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Masters in medical science

The MS in Medical Sciences degree provides a deeper understanding of the medical sciences and prepares you for a career that spans between patient care and bench research. The curriculum is flexible and designed to provide a strong foundation in medical sciences along with scholarly activities that will encourage team-oriented projects, enhance interdisciplinary communication, develop leadership skills, and provide the foundation for a broad understanding of scientific, medical, and regulatory issues. A Master of Science degree in Medical Sciences will serve to enhance your coursework and other training to prepare you for success in medical or PA school and/or a PhD program. Earn an advanced degree to increase your earning potential, job placement, and advancement in the future. Target Length of the Program 16 to 21 months depending on the number of credits taken per term (9-12 credits) Application Deadline The application portal will open in early December. Complete applications will be reviewed in the middle of April, May and June. The application portal will close on June 15. Offers will be made after each of these reviews. Program Format The Master of Science degree in Medical Sciences is available as: A Master of Science degree program without a thesis (Non-Thesis option, 36 credits) A Master of Science degree program with a thesis (Thesis option, 32 credits) The College of Medicine has established a Non-Thesis Option within the Master of Science in Medical Sciences degree program for those who aim to apply to and attend medical or PA school. The curriculum is designed to expand and deepen the student's understanding of pre-clinical medical sciences in preparation for entry into medical or PA school. Students will be exposed to a common core curriculum Physical exam skills Medical Physiology Patient communication skill development Clinical decision making Application coaching and practice interview Medical ethics Human cadaver-based dissection Gross Anatomy Students who achieve a GPA of 3.5 or higher at the end of the first year in the program, obtain a MCAT score of 505, and have successfully completed our MSCI 615 (fall) and NEXT 620 (spring) courses will receive an automatic interview with the Texas A&M College of Medicine following submission of their application. Non-Texas residents, please consult the Texas Residency Rules and Regulations here. Please indicate in your application if you intend to apply to Texas medical schools after establishing residency or will apply to home state medical schools. Recommended Schedule of Classes Year 1 — Fall Semester (9 credits) MSCI 615 - Medical Physiology (4) MSCI 689 - Med/PA School Preparation (2) MSCI 627 - Introduction to Physical Exam Skills and Patient Communication (3) Year 1 — Spring Semester (9 credits) NEXT 620 - Gross Anatomy (8) MSCI 685 - Directed Studies (1) (i.e., Self obtained patient contact hours, MCAT studying, research, etc.) Year 1 — Summer Semester (Optional) Elective Coursework (Optional) MSCI 685 - Directed Studies (Optional) (i.e., Self obtained patient contact hours, MCAT studying, research, etc.) Year 2 — Fall Semester (9 credits) Elective Coursework (9) Suggestions: MSCI 635 Mammalian Immunobiology (3) MSCI 630 Pathogenesis of Human Disease (4) NEXT 603 Neuropsychopharmacology (4) MSCI 685 - Directed Studies (Optional) (i.e., Self obtained patient contact hours, MCAT studying, research, etc.) Year 2 — Spring Semester (9 credits) Elective Coursework (9) Suggestions: MSCI 689 Clinical Encounters (3) NEXT 605 Molecular Mechanisms of Drug and Toxin Action (4) MSCI 685 - Directed Studies (Optional) (i.e., Self obtained patient contact hours, MCAT studying, research, etc.) The curriculum for the MS in Medical Sciences degree is designed to give the candidate a thorough and comprehensive knowledge of the field beyond that of the undergraduate degree. Students who graduate with an MS in Medical Sciences degree will: demonstrate proficiency in degree program requirements; apply subject matter knowledge in a range of contexts to solve problems and make decisions; use a variety of sources and evaluate multiple points of view to analyze and integrate information; communicate effectively; use appropriate technologies; develop clear research plans and conduct appropriate research; and choose ethical courses of action in research and practice. The progression to the MS in Medical Sciences degree is well defined in the Graduate Catalog, on the Graduate and Professionals Studies website some aspects are summarized here: Degree Plan The student's Advisory Committee, in consultation with the student, will develop the proposed Degree Plan. The Degree Plan must be completed and filed with GPS by the end of the first year. A minimum of 32 credits (Thesis option) or 36 credits (Non-Thesis option) will need to be submitted for approval to GPS. Additional coursework may be added to the approved Degree Plan by petition. Advisory Committee The student's Advisory Committee for the MS in Medical Sciences degree will consist of 1 member (Non-Thesis) or 3 members (Thesis) of the Graduate Faculty. Only Graduate Faculty members located on Texas A&M University campuses may serve as chair of a student's Advisory Committee. Other Graduate Faculