (42 credit hours) program that culminates in both the MD and MPH degrees.

The M.D./MS Dual Degree Program

TTUHSC medical students in good academic standing that are interested in the MD/MS program should contact the GSBS Office for further information. To formally apply to the MD/MS program, the applicant should submit a written request to the GSBS Senior Associate Dean, Michael.blanton@ttuhsc.edu, and cc research mentor and graduate.school@ttuhsc.edu. Within the letter specify the faculty member (must have graduate faculty status) that has agreed to serve as a mentor for MS research. The GSBS will coordinate with SOM in reviewing this request.

Web: https://www.ttuhsc.edu/gsbs/prospective/ms_msprogram.aspx

The J.D./M.D. Dual Degree Program

The Doctor of Jurisprudence / Doctor of Medicine Dual Degree Program is administered by Texas Tech University School of Law and Texas Tech University Health Sciences Center, School of Medicine. The JD/MD program is designed specifically for individuals interested in the areas of health law, healthcare policy, bioterrorism, forensics, or biomedical compliance.

Applicants interested in this program must apply separately to the School of Law and the School of Medicine in the same admissions cycle, satisfying the application requirements of each program. It is

important to note that entrance into both programs of study require significant advanced preparation and adherence to strict deadlines. It is imperative that interested applicants familiarize themselves with the process of both programs of study. The successful applicant must meet the admission requirements for both programs of study.

Applying to this dual degree program to the School of Medicine requires that applicants apply through the American Medical College Application Service (AMCAS) at:
<http://www.aamc.org/students/amcas/start.htm>.

Applicants who wish to apply to both the MD and JD/MD programs must apply to both the AMCAS application for dual degree consideration and the TMDSAS application for consideration to the MD program.



Special Programs (Undergraduate)

Undergraduate to Medical School Initiative (UMSI)

This program is a combined early acceptance program for academically competitive, Texas high school seniors who will be attending Texas Tech University as undergraduate students in the TTU Honors College and desire entrance to the TTUHSC School of Medicine. Students accepted into this program will have the MCAT requirement waived and are guaranteed a position in the medical school class, once the undergraduate program has been completed, provided they have maintained the required GPA and volunteering/medical experiences, and have not violated the code of academic or professional conduct. The undergraduate experience must include a minimum of six long semesters. This program is NOT an accelerated degree program, nor is it a combined degree program, nor is it a joint degree program. The student must first be accepted to Texas Tech University and the Texas Tech University Honors College. If accepted, the prospective student will be notified of his/her qualification for the UMSI program by the undergraduate admissions office. If qualified at that point, the prospective student will be interviewed by TTUHSC School of Medicine in the spring of their senior year in high school. If determined to be qualified, the student will be accepted by the medical school. For more details on the application period, process, and the application itself, please refer to the website:

<http://www.ttuhsoc.edu/som/admissions/umsi.aspx>

Undergraduate Honors Agreements

TTUHSC School of Medicine has early acceptance agreements with the Honors Colleges/Programs of the following schools: Austin College, Texas Tech University, Angelo State University, University of Texas at El Paso, and West Texas A&M. Students that have been accepted in the Honors Colleges at these respective schools and have met all the prescribed requirements, are eligible to be accepted to medical school early. Prospective, qualified applicants are interviewed in the Fall of their Sophomore or Junior years, typically one or two full years earlier than the traditional applicant. If accepted, the student is guaranteed a seat in the medical school class at TTUHSC School of Medicine and the MCAT requirement is waived. Please note that specific requirements may vary per participating school. Students interested should contact the respective Honors College for the detailed requirements. More information can also be found at:

http://www.ttuhsoc.edu/som/admissions/spec_programs.aspx

Joint Admission Medical Program (JAMP)

TTUHSC School of Medicine participates in the state mandated Joint Admission Medical Program, or JAMP. This program is a Texas statewide premedical academy designed for competitive students with aspirations of one day becoming physicians. This program was initiated by the Texas Senate Bill 940 of the 77th Texas Legislature. More specifically, it is designed to provide services which support and encourage highly qualified, economically disadvantaged students pursuing a medical education. Second, it awards undergraduate and medical school scholarships to participating students. Third, JAMP is to provide for the admission of its students who satisfy both academic and nonacademic requirements to at least one participating medical school in Texas. Essentially, JAMP students that maintain the requirements

are guaranteed admission to a Texas medical school. All medical schools in Texas currently participate in the program. Students selected for this program will receive mentoring from their

respective undergraduate college or university and do a summer internship at one of the participating medical schools. The primary qualification for students is eligibility for Pell Grant funding. For more information on the JAMP program, please visit:

<https://www.texasjamp.org/>



TTUHSC School of Medicine Enrollment

Year	Male	Female	Total Enrolled
1995	323	118	441
1996	350	117	467
1997	354	135	489
1998	343	154	497
1999	325	164	489
2000	302	182	484
2001	302	185	487
2002	310	189	499
2003	308	203	511
2004	218	217	535
2005	306	231	537
2006	308	244	552
2007	325	217	572
2008	322	242	564
2009	327	243	570
2010	331	248	579
2011	319	253	572
2012	322	259	581
2013	323	251	574
2014	349	279	628
2015	381	284	665



Official Admissions Applicant vs. Matriculant Chronology (1972-2010)

Year	Applicants			Accepted			Avg. GPA	Avg. MCAT
	Male	Female	Total	Male	Female	Total		
1972 (Freshman)	314	27	341	31	5	36	3.22	534
1972 (Juniors)	----	----	Transfer	22	3	25	3.13	526
1973	965	136	1101	29	10	39	3.00	510
1974	1410	232	1642	29	11	40	3.21	588
1975	1101	229	1330	34	6	40	3.35	588
1976	1146	271	1417	34	6	40	3.47	567
1977	1116	276	1392	31	9	40	3.50	597
1978	878	387	1265	48	12	60	3.44	8.61
1979	848	353	1201	62	18	80	3.44	8.43
1980	908	314	1222	75	25	100	3.42	8.02
1981	922	360	1282	78	22	100	3.35	8.01
1982	883	377	1260	34	66	100	3.34	8.33
1983	635	303	938	72	28	100	3.36	50.18
1984	677	315	992	73	27	100	3.30	52.41
1985	645	306	951	59	42	101	3.36	50.77
1986	573	300	873	64	36	100	3.25	50.60
1987	605	273	891	73	21	100	3.23	52.21
1988	490	255	745	55	29	94	3.28	50.89
1989	527	293	820	68	30	98	3.28	48.31
1990	589	313	902	74	22	96	3.22	51.91
1991	717	387	1104	66	33	99	3.33	51.52
1992	807	441	1248	70	31	101	3.35	28.00
1993	971	541	1512	78	26	104	3.39	28.05
1994	1043	564	1607	83	37	120	3.45	28.00
1995	856	488	1601	94	34	128	3.52	28.70
1996	867	550	1698	94	32	135	3.36	26.31
1997	812	519	1561	81	41	123	3.56	28.82
1998	688	561	1452	65	41	114	3.57	29.10
1999	725	536	1488	78	45	123	3.58	29.14
2000	1002	882	2197	67	52	119	3.61	29.03
2001	987	831	2047	82	47	129	3.66	28.53
2002	1020	906	1926	78	52	130	3.63	28.70
2003	997	1039	2036	78	52	130	3.60	28.80
2004	1175	1130	2305	75	65	140	3.57	28.20
2005	1359	1296	2655	75	65	140	3.56	28.33
2006	1464	1388	2855	79	61	140	3.59	28.90
2007	1576	1462	3038	84	56	140	3.62	29.53

Year	Applicants			Accepted				
	Male	Female	Total	Male	Female	Total	Avg. GPA	Avg. MCAT
2008	1570	1388	2958	86	55	141	3.67	29.10
2009	1584	1359	2943	72	68	140	3.68	29.54
2010	1590	1368	2958	77	66	143	3.65	29.45
2011	1654	1544	3198	79	67	146	3.64	29.21
2012	1857	1507	3364	89	61	150	3.67	31.10
2013	1962	1542	3504	84	67	151	3.64	31.6
2014	2088	1631	3719	95	86	181	3.64	31.6
2015	2305	1818	4123	100	80	180	3.62	31.6

Office of Student Affairs



Simon Williams, Ph.D., Associate Dean for Academic Affairs
Lauren Cobbs-Tarantola, M.D., M.Ed., Associate Dean for Student Affairs
Allison Perrin, LPC, Director of Student Affairs
Kimberly Johnson, Associate Director for Student Affairs
Kelley Moss, Unit Manager for Year 3 and Year 4
Krista Betancourt, Unit Supervisor for Year 3
Londi Burvato, Executive Associate to the Dean
Claire Egan, Lead Specialist/Social Media Liaison

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Medical Student Affairs

Mission Statement

The mission of the Office of Student Affairs on all campuses is to provide academic support and career guidance for medical students, and to do so in a supportive environment that enables students to have a positive experience at TTUHSC School of Medicine. The goal of this office is to assist all medical students with being successful and developing professional skills and personal relationships that will last a lifetime. As student advocates, the Student Affairs staff work to ensure that the rights of students are protected and that all students are treated fairly.

Code of Professional Conduct/Honor System

Upon matriculation into the School of Medicine, each student subscribes to the Medical Student Honor Code and the TTUHSC Code of Professional and Academic Conduct. The purpose of the Code of Professional and Academic Conduct is to emphasize in the medical school environment those qualities of integrity, self-discipline, and professional behavior that are essential to physicians. The TTUHSC Code protects the rights of the student who may be reported for academic dishonesty or for non-professional conduct. If charges are deemed valid, there is a hearing before a student-faculty committee which recommends to the Dean appropriate action. There is an appeal procedure to ensure due process, and the Dean makes a final decision based on the hearings and committee recommendations. A student handbook, which includes the detailed Codes, as well as other relevant policies and procedures, is made available to each student at matriculation. The handbook can also be found on the School of Medicine, Office of Student Affairs website. (<http://www.ttuhschool.edu/som/studentaffairs>).

Standards for Curricular Completion

The School of Medicine faculty has developed minimum standards for entry into and progression through the medical curriculum. These standards provide guidance to achieve the Doctor of Medicine degree in preparation for licensure as a practicing physician and for postgraduate training. Throughout the medical education process, patient safety is of primary consideration.

Preparation of the Physician

The education of a physician includes the following phases:

1. A preparatory phase with at least 90 hours of credit in an accredited U.S. or Canadian college;
2. A rigorous professional education leading to the M.D. degree;
3. Postgraduate (residency) training; and
4. Lifelong continuing education after completion of residency training.

Unlike most professions, Medicine awards its formal degree midway through the education process, and the awarding of the degree certifies that the student has acquired a broad base of general knowledge and skills requisite for further training in postgraduate work. The process whereby the degree is gained prepares an individual to be a physician rather than a surgeon, psychiatrist, or other specialist. A common body of knowledge, skills, and behaviors thus underlies, and is necessary for, entry into specialized postgraduate training programs.

Medical education requires that the accumulation of scientific knowledge must be accompanied by the simultaneous acquisition of skills and professional attitudes and behaviors. It is through the care of patients that the physician learns the application of scientific knowledge and skills.

It is impossible to consider changes in medical education without considering their impact on patients, who are an integral part of the educational process. Faculties of schools of medicine have immediate responsibility to society to graduate the best possible physician. Admissions standards for medical school must be rigorous and exacting, and admissions must be extended only to those who are qualified to meet the performance standards of the profession.

Development of Medical Curriculum

The medical faculty is charged with devising a curriculum that allows the student to learn the fundamental principles of medicine, to acquire skills of critical judgment based on evidence and experience, and to develop an ability to use principles and skills wisely in solving problems of health and disease. In designing the curriculum, the faculty must introduce current advances in the basic and clinical sciences, including therapy and technology, changes in the understanding of disease, and the effect of social needs and demands on medical care. The faculty should foster in students the ability to learn through self-directed, independent study throughout their professional lives.

Finally, the faculty of each discipline should set the standards of achievement by all students in the study of that discipline. Examination should measure cognitive learning, mastery of basic clinical skills, the ability to use data in realistic problem solving, and respect for the rights and dignity of patients. Institutions must develop a system of assessment which assures that students have acquired and can demonstrate on direct observation the core clinical skills and behaviors needed in subsequent medical training.

Abilities and Skills Requisite for Medical School Completion

In the selection of students and in their progress through the curriculum, medical school faculty is guided by standards set by the Liaison Committee on Medical Education (LCME). The faculty place strong emphasis on the academic achievements of applicants, including performance in the sciences relevant to medicine. This includes evidence of satisfactory scholastic achievement as indicated by grade point averages (GPA) and scores on the Medical College Admissions Test (MCAT). Breadth of education and life experiences are deemed important in the selection process.

The faculty is equally cognizant of its responsibilities to patients who will be a part of the educational process and to future patients who will entrust their welfare and lives to medical school graduates. They therefore consider carefully the personal and emotional characteristics, motivation, industry, maturity, resourcefulness, and personal health appropriate to the effective physician.

Because the M.D. degree signifies that the holder is a physician prepared for entry into the practice of medicine within postgraduate training programs, it follows that graduates must acquire a foundation of knowledge in the basic and in the clinical sciences that will permit the pursuit of any of the several careers that medicine offers.

Candidates for the M.D. degree must have somatic sensation and the functional use of the senses of vision and hearing. Candidates' diagnostic skills will also be lessened without the functional use of the senses of equilibrium, smell, and taste. Additionally, they must have sufficient exteroceptive sense (touch, pain, and temperature), sufficient proprioceptive senses (position, pressure, movement, stereognosis and vibratory) and sufficient motor function to permit them to carry out the activities described in the sections which follow. They must be able to consistently, quickly, and accurately integrate all information received by whatever sense(s) is employed, and they must have the intellectual ability to learn, integrate, analyze and synthesize data.

A candidate for the M.D. degree must have abilities and skills in six essential areas: (1) observation, (2) communication, (3) motor, (4) conceptual, integrative and quantitative, (5) behavioral and social, and (6) ethical. Technological compensation can be made for disabilities in certain of these areas; but a candidate should be able to perform in a reasonably independent manner. The use of a trained intermediary to observe or interpret information or to perform procedures is deemed to compromise the essential function of the physician and may jeopardize the safety of the patient. The six areas of abilities/skills are detailed as follows:

1. **Observation:** The candidate must be able to observe demonstrations and experiments in the basic sciences. A candidate must be able to observe a patient accurately at a distance and close at hand. Observation necessitates the functional use of the sense of vision and somatic sensation. It is enhanced by the functional use of the sense of smell.
2. **Communication:** A candidate should be able to speak; to hear; and to observe patients in order to elicit information, to describe changes in mood, activity and posture; and to perceive non-verbal communications. A candidate must be able to communicate effectively with patients. Communication includes not only speech but reading and writing. The candidate must be able to communicate effectively and efficiently in oral and written form with patients and with all members of the health care team.

3. **Motor**: Candidates should have sufficient motor functions to elicit information from patients by palpation, auscultation, percussion, and other diagnostic maneuvers. A candidate should be able to execute motor movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of physicians are cardiopulmonary resuscitation, administration of intravenous medication, application of pressure to stop bleeding, opening of obstructed airways, suturing of simple wounds, and performance of simple obstetrical maneuvers. Such actions require coordination of both gross and fine muscular movements, equilibrium and functional use of the senses of touch and vision.
4. **Intellectual-Conceptual, Integrative and Quantitative Abilities**: These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving and the clinical skills demanded of physicians require all of these intellectual abilities. In addition, the candidate should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.
5. **Behavioral and Social Attributes**: A candidate must possess the emotional health required for full utilization of his/her intellectual abilities; the exercise of good judgment; the prompt completion of all responsibilities attendant to the diagnosis and care of patients; and the development of mature, sensitive, and effective relationships with patients. Candidates must be able to tolerate physically taxing workloads and to function effectively under stress. They must be able to adapt to changing environments, to display flexibility and to learn to function in the face of uncertainties and ambiguities inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that should be assessed during the admissions and education process.
6. **Ethical Standards**: A candidate must demonstrate professional demeanor and behavior, and must perform in an ethical manner in all dealings with peers, faculty, staff and patients.

Requesting Accommodations

Without compromising the standards required by the School or the fundamental integrity of its curriculum, the School recognizes that persons with disabilities, as that term is defined in the Americans with Disabilities Act, may fulfill the standards with reasonable accommodation. The School of Medicine is committed to developing innovative and creative ways of opening its curriculum to competitive and qualified candidates with disabilities. Requests for accommodation under the Standards for Curricular Completion will be considered on an individual basis and reasonable accommodation will be arranged if appropriate. The use of a trained intermediary to observe or interpret information is considered to compromise the essential function of the physician.

When an applicant comes for an interview at the School of Medicine, a copy of the detailed Standards for Curricular Completion will be included in the Orientation Packet. Questions about the Standards are welcomed and interviewees will be informed that they must be qualified to meet all of the Standards, with or without accommodation.

If a student is offered and accepts an admissions offer from the School of Medicine, the student must then sign a form acknowledging that he/she has read and understands that the Standards for Curricular Completion must be met with or without accommodation. A request for accommodation along with supporting documentation about the disability from an appropriate specialist and the proposed accommodation(s) must be presented in writing to the TTUHSC ADA Compliance Officer in the HSC

Office of Student Services. Details about the process for requesting accommodation are available through the TTUHSC Office of Student Services website (www.ttuhschool.edu/studentservices/ada/default.aspx). Copies of the request and documentation will then be forwarded to the School of Medicine Office of Student Affairs. The TTUHSC ADA Compliance Officer will submit the results of their review, along with specific recommendations if the request for accommodation is granted, to the School of Medicine Office of Student Affairs. The School may also seek independent review from a specialist of its choice. The decision on whether or not an accommodation request will be granted is made by a committee composed of the Associate Dean for Academic Affairs, the Associate Dean for Student Affairs, the Student Affairs Committee, and (as needed) ad hoc faculty who are knowledgeable regarding the area of disability. Such decisions are subject to review and approval by the Dean. If reasonable accommodation is feasible, effort will be made to provide the accommodation as classes begin. If the request for accommodation is denied, the student will be notified in writing.

The Faculty, through the Student Promotion and Professional Conduct Committee, has determined that students will be expected to complete the curriculum within four years from the time of initial matriculation and take all designated courses as appropriate for that stage of the curriculum. Exceptions to the requirement that students take all designated courses as appropriate for that stage of the curriculum may be sought and processed as other requests for accommodation, as noted above. Such a request will be based on 1) a specific disability certified by a qualified professional and accompanied by a specific recommendation for accommodation (i.e., a decompressed curriculum based on stated disability) and 2) a written request from the matriculant for such an accommodation based on stated disability. As noted above, while students will be expected to complete the curriculum in four years, an accommodation which includes a decompressed curriculum will not invalidate the requirement that a student must complete all curricular requirements in no more than six years from the time of initial matriculation (3 years for completion of the MS 1 and MS 2 years, and 3 years for the MS 3 and MS 4 years).

In the area of learning disabilities (see definitions on the TTUHSC Office of Student Services website), the student should note that he/she will have to petition the National Board of Medical Examiners for any accommodation on the United States Medical Licensing Examinations (Step 1, Step 2 Clinical Knowledge, Step 2 Clinical Skills, and Step 3) and that this process is in addition to and separate from any request for accommodation by the Texas Tech University Health Sciences Center School of Medicine.

Health Insurance & Immunizations

The Association of American Medical Colleges states that all students should be immunized against a number of infectious diseases for their own safety as well as the safety of others. **All matriculating TTUHSC School of Medicine students must be compliant with the school's immunization requirements in order to register for classes.**

Health Insurance Requirements

All students at TTUHSC School of Medicine are required to carry personal health insurance at all times while enrolled in the curriculum. The school's clinical affiliates also require that students carry health insurance in order to participate in clinical experiences.

TTUHSC Student Services has information about health insurance that is available to students. However, many other insurance companies also offer health plans. Students should compare health insurance plans in order to select the plan that is best suited to their personal situation.

Students are required to provide proof of personal health insurance coverage each year during medical school. Clinical affiliates as well as other medical schools (for extramural learning experiences) reserve the right to require proof of coverage on demand and to exclude individuals without current insurance coverage from rotations.

Immunization Requirements

In order to protect the health of our medical students and the health of the patients with whom they come in contact, the School of Medicine requires all entering students to provide documentation of several immunizations as well as the results of serological titers to determine whether or not they are actually immune to certain diseases. Protective immunity provided by some immunizations declines over time, and some individuals do not ever produce protective antibodies after receiving immunizations. Serologic titers are needed to determine immune status and are performed on a blood sample drawn from the arm.

Students are not allowed to participate in any classes involving patient contact until all required immunization documentation has been received by the TTUHSC Office of Institutional Health. All students entering Texas Tech University Health Sciences Center School of Medicine must provide proof of immunity documentation and/or the results of required titers.

- Tetanus/diphtheria booster within 10 years of matriculation
- Tdap (tetanus, diphtheria and pertussis), one time dose as an adult (starting year 2005)
- Measles-Mumps-Rubella (MMR), protective antibody titer
- Hepatitis B surface antibody, protective antibody titer
- 2-step Tuberculin skin test (PPD) minimum of 7 days apart (if you haven't had TB test within the past 12 months) OR documented physician diagnosis of disease OR chest X-ray in the past year following prior positive skin test
- Varicella (Chicken Pox), protective antibody titer
- Meningococcal (MCV), within the last 5 years – required for adults 22 years of age and younger
- Influenza vaccine

Academic Support Services

Students receive a variety of support services above and beyond the formal academic program. Most importantly, students have ready access to faculty for assistance and are actively encouraged to utilize this valuable resource. In addition, the School of Medicine Office of Student Affairs offers individual assistance in identifying and improving deficiencies in studying, test taking, and time management skills. Students are referred for outside counseling as appropriate. Personnel in the SOM Office of Student Affairs are trained to provide individual academic counseling. Peer tutoring services are also available to assist students in specific curricular content areas. Sometimes personal problems can have a deleterious effect on academic performance. Students can self-refer to the Health Sciences Center Program of Assistance for Students for free counseling services.

Grading

All blocks in Years 1 and 2 are graded as Honors, High Pass, Pass, or Fail. Clerkships in Year 3 are graded as Honors, High Pass, Pass and Fail. Electives in Year 4 are graded Honors, Pass, or Fail.

Final grades in Years 1 and 2 are derived from a variety of assessment tools, including written and practical exams, small group evaluations, and NBME Examinations in selected blocks or courses. Students must also display appropriate professional behavior in order to complete courses in the first 2 years.

Third year clerkship grades are primarily determined by student performance on three major graded components: clinical evaluations by attending faculty and residents, NBME Clinical Subject Exams and an Observed Structured Clinical Examination. Students must also display appropriate professional behavior throughout the clerkships. Fourth year grades are derived from evaluations by attending faculty and residents with departmental exams and presentations on some electives.

Academic Progress

The faculty of the School of Medicine has the responsibility for recommending students for promotion and graduation. This responsibility is administered through the Student Promotions and Professional Conduct Committee (SPPCC) that represents the faculty at large. The members of the SPPCC are appointed by the Executive Committee of the Faculty Council and are charged with the responsibility to review and evaluate the academic and behavioral progress of each medical student enrolled at TTUHSC School of Medicine. The SPPCC determines the conditions for promotion, reinstatement, or dismissal for each student in accordance with the published policies and procedures. Every attempt will be made to apply principles of fairness and due process when considering actions of the faculty or administration related to student performance. In general, students who receive a final grade of Fail will meet the SPPCC to discuss their academic performance and possible actions by the Committee. Possible actions include remediation, repetition of an academic year, or dismissal.

United States Medical Licensing Examination (USMLE)

Students are required to take the USMLE Step 1 exam prior to beginning Year 3 of the curriculum and must achieve a passing score to continue beyond the first clerkship in the third year. Students who do not achieve a passing score on the first attempt will not continue with clinical clerkships until they do so. Students must also pass the USMLE Step 2 Clinical Knowledge exam and the Step 2 Clinical Skills exam as requirements for graduation from the medical school curriculum.

Graduation

Students planning to graduate **MUST** complete the TTUHSC Intent to Graduate form. Students should create a "Diploma" address in WebRaider so their diploma will be mailed to the proper address. The diploma address will only be used if the diploma is not picked up at Commencement.



Office of Curriculum



Simon Williams, Ph.D., Associate Dean for Academic Affairs,
Associate Professor, Cell Biology and Biochemistry

Vaughan Lee, Ph.D., Assistant Dean for the Basic Science Curriculum

Robert Casanova, MD, Assistant Dean for the Clinical Science Curriculum
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Doctor of Medicine Program

Institutional Educational Vision, Goals, and Objectives

Approved: May 10, 2010

Vision: Graduates of the TTUHSC-SOM will be knowledgeable, competent, and compassionate health professionals who work diligently to improve the health of the public.

Goal: The Texas Tech University Health Sciences Center School of Medicine will graduate physicians who deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics.

Objectives: To accomplish our goal, the Texas Tech University Health Sciences Center School of Medicine has identified key objectives for our program that address the knowledge, skills, behaviors, and attitudes needed for students to acquire the degree of Doctor of Medicine. These objectives are designed to ensure that students acquire the six core competencies described by the Accreditation Council for Graduate Medical Education: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice. Each block, clerkship and rotation sets forth specific learning objectives and their outcome measurements based on these key educational objectives. The School of Medicine will continue to review these objectives and revise as needed to ensure that the vision and goals are met.

Upon completion of all required courses and clinical educational experiences the student will be able to:

C. Patient Care: *(That is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health)*

1. Participate in competent and humane medical care of individuals, families and the larger society based on the scientific and clinical principles of health and its promotion, disease and its prevention and management, and psychosocial factors influencing the well-being of patients.

2. Assess the clinical status of patients to include obtaining a patient's history, performing a comprehensive physical examination, and assessing and describing treatment plans to address the medical and emotional needs of the patient.
3. Evaluate the clinical status of patients through proficiency in clinical reasoning, including identification of clinical problems using scientific methods, data collection, hypothesis formulation, and the retrieval, management, and appropriate use of biomedical information for decision-making.

K. Medical Knowledge: (*Of established and evolving biomedical, clinical, and behavioral sciences and their application to patient care*)

1. Describe the application of the scientific method for solving problems in the basic and clinical sciences.
2. Complete both comprehensive and problem-specific physical examinations appropriate to the concerns, symptoms, and history of the patient.
3. Integrate the patient interview and physical examination findings with medical knowledge to identify the clinical problems of patients, formulate differential diagnoses, apply the scientific method and develop plans for diagnostic investigation, treatment, and management.
4. Describe the application of laboratory tests and diagnostic procedures and interpret their results.
5. Analyze clinical problems and formulate differential diagnoses, diagnostic investigations and clinical treatment and management plans by applying data from the clinical interview and clinical examination.
6. Participate in the selection and performance of basic diagnostic and therapeutic procedures.

L. Practice-Based Learning and Improvement: (*The investigation and evaluation of patient care practices, appraisal and assimilation of scientific evidence and improvement of patient care practices*)

1. *Apply evidence-based care to patients and use skilled clinical reasoning and the current state of medical art and science.*
2. *Use analytical tools for data collection, quantitative analysis, critical reading and investigation, and apply these data to the clinical care of patients.*
3. *Use self-directed learning and information technology to acquire information from the basic and clinical sciences needed for patient care.*
4. *Demonstrate commitment to life-long learning, including self-directed study of basic and clinical science, critical assessment of the medical literature, and the use of evidence-based medicine.*

I. Interpersonal and Communication Skills: (*The ability to effectively exchange information and collaborate with patients, their families, and other health professionals*)

1. Communicate effectively, both verbally and non-verbally, with patients and their families, colleagues, and other health care professionals about clinical assessments and findings, diagnostic testing, therapeutic interventions, prognosis, and disease processes.
2. Demonstrate an understanding of the social nature of health care and the need for respect for patients, other health care professionals, and administrative members of the health care systems.

P. Professionalism: (*The behaviors of a competent, compassionate, and ethical physician*)

1. Demonstrate professional integrity and exemplary behavior, including compassion, truthfulness, ethical reasoning, and altruism.
2. Demonstrate sensitivity to the diverse biopsychosocial, cultural, and spiritual needs of patients and communicate clearly, respectfully, and compassionately with patients, their families and other health care professionals.
3. Participate in patient care that is compassionate and empathic, including pain management, substance abuse, mental health disorders, or terminal illness.
4. Demonstrate dedication to the highest ethical standards governing physician-patient relationships, including privacy, confidentiality, and the fiduciary role of the physician and health care systems.

S. System-Based Practice: *(The larger context and system of healthcare that includes effective use of resources in the system to provide optimum health care)*

1. Describe the organization of the health care delivery system and the professional, economic, legal, and ethical expectations of physicians.
2. Demonstrate the application of the principles of behavioral and social sciences as applied to family systems and their effect on patient health.
3. Employ health care within an interdisciplinary team that is safe, effective, patient-centered, timely, efficient, and equitable.

Undergraduate Medical Education

Texas Tech University Health Sciences Center School of Medicine is committed to excellence in the medical education of generalist physicians in preparation for training in any clinical specialty. In the Fall of 2005, the School launched a new curriculum beginning with the Class of 2009 that emphasizes:

- Continuous integration of basic science and clinical medicine in all four years, with early introduction of clinical experiences starting with the first month of medical school
- Self-directed student learning with varied teaching formats directed to achieving the important competencies of our Vision, Goals, and Objectives listed above, and
- Active management of curricular content both within and across all four years

The School of Medicine has responded to the Association of American Medical Colleges and medical education innovations nation-wide to realign curricula so graduating students meet the best practice standards of patient-centered scientific care. The new curriculum at the School of Medicine emphasizes competency-based education, focusing on the skills and compassion that distinguish excellence in patient care in our profession. Dedicated teaching faculty have responded fully to this unparalleled opportunity to reshape the curriculum so that students are the best-prepared doctors and the faculty members are the best educators. Our curriculum trains students to manage and use the constantly changing best evidence for practice, and to apply this evidence in humane and sensitive manner.

To ensure distinction in medical education, Dean Steven Berk fully supports the offices charged with the SOM educational mission: the Office of Academic Affairs, the Office of Student Affairs, the Office of Curriculum, and the Office of Faculty Affairs and Faculty Development. These offices work closely on this common mission to ensure continual improvement of learning and teaching. In conjunction with the Educational Policy Committee, the faculty, and student body that oversees adherence of the curriculum to national and school standards, the Offices have made student assessment and feedback the centerpiece of curriculum redesign.

The curriculum is continually reviewed and modified to ensure the personal and professional growth of our future physicians. To promote balance between academics and lifestyle in Years 1 and 2, the SOM has limited contact hours to ~22 per week. Opportunities for interactive learning through small group tutorials, labs, problem-based learning, team-learning, and web-based instruction have also been expanded.

The management of the curriculum has been formally endorsed by the Liaison Committee on Medical Education. The Liaison Committee on Medical Education represents the Association of American Medical Colleges and the American Medical Association as the national accreditation body for medical schools. The Texas Tech University Health Sciences Center School of Medicine received a full seven-year accreditation in March 2009, the longest period of accreditation awarded to a medical school of high quality.

Educational Tracks and Joint Degrees at the School of Medicine

Beginning with the class that matriculates in Fall 2010, students will be able to choose between two educational tracks within the School of Medicine, a standard four year program and a three year accelerated program called the Family Medicine Accelerated Track (FMAT). The School of Medicine also offers three joint degrees in collaboration with other schools at Texas Tech University Health Sciences Center or Texas

Tech University and a MD with Research Honors degree. Each of these tracks and programs are described below.

4 Year Doctor of Medicine Program

Most students will follow a standard four year program with Years 1 and 2 focused on the acquisition of knowledge of the scientific basis of medicine allied to an introduction to clinical medicine and Years 3 and 4 provided instruction and experiences in a variety of areas of clinical medicine.

Blocks and Clerkships	Credit Hours	Weeks
Year One		
Clinically Oriented Anatomy (Fall)	9	10
Biology of Cells and Tissues (Fall)	6	8
Structure and Function of Major Organ Systems (Spring)	6	9
Host Defense (Spring)	8	11
P3/DOCS (Fall & Spring)	6	3
Year Two		
Multi-systems Disorders and Cancer (Fall)	6	8
Integrated Neurosciences (Fall)	9	11
Systems Disorders I (Spring)	7	8
Systems Disorders II and Life Span Issues (Spring)	5	7
P3/DOCS (Fall & Spring)	5	3
Basic Medical Spanish	0	
Year Three (Required Clerkships)		
Internal Medicine	8	8
Surgery	8	8
Obstetrics & Gynecology	8	8
Pediatrics	8	8
Psychiatry	8	8
Family Medicine	8	8
Integration Seminar – Student Grand Rounds	0	
Year Four		
Geriatrics Rotation	2	2
Ambulatory Care Rotation	2	2
Critical Care Rotation	4	4
Subinternship	4	4
Electives (5 minimum)	20	20
Total for MD	147	158

STANDARD MEDICAL EDUCATION CURRICULUM

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 1 (41 weeks) Focus: Normal Physiology		P3 Clinically Oriented Anatomy (10 weeks)		P3 Biology of Cells & Tissues (8 weeks)			Structure & Function of Major Organ Systems (9 weeks)		P3		Host Defense (12 weeks)	
Development of Clinical Skills 1												
Year 2 (37 weeks) Focus: Abnormal Physiology		Multisystem Disorders and Cancer (8 weeks)		P3	Integrated Neurosciences (11 weeks)		P3	System Disorders I (8 weeks)		P3	System Disorders II and Lifespan Issues (7 weeks)	
Development of Clinical Skills 2												
Basic Medical Spanish						Step 1 Study Time						
P3: Patients, Physicians, and Populations (1 week each)												
Year 3 (48 weeks) Focus: Patient Assessment		Pediatrics (8 weeks)		Internal Medicine (8 weeks)		Family Medicine (8 weeks)		Surgery (8 weeks)		Psychiatry (8 weeks)		OB/GYN (8 weeks)
Integration Seminar												
Year 4 (32 weeks) Focus: ACGME Competencies	Ambulatory (2 weeks)	Sub Internship (4 weeks)	Critical Care-ER-ICU (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (2 weeks)	Elective (2 weeks)	Available Time (12 weeks)			
	Geriatrics (2 weeks)						Elective (2 weeks)	Elective (2 weeks)				

F-MAT Program for TTUHSC School of Medicine

TTUHSC School of Medicine received approval in Spring 2010 for the establishment of a new accelerated educational program named the Family Medicine Accelerated Track (FMAT). This accelerated educational program was developed in recognition of the need to train more physicians who will practice in the major primary care field of Family Medicine. Up to 10 students per year will participate in this program. The major modifications in this program include additional coursework in the summer between Years 1 and 2, a longitudinal Family Medicine Clerkship in Year 2 and a new Family Medicine experience at the end of Year 3 that will cover material normally presented in Year 4 of the standard curriculum.

Blocks and Clerkships	Credit Hours	Weeks
Year One		
Clinically Oriented Anatomy (Fall)	9	10
Biology of Cells and Tissues (Fall)	6	8
Structure and Function of Major Organ Systems (Spring)	6	9
Host Defense (Spring)	8	11
P3/DOCS 1 (Fall & Spring)	6	3
Year Two		
FMAT 1 (Summer)	8	8
General Principles and Multi-systems Disorders and Cancer (Fall)	6	8
Integrated Neurosciences (Fall)	9	11
Systems Disorders I (Spring)	7	8
Systems Disorders II and Life Span Issues (Spring)	5	7
P3/DOCS 2 (Fall and Spring)	5	3
Basic Medical Spanish (Fall)	0	
Family Medicine Clerkship/ F-MAT 2 (Fall & Spring)	12	
Year Three (Required Clerkships)		
Internal Medicine	8	8
Surgery	8	8
Obstetrics & Gynecology	8	8
Pediatrics	8	8
Psychiatry	8	8
F-MAT 3	8	8
Integration Seminar – Student Grand Rounds	0	
Total for MD	148	134

FAMILY MEDICINE ACCELERATED TRACK (FMAT) CURRICULUM

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 1 (41 weeks) Focus: Normal Physiology		P3	Clinically Oriented Anatomy (10 weeks)	P3	Biology of Cells & Tissues (8 weeks)		Structure & Function of Major Organ Systems (9 weeks)	P3		Host Defense (12 weeks)		FMAT1 (8 weeks)
	Development of Clinical Skills 1											
Year 2 (45 weeks) Focus: Abnormal Physiology	FMAT1 (8 weeks)	Multisystem Disorders and Cancer (8 weeks)	P3	Integrated Neurosciences (17 weeks)	P3	System Disorders I (8 weeks)	P3	System Disorders II and Lifespan Issues (7 weeks)				Step 1 Study Time
	Family Medicine Clerkship/FMAT2 (including Geriatrics Rotation)											
	Basic Medical Spanish						P3: Patients, Physicians, and Populations (1 week each)					
Year 3 (48 weeks) Focus: Patient Assessment	Pediatrics (8 weeks)	Internal Medicine (8 weeks)	Surgery (8 weeks)	Psychiatry (8 weeks)	OB/GYN (8 weeks)	FMAT3						
	Integration Seminar											

Dual Degree Programs

MD/MBA

The MD/MBA program is a four year dual degree program offered by the School of Medicine and the Rawls School of Business at Texas Tech University. Students complete the MBA component of the degree during the first two years of medical school and can complete years 3 and 4 of the MD curriculum on any TTUHSC SoM campus.

		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 1 (41 weeks) Focus: Normal Physiology			P3	Clinically Oriented Anatomy (10 weeks)	P3	Biology of Cells & Tissues (8 weeks)		Structure & Function of Major Organ Systems (9 weeks)		P3		Host Defense (12 weeks)	
		Development of Clinical Skills 1											
		Rawls College of Business Concurrent Enrollment: Completion of Required Coursework											
Year 2 (37 weeks) Focus: Abnormal Physiology			Multisystem Disorders and Cancer (8 weeks)	P3	Integrated Neurosciences (11 weeks)		P3	System Disorders I (8 weeks)		P3	System Disorders II and Lifespan Issues (7 weeks)		Step 1 Study Time
		Development of Clinical Skills 2											
			Basic Medical Spanish					P3: Patients, Physicians, and Populations (1 week each)					
		Rawls College of Business Concurrent Enrollment: Completion of Required Coursework											
Year 3 (48 weeks) Focus: Patient Assessment		Pediatrics (8 weeks)	Internal Medicine (8 weeks)	Family Medicine (8 weeks)	Surgery (8 weeks)	Psychiatry (8 weeks)	OB/GYN (8 weeks)	Integration Seminar					
Year 4 (32 weeks) Focus: ACGME Competencies	Ambulatory (2 weeks)	Sub Internship (4 weeks)	Critical Care-ER-ICU (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (2 weeks)	Elective (2 weeks)	Available Time (12 weeks)				
	Geriatrics (2 weeks)												

MD/PhD

The School of Medicine and the Graduate School of Biomedical Sciences offer the MD/PhD dual degree program. The PhD component may be completed after Year 2 or Year 3 of the MD curriculum and may be completed within three to four years in most cases.

MD/PHD DUAL DEGREE PROGRAM												
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 1 (41 weeks) Focus: Normal Physiology	P3	Clinically Oriented Anatomy (10 weeks)		P3	Biology of Cells & Tissues (8 weeks)		Structure & Function of Major Organ Systems (9 weeks)			P3	Host Defense (12 weeks)	
Development of Clinical Skills 1												
Year 2 (37 weeks) Focus: Abnormal Physiology	Multisystem Disorders and Cancer (8 weeks)		P3	Integrated Neurosciences (11 weeks)			P3	System Disorders I (8 weeks)		P3	System Disorders II and Lifespan Issues (7 weeks)	
Development of Clinical Skills 2												
Basic Medical Spanish						P3: Patients, Physicians, and Populations (1 week each)						
Years 3-5 Enrolled in Graduate School for Biomedical Sciences Complete Concentration – specific coursework and thesis research (May also be performed between Years 3 and 4 of the Standard Medical Education Curriculum)												
Year 6 (48 weeks) Focus: Patient Assessment	Pediatrics (8 weeks)		Internal Medicine (8 weeks)		Family Medicine (8 weeks)		Surgery (8 weeks)		Psychiatry (8 weeks)		OB/GYN (8 weeks)	
Integration Seminar												
Year 7 (32 weeks) Focus: ACGME Competencies	Ambulatory (2 weeks)	Sub Internship (4 weeks)		Critical Care-ER-ICU (4 weeks)		Elective (4 weeks)		Elective (4 weeks)		Elective (4 weeks)		Available Time (12 weeks)
Geriatrics (2 weeks)		Elective (2 weeks)		Elective (2 weeks)		Elective (2 weeks)		Elective (2 weeks)				

MD/MS

The School of Medicine and the Graduate School of Biomedical Sciences offer the MD/MS program. It is designed **for students** who wish to add research experience to their portfolio, and requires the performance of one year of research in collaboration with faculty from the Graduate School of Biomedical Sciences. The research year is usually performed after Year 2 of the MD curriculum.

		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 1 (41 weeks) Focus: Normal Physiology			p3	Clinically Oriented Anatomy (10 weeks)	p3	Biology of Cells & Tissues (8 weeks)		Structure & Function of Major Organ Systems (9 weeks)	p3		Host Defense (12 weeks)		
		Development of Clinical Skills 1											
Year 2 (37 weeks) Focus: Abnormal Physiology			Multisystem Disorders and Cancer (8 weeks)	p3	Integrated Neurosciences (11 weeks)	p3	System Disorders I (8 weeks)	p3	System Disorders II and Lifespan Issues (7 weeks)				Step 1 Study Time
		Development of Clinical Skills 2											
		Basic Medical Spanish					P3: Patients, Physicians, and Populations (1 week each)						
Year 3	Enrolled (for one semester) in Graduate School for Biomedical Sciences Complete Research Project (May also be performed between Years 3 and 4 of the Standard Medical Education Curriculum)												
Year 4 (48 weeks) Focus: Patient Assessment		Pediatrics (8 weeks)	Internal Medicine (8 weeks)	Family Medicine (8 weeks)	Surgery (8 weeks)	Psychiatry (8 weeks)	OB/GYN (8 weeks)	Integration Seminar					
Year 5 (32 weeks) Focus: AGME Competencies	Ambulatory (2 weeks)	Sub Internship (4 weeks)	Critical Care-ER-ICU (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (2 weeks)	Elective (2 weeks)	Available Time (12 weeks)				
	Geriatrics (2 weeks)												

JD/MD

The School of Medicine and the School of Law at TTU offers the JD/MD dual degree program. Students complete 78 hours of coursework in the School of Law over the course of two years before entering the first year of the MD curriculum. An additional 12 hours of coursework from the MD curriculum completes the 90 credit hour requirement for the JD degree. Students may complete the JD coursework either before matriculating into the medical school or after Year 2 or 3 of the medical school curriculum.

JD/MD DUAL DEGREE PROGRAM

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
Years 1-2	Enrolled in School of Law Complete Required Coursework (May also be performed between Year 2 and 3 or between Years 3 and 4 of the Standard Medical Education Curriculum)													
Year 3 (41 weeks) Focus: Normal Physiology	P3	Clinically Oriented Anatomy (10 weeks)		P3	Biology of Cells & Tissues (8 weeks)		Structure & Function of Major Organ Systems (9 weeks)			P3	Host Defense (12 weeks)			
	Development of Clinical Skills 1													
Year 4 (37 weeks) Focus: Abnormal Physiology	Multisystem Disorders and Cancer (8 weeks)		P3	Integrated Neurosciences (11 weeks)			P3	System Disorders I (8 weeks)		P3	System Disorders II and Lifespan Issues (7 weeks)		Step 1 Study Time	
	Development of Clinical Skills 2													
	Basic Medical Spanish						P3: Patients, Physicians, and Populations (1 week each)							
Year 5 (48 weeks) Focus: Patient Assessment	Pediatrics (8 weeks)		Internal Medicine (8 weeks)		Family Medicine (8 weeks)		Surgery (8 weeks)		Psychiatry (8 weeks)		OB/GYN (8 weeks)			
	Integration Seminar													
Year 6 (32 weeks) Focus: ACGME Competencies	Ambulatory (2 weeks)	Sub Internship (4 weeks)		Critical Care-ER-ICU (4 weeks)		Elective (4 weeks)		Elective (4 weeks)		Elective (2 weeks)		Elective (2 weeks)		Available Time (12 weeks)
	Geriatrics (2 weeks)													

MD/MPH

The MD/MPH program is a four-year dual degree program offered by the School of Medicine and the Graduate School of Biomedical Sciences. Students complete the MPH component of the degree at the same time as they are completing the MD degree, although most MPH courses are scheduled at times that do not conflict with MD courses. Students in this program can complete years 3 and 4 of the MD curriculum on any TTUHSC SoM campus.

MD/MPH DUAL DEGREE PROGRAM

Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 1 (41 weeks) Focus: Normal Physiology												
Summer* GSPH 5313 GSPH 5304 GSPH 5411		P3	Clinically Oriented Anatomy (10 weeks)	P3	Biology of Cells & Tissues (8 weeks)	Structure & Function of Major Organ Systems (9 weeks)			P3	Host Defense (12 weeks)		
Development of Clinical Skills 1												
Year 2 (37 weeks) Focus: Abnormal Physiology												
Summer* GSPH 5307 GSPH 5309 GSPH 5310 GSBS 5101		Multisystem Disorders and Cancer (8 weeks)		P3	Integrated Neurosciences (11 weeks)		P3	System Disorders I (8 weeks)		P3	System Disorders II and Lifespan Issues (7 weeks)	
Development of Clinical Skills 2												
Basic Medical Spanish												
Fall Semester* (two of three) GSPH 5324 GSPH 5329 GSPH 5334												
P3: Patients, Physicians, and Populations (1 week each)												
Step 1 Study Time												
Prior to start of Year 3* GSPH 5320												
Year 3 (48 weeks) Focus: Patient Assessment												
Pediatrics (8 weeks)		Internal Medicine (8 weeks)		Family Medicine (8 weeks)		Surgery (8 weeks)		Psychiatry (8 weeks)		OB/GYN (8 weeks)		
Integration Seminar												
Year 4 (32 weeks) Focus: ACGME Competencies												
Ambulatory (2 weeks)	Sub Internship (4 weeks)	Critical Care-ER-ICU (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (2 weeks)	Elective (2 weeks)	Available Time (12 weeks)				
Geriatrics (2 weeks)						Elective (2 weeks)	Elective (2 weeks)					
During Year 4* (one of three) GSPH 5324 GSPH 5329 GSPH 5334 and GSPH 5323—Culminating Experience												

Master's in Public Health Curriculum*

Core Curriculum

Taken in summer prior to Year 1

GSPH 5313 – Introduction to Public Health
 GSPH 5307 – Introduction to Epidemiology
 GSPH 5411 – Introduction to Biostatistics

Taken in summer prior to Year 2

GSPH 5304—Introduction to Social and Behavioral Sciences
 GSPH 5309—Basic Environmental Health Sciences
 GSPH 5310—Management and Policy Sciences
 GSBS 5101—Responsible Conduct of Research

Taken prior to Year 3

GSPH 5320—Practicum

Generalist Core

Two taken in fall semester of Year 2 and one during Year 4

GSPH 5324—Public Health in Practice
 GSPH 5329—Issues in Rural Health
 GSPH 5334—Community Based Research Methods

Culminating Experience

Taken during Year 4

GSPH 5323—Culminating Experience

Year 1 Required Blocks (4 year and FMAT program)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 1 (41 weeks) Focus: Normal Physiology		P3	Clinically Oriented Anatomy (10 weeks)	P3	Biology of Cells & Tissues (2 weeks)		Structure & Function of Major Organ Systems (9 weeks)	P3		Host Defense (12 weeks)		
	Development of Clinical Skills 1											

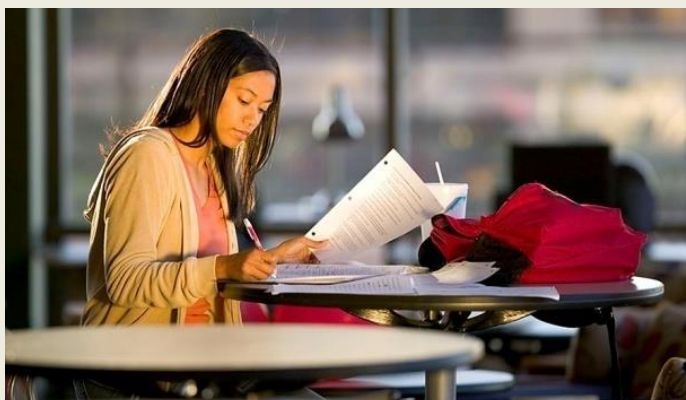
The first year is divided into four consecutive interdisciplinary blocks named Clinically Oriented Anatomy, Biology of Cells and Tissues, Structure and Function of Major Organ Systems, and Host Defense, a combined clinical skills/ introduction to doctoring course named P#/DOCS 1 and an introductory interprofessional education course taken during orientation to the first year. P3/DOCS 1 consists of two components, a longitudinal clinical skills training course (Development of Clinical Skills (DOCS) and three one week inter-block sessions that cover topics such as medical ethics, professionalism and cultural competence (Patients, Physicians and Populations, P3). The P3 course also includes small group sessions within each of the four consecutive blocks that apply the concepts introduced in the P3 course to the content of each of the blocks. Students must pass all blocks in order to complete the first year and these blocks have the following objectives:

Block Number	Name/General Description
MSCI 5101	<p>Clinically Oriented Anatomy</p> <p>This block provides students with the foundation in anatomy and embryology necessary for success in the remainder of the curriculum and introduces students to applications of anatomy to the practice of medicine. It includes the traditional content and concepts of gross and developmental anatomy presented in a clinical context, coordinated with introductions to case-based presentations by physicians.</p>
MSCI 5102	<p>Biology of Cells and Tissues</p> <p>This block integrates biochemistry, genetics, cell biology, and histology of the tissues. The block progresses from molecules to cells to the organization of cells into tissues.</p>
MSCI 5103	<p>Structure and Function of Major Organ Systems</p> <p>This block covers structural and functional aspects of the various organ systems of the body through a series of lectures, histology laboratories, clinical correlations, question and answer sessions and voice-over PowerPoint presentations available online. The systems include cell, cardiovascular, respiratory, renal, gastrointestinal with nutrition, and endocrine/reproductive with an emphasis on regulation of function and the integration among systems.</p>
MSCI 5104	<p>Host Defense</p> <p>This block introduces both the defense system of the body (the immune system) and the agents that can invade the body and cause disease (medical microbiology). It covers the development of the immune system, effector functions of the immune system in health – defense of the body against microbes, transplanted tissues, and tumors; and the</p>

dangers of inappropriate immune responses – allergy, autoimmunity, and immunodeficiency. The block provides a traditional survey of medically important microorganisms, their identification, the mechanisms through which they cause disease, and specific diseases

Year 1 Required Blocks continued...

Block Number	Name/General Description
MSCI 5104 -continued	associated with them. Clinical correlations tie the microbes into the organ systems. Team-based learning components, online vignettes, and wet laboratory exercises continue the clinical perspective, and encourage self-directed as well as cooperative learning.
MSCI 5106	<p>P3/DOCS 1</p> <p>This block extends throughout year 1, and provides a framework for students to learn the fundamental skills of physician-patient interactions, including professionalism, communications skills, health literacy and ethical challenges to medical practice. Learning occurs in classroom settings, small group forums, and community-based settings. The students also explore ethical, cultural, psychological and economic dimensions of clinical care in a variety of learning settings. This block teaches students the fundamental skills needed for physician-patient interactions, including communication skills, obtaining a complete history from a patient, and performing appropriate physical exam techniques during patient assessments. During the first semester, learning will occur through lecture-based teaching and hands-on practice in a simulation center that will include interviewing and examining standardized patients and using technology to reinforce learning. During the second semester, students will be assigned to ambulatory preceptors and will go to the preceptor’s clinic office four times during the semester in order to practice the skills taught during the first semester.</p>
IPMD 5101	<p>Foundations for Interprofessional Collaborative Practice</p> <p>This online course provides an introduction to broad concepts related to four interprofessional core competencies for all healthcare providers. Online modules include: (a) roles/responsibilities, (b) interprofessional communication, (c) teams/teamwork, and (d) values/ethics for interprofessional practice.</p>



Year 2 Required Blocks (4 Year and FMAT Programs)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 2 (37 weeks) Focus: Abnormal Physiology	Multisystem Disorders and Cancer (8 weeks)		P3	Integrated Neurosciences (7 weeks)			P3	System Disorders I (8 weeks)		P3	System Disorders II and Lifespan Issues (7 weeks)	
	Development of Clinical Skills 2											
	Basic Medical Spanish						P3: Patients, Physicians, and Populations (1 week each)					

Year 2 features an interdisciplinary organ-based systems approach, combining principles and content from microbiology, pathology, neurosciences, and clinical medicine including: General Principles and Integrated Neurosciences, Multisystem Disorders and Cancer, Systems Disorders I, and Systems Disorders II and Life Span Issues. P3/DOCS 2 is organized similarly to P3/DOCS 1 and is designed to allow students to apply knowledge obtained in Year 1 in practicing physician offices. Students must also complete an online course that covers basic medical terminology in Spanish that prepares students for interacting with patients for whom Spanish is their primary or only language.

Block Number	Name/General Description
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MSCI 6107

General Principles, Multisystem Disorders and Cancer: This block begins with an overview of population health and principles of pharmacology. This is followed with basic pathology principles of injury, inflammation, and repair followed by the clinical concepts of infectious disease and oncogenesis and the development of cancer. As a consequence, the initial sessions in this block provide a base for the study of organ system diseases. Subsequent sessions address the microscopic and macroscopic structural abnormalities, basic pathophysiology, and functional abnormalities of the musculoskeletal, hematopoietic, and lymphoreticular systems. It provides fundamental knowledge of the principles of treatment of infectious diseases, musculoskeletal, hematopoietic and lymphoreticular disorders, and cancer. Exercises in epidemiology, reliability of diagnostic testing, and examination of case-control studies introduce the application of evidence-based practice. Clinical correlations provide students with knowledge to enhance medical problem-solving, and to establish general relationships between the musculoskeletal, hematopoietic, and lymphoreticular systems and the signs and symptoms of disease. Team-based learning components and online vignettes continue the clinical perspective, and encourage self-directed as well as cooperative learning.

MSCI 6108

Integrated Neurosciences: This block begins with comprehensive coverage of the central nervous system, which integrates microscopic cellular structure, neuroanatomy, and neurological systems with both normal function and clinical signs and symptoms. The block subsequently introduces the student to aspects of neuropharmacology, neuropathology, and the etiology (biological and psychosocial factors), signs, and symptoms of various neuropsychiatric disorders. The latter portion of the course covers topics from behavioral science, including

Year 2 Required Blocks continued...

Block Number	Name/General Description
MSCI 6103	<p>System Disorders I: This block covers cardiovascular, pulmonary, renal, gastrointestinal, and hepatobiliary systems with integration of pathophysiologic processes, clinical diagnosis and therapy, and pharmacology of relevant therapeutic agents.</p>
MSCI 6104	<p>System Disorders II and Life Span Issues: This block covers the pathophysiology and clinical aspects of the major endocrine disorders and metabolic diseases. Other topics include clinical aspects of men and women’s health, most notably the pathophysiology of the reproductive system. The block includes segments on clinical dermatology, ophthalmology, and the aging patient.</p>
MSCI 6109	<p>P3/DOCS 2: This block builds on the skills learned in the P3/DOCS-1 course with more advanced communication techniques, patient safety and career development skills. The sessions continue to explore professionalism and ethics and develop awareness of cultural and psychosocial issues using a variety of methods: workshops, small group activities, personal reflection and community-based settings. This block builds on the skills learned in Development of Clinical Skills I but at a more advanced level to reinforce the basic skills taught in year 1. Learning will occur through a mixture of didactic and clinical skills sessions. The didactic sessions will consist of a large group simulation activity during one half-day in each block integrated with the current basic science systems-based curriculum. The clinical skills sessions will consist of patient encounters that will take place in the hospital, emergency room, and ambulatory settings. Students will be assigned to preceptors who will help the students in arranging these clinical encounters.</p>
MSCI 6106	<p>Basic Medical Spanish This is a 15-hour web-based course, which includes two interactive sessions to be completed by March 15 of Year 2. The goal of this course is to promote patient rapport and the cultural comfort of the student caring for our Spanish-speaking patients. Grading will be Pass-Fail and will be entered on student transcripts.</p>

An independent study version of each course from Years 1 and 2 is available under exceptional circumstances for auditing or remediation of course content.

Independent Study

Course Number	Name/General Description
MSCI-5191	IDS-COA
MSCI-5192	IDS-BCT
MSCI-5193	IDS-SFOS
MSCI-5194	IDS-HD
MSCI-5196	IDS-P3/DOCS
MSCI-6193	IDS-SDI
MSCI-6194	IDS-SDII
MSCI-6197	IDS-GPMSDC
MSCI-6198	IDS-IN
MSCI-6199	IDS-P3/DOCS

FMAT specific Courses

Course Number	Name/General Description
FMAT-6201	Family Medicine Accelerated Track 1 (The Science of Family Medicine) This 8-week concentrated course will be taken during the summer between Year 1 & Year 2 under the supervision of Family Medicine faculty. This course will prepare students to begin the Longitudinal Family Medicine Clerkship during Year 2. Students in the regular curriculum take four integrated blocks in Year 2 that cover areas of neurobiology and pathophysiology of human disease. The F-MAT 1 course will cover topics from these courses that are particularly important for students during the Family Medicine Clerkship.
FMAT-6202	Family Medicine Accelerated Track 2 (Longitudinal Family Medicine Clerkship) This will be a longitudinal Family Medicine Clerkship that introduces students to the care of the undifferentiated ambulatory patient. Emphasis will be on clinical problem-solving, management of common problems, and prevention and health promotion. Learning objectives from DOCS-2 and the Geriatrics rotation will also be incorporated.

Year 1 and 2 Electives

Course Number	Name/General Description
MSCI 5401	<p>Surgical Anatomy This course will provide an introduction and overview to surgical approaches to different regions of the human body from a clinical perspective. Students will observe and assist surgeons with surgical dissections of cadavers. The experience in Surgical Anatomy will provide students with a relevant correlation of anatomy as applied to surgical procedures.</p>
MSCI5402	<p>The Patient Experience in Film Monthly viewing of a film depicting a unique aspect of the patient experience. A smaller group of students enrolled in the elective will be assigned to preview the film and lead the post-film discussion (on a rotating basis). At the end of the year each student will select a film to watch independently and write a report on the unique aspect of the patient experience it portrays and how it will affect their future practice in medicine.</p>
MSCI 5403 MSCI 6405	<p>International Health Elective This elective is site specific with site specific learning objectives. This elective allows students to experience the challenges of health care delivery with a required physician supervisor/ evaluator in an international setting for 4 weeks.</p>
MSCI 5407 MSCI 6407	<p>Integrative, Complementary, and Alternative Medicine (ICAM) Elective The Integrative, complementary, and Alternative Medicine (ICAM) elective will educate first and second year medical students about the importance of and methodology to incorporating Complementary and Alternative Medicine (CAM) into their medical practice. This will involve (1) a series of lunch lectures with brief, interactive demonstrations of various CAM modalities and (2) a set of workshops which give greater experience and insight on specific CAM practices. At the end of the elective, students should demonstrate the knowledge regarding the need for ICAM education to address the increasing use of CAM by patients and the various benefits and risks of using different CAM modalities.</p>
MSCI 5408 MSCI 6408	<p>Introduction to Ultrasound Elective The purpose of this elective is for students to obtain more hands-on experience in ultrasound skills and to recognize pathologies frequently observed through ultrasound. There will be a series of 10-30 minute lectures followed by hands-on practice of techniques for that session using ultrasound machines and a few lecture-only sessions. Lectures will be based on systems followed by procedures in the last two sessions. Students will be given the opportunity to shadow either a physician or ultrasound tech to experience when and how ultrasounds are used in a clinical setting. At the end of the elective, students will have greater experience and confidence in using ultrasounds in clinical settings.</p>

Year 2 continued...

Course Number	Name/General Description
MSCI 6401	<p>Introduction to Clinical Research Elective</p> <p>At the beginning of the elective, each student will be assigned to a nurse coordinator and will be increasingly involved in working with that coordinator on the studies they are running. An opportunity will be given for the students to choose between various ongoing studies, but this must be done early since they must have passed the CITI training program and have IRB approval to participate in individual studies. Each student should be involved both with studies involving human subjects and those involving chart reviews. It would be anticipated that the students would receive authorship on any publication resulting from studies on which they are involved, provided that their participation is meaningful. Early in the elective, there will be an emphasis on didactic material beginning with discussions about the regulations and ethical considerations related to research in humans, the background for these and the role played by the IRB and an Office of Research Integrity. This will be followed by sessions on how to develop the proposal for a research project from conception of the idea through formulation of a hypothesis and specific aims, compiling the background, constructing the appropriate methods and analysis of results and, finally, a discussion of the potential significance. It will be expected that each student will develop a proposal/protocol during the elective with an ongoing active critique process.</p>
MSCI 6403	<p>Introductory Neurology Elective</p> <p>This rotation exposes the student to basic principles of diagnosis and management of common neurologic conditions. Students learn skills in conducting neurologic exams, identifying signs and symptoms of neurologic disorders, and integrating signs and symptoms into syndromes. Students learn about basic neurologic disorders and neurologic complications of systemic conditions.</p>
MSCI 6404	<p>Introduction to Anesthesiology Elective</p> <p>This elective will introduce the students to the specialty of anesthesia. The student will attend different types of anesthesia in various patient groups. They will participate in a pre-operative patient assessment for anesthesia, assessment of the airway and will learn basic airway management skills through hands-on sessions in the <i>SimLife</i> Center. The students will be introduced to pharmacology and physiology concepts applied to anesthesia. They will have the opportunity to follow anesthesia residents on the ICU, in OB, observe pain procedures and observe regional anesthesia procedures including brief orientation of the sono-anatomy of certain nerve blocks.</p>

Year 2 continued...

Course Number	Name/General Description
<p>MIDS-5402 MIDS-6402</p>	<p>Professional Tools for the Advancement of Patient Safety: An Inter-professional Approach This course will introduce the healthcare student to the concepts in promoting and providing patient safety. Archived videos and live content expert presentations will build a framework of knowledge that the student can then apply to vignettes involving a sentinel event. Completion of this course will prepare the student with the fundamental knowledge required for the interprofessional root cause analysis course (CLARION). The goal of this course is to provide the all students of the Texas Tech University Health Sciences Center Schools with the opportunity to practice the core competencies recommended by the Institute of Medicine (IOM). The IOM recommended in a 2003 publication entitled "Health Professions Education: A Bridge to Quality" that five core competencies be integrated into health professions education: patient-centered care, interdisciplinary teams, evidence-based practice, quality improvement and informatics. In this course students will work in interprofessional teams as they study the following concepts: root cause analysis, budget analysis, professional conduct and policies, team communication, legislative initiatives, information technology.</p>
<p>MIDS-5403 MIDS-6403</p>	<p>Pre-Hospital Emergency Medicine This elective will educate first and second year medical students about one of the major routes in which patients enter the healthcare field, namely the emergency room. Students will gain knowledge about what the patient encounters, beginning with first responders, through each subsequent step prior to hospital admission, and thus have a better understanding of the comprehensive care that a patient receives before they present to the ED physician. This educational goal is invaluable to those who are interested in a future career as Emergency Medicine physicians.</p>

Electives continued...

Course Number	Name/General Description
MIDS-5404 MIDS-6404	<p>Global Health 101</p> <p>There is a growing population of students who are interested in cultivating their understanding about the global health field to facilitate career choice decisions and future humanitarian involvement. The primary goal of this course is to offer exposure to topics in global health, but to also tailor the knowledge to include theory and real-world practice. Students will complete learning modules ranging from cultural competency, relevant health issues, to the process of building a clinic on their own. As part of this real-world practice, health simulations concerning two common global health issues – malaria and cholera, will be incorporated. Accordingly, another major goal is to highlight interprofessional teamwork in diagnosis, prevention, and treatment in a resource-deprived setting. It is recognized that interprofessional interactions vary greatly depending on the nature of the clinic, the location of the clinic, the situation, and resources available. In recognition of the different roles required, there will also be clinical activities that cultivate clinical skills not covered elsewhere in the curriculum.</p>
MIDS 5405 MIDS 6405	<p>The Future of Medicine Elective: As medical students, most education is geared at learning the human body through what has already been learned with the integration of modern methods and technology. However, what is described as modern knowledge/methods/technology is actually from the ideas and world of yesterday. The advancements happening today are numerous and far reaching. The problem with today's healthcare is that without the active pursuit, collaboration, and implementation of new research and peer-reviewed science into the clinical setting, progress will be slow and treatment of patients will be suboptimal. With this class, MS1s and MS2s will be able to hear from lecturers about what is nascent in the world of science today and how they try and use it for patient care. There will also be discussion sessions that will have students reading and sharing thoughts about recent peer-reviewed articles. Pre-chosen peer-reviewed articles will be available for each group session with the option of finding and reading outside articles that are relevant for the month's theme and are of interest to the student. They will discuss how these advances can help and how they would integrate the information into today's and tomorrow's medicine.</p>
MIDS-5406 MIDS-6406	<p>Preventive Medicine Elective</p> <p>This elective will educate first and second year medical students about the potential to incorporate preventive practices in medicine. This will involve a series of events including brown bag lectures, film screenings, and round-table discussions. A service component will also be required to complete the course. At the end of the elective, students should have a greater awareness about the need for preventive education for their future patients, and about the various ways in which they can utilize preventive practices as future physicians.</p>

Electives continued...

Course Number	Name/General Description
MIDS-5407 MIDS-6407	<p>Medical Business Elective</p> <p>This elective will educate first and second year medical students about the fundamentals of business in medicine, be it starting a private practice or working in a hospital. This elective will highlight the fundamentals in accounting, finance, management, and marketing, while providing a list of resources for the students to obtain if they desire to learn more. After completing the fundamental curriculum, basic business applications will be taught. This will include an overview of the current healthcare system, health organization management, electronic health records, billing and coding, reimbursement, advance directives, and wills. Students will be instructed on how to read and understand financial statements, do some simple financial calculations, and utilize common management techniques and concepts. These educational goals are invaluable to anyone interested in a future career in medicine.</p>
MIDS-8408 (Lubbock)	<p>Basic Science Principles of Clinical Medicine</p> <p>In this course students will review USMLE World questions with selected faculty. Students will also round with fellows in nephrology, cardiology, infectious disease, pulmonology and oncology to correlate consultations with basic science principles including acid base, microbiology, antibiotic therapy, pulmonary, cardiac and renal physiology. Utilization of Tumor board to review pathologic principles of cancer and cancer chemotherapy. Student will participate in Simulation center exercises and anatomy models, Surface anatomy and physical diagnosis, and will complete a pre and post elective standardized exam.</p>

Year 3 (4 Year and FMAT Programs)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 3 (48 weeks) Focus: Patient Assessment	Pediatrics (8 weeks)	Internal Medicine (8 weeks)	Family Medicine (8 weeks)	Surgery (8 weeks)	Psychiatry (8 weeks)	OB/GYN (8 weeks)	Integration Seminar					
Year 3 (48 weeks) Focus: Patient Assessment	Pediatrics (8 weeks)	Internal Medicine (8 weeks)	Surgery (8 weeks)	Psychiatry (8 weeks)	OB/GYN (8 weeks)	FMAT3	Integration Seminar					

In Year 3 students move to the clinical arena on one of our three campuses: Lubbock, Amarillo or Permian Basin. Each student focuses on one clinical discipline at a time, and rotates through six eight-week clerkships in Internal Medicine, Surgery, Family Medicine, Obstetrics/Gynecology, Pediatrics, and Psychiatry. FMAT students (who will have already completed their Family Medicine clerkship during the MS2 year) will instead complete a dedicated course (FMAT3) that covers learning objectives from the SubInternship and Critical Care Selectives normally completed in Year 4 of the standard curriculum. Each student also participates in the Integration Seminar, a student-led Grand Rounds that explores the fundamental scientific basis of selected clinical cases. Our School actively promotes and monitors the quality and comparability of the educational experiences on each of the campuses and maintains equivalent methods of evaluation. Student performance is assessed at the end of each clerkship using three independent and complementary assessment components, an Objective Structured Clinical Examination (OSCE), clinical performance assessments completed by faculty and residents and a subject-specific examination. Thus, student performance can be compared with national norms as well as with each other on the three campuses. The values are well correlated and thus, the third year is equivalent to a single-campus experience. We also closely monitor the number and diversity of patients to ensure the necessary breadth of exposure to clinically challenging patients.

Clerkship Number	Name/General Description
MFAM 7101 (Amarillo, Lubbock, Permian Basin)	Family Medicine (4 Year program only) An eight-week core clerkship introducing students to the care of the undifferentiated ambulatory patient. Emphasis is on clinical problem-solving, management of common problems, and prevention and health promotion.
MINT 7101(Amarillo, Lubbock, Permian Basin)	Internal Medicine In this eight-week rotation, the student participates as a member of the ward team, honing skills in performing histories and physicals, and in the collection, integration, and documentation of information for comprehensive diagnosis. Concepts of practical medical therapeutics and management are presented, but emphasis is on understanding pathophysiology and accurate diagnosis. Outpatient experience is provided in a community setting.
MOBG-7101 (Amarillo, Lubbock, Permian Basin)	Obstetrics-Gynecology A study of the treatment of female patients by the primary care practitioner. Obstetrics-gynecology spans the entire age range of womanhood and is extensively health-oriented with emphasis on prevention of illness and on surgical and obstetrical techniques. The quality of human life is emphasized.

Year 3 Clerkships continued...

Clerkship Number	Name/General Description
MPED-7101 (Amarillo, Lubbock, Permian Basin)	<p>Pediatrics During the clerkship, students rotate through the pediatric inpatient, ambulatory care and newborn nursery services, participating in the evaluation and management of children with a variety of problems. Emphasis is placed on a comprehensive approach to total child, including his/her family and environment. Learning is augmented by a lecture series and various case conferences coupled with close faculty support and supervision.</p>
MPSY-7101 (Amarillo, Lubbock, Permian Basin)	<p>Psychiatry The primary goals of this rotation are to provide educational experiences that facilitate continued learning regarding the diagnosis and management of psychiatric illness and clinical experiences that allow the student to further develop skills in evaluation and treatment of selected patients. The core clinical experiences for students consist of significant exposure to inpatient psychiatry, consultation psychiatry, ambulatory psychiatry, child and adolescent psychiatry, ambulatory neuropsychiatry/behavioral neurology, and on-call emergency room coverage.</p>
MSUR-7101 (Amarillo, Lubbock, Permian Basin)	<p>Surgery An introduction to the pathophysiology of surgical diseases and the principles and techniques used in their diagnosis and management. The Clerkship includes participation in pre- and post-operative patient care, operating room and clinic experience as a member of a team of the surgical faculty.</p>
MSCI-7102 (Amarillo, Lubbock, Permian Basin)	<p>Integration Seminar – Student Grand Rounds The Integration Seminar is a Student Grand Rounds presented by MSIII students on each campus. The overarching objective of the seminar is to provide students with the opportunity to explore in depth a clinical case and to reapply the knowledge gained over the first two years of medical school to this case. The students work as a team to present a cogent, integrated and interactive seminar to their peers, students from other years and faculty while developing their presentation skills and their ability to interpret and evaluate data from multiple sources. The directors of the Integration Seminar choose the cases and the students are divided into six groups, each of which is assigned one case. The Integration Seminar occurs once per clerkship period. The Directors advise the students on interpretation and presentations skills and coordinate the seminar to ensure participation of the greatest number of students and faculty in the audience. Grading will be Pass/Fail as determined by the Campus Seminar Director.</p>

Year 3 Clerkships continued.....

FMAT Specific Course

Course Number	Name/General Description
FMAT-7201	<p>Family Medicine Accelerated Track 3 (Family Medicine Inpatient and Critical Care Experience)</p> <p>The 8-week course takes place during May and June of the MS3 year. Experiences include ICU and critical care and Family Medicine inpatient service, with time available to take the Step2 CK exam. Students will participate in graduation activities in May but will not complete the course until the end of June, when they will participate in orientation for their residency program.</p>

Students who are granted short-term leaves of absence from clerkship(s) will be registered in Independent Study Period course(s) that correspond to the scheduled curriculum component.

Independent Study

Course Number	Name/General Description
MIDS-7191	IDS-Period 01
MIDS-7192	IDS-Period 02
MIDS-7193	IDS-Period 03
MIDS-7194	IDS-Period 04
MIDS-7195	IDS-Period 05
MIDS-7196	IDS-Period 06

Year 4 (4 Year Program only)

Each regional campus offers both required and elective rotations. All students complete a 2 week rotation in Geriatrics on their home campus. Students also complete three selective experiences, each of which can be performed in one of several clinical departments based on specific student interests. The selectives consist of a one-month Sub-Internship chosen from Family Medicine, Internal Medicine, Obstetrics & Gynecology, Pediatrics or Surgery; a one month Critical Care selective chosen from Emergency Medicine, Internal Medicine, Surgery, or Pediatrics; and a 2 week selective in an ambulatory setting chosen from Family Medicine, Internal Medicine, Obstetrics and Gynecology, Pediatrics and Psychiatry. The remainder of the fourth year curriculum consists of five months of broadly-based elective experiences. Electives may be completed on any TTUHSC campus or at LCME-accredited institutions in the US. A faculty committee reviews each student’s fourth year program to ensure they receive a complete and appropriate educational experience. It should be noted that some electives may not be available in every period on each campus and students should check with the department of the Office of Student Affairs on their campus to ensure that their chosen elective is available at a time that suits their schedule.

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year 4 (32 weeks) Focus: ACGME Competencies	Ambulatory (2 weeks)	Sub Internship (4 weeks)	Critical Care- ER-ICU (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (4 weeks)	Elective (2 weeks)	Elective (2 weeks)	Available Time (12 weeks)			
	Geriatrics (2 weeks)						Elective (2 weeks)	Elective (2 weeks)				

Year 4 Required Rotations

Course Number (Campus)	Name/General Description
MFAM-8001 (Amarillo, Lubbock, Permian Basin)	Geriatric Medicine This rotation is an introduction to geriatric assessment and evaluation. Topics covered are Physiology of aging Demographics of the aged Long-term care policies Commonly used geriatric evaluation scales Evaluation of function in the aged Long-term care.

Year 4 Selective Rotations

Ambulatory

Family Medicine

Course Number (Campus)	Name/General Description
MFAM-8101 (Amarillo, Lubbock, Permian Basin) MFAM-8151 AW	Family Medicine Senior (Ambulatory) Rotation This rotation prepares students for the transition into a residency program by increasing exposure to the care of patients in the outpatient clinic setting. Students will provide care to a broad range of patients of all ages while refining their examination, diagnostic and communication skills. The clinical experience is combined with seminars focusing on various patient care topics, including a diabetes workshop and self-study, to enhance the learning experience.
MFAM-8103 (Lubbock) MFAM-8153 AW	Student Health and Adolescent Medicine This selective/elective allows the student to develop their skills and knowledge of student health and adolescent medicine. Emphasis is on the application of clinical skills with the demands and limits of a university student health clinic.

Internal Medicine

Course Number (Campus)	Name/General Description
MINT-8101 (Amarillo, Lubbock, Permian Basin) MINT-8151 AW	Internal Medicine Ambulatory Rotation This rotation in internal medicine's multispecialty clinic prepares the students in ambulatory medicine where they get exposed to outpatients in various disciplines of medicine. The aim is to make students more comfortable and confident in doing focused and time limited interaction in an outpatient setting which most of them are going to practice in future. Highly recommended for students pursuing a career in internal or family medicine.

Obstetrics & Gynecology

Course Number (Campus)	Name/General Description
MOBG-8101 (Amarillo, Lubbock, Permian Basin) MOBG-8151 AW	Ob/Gyn Senior (Ambulatory) Rotation This two or four week elective is a compilation of the spectrum of patients seen in the ambulatory ob/gyn clinic (gynecology, antenatal care, high risk obstetrics, urogynecologic, and infertility) and will be tailored to fit the individual requests of the fourth year student. Hands on opportunities include preparing for and performing the following office gynecologic procedures: cervical cytology and cultures, colposcopy, endocervical curettage, cervical, and endometrial biopsy. The student will be expected to present in organized succinct fashion ob/gyn patients seen in clinic to the supervising physician, counsel patients concerning various contraceptive options, complications, and contraindications, and review the evaluation and management of the abnormal cervical cytology screen. The student will also be expected to formulate a treatment plan for peri- and postmenopausal bleeding, complicated obstetrical patients and work on proper communication with nursing and ancillary staff in order to efficiently and effectively coordinate ambulatory patient care.

Pediatrics

Course Number (Campus)	Name/General Description
MPED-8101 (Amarillo, Lubbock, Permian Basin) MPED-8151 AW	Pediatrics Senior (Ambulatory) Rotation The purpose of this rotation is to familiarize the student with preventive pediatrics and parent education, acute intervention in common childhood diseases and follow-up visits, and evaluation of patients in an outpatient consultation service.

Psychiatry

Course Number (Campus)	Name/General Description
MPSY-8101 (Amarillo, Lubbock, Permian Basin) MPSY-8151 AW	Psychiatry Senior (Ambulatory) Rotation This rotation is designed to give students experience in evaluation, diagnosis, and management of psychiatric illnesses in a variety of settings. Students may select Adolescent Psychiatry, Inpatient Psychiatry, or Outpatient Psychiatry.
MPSY-8102 (Amarillo, Lubbock) MPSY-8152 AW	Child/Adolescent Psychiatry This selective/elective is designed to give the student clinical experience with outpatient evaluation of child and adolescent patients seen at the TTUHSC Department of Neuropsychiatry and Behavioral Sciences.

Critical Care

Internal Medicine

Course Number (Campus)	Name/General Description
MINT-8201 (Amarillo, Lubbock, Permian Basin) MINT-8251 AW	MICU/CCU This selective/elective utilizes patients admitted to the intensive care units within various teaching hospitals. The student will gain experiences in managing common medical emergencies, including cardiopulmonary arrest, drug overdose, hypertension, acute myocardial infarction, cardiogenic shock, congestive heart failure, renal failure, and diabetic ketoacidosis. The student is also expected to become proficient in the evaluation and management of common chest problems, including asthma, chronic obstructive pulmonary disease, pleural effusions, peri-operative complications, pneumonia, atelectasis, respiratory failure, pulmonary function tests, and chest x-rays, and to become familiar with the various types of mechanical ventilators, oxygen delivery systems, and methods of delivering inhaled medication.

Pediatrics

Course Number (Campus)	Name/General Description
MPED-8201 (Amarillo, Lubbock, Permian Basin) MPED-8251 AW	<p>Neonatal Intensive Care</p> <p>This selective/elective is designed to familiarize the student with perinatal-neonatal physiology, high-risk factors associated with neonatal disease pathophysiology diagnosis and management of common neonatal problems, dealing with acute neonatal emergencies, and communicating with parents of high-risk neonates. The students' primary responsibility will be the total management and supervision of assigned patients. Students will also be expected to participate in daily rounds, night call, weekly discussion group on neonatal-perinatal diseases and presentation of a review on a selected aspect of neonatal-perinatal medicine towards the end of the rotation.</p>
MPED-8202 (Amarillo, Lubbock) MPED-8252 AW	<p>Pediatric Intensive Care</p> <p>The student will be exposed to all pediatric critical care: Sepsis, Trauma, ARDs, and all potentially or life-threatening illnesses. The student will act as an acting intern with direct patient care responsibilities. There will be no outpatient, ward, or clinic responsibilities except Continuity Clinic. The student will make daily rounds with the attending physicians. The student will have an opportunity to perform procedures such as spinal taps, A-line, central lines, chest tubes, intubation, and catheter placement. Emphasis will be placed on physiology, recognition of common acute life-threatening injuries-illnesses, and ventilator management.</p>

Surgery

Course Number (Campus)	Name/General Description
MSUR-8201 (Permian Basin) MSUR-8251 AW	<p>Cardiovascular Surgery</p> <p>Through the direct pairing with a practicing Clinical Faculty Cardiovascular/Thoracic Surgeon (CVTS) the student will participate as a member of this team in the provision of inpatient and outpatient (office/clinic) care, and emergency department and operating room activities. The selective/elective will provide the student an exposure to the gamut of basic principles of surgical evaluation, diagnosis and management as well as those principles specific to the clinical techniques of diagnosis and surgical management of congenital and acquired cardiovascular and thoracic disease.</p>
MSUR-8202 (Lubbock, Permian Basin) MSUR-8252 AW	<p>Emergency Medicine</p> <p>This selective/elective is an introduction to emergency medicine and the evaluation of common emergencies. Instead of focusing on a single age group, a defined severity of illness or a discrete body of medical knowledge, the student will be expected to look at the big picture. The student will be asked to make decisions regarding management based upon available clinical information and limited laboratory or radiological tests in a limited time environment. Given these restrictions, emphasis will be on the approach to the problem, its management and disposition, rather than a precise diagnosis.</p>

Surgery

Surgery Year 4 Selective Rotations continued...

Course Number (Campus)	Name/General Description
MSUR-8203 (Amarillo, Lubbock) MSUR-8253 AW	<p>Surgical Intensive Care</p> <p>This elective exposes the fourth year medical student to the most critically ill and injured surgery patients. The student will be an integral part of a team of residents from surgery, anesthesia and other departments, led by an attending specialized in intensive care medicine. Medical student will be assigned patients appropriate for their level of training and under direct supervision of the attending, will learn to thoroughly evaluate their overall condition, develop a management plan, and get experience in executing the plan including performing several bedside procedures. The student is expected to round twice a day with the attending and the team, attend daily multidisciplinary conference and take in house call once a week including one weekend day. The student is expected to participate in educational activities including ICU lectures, M&M and Grand Rounds... within the Department of Surgery.</p>
MSUR-8204 (Amarillo, Lubbock) MSUR-8254 AW	<p>Surgical Wound Care</p> <p>This selective/elective is designed to provide basic and advanced clinical experience in the management of burn and wound patients to include critical care, burn and wound evaluations, and management. It will include the diagnosis and management of complex acute and chronic wounds as well as nutrition support for critically ill or injured patients. The student will learn basic and advanced techniques in wound healing. They will have the opportunity to become experienced with writing total parenteral nutrition orders as well as decisions using enteral nutrition for nutritional support. The course experience is structured to be of value to students interested in both primary care as well as surgical specialties.</p>

**Sub-Internship
Family Medicine**

Course Number (Campus)	Name/General Description
MFAM-8301 (Amarillo, Lubbock, Permian Basin) MFAM-8351 AW	<p>Family Medicine Sub-Internship</p> <p>Patients of all ages, of both sexes, and with diverse medical problems will be managed in this sub-internship. Emphasis will be given to the total management of the patient, beginning with the ambulatory presentation, continuing through hospitalization and following dismissal from the hospital-coordinated, comprehensive, continuing medical care. The student will be responsible for complete evaluation of the patient, including initial history and physical examination, cost effective utilization of laboratory, x-ray and other procedures and the formulation and pursuit of the management plan, including cogent utilization of consultation/referral services. Emphasis will also be given to participation in community resources, which provide ongoing care of the patient, including Hospice and community health centers. Experience is afforded in the Family Practice Center, the inpatient service of family medicine, certain area nursing homes, and on occasion, in the home of the patient. The student will function with Family Practice residents under the direction of the Family Medicine faculty member assigned to the inpatient service and other Family Medicine faculty members.</p>

Internal Medicine

Course Number (Campus)	Name/General Description
MINT-8301 (Amarillo, Lubbock, Permian Basin) MINT-8351 AW	Internal Medicine Sub-Internship This ward-based, primary care sub-internship provides the student an individualized, case-oriented experience as a sub-intern on a general medicine ward service, designed to be the natural extension of the third-year clerkship. Each student will work closely with a senior resident, have primary patient responsibility, take night call with his/her team, have patient care responsibilities like an intern with close supervision by the senior resident, be assigned readings and give mini-lectures on selected subjects, and attend the regularly scheduled teaching conferences of the Department of Internal Medicine. This sub-internship is strongly recommended for students planning to pursue a career in Internal Medicine.

Obstetrics and Gynecology

Course Number (Campus)	Name/General Description
MOBG-8302 (Lubbock)	Maternal Fetal Medicine Sub-Internship This four week Sub-Internship will provide the student the opportunity to function as a first year resident on the MFM service. The student will gain ample exposure on the rotation in order to develop the skills to recognize the clinical and laboratory diagnosis of medical, surgical, and obstetric complications of the high-risk pregnancy. The student will review the literature on and develop the skills to manage the fetal/neonatal complications of post term pregnancy, including the indications for induction of labor, and review the evaluation and management of the following conditions which complicate pregnancy: preterm labor, hypertension, and diabetes. During ultrasound sessions the student will be expected to discuss the essential components of a genetic counseling session with the following indications: advanced maternal age and abnormal maternal serum screening. While managing patients in labor and delivery the student will learn to interpret fetal heart rate tracings in laboring and non-laboring patients, gain the skills necessary to succinctly communicate patient sign out and hand offs on the high risk patients that she/he is following, and effectively communicate with nursing ancillary staff in order to coordinate patient care. The student will also have the opportunity to perform/assist in vaginal and abdominal deliveries, including laceration recognition and repair and forcep assisted vaginal delivery. The student will also be given the opportunity to improve their basic knot tying skills with a self-directed suture curriculum. The student will prepare for and participate in Friday afternoon didactics.

Obstetrics and Gynecology

Obstetrics & Gynecology Year 4 Rotations Continued...

Course Number (Campus)	Name/General Description
MOBG-8303 (Lubbock)	<p>Gynecology Sub-Internship</p> <p>This four week Sub Internship will provide the student the opportunity to function as a first year resident on the Gynecologic service. The student will evaluate, present, and manage patients that present to clinic and the EC with gynecologic complaints and participate in and care for patients that undergo gynecologic surgery. On days assigned to the operating room the student will be expected to: prepare for and perform as a surgical assistant for assigned gynecologic cases, communicate with operating room nursing and ancillary staff, and become proficient in preoperative ‘time out’, and illustrate proper aseptic technique, and patient positioning in the operating room. Prior to surgical cases the student will review the surgical steps for and complications of commonly</p>
MOBG-8303 (Lubbock)	<p>performed gynecologic surgeries as well as recent literature in regard to surgical outcomes. The student will gain experience in eye-hand coordinated movements relevant to basic laparoscopy in the simulation lab and with knot tying using a self-directed suture curriculum. The student will demonstrate effective communication skills regarding patient sign out and hand off, recognize and participate in systems improvements, and communicate with nursing and ancillary staff to promote teamwork, and patient care. The student will prepare for and attend Friday afternoon didactics including the participation in preoperative surgical conference.</p>

Pediatrics

Course Number (Campus)	Name/General Description
MPED-8301 (Amarillo, Lubbock, Permian Basin) MPED-8351 AW	<p>Pediatric Sub-Internship</p> <p>The student will work as a member of a team caring for patients admitted to the pediatric inpatient service. During this elective, the student will have an opportunity to learn to formulate problem lists, management, and follow-up plans for hospitalized pediatric patients. The student assumes the role of extern and takes call with the residents.</p>

Surgery

Course Number (Campus)	Name/General Description
MSUR-8301 (Amarillo, Lubbock, Permian Basin) MSUR-8351 AW	<p>General Surgery Sub-Internship</p> <p>The student will serve as an extern on the surgical service and participate in the care of surgical patients in the emergency room, surgical wards, operating room, and clinic. Pre- and post-operative care and the management of patients in the Surgical Intensive Care units will be stressed. Assignments to selected clinical faculty preceptors are also available. Students will take in-house call.</p>

Year 4 Elective Rotations

(Note that rotations/selectives described above can also be taken as electives)

Anesthesiology

Course Number (Campus)	Name/General Description
MANE-8401 (Amarillo, Lubbock, Permian Basin) MANE-8454 AW	<p>Anesthesiology</p> <p>This elective is for students interested in anesthesiology and the insights this discipline gives into the application of physiological and pharmacological principles to the care of patients in acute life-threatening situations. Daily lectures, laboratory demonstration, and the pre-operative and post-operative care of patients undergoing anesthesia will enable the student to acquire the basic skills necessary to care for the unconscious and critically ill patient during anesthesia and other similar situations. These skills include airway management, ventilatory support, cardiovascular support, fluid replacement, and intravenous techniques. The student will also have an opportunity to learn the fundamentals of respiratory therapy and its application to patient care.</p>
MANE-8402 (Lubbock) MANE-8452 AW	<p>Anesthesiology and Pain Center</p> <p>The student will evaluate patients using common pain assessment tools and a focused physical examination under the supervision of the Pain Attendings and Pain Management Fellows in the clinic. They will develop algorithms for treatment including pharmacologic, non-interventional and interventional therapies. The remaining time will be spent observing pain procedures in the operating room and the procedure clinic.</p>
MANE-8403 (Lubbock) MANE-8453 AW	<p>Anesthesiology Research</p> <p>Interested students must commit to a definable goal with an end product (presentation, literature review, etc.) completed at the end of the rotation. The project should relate to ongoing basic, translational or clinical studies in progress. The applicant must submit resume and indicate interest at least 3 months before wanting to start the rotation. The student must be making satisfactory progress through medical school.</p>

Cell Biology

Course Number (Campus)	Name/General Description
MCBA-8401 (Lubbock) MCBA-8451 AW	<p>Advanced Gross Anatomy I</p> <p>This elective is a two-week or four-week, in-depth, self-directed review of a selected area of gross anatomy including: head and neck, thorax and abdomen, pelvis and perineum, extremities and back, or anatomical imaging depending on the needs of the student.</p>

Dermatology

Course Number (Campus)	Name/General Description
MDER-8401 (Amarillo, Lubbock, Permian Basin) MDER-8451 AW	Dermatology Clinics This elective is designed to expose the student to a wide variety of dermatologic conditions with the expectation that at the conclusion of the experience common disorders will be recognizable. The student will participate in clinics (few inpatient consults) observing a variety of dermatologic disorders and dermatologic procedures in both the adult and pediatric patient population. Also offered is exposure to dermatopathology and dermatologic surgery, thus allowing clinicopathologic correlation.
MDER-8402 (Lubbock) MDER-8452 AW	Dermatopathology This elective is designed to give 4th year medical students exposure to and experience in dermatopathology.

Emergency Medicine

Course Number (Campus)	Name/General Description
MEME-8252 AW	Emergency Medicine Critical Care The student will encounter a wide variety of patients with emergent urgent and routine medical, surgical, gynecological and psychiatric complaints. Requires approval by Year 4 Director (Surgery).
MEME-8451 AW	EMS and Pre-Hospital Care This elective is designed to provide instruction and experience in pre-hospital emergency medical care and EMS systems. The curriculum includes riding with the EMS units, working with EMS administration, observing and participating in EMS communications, teaching and participating in EMS training and continuing education sessions, and working closely with medical direction. The objectives are to familiarize the student with physician medical direction of EMS systems and pre-hospital care; to provide exposure to disaster planning and management; to involve the student in EMS training and continuing education as both instructor and participant; to become familiar with EMS radio communications including telemetry, the 911 system, call screening, and aspects of dispatch; to provide experience in pre-hospital emergency care by riding on ambulances and participating in-patient care; to observe EMS administration including operations and budgetary considerations; to be exposed to ongoing quality control mechanisms in the pre-hospital setting; and to provide the student with didactic sessions on a number of aspects of EMS systems and pre-hospital care. Requires approval by Year 4 Director (Surgery).
MEME-8402	Advanced Emergency Medicine Rotation Intended to give the fourth year medical student who has chosen EM as a career the full insight to the specialty and offer personal mentorship to the EM residency application process. Requires approval by Year 4 Director (Surgery).

Family Medicine

Course Number (Campus)	Name/General Description
MFAM-8401 (Amarillo, Lubbock, Permian Basin) MFAM-8451 AW	Family Medicine Preceptorship Students are assigned to a variety of practices within the urban or rural area for a supervised exposure to day-to-day practice problems. Emphasis is on the application of clinical skills within the demands and limits of actual practice. Program is sponsored by the Texas Academy of Family Practitioners. Applications must be completed several months in advance.
MFAM-8402 (Lubbock) MFAM-8452 AW	Palliative Care This elective allows students to gain additional skills and experience with end-of-life care in a variety of hospice and palliative care settings. Students have the opportunity to work with multidisciplinary palliative care teams that provide holistic medical management of persons near death, with a special emphasis on symptoms and decision management at the end of life.

Interdisciplinary

Course Number (Campus)	Name/General Description
MIDS-8401 (Amarillo, Lubbock, Permian Basin)	Biomedical Information Management This elective is designed to provide the student with basic competencies in biomedical information management. The student is primarily taught the basics of searching the biomedical literature via PubMed. Searching EBM Reviews, MICROMEDEX, PDQ, TOXNET, and other biomedical literature databases are addressed as needed. The student is assigned take-home practice exercises to strengthen their literature searching skills. At the end of the rotation, the student is given a brief practical examination of his/her abilities to search these tools.
MIDS-8402 (Amarillo, Lubbock, Permian Basin)	International Health This elective is site specific with site specific learning objectives. This elective allows students to experience the challenges of health care delivery with a required physician supervisor/ evaluator in an underserved international setting for 4 weeks.
MSCI-8402 (Amarillo, Lubbock, Permian Basin)	Capstone This is a 2 week elective designed to be taken by MS\$ students after they have completed the majority of their MS4 curriculum and have matched to a residency. This course will include both general and discipline-specific activities designed to assist students in preparing for their Intern year. The course will include clinical skill development sessions, clinical reasoning, and hands-on experiences in first hand decision making in emergency situations. Additional learning sessions will focus on financial management, maintenance of life-work balance, personal organization and other skills necessary for a successful beginning to internship and for a successful career in medicine.

Interdisciplinary

Year 4 Interdisciplinary continued....

Course Number (Campus)	Name/General Description
MIDS-8403 (Lubbock)	<p>Clinical Research</p> <p>At the beginning of the elective, each student will be assigned to a nurse coordinator and will be increasingly involved in working with that coordinator on the studies they are running. An opportunity will be given for the students to choose between various ongoing studies, but this must be done early since they must have passed the CITI training program and have IRB approval to participate in individual studies. Each student should be involved both with studies involving human subjects and those involving chart reviews. It would be anticipated that the students would receive authorship on any publication resulting from studies on which they are involved, provided that their participation is meaningful. Early in the elective, there will be an emphasis on didactic material beginning with discussions about the regulations and ethical considerations related to research in humans, the background for these and the role played by the IRB and an Office of Research Integrity. This will be followed by sessions on how to develop the proposal for a research project from conception of the idea through formulation of a hypothesis and specific aims, compiling the background, constructing the appropriate methods and analysis of results and, finally, a discussion of the potential significance. It will be expected that each student will develop a proposal/protocol during the elective with an ongoing active critique process.</p>
MIDS 8404 (Lubbock)	<p>Global Health 101</p> <p>There is a growing population of students who are interested in cultivating their understanding about the global health field to facilitate career choice decisions and future humanitarian involvement. The primary goal of this course is to offer exposure to topics in global health, but to also tailor the knowledge to include theory and real-world practice. Students will complete learning modules ranging from cultural competency, relevant health issues, to the process of building a clinic on their own. As part of this real-world practice, health simulations concerning two common global health issues – malaria and cholera, will be incorporated. Accordingly, another major goal is to highlight interprofessional teamwork in diagnosis, prevention, and treatment in a resource-deprived setting. It is recognized that interprofessional interactions vary greatly depending on the nature of the clinic, the location of the clinic, the situation, and resources available. In recognition of the different roles required, there will also be clinical activities that cultivate clinical skills not covered elsewhere in the curriculum.</p>

Interdisciplinary	
<i>Year 4 Interdisciplinary continued...</i>	
Course Number (Campus)	Name/General Description
MIDS 8405 (Lubbock)	<p>Inter-Professional Teamwork Honors Elective</p> <p>This course focuses on the students' professional development in assessing the healthcare as a system and practicing high performing interprofessional team skills that are necessary to achieve the six aims outlined by the Institute of Medicine (IOM). While working in interprofessional teams, learners apply their professional knowledge and team skills to resolve and reduce errors of a fabricated sentential event, case study. Experiential activities provide hands-on opportunities for students to develop a broad knowledge of the healthcare system and skills.</p>
MIDS 8406 (Lubbock)	<p>Professional Tools for the Advancement of Patient Safety: An Interprofessional Approach</p> <p>This on-line course will introduce the healthcare student to the concepts in promoting and providing patient safety. Archived videos and live content expert presentations will build a framework of knowledge that the student can then apply to vignettes involving a sentinel event. Completion of this course will prepare the student with the fundamental knowledge required for the interprofessional root cause analysis course (CLARION). The goal of this course is to provide all students of the Texas Tech University Health Sciences Center Schools with the opportunity to practice the core competencies recommended by the Institute of Medicine (IOM). In Health Professions Education: A Bridge to Quality, 2003, the IOM recommended that five core competencies be integrated into health professions education: Patient-centered care, interdisciplinary teams, evidence-based practice, quality improvement and informatics. In this course student will work in interprofessional teams as they study the following concepts: Root cause, analysis, budget analysis, professional conduct and policies, team communication, and legislative initiatives.</p>
MIDS 8409 (Lubbock)	<p>Academic Medicine 1</p> <p>The elective's goal is to provide an introduction into academic medicine to those students interested in teaching and/or research primarily in the area of simulation. Students will be exposed to the potential and operational use of simulation or other media for education, clinical training and research. Over the course of the elective, students will be required to develop an education plan, compose a simulation scenario that meets the educational goals created, execute the educational activity including any materials necessary including assessment tools as well as facilitate debriefing. For those students primarily interested in educational research, the course director and coordinator will assist in providing guidance and support in the students' area of interest as well as guide the student to present their findings in an appropriate venue whether it is a conference presentation and/or peer reviewed journal.</p>

Interdisciplinary

Year 4 Interdisciplinary continued....

Course Number (Campus)	Name/General Description
MIDS 8410 (Lubbock)	<p>Academic Medicine 2 (Medical Writing) The elective's goal is to provide instruction/training for students in scientific/medical writing. Students will be expected to formulate a manuscript proposal, usually based on a care report format and to complete research/literature reviews in a chosen topic area. Students will work with relevant faculty in developing their plan and will receive instruction on manuscript preparation, formatting, referencing, copyediting, etc. Students will also receive instruction on manuscript submission processes, manuscript review and other aspects of the publication process.</p>
MIDS 8411 (Lubbock)	<p>Health Law The Health Law elective rotation is designed to provide the MD/JD candidate an overview into the interface between law and medicine. Legal implications in the field of medicine occur almost daily, and having a background in law will vastly enhance a medical student's, and practitioner's grasp of the expansive responsibilities in one's medical career.</p>
MIDS 8412 (Lubbock)	<p>MD/JD Prep for BAR The one month Independent Study MD/JD Elective would allow the TTUHSC student enrolled in the MD/JD Program an opportunity to prepare and take the Texas State Bar Exam.</p>
MIDS 8413 (Amarillo, Lubbock)	<p>Point-of-Care Applied Ultrasound Ultrasound (US) has become an indispensable diagnostic imaging modality because of its real-time capability, noninvasiveness, portability, and relatively low cost. This resulted from the fact that imaging with US does not carry the risk associated with the administration of intravenous contrast material or the potential hazards of ionizing radiation. Therefore, many medical and surgical subspecialties have embraced the use of US, as an adjunct to or extension of the physical examination. Some have referred to it as the "sonoscope." Others have described US as "the visual stethoscope of the 21st century." The use of US beyond its traditional role within the department of radiology has been termed "point of care" US.</p>
MIDS 8414 (Lubbock)	<p>Spanish Immersion and Border Health This course would occur in Presidio, Texas at Presidio County Medical Clinic over a one month period. The student would see Spanish-speaking patients at least a half day each of the 5-days per week. The other time would be dedicated to Spanish language instruction and work on a Presidio-Ojinaga Binational Health Council project. At least one day of the month long course would involve a tour of Ojinaga, Mexico health care facilities if TTUHSC travel restrictions allow. The hours would be 8 AM to 5 PM Monday through Friday. No hospital call would be included in the course.</p>

Interdisciplinary	
<i>Year 4 Interdisciplinary continued....</i>	
Course Number (Campus)	Name/General Description
MIDS 8415 (Lubbock)	<p>Health Care Policy</p> <p>This course will provide the students an introduction to health care policy. They will learn to follow bills through the legislative process to statutes and then follow the statute to rulemaking at the agency level. The student will learn advocacy from different perspectives and be able to discuss the governance of public health agencies. They will be introduced to the process of writing a white paper for government use.</p>
MIDS 8416 (Lubbock)	<p>MS 4 Capstone</p> <p>This 2 week elective course is designed to prepare students for beginning residency by focusing on validation of a subset of the Core Entrustable Professional Activities for Entering Residency (CEPAER). The course will utilize simulated scenarios to provide instructions in common clinical skills and procedures, advanced clinical activities including patient hand-offs and order writing, and non-clinical aspects of being a resident, including financial and administrative responsibilities. The clinical components of the course will be tailored for the future residency of each student participant where possible.</p>

Internal Medicine

Course Number (Campus)	Name/General Description
MINT-8401 (Amarillo) MINT-8451 AW	<p>Internal Medicine</p> <p>This elective is designed for both the student interested in internal medicine and the student interested in other specialties who would like to strengthen his/her background in medicine. The primary emphasis of this elective is on diagnostics, preventive medicine, and successful outpatient management of chronic, progressive diseases such as diabetes mellitus and hypertension. Selected areas such as geriatrics, home care, office ENT, ophthalmology, gynecology, and orthopedics may be added as suits the needs of the student.</p>
MINT-8402 (Amarillo, Lubbock, Permian Basin) MINT-8452 AW	<p>Cardiology</p> <p>This ward-based consult service elective consists of daily review of electrocardiograms and echocardiograms, cardiology consultation rounds, Cardiac Care Unit teaching rounds, weekly cardiology teaching conferences, and cardiac catheterization conferences. The student will prepare a review of an assigned topic for the weekly cardiology conferences. Bedside cardiovascular examination and management will be stressed.</p>
MINT-8403 (Amarillo, Lubbock, Permian Basin) MINT-8453 AW	<p>Endocrinology</p> <p>This elective includes inpatient and outpatient care, weekly conferences in clinical and basic endocrinology, and research activity if desired. The student will have an opportunity to work-up and manage patients with a wide variety of both chronic and acute endocrinological and metabolic disorders. Patients with hypertension, especially those known or suspected to be caused by an endocrine disease, will also be seen.</p>

Internal Medicine

Internal Medicine Year 4 Elective Rotations continued...

Course Number (Campus)	Name/General Description
MINT-8404 (Amarillo, Lubbock, Permian Basin) MINT-8454 AW	<p>Gastroenterology This elective provides opportunities for learning office practice of gastroenterology including evaluation of patients with peptic ulcer disease, malabsorption, liver disease, etc. Extensive outside reading will be required. The student may be involved in direct patient care in a hospital setting.</p>
MINT-8405 (Amarillo, Lubbock, Permian Basin) MINT-8455 AW	<p>Infectious Diseases This ward-based elective offers the student an opportunity to evaluate and care for patients with infectious diseases and to gain an understanding of the clinical microbiology procedures important in the care of these patients. HIV and AIDS will be discussed. Each student will be encouraged to prepare and present one seminar or write a paper on a subject of his/her choice. Time for independent study will be allowed.</p>
MINT-8406 (Amarillo, Lubbock, Permian Basin) MINT-8456 AW	<p>Oncology/Hematology This elective provides exposure to clinical and laboratory diagnosis as well as management of neoplastic and hematologic disorders. Representative case reviews are used to supplement current clinical material where appropriate. Peripheral blood, bone marrow, and tumor morphology are emphasized as well as clinical staging and chemotherapy. There will be exposure as to how new investigational drugs are tried and protocol treatments are given to cancer patients. Students can also obtain concept in bone marrow transplantation including both clinical and laboratory processing of bone marrow cells. Options are available for major focus in ambulatory or ward setting, or both.</p>
MINT-8407 (Amarillo, Lubbock, Permian Basin) MINT-8457 AW	<p>Nephrology This elective offers clinical experience in the diagnosis and management of patients with acute and chronic renal failure, hypertension, fluid and electrolyte imbalances, acid base disturbance, parenchymal renal diseases, etc.</p>
MINT-8408 (Lubbock, Permian Basin) MINT-8458 AW	<p>Pulmonary Medicine This elective is offered to the student for clinical experience in pulmonary disorders, emphasizing acute and chronic respiratory failure, intensive respiratory care, and interpretation of pulmonary function tests and chest x-rays.</p>
MINT-8409 (Permian Basin) MINT-8459 AW	<p>Rheumatology This elective offers an in-depth look at the clinical array of rheumatologic disorders. Students will be exposed to inpatients and outpatients with emphasis on diagnosis and long-term management of common rheumatic diseases. Depending on the student's level of proficiency and interest, the student may be allowed to participate in procedures such as joint aspiration and injection, and will interpret synovial fluid studies. Students will learn the correct indications and monitoring of common rheumatic drugs and the fundamentals of rheumatic rehabilitation.</p>

Internal Medicine		<i>Internal Medicine Year 4 Elective Rotations continued...</i>
Course Number (Campus)	Name/General Description	
MINT-8410 (Lubbock) MINT-8460 AW	<p>Allergy/Immunology This ambulatory consult service elective offers the student an opportunity to evaluate and manage patients with allergic disorders, such as allergic rhinitis, bronchial asthma, urticaria/angioedema, food and drug allergy, stinging insects allergy, immunodeficiency disorders, etc. Different topics in allergy and clinical immunology will be discussed two to three times per week. Students may also take a combined Ambulatory Allergy, Rheumatology, and Clinical Immunology rotation.</p>	
MINT-8411 (Amarillo) MINT-8461 AW	<p>Radiation Oncology The field of radiation oncology is an intellectually challenging field, providing curative therapy and close longitudinal doctor-patient relationship. This elective may be taken by itself or combined with the hematology-oncology elective.</p>	
MINT-8413 (Amarillo) MINT-8463 AW	<p>Hospice The student will observe hospice patients in both inpatient and outpatient settings, making daily inpatient rounds, accompanying hospice team members on some home visits, and meeting with the hospice team to discuss management problems. Reading will focus on common management problems, with an emphasis on competent pain management.</p>	
MINT-8416 (Lubbock) MINT-8466 AW	<p>Geriatrics This rotation will allow students to learn about the principles of aging and become proficient in the management of certain Geriatrics syndromes.</p>	
MINT-8417 (Amarillo) MINT-8467 AW	<p>Women's Health Student Women's Health is a division of the Department of OB/GYN with full-time faculty of board-certified internists Marjorie Jenkins, M.D. and Joanna Wilson, D.O. Departments with faculty participating in student instruction during the rotation include Internal Medicine, General Surgery, and Radiology. The rotation objectives incorporate Texas Tech's vision, goals, and objectives as stated in the Institutional Educational Vision, Goals, and Objectives publication.</p>	
MINT-8418 (Lubbock)	<p>Heart Station This rotation is a non-patient contact rotation. It will consist of reading and interpreting ECGs.</p>	
MINT-8419 (Lubbock)	<p>Cardiovascular Research An elective will be offered for fourth year TTUHSC medical students to spend four weeks in the new Center for Cardiovascular Research. This elective will allow students the opportunity to work with one or more members of the Division of Cardiology, the Division of Cardiothoracic Surgery, or a basic science faculty member working in science related to cardiovascular disease. The elective will have as its capstone a paper or an abstract submission, leading to presentation at a major professional meeting and/or publication in a peer-reviewed journal.</p>	

Neurology

Course Number (Campus)	Name/General Description
MNEU-8001 (Lubbock, Permian Basin) MNEU-8051 AW	<p>Neurology This rotation exposes the student to basic principles of diagnosis and management of common neurologic conditions. Students learn skills in conducting neurologic exams, identifying signs and symptoms of neurologic disorders, and integrating signs and symptoms into syndromes. Students learn about basic neurologic disorders and neurologic complications of systemic conditions.</p>

Obstetrics and Gynecology

Course Number (Campus)	Name/General Description
MOBG-8452 AW	<p>Gynecologic Oncology/Gyn Surgery This elective is for students interested in becoming more familiar with gynecologic operations and the multidisciplinary care of women with gynecologic malignancies. Specifically, experience will be obtained in the complex peri-operative and operative management of women with pelvic neoplasms. In addition, radiation treatment and planning the administration of chemotherapy will be practiced. Emphasis will also be placed on histopathologic diagnosis and correlation. The student will participate in the pre-operative and post-operative management of patients (both clinic and inpatient settings), in evaluating and treating patients (both in an emergency room and clinic setting), and gynecologic surgery. Post-operative care will provide an opportunity to learn wound care, respiratory support, rehabilitation, and resolution of post-operative ileus. The outpatient clinic training will include clinical medicine, as well as the "business of medicine." Periodic pathology conferences will be attended. Colposcopy procedures for cervical lesions will be covered. The student will be expected to make rounds with the GYN oncology team daily. Lectures and resident education conferences will be attended as well as discussion with the attending physician and resident physicians of the GYN oncology team on assigned reading topics.</p>
MOBG-8453 AW	<p>Endocrinology/Infertility Students will be given opportunities to participate in the clinical care of patients with reproductive endocrine and infertility disorders and will improve the clinical knowledge base necessary for recognizing the problems of these patients as individuals. Students will be provided both clinical exposure to patients and the laboratory aspects of reproductive endocrine and infertility care and will be exposed to the emotional and psychological problems of the reproductive endocrine/infertility patient. Students will participate in all scheduled surgeries, see private patients with attending physician, consult in resident reproductive endocrinology clinic, learn to do inseminations, ovulation monitoring and induction protocols, participate in hysterosalpingogram, and observe management of in vitro fertilization. Lectures and resident education conferences will be attended as well as discussions with attending physicians and resident physicians of the REI team on assigned reading topics.</p>

Obstetrics and Gynecology	
Course Number (Campus)	Name/General Description
<p>MOBG-8404 (Amarillo, Permian Basin) MOBG-8454 AW</p>	<p style="text-align: right;"><i>Obstetrics and Gynecology Year 4 Elective Rotations continued...</i></p> <p>Obstetrics and Gynecology This elective includes experience in office and hospital obstetrics and gynecology, family planning, gynecological surgery, and formal and informal conferences. The schedule is flexible to accommodate special interest of the student.</p>
<p>MOBG-8405 (Amarillo, Permian Basin) MOBG-8455 AW</p>	<p>Perinatal Medicine The student will gain experience in high-risk obstetrics clinic, antepartum unit, labor and delivery, and formal and informal conferences. The student will become knowledgeable in the antepartum and intrapartum diagnosis and treatment of medical and obstetrical complications of pregnancy, i.e., diabetes mellitus, hypertension, and pre-eclampsia. The student will also obtain experience with ultrasound. The schedule includes ward and clinic experience.</p>
<p>MOBG-8458 AW</p>	<p>Clinical Gynecology This elective offers further growth, improvement in skills, and broadening of knowledge in benign gynecologic problems and the performance of gynecologic procedures. The student will participate in the pre-operative and post-operative management of patients (both in clinic and in the inpatient setting), in evaluating and treating patients (both in an emergency room and clinic settings), and in gynecologic surgery (Simulation Center and OR). Post-operative care will provide an opportunity to learn wound care, respiratory support, rehabilitation, and resolution of post-operative ileus. In surgery, the student will learn suturing, knot tying, wound closure techniques, hysteroscopy, and dilation and curettage. Assessment and treatment of vulvar/vaginal infections, STDs, and chronic pelvic pain will be stressed. Endometrial biopsy will be taught. Colposcopy procedures for cervical lesions will be covered. This elective is also applicable to students who plan a career in primary care specialties such as Internal Medicine or Family Medicine. Emphasis will be directed towards developing competency in pelvic examination, obtaining and interpreting Pap smears, diagnosing and treating vaginitis, prescribing hormone therapy, and managing patients on oral contraception.</p>

Obstetrics and Gynecology

Obstetrics and Gynecology Year 4 Elective Rotations continued...

Course Number (Campus)	Name/General Description
MOBG-8409 (Lubbock)	<p>Gynecology Elective</p> <p>This four week Gynecology elective will provide the student the opportunity to manage patients that present to clinic and the EC with gynecologic complaints and participate in and care for patients that undergo gynecologic surgery. On days assigned to the operating room the student will be expected to: prepare for and perform as a surgical assistant for assigned gynecologic cases, communicate with operating room nursing and ancillary staff, and become proficient in preoperative 'time out', and illustrate proper aseptic technique, and patient positioning in the operating room. Prior to surgical cases the student will review the surgical steps for and complications of commonly performed gynecologic surgeries. The student will have the opportunity to gain experience in eye-hand coordinated movements relevant to basic laparoscopy in the simulation lab and with knot tying using a self-directed suture curriculum. The student will demonstrate effective communication skills regarding patient sign out and hand off, recognize and participate in systems improvements, and communicate with nursing and ancillary staff to promote teamwork, and patient care. The student will prepare for and attend Friday afternoon didactics including preoperative surgical conference.</p>
MOBG-8410 (Lubbock)	<p>Obstetrics Elective</p> <p>This four week Obstetric elective will provide the student the opportunity to manage patients that present to labor and delivery, and follow them until they are discharged from the hospital. The student will gain hands on skills that will allow them to interpret fetal heart rate tracings in laboring and non-laboring patients, recognize normal labor progress, and apply evidence based strategies to address abnormal labor. The student is expected to perform/assist in vaginal and abdominal deliveries, including laceration recognition and repair depending on the student's progress in simulated and self-directed activities. While scrubbed during cesarean deliveries, the student will be expected to identify and explain the steps and surgical instruments necessary to complete the procedure. The student will also have the opportunity to assist in operative vaginal delivery based on their underlying knowledge and progress while on the rotation. The student will also be given the opportunity to improve their basic knot tying skills with a self-directed suture curriculum. The student will demonstrate effective communication skills regarding patient sign out and hand off, recognize and participate in systems improvements, and communicate with nursing and ancillary staff to promote teamwork, and patient care. The student will prepare for and participate in Friday afternoon didactic sessions.</p>

Ophthalmology and Visual Sciences

Course Number (Campus)	Name/General Description
MOPH-8401 (Amarillo, Lubbock, Permian Basin) MOPH-8451 AW	<p>Clinical Ophthalmology</p> <p>This elective will consist of an extensive exposure to clinical ophthalmology in a private practice setting. The student will be exposed to acute and chronic eye disease in addition to ophthalmic surgery. The main objective of this elective will be to teach the student how to conduct a thorough examination of the eyes and to orient the student to the common eye conditions that every physician should be able to diagnose and treat.</p>
MOPH-8402 (Lubbock) MOPH-8452 AW	<p>Ophthalmology Research</p> <p>This elective introduces the student to the wide range of research possibilities in the area of visual sciences. A number of projects are available. Ongoing projects include Visual psychophysics and electrophysiology, Machine vision, Artificial intelligence applications, Digital imaging, Cell growth acceleration, including work with defensins and Substance P, Cell growth inhibition, including work with cell growth factor receptor blockers, Glaucoma, Glaucoma drug design, Cornea surgery, Vitreoretinal surgery, Instrument development and design, and Retrospective clinical studies.</p>

Orthopedics Surgery

Course Number (Campus)	Name/General Description
MORS-8401 (Amarillo, Lubbock, Permian Basin) MORS-8451 AW	<p>Orthopaedic Surgery</p> <p>Students will be assigned to an orthopaedic Faculty member and participate as a member of the orthopaedic team in inpatient and outpatient care, emergency room, and operating room activities. Students should perform history and physical examinations upon all patients admitted by the attending surgeon and present these work-ups for evaluation. Each student will prepare a presentation for the teaching conference on a subject assigned by a Faculty member. The student will attend all orthopaedic conferences. This elective is for those students interested in surgical specialties or an in-depth experience in orthopaedic surgery.</p>
MORS-8452 AW	<p>Physical Medicine/Rehabilitation</p> <p>This rotation will introduce the basic concepts of physical medicine and rehabilitation. The student will learn techniques of obtaining a complete medical history for patients experiencing musculoskeletal pain. The rotation will also stress the development of an efficient and complete neurological and musculoskeletal examination that will assist the student in developing a differential diagnosis for future patients they may see. The student will be exposed to the total spectrum of the specialty.</p>
MORS-8454 AW	<p>Physical Medicine/Rehabilitation 2</p> <p>This rotation will continue the basic concepts of physical medicine and rehabilitation. The student will learn techniques of obtaining a complete medical history for patients experiencing musculoskeletal pain. The rotation will also stress the development of an efficient and complete neurological and musculoskeletal examination that will assist the student in developing a differential diagnosis for future patients they may see. The student will be exposed to the total spectrum of the specialty.</p>

Pathology*Year 4 Elective Rotations continued...*

Course Number (Campus)	Name/General Description
MPAT-8401 (Lubbock) MPAT-8451 AW	<p>Diagnostic/Clinical Parasitology</p> <p>Students will be familiarized with the microscopic and immunologic techniques for diagnosing parasitic and related diseases. The student will become familiar with the concordant pathology and clinical manifestations of these disease processes through informal presentations and study of case histories. No formal patient consults are required.</p>
MPAT-8402 (Lubbock) MPAT-8452 AW	<p>Clinical Pathology</p> <p>This elective will introduce the student to the effective clinical utilization and interpretation of laboratory tests. The student rotations in sub-disciplines of the clinical laboratories (clinical chemistry, hematology, blood banking, immunology, microbiology, virology, and histocompatibility testing) will be tailored to the student's interests. A clinical pathologist will provide formal and informal instruction in various aspects of the sub-discipline. The student will be encouraged to participate in a variety of problem-solving situations, and he/she can perform laboratory procedures under supervision if they wish. Concepts of quality control, testing limitations, biochemical profiling and normal values will be emphasized. Interesting clinical cases will be reviewed at a daily conference attended by students and pathologists. One formal presentation on a laboratory topic of the student's interest will be required in the four-week experience. Opportunities for independent study and involvement in on-going research will be available. Four-week experiences are preferred, but a two-week session can be arranged after discussion with the department.</p>
MPAT-8403 (Lubbock, Permian Basin) MPAT-8453 AW	<p>Surgical Pathology</p> <p>This elective will introduce the student to the role of tissue examination in modern medicine. The student may be involved in a variety of experiences, including Gross examination of surgical pathology specimens, Processing and staining tissue, Frozen-section examination, Light microscopic diagnosis, Cytopathology, Autopsy pathology, and Electron microscopy. Clinical correlation of gross and microscopic findings is emphasized, and there will be a close affiliation with the surgical services and subspecialties. The proportion of time spent in these areas will be tailored to the student's interests. One formal presentation on a laboratory topic of the student's interest will be required in the four-week experience. Attendance and participation in a variety of surgical pathology and inter-service conferences are encouraged. Call is not generally required, but it may enhance the autopsy and surgical pathology experiences.</p>

Pathology	
<i>Year 4 Elective Rotation Continued....</i>	
Course Number (Campus)	Name/General Description
MPAT-8454 AW	<p>Anatomic and Clinical Pathology</p> <p>The student will rotate through the sections of the clinical laboratory as follows: (a) Hematology - learn how to evaluate electronic differential counts and how to evaluate peripheral smears; (b) Microbiology- learn proper specimen collection/preservation techniques and how to interpret Gram stains; (c) Chemistry/Special Chemistry- learn how to interpret chemistry tests in the clinical context; (d) Serology- learn about interpretation/indications for serologic tests; and (e) Blood Bank- learn about pre-transfusion testing, indications for T/S vs. T/X match, and proper blood product handling and storage. Procedures and skills include: (a) Learn about handling of cytology/histology specimens and how to perform simple gross tissue examinations; (b) Learn basics of histology and routing cytology and (c) Observe FNA procedures and understand the indications for this procedure.</p>
Pediatrics	
Course Number (Campus)	Name/General Description
MPED-8401 (Amarillo, Lubbock) MPED-8451 AW	<p>Adolescent Medicine</p> <p>This elective is designed to help students acquire good interviewing skills, a basic knowledge of adolescent physical and psychosocial development, an understanding of adolescent gynecology, basic skills in evaluation and management of sexually transmitted diseases, knowledge of nutrition and eating disorders in teenagers, management of common skin disorders, ability to identify common orthopaedic problems, knowledge of psychosocial disorders common in adolescents, and insight into the common medical complaints and problems in this age group as well as chronic illnesses seen in adolescents. Students will also gain insight into the legal issues and become familiar with the interface between the adolescent health facility, community agencies and institutions.</p>
MPED-8402 (Amarillo, Permian Basin) MPED-8452 AW	<p>Ambulatory Pediatrics</p> <p>The purpose of this elective is to familiarize the student with preventive pediatrics and parent education, acute intervention in common childhood diseases and follow-up visits, evaluation of patients in an outpatient consulting service, and interactions with Faculty and residents about the many facets of ambulatory pediatrics. Students will participate in ambulatory clinics and various conferences and rounds associated with pediatrics. At the end of the rotation, the student will present a topic in ambulatory pediatrics to residents and Faculty.</p>
MPED-8403 (Amarillo, Lubbock) MPED-8453 AW	<p>Pediatric Endocrinology/Metabolism</p> <p>This elective provides exposure to outpatient management of common pediatric endocrine problems. Included will be growth assessment, Type 1 diabetes, congenital hypothyroidism, acquired hypothyroidism, hyperthyroidism, precocious puberty, delayed puberty, congenital adrenal hyperplasia, diabetes insipidus, and disorders of calcium regulation. Limited exposure to inpatient consultations is anticipated. Indications for common endocrine laboratory tests and their interpretation will be reviewed. Endocrine aspects of common pediatric clinical situations will be discussed.</p>

Pediatrics

Pediatrics Year 4 Elective Rotations continued...

Course Name (Campus)	Name/General Description
MPED-8405 (Lubbock) MPED-8455 AW	<p>Pediatric Infectious Diseases</p> <p>The objective of this elective is to familiarize the student with the clinical and microbiologic approach to common pediatric infectious disease problems. The student will become familiar with the different classes of antimicrobial agents and learn when and how to select appropriate empirical antibiotic therapy. The student will participate in the differential diagnosis of pediatric patients presenting with signs and symptoms of an infectious disorder. The student will learn the appropriate laboratory tests and culture techniques for isolation and identification of bacterial, viral, fungal, and parasitic pathogens. Epidemiology and infection control of specific infectious pathogens will be discussed. This elective is primarily an inpatient consultation rotation involving the teaching hospital and two private hospital services with one weekly outpatient clinic for follow-up and consultation. Opportunities for research projects may be available if desired.</p>
MPED-8406 (Permian Basin) MPED-8456 AW	<p>Clinical Neonatology</p> <p>Students will participate in the delivery of neonatal care in a modern, neonatal intensive care unit setting. Initially, the student will be oriented to the fundamentals of the physical examination, feeding, and preventive health maintenance of the normal newborn. Later, the student will participate in the care of the sick and/or premature infants admitted to the NICU under the close and direct supervision of the full time medical staff, assuming increasing responsibility in the care of the acutely ill neonate. This elective will provide the student with the opportunity to learn and perform procedures used in neonatal intensive care: resuscitation, intubation, umbilical vessel catheterization, chest tube placement, radial artery punctures, exchange transfusions, ventilatory management, etc.</p>
MPED-8407 (Lubbock, Permian Basin) MPED-8457 AW	<p>Inpatient Pediatrics</p> <p>This elective provides an individualized, problem-oriented rotation for the student to help develop a systematic approach to the pediatric patient for evaluation and management while the patient is hospitalized, with plans for follow-up. The student assumes the role of extern, and night call schedule and activities are coordinated with the senior resident on the ward. Pertinent reference material will be provided, and literature searches by the student will be encouraged. The faculty attending and the senior resident will provide supervision.</p>
MPED-8408 (Amarillo, Lubbock) MPED-8458 AW	<p>Pediatric Cardiology</p> <p>Students will be provided many opportunities to learn a variety of cardiac problems in pediatric patients. The student will observe or participate in any activities that the pediatric cardiologist will perform in the diagnosis and management of children with cardiac diseases. The student will become familiar with the interpretation of normal and abnormal cardiac manifestations and physical findings of cardiac defects in children. The student will observe non-invasive and invasive diagnostic procedures and will be encouraged to interpret electrocardiograms, echocardiograms, and cardiac catheterization data. The student will also have an opportunity to observe cardiac surgery and follow the patient post-operatively with the cardiologist. Sufficient physiopathological background will be provided to make the cardiac problems more comprehensible through lectures, case discussions, and review of pathologic specimens.</p>

Pediatrics		<i>Pediatrics Year 4 Elective Rotations continued...</i>
Course Number (Campus)	Name/General Description	
MPED-8409 (Amarillo) MPED-8459 AW	<p>Pediatric Gastroenterology This elective provides an opportunity for the student to participate in the diagnostic evaluation and management of pediatric patients with gastrointestinal and liver disease. The elective is in a private practice setting and will expose the student to a wide variety of diseases through both clinic and hospital consultations. The student will become familiar with the appropriate use of laboratory, radiology, and endoscopy (including review of histology) in the evaluation and management of pediatric patients. There will also be an opportunity for the student to become familiar with the use of diagnosis and management coding as well as general office procedures in the private practice setting.</p>	
MPED-8410 (Amarillo, Lubbock) MPED-8460 AW	<p>Pediatric Hematology/Oncology The purpose of this elective is to provide clinical experience to common problems in hematology and oncology by direct contact with patients. At the end of the rotation, students will be able to learn the essential knowledge in evaluating, diagnosis and managing patients with hematologic and oncologic problems, including those related to anemia, coagulation, lymphomas, leukemias and certain solid tumors, and hematologic and oncologic emergencies. The emphasis will be place on establishing the rapport with patients, logical approach for differential diagnosis, planning the management according to evidence-based medicine for each clinical situation and condition. Students may also participate in diagnosis procedures including lumbar puncture and bone marrow examination.</p>	
MPED-8411 (Amarillo) MPED-8461 AW	<p>Pediatric Nephrology The purpose of this elective is to familiarize the student with common problems in pediatric nephrology seen in a general pediatric clinic. The student will have the opportunity to interact directly with patients and their caregivers, obtain history and physicals, and discuss common presentations of renal problems in children. It will also allow the student to obtain first hand insight in the medical and psychological problems associated with children who have chronic diseases. The clinics are held every Tuesday. The student will be allowed to have first contact with patients in either the clinic or the hospital. The student will formulate evaluation and treatment plans in conjunction with the pediatric nephrologist. The student will be given many opportunities to participate in all aspects of care of the child with renal problems.</p>	
MPED-8412 (Amarillo) MPED-8462 AW	<p>Pharmacology & Therapeutics This elective is designed to help students understand drug therapy in the management of adult as well as pediatric patients. During this rotation, the student will present several cases from among inpatients either in the Departments of Internal Medicine or Pediatrics. This will be followed by a discussion of the different medication used. By the end of this rotation, the student should be familiar with pharmacokinetics, mechanism of action, indications, contraindications, side effects, dosage, and drug interactions of the most commonly used medications.</p>	

Pediatrics

Pediatrics Year 4 Elective Rotations continued...

Course Number (Campus)	Name/General Description
MPED-8463 AW	<p>Pediatric Pulmonology</p> <p>The purpose of this elective is to develop basic methodology in the evaluation of pediatric lung disease by the rational use of appropriate clinical skills, by interpreting blood gases and pulmonary function tests, and by reading chest radiographs in order to be able to develop a reasonable differential diagnosis, disease evaluation, and therapy (including familiarizing with ventilator). This elective will provide the types of pediatric pulmonary problems encountered at the general pediatric inpatient facility, as well as those referred to a subspecialty, outpatient chest and/or cystic fibrosis clinic complemented by occasional consultation on critically ill children.</p>
MPED-8414 (Amarillo, Permian Basin) MPED-8464 AW	<p>Pediatric Research</p> <p>The clinical study guidelines are: Ask a scientific question, to review the literature, formulate a hypothesis, write introduction, materials and methods, result submitted to the IRB and learn to obtain consent.</p>
MPED-8465 AW	<p>Pediatric Neurology</p> <p>This elective provides exposure to outpatient management of common pediatric neurology problems. Included will be delays in developmental milestones, ataxia, change in sensorium, diplopia, headache, head trauma, hearing concerns, gait disturbance, hypotonia, lethargy, seizure, tremor, vertigo, visual disturbances, and weakness. Limited exposure to inpatient consultations is anticipated. Indications for common neurologic laboratory tests and their interpretation will be reviewed. Neurological aspects of common pediatric clinical situations will be discussed. At the end of the rotation, the student should be able to recognize common neurologic disorders and their presentations.</p>
MPED-8466 AW	<p>Developmental and Behavioral Pediatrics Elective</p> <p>This elective provides exposure to outpatient management of common pediatric developmental or behavioral conditions that often need additional diagnostic and/or management support from other specialties or disciplines. Students will learn the basics on how to evaluate and manage common developmental and/or behavioral signs and symptoms in infants, children, and adolescents. By the end of the rotation, students will have the basic knowledge on how to draft consultations with specific clinical questions and how to review and implement consultant recommendations for care.</p>
MPED-8417 (Lubbock) MPED-8467 AW	<p>Genetics</p> <p>This 4-week rotation offers students the opportunity to participate in all aspects of a comprehensive clinical genetics program including clinical consultations and laboratory testing. The student will participate in genetic evaluation/counseling sessions and observe the cytogenetic/molecular testing that ensues from patient interactions. Students are encouraged to select one patient/family of interest and compile a short case presentation or report by the end of their rotation.</p>

Pediatrics

Pediatrics Year 4 Elective Rotations Continued....

Course Number (Campus)	Name/General Description
MPED-8418 (Lubbock)	<p>Child Abuse and Neglect</p> <p>This elective is designed to prepare future clinicians to successfully identify and refer cases of suspected child abuse and neglect. Learning sessions will be provided on the following topics: Physical abuse and neglect, Sexual abuse, Multidisciplinary work, and Expert medical testimony. Students will have the opportunity to work with professional mentors within the community from the District Attorney's Office, the Police Department, and Children's Protective Services. The student will observe evaluations of children who are suspected victims of abuse and/or neglect with a pediatrician and the sexual assault nurse examiners.</p>

Preventive Medicine

Course Number (Campus)	Name/General Description
MPRM-8401 (Amarillo, Lubbock) MPRM-8451 AW	<p>Public Health</p> <p>This rotation is designed to teach fourth-year medical students principles and methods of population health practice and research. Students will spend approximately three half-days per week with clinical and public health practice activities at the City of Amarillo Department of Public Health, City of Amarillo Department of Environment Health, City of Amarillo Department of Emergency Management, and Region I Texas Department of State Health Services. These activities will include participation in tuberculosis treatment clinics, refugee screening clinics, communicable disease control activities, zoonosis control, restaurant inspection, disaster preparedness, planning, and population health policy development. The remainder of the time the student will do required reading in population and occupational medicine, and plan and participate in population health research activities. During this clerkship student will be expected to write a paper of quality acceptable for publication in peer-reviewed literature. Students will meet regularly with the Course Director but should be sufficiently self-motivated to complete a short research project with limited faculty input. Institutional Review Board (IRB) training (which can be one on-line) must be completed prior to beginning the clerkship.</p>

Psychiatry

Course Number (Campus)	Name/General Description
MPSY-8401 (Lubbock, Permian Basin) MPSY-8451 AW	<p>Adult Inpatient Psychiatry</p> <p>This elective is designed to give the student an opportunity to work with hospitalized inpatients suffering from major psychiatric disorders (affective disorders, schizophrenia, and organic mental disorders). Special emphasis is placed on diagnosis and formulation of treatment plan. In addition, the student will be exposed to those treatment modalities not provided as an outpatient. This would include electroconvulsive therapy (ECT). The student also will have an opportunity to be a part of a multidisciplinary approach to the diagnosis and treatment of inpatient population.</p>

Psychiatry

Psychiatry Year 4 Rotations Continued...

Course Number (Campus)	Name/General Description
MPSY-8452 AW	<p>Psychiatric Research This elective is designated to give the medical students an exposure to current research themes in Psychiatry or Neurology or both. The student will be exposed to research design, methodology, subject protection, ethics and other aspects of current medical investigation. The elective will be supervised by a faculty member or members who are actively engaged in an investigation, or who will supervise and evaluate a student’s original project.</p>
MPSY-8453 AW	<p>Community Services/Child Psychiatry This elective offers the opportunity to participate in the evaluation and treatment of children and adolescents with emotional and developmental disorders in a variety of community agencies. At least 75% of the time will be spent as consult service on the ward and approximately 25% time will be in the clinic.</p>
MPSY-8404 (Amarillo) MPSY-8454 AW	<p>Forensic Psychiatry The student will be able to identify the basic concepts of forensic and legal psychiatry. The student will also be involved in the actual evaluation procedure for court-referred cases with forensic implications and will attend actual trials and observe psychiatric expert testimony.</p>
MPSY-8405 (Amarillo) MPSY-8455 AW	<p>Sleep Disorders Medicine This elective must be combined with another topic of interest during the rotation. This elective reviews the basics of sleep physiology and gives clinical exposure to a wide range of sleep pathology. The student will become acquainted with polysomnography procedures in the Sleep Disorders Center. Disorders such as insomnias, sleep apneas, narcolepsy, and parasomnias will be seen. Students will be expected to observe polysomnographies at night.</p>
MPSY-8406 (Amarillo, Permian Basin) MPSY-8456 AW	<p>Geriatric Psychiatry Student will work closely with a Board Certified Geriatric Psychiatrist to learn psychiatric diagnosis and treatment of geriatric patients in both an outpatient and inpatient setting.</p>
MPSY-8407 (Amarillo) MPSY-8457 AW	<p>Theory and Practice of Cognitive Behavioral Therapy Student will work closely with a clinician whose practice is focuses on Cognitive Behavioral Therapy in an outpatient setting.</p>
MPSY-8408 (Amarillo) MPSY-8458 AW	<p>Diagnosis and Treatment of Serious Mental Illness Student will work closely with psychiatry staff at Texas Panhandle Mental Health and Mental Retardation. Experience will be both in the local outpatient clinic and via telemedicine to a variety of surrounding counties.</p>

Psychiatry

Psychiatry Year 4 Elective Rotations continued...

Course Number (Campus)	Name/General Description
MPSY-8409 (Lubbock) MPSY-8459 AW	<p>Substance Use Disorder Treatment</p> <p>Substance use disorder detection and treatment is a vital part of medical practice. Given the prevalence of alcohol and drug addiction and the severity of its potential medical and psychological consequence for patients and their families, it is important that medical students have a solid foundation in this area. A two-week rotation will be available in late August of each year that will be available to 10 interested students on a competitive selection basis. One week of this experience will involve training at the Betty Ford Center in Rancho Mirage, California. The week long program is experiential in nature, allowing participants to spend the majority of their time immersed in the same activities as the patients or family members. In addition, there are supplemental presentations provided to augment understanding of the disease of addiction. Participants will either participate in the Inpatient Program, the Residential Day Treatment Program, or the Family Program. This experience will involve participating in treatment activities as well as multidisciplinary treatment planning meetings. Participants will also meet as a group daily during that week to discuss their experiences in each of these programs. Two faculty members will also participate and will be involved in the same activities as the student participants. Costs of travel, lodging, and food will be provided for this training at the Betty Ford Center. The second week of the rotation will involve further discussion of the experience as well as preparation of a Medical Student Grand Rounds presentation to share with your fellow students your experiences and to discuss what you learn</p>

Psychiatry

Psychiatry Year 4 Elective Rotations continued...

Course Number (Campus)	Name/General Description
MPSY-8409 (Lubbock) MPSY-8459 AW	<p>regarding the importance of substance use disorder detection and treatment. This is a unique training experience that is being made available to TTUHSC medical students through a generous donation. The donor's interest is in preparing future physicians to optimally deal with evaluating and guiding patients to appropriate treatment when substance use is an issue. The Betty Ford Center is one of the premier treatment facilities in the country and its program serves as a template for most of the substance use disorder treatment programs existing today. Interested students will be asked to complete a brief essay regarding their interest and goals for participating in the program and participant selection will be based on the essays and academic performance.</p>

Radiology

Course Number (Campus)	Name/General Description
MRAD-8401 (Amarillo, Lubbock, Permian Basin) MRAD-8451 AW	<p>Radiology</p> <p>The student will observe and participate in all phases of radiological diagnosis to include fluoroscopy, plain film interpretation, special procedures, nuclear imaging, diagnostic ultrasound, and computed tomography where available. A radiological teaching file is provided for study purposes, and the student is expected to spend a portion of the time reviewing this file. Attendance at intra-departmental conferences is expected.</p>

Surgery

Course Number (Campus)	Name/General Description
MSUR-8401 (Amarillo, Lubbock, Permian Basin) MSUR-8451 AW	<p>Otolaryngology/Head/Neck Surgery</p> <p>This is an advanced experience in the management of patients with diseases of the ear, nose, and throat. This includes diseases of the airway, esophagus as well as head and neck cancer. Included are a series of lectures, rounds, and clinical experiences with a review of pathology. The course is of value to both a primary care physician as well as a student interested in a career as a surgeon.</p>
MSUR-8402 (Lubbock) MSUR-8452 AW	<p>Pediatric Surgery</p> <p>The student will be permitted to review and participate in the care of surgical diseases of infants and children, including the operative management of premature infants with congenital defects, pre-/post-operative care in the neonatal unit, Pediatric Intensive Care Unit, and diagnostic radiology in acute pediatric surgical disease. The student will be introduced to the delicate techniques and manipulative skills necessary in the care of these patients.</p>
MSUR-8403 (Amarillo, Permian Basin) MSUR-8453 AW	<p>Plastic Surgery</p> <p>The elective is designed to acquaint the student with the basic principles of plastic and reconstructive surgery including burns, cosmetic surgery, and trauma to extremities. Also included is an introduction to the principles of microsurgery. The student observes as well as participates in the pre-, post-operative and follow-up for such patients.</p>
MSUR-8406 (Lubbock) MSUR-8456 AW	<p>Vascular Surgery</p> <p>This elective exposes the medical student to patients with diseases of the vascular system including peripheral arterial occlusive disease, carotid stenosis, diseases of the venous and lymphatic system. The student will gain advanced knowledge of the pathophysiology of these diseases and the workup and management. The student will learn to evaluate these patients clinically, using non-invasive tests such as Duplex and invasive evaluation including angiography. The student will see and take care of vascular patients and this includes initial evaluation, management plan and participating in the treatment endovascular or operative. The student will follow these patients postoperatively in the intensive care until discharged.</p>
MSUR-8407 (Amarillo, Lubbock, Permian Basin) MSUR-8457 AW	<p>Neurosurgery</p> <p>This elective is designed to expose the students to the specialty of neurosurgery. The student will be exposed to both outpatient and inpatient care. During this rotation the student will have the opportunity to participate in the management of patients with various neurosurgical diseases including brain tumors, aneurysms, and disorders of the spine. The student will also have strong exposure to neurosurgical trauma including operative management of intracranial bleedings and management of increased intracranial pressure. The student will actively participate in the patient's care pre-, intra- and postoperatively and make daily rounds with the neurosurgery service both on the floor and in the intensive care.</p>

Surgery*Surgery Year 4 Elective Rotations continued...***Course Number (Campus)****Name/General Description**

MSUR-8408 (Amarillo)
MSUR-8458 AW

Surgical Oncology

By direct involvement in the clinical practice, the 4th year student will be exposed to cancer patients at all stages of presentation, during treatment and surveillance, and at relapse and or with advanced disease. A series of didactic lectures regarding basic principles in oncology, screening recommendations, and clinical and pathologic staging supplements the office and bedside evaluation of cancer patients so that the objectives of understanding adult cancer issues as listed above can be met. Patients are referred to the surgical oncology division and will be evaluated by the 4th year student in the presence of the surgical oncology division Faculty. Thorough history evaluation, review of previously obtained imaging studies and laboratory results, and review of previously obtained pathology slides will be incorporated into a general discussion for that particular patient's cancer or tumor. The 4th year student will be directly involved in patient discussions regarding evaluation and treatment. There will be a continuity of care inasmuch as pathology slides are reviewed, ordered imaging studies are reviewed and applied to ongoing or definitive decision-making, and the 4th year student will have the opportunity to evaluate patients on the hospital wards and during return visits to the clinical office practice. The close shadowing relationship with division of surgical oncology Faculty allows for a comprehensive experience and continuity. The 4th year student will be present during office practice hours on specific days including Monday afternoon at the VA Medical Center, Tuesday morning at the Texas Tech Office Practice, and Thursday afternoon at the Texas Tech Office.

MSUR-8409 (Amarillo,
Lubbock)
MSUR-8459 AW

Female Breast Disease and Treatment

This elective is designed to expose the 4th year medical student to and educate him/her in all aspects of female breast disease. The student will participate in the outpatient clinics evaluating patients and participate in the diagnosis and treatment of benign and malignant disease. The student will assist on breast biopsies in the outpatient clinic and will assist at hospital operative procedures. The student will spend time with the medical oncologist in the outpatient setting and at the Infusion Center. The student will also spend time at the Breast Imaging Center assisting with mammography and ultrasound.

MSUR-8460 AW

Retina and Macular Conditions of the Eye

This course is offered as an Elective to students who have a defined interest in pursuing a career in Ophthalmology, and who wish to enhance their knowledge base in the fundamentals and practice of this sub specialty. This elective will consist of an extensive exposure, in a private practice setting, to the diagnosis and management of both acute and chronic conditions of the Retina and Macula and the surgical procedures unique to this sub-specialty.

MSUR-8411 (Amarillo, Lubbock)
MSUR-8461 AW

Pre-Internship Surgical Boot Camp

A highly focused Elective Skills Course for 4th-year medical students matched in a General Surgery, Surgical specialty or a Surgery related specialty. This course is to be offered only in the final scheduled rotation of the spring semester for an estimated ten to fifteen (10 – 15) 4th year students. Open to students from all campuses. This elective can satisfy the SubInternship requirement for students who match into a Surgery residency.

Surgery

Surgery Year 4 Elective Rotations continued...

Course Number (Campus)	Name/General Description
MSUR-8413 (Lubbock)	<p>Surgical Residency Preparatory Elective</p> <p>This course is designed to provide MS4 students who intend to match to a surgical residency position to prepare for their internship year. The course is based on the ACS/APDSASE Entering Surgery Resident Prep Curriculum and includes numerous sessions scheduled in the simulation center. The curriculum has been developed as a “finishing curriculum” to provide students with practical information and experience in task that they will be expected to perform as a beginning intern. Some examples of skills covered include order writing, performing patient hand-offs, handling emergency patient scenarios, performing surgical procedures and managing surgical patients. The course will also address issues related to professionalism, communication skills, evidence based medicine, and systems processes.</p>

Urology

Urology Year 4 Elective Rotations

Course Number (Campus)	Name/General Description
MSUR-8405 (Amarillo, Lubbock, Permian Basin) MSUR-8455 AW	<p>Urology</p> <p>This elective is an advanced experience in the management of disorders of the urinary tract and is designed to provide the student with an understanding of the principles of urological diagnosis and treatment. Included with this elective are a series of lectures, ward rounds, operating room and clinical experiences with a review of pathology. The course is of value to both a primary care physician as well as a student interested in a career as an urologist.</p>

Independent Study

Course Number (Campus)	Name/General Description
MIDS-8495	Independent Study I
MIDS-8496	Independent Study II

Special Topics

Course Number	Name/General Description
MSCI-8401 MSCI-8451 AW	<p>Special Topics in Medicine</p> <p>Special topics in medical sciences that are not included in other classes in the medical school curriculum. May not be repeated for credit within an academic year.</p>



Faculty Index



A

Adesanya, Olubukunola, Assistant Professor, Pediatrics, Amarillo, 2011. M.D., Ogun State University, 1990. MSPH, University of North Carolina, 2002.

Ahmed, Mashrafi, Assistant Professor, Internal Medicine, Amarillo, 2012. M.D., Dhaka Medical College, Bangladesh, 2003.

Ahmed, Yasir, Assistant Professor, Internal Medicine, Permian Basin, 2012. M.D., Liaquat Medical College, Pakistan, 2000.

Ahmed, Vaqar, Assistant Professor, Internal Medicine, Lubbock, 2013. M.D., Hamdard College of Medicine and Dentistry, Karachi, Pakistan, 2013.

Al-Bilbissi, Laith, Assistant Professor, Surgery, Amarillo, 2015. M.D., Jordan University College of Medicine, 2006.

Alalawi, Raed, Associate Professor, Internal Medicine, Lubbock, 2007. M.D., Sultan Qaboos University, Oman, College of Medicine, 1997.

Alam, Hilmi, Assistant Professor, Family & Community Medicine, Lubbock, 2015. M.D., Bangladesh Medical College, 2000.

Alam, Nimat, Assistant Professor, Family & Community Medicine, Permian Basin, 2013. M.D., Bangladesh Medical College, Dhaka, 1999.

Alapati, Srilatha, Assistant Professor, Pediatrics, Amarillo, 2012. M.D., J.S.S Medical College, India, 2001.

Alderazi, Yazan, Assistant Professor, Neurology, Lubbock, 2015. M.D., Royal College of Surgeons, National University of Ireland, 2005.

Allen, Charla, Assistant Professor, Family & Community Medicine, Lubbock, 2015. M.D., Texas Tech University Health Sciences Center, 2012.

Allison, Walter M., Assistant Professor, Internal Medicine, Amarillo, 2006. M.D., Texas Tech University Health Sciences Center, 1965.

Allison, Tara, Faculty Associate, Health Communications, Lubbock, 2010.

Al-Rahawan, Mohamad, Associate Professor, Pediatrics, Lubbock, 2014. M.D., Damascus University Medical School, Syria, 1998.

Altenberg, Guillermo A., Department Chair/Professor, Cell Physiology & Molecular Biophysics, Lubbock, 2007. M.D., University of Buenos Aires, 1983. Ph.D., University of Buenos Aires, 1987.

Anderson, Joy, Associate Professor, OB/GYN, Permian Basin, 2013. M.D., University of Texas at San Antonio, 2002.

Andrade, Liliana, Associate Professor, Family & Community Medicine, Permian Basin, 2013. M.D., Universidad Central de Venezuela, Caracas, 1998.

Angelis, Dimitrios, Assistant Professor, Pediatrics, Permian Basin, 2014. M.D. University of Athens, Greece, 2003.

Arawiran, Jenda, Assistant Professor, Pediatrics, Amarillo, 2014. M.D., Cebu Institute of Medicine, Philippines, 2004.

Arora, Suthep, Assistant Professor, Internal Medicine, Permian Basin, 2011. M.D., Institute of Medical Sciences, India, 2000.

Artigas, Pablo, Associate Professor, Cell Physiology & Molecular Biophysics, Lubbock, 2008. Ph.D., Universidad de la Republica Uruguay, 2002.

Arvandi, Aliakbar, Associate Professor, Internal Medicine, Lubbock, 2010. M.D., Tabriz University of Medical Sciences, 1990.

Awasthi, Sangeeta, Assistant Professor, Psychiatry, Lubbock, 2016. M.D., University of Arkansas for Medical Sciences, 1988.

Awasthi, Sanjay, Professor, Internal Medicine, Lubbock, 2016. M.D., University of Texas Southwestern, 1986.

Aydin, H. Nail, Assistant Professor, Surgery, Amarillo, 2015. M.D., Istanbul University – Cerrahpasa Medical Faculty, 1996.

B

Babb, Franklyn, Associate Professor, Family & Community Medicine, Lubbock, 2012. M.D., Texas Tech University Health Sciences Center, 1993.

Baker, Teresa E., Associate Professor, OB/GYN, Amarillo, 2004. M.D., University of Texas Southwestern Medical School, 2001.

Ballew, Barbara, Faculty Associate, Health Communications, 1998. MALS, University of Missouri – Columbia, 1991.

Banh, David, Instructor, OB/GYN, Permian Basin, 2014. M.D., University of Texas Medical Branch, Galveston, 2010.

Banister, Ronald E., Associate Professor, Anesthesiology, Lubbock, 1999. M.D., Tulane Medical School, 1998.

Baronia, Benedicto, Assistant Professor, Surgery, Lubbock, 2013. M.D., Center- College of Medicine, Quezon City, Philippines, 1984.

Bashir, Mamoun, Assistant Professor, Internal Medicine, Lubbock, 2014. M.D., University of Khartoum Faculty of Medicine, Sudan, 1998.

Bauer, John, Associate Regional Dean of Medical Education/Professor, Surgery, Permian Basin, 2015. M.D., Medical College of Pennsylvania, 1993.

Bauer, Valerie, Associate Professor, Surgery, Permian Basin, 2015. M.D., University of Texas at Galveston, 1998.

Beceiro, Jose, Professor, Internal Medicine, Lubbock, 2016. M.D., Universidad de Santiago, Facultad de Medicina, Spain, 1964.

Beck, Nancy, Assistant Professor, Pediatrics, Lubbock, 2012. M.D., University of Texas Medical Branch at Galveston, 2004.

Belirgen, Muhittin, Assistant Professor, Pediatrics, Lubbock, 2011. M.D., Marmara University, 1999.

Bell, Todd E., Regional Chair/Associate Professor, Pediatrics, Amarillo, 2006. M.D., University of Arkansas for Medical Sciences, 2001.

Benamar, Khalid, Associate Professor, Pharmacology, Lubbock, 2014. Ph.D., University of Seville, Spain, 1998.

Benavides, Luis R., Assistant Professor, Family & Community Medicine, Permian Basin, 2010. M.D., University of Texas Medical Branch at Galveston, 2003.

Bennett, Kelly Ann, Associate Professor, Family & Community Medicine, Lubbock, 2003. M.D., Texas A&M University College of Medicine, 1995.

Bennett, Robert E., Regional Chair/Professor, Pediatrics, Permian Basin, 1990. M.D., University of Arizona, 1977.

Benton, Timothy J., Regional Chair/Associate Professor, Family & Community Medicine, Permian Basin, 2008. M.D., Texas Tech University Health Sciences Center, 1994.

Berdine, Gilbert G., Associate Professor, Internal Medicine, Lubbock, 2009. M.D., Harvard University, School of Medicine, 1978.

Bergeson, Susan, Associate Professor, Pharmacology & Neuroscience, Lubbock, 2007. Ph.D., Oregon Health & Science University, 1997.

Berk, Steven L., School of Medicine Dean/Professor, Internal Medicine, Lubbock, 1999. M.D., Boston University, 1975.

Bhairavarasu, Kalpana, Associate Professor, Internal Medicine, Permian Basin, 2012. M.D., Gandhi Medical College, India, 1998.

Bharadwaj, Ravindra, Associate Professor, Internal Medicine, Amarillo, 2012. M.D., King George's Medical College, India, 1991.

Bhaskaran, Smitta, Assistant Professor, Pediatrics, Amarillo, 2015. M.D., Calicut Medical College, India, 2004.

Bhende, Kishor, Assistant Professor, Pediatrics, Lubbock, 2016. M.D., Grant Medical College, Mumbai, India, 1995.

School of Medicine

Bhutia, Yangzom, Assistant Professor, Cell Biology & Biochemistry, Lubbock, 2014. Ph. D., Indian Veterinary Research Institute, India, 2008.

Billings, Adrian, Associate Professor, Family & Community Medicine, 2013. M.D., University of Texas Medical Branch, Galveston, 2003.

Blancett, Shelley, Assistant Professor, Psychiatry, Permian Basin, 2014. Ph.D., Fielding Graduate University, Santa Barbara, 2013.

Blanton, Michael P., Professor, Pharmacology & Neuroscience, Lubbock, 1995. Ph.D., University of California Santa Cruz, 1989.

Bowman, Audra, Assistant Professor, Pediatrics, Lubbock, 2013. M.D., Texas Tech University Health Sciences Center, 2010.

Boyd, Larry, Associate Professor, Family & Community Medicine, Permian Basin, 2013. M.D., Mercer University School of Medicine, 1991.

Bridges, Walter J., Associate Professor, Pediatrics, Amarillo, 2004. M.D., Texas Tech University Health Sciences Center, 1988.

Bright, Robert K., Professor, Immunology & Molecular Microbiology, Lubbock, 2002. Ph.D., University of Texas Health Sciences Center at San Antonio, 1994.

Brindley, George, Department Chair/Professor, Orthopaedic Surgery, Lubbock, 2006. M.D., University of Texas Medical Branch at Galveston, 1981. M.S., University of Minnesota, 1985.

Brooks, Steven, Assistant Professor, Surgery, Lubbock, 2013. M.D., American University of the Caribbean SOM, 2005.

Brower, Greg, Associate Professor, Medical Education, 2015. D.V.M., Texas A&M University, 1985, Ph.D., Auburn University, 1998.

Brown, Elisa L., Associate Professor, OB/GYN, Permian Basin, 2005. M.D., Eastern Virginia Medical School, 1994.

Brown, G. Steve, Associate Professor, Pediatrics, Lubbock, 2012. D.O., University of Osteopathic Medicine and Health Science, 1994.

Burks, James K., Professor, Internal Medicine, Permian Basin, 1994. M.D., University of Texas Southwestern Medical School, 1971.

Buscemi, Dolores M., Associate Professor, Internal Medicine, Lubbock, 2009. M.D., Texas Tech University Health Sciences Center, 1992.

Bustos, Sergio, Assistant Professor, Pediatrics, Amarillo, 2011. M.D., Escuela Colombiana de Medicina, 1985.

C

Caliendo, Martin, Associate Professor, OB/GYN, Permian Basin, 2009. M.D., Rush Medical College, 1989.

Cammack, Thomas, Associate Professor, Urology, Lubbock, 2010. M.D., University of Texas Health Sciences Center at San Antonio, 1987.

Camp, Tammy M., Associate Professor, Pediatrics, Lubbock, 1997. M.D., Texas Tech University Health Sciences Center, 1994.

Campbell, Samuel Joe, Associate Professor, Surgery, Lubbock, 2008. M.D., Texas Tech University Health Sciences Center, 1982.

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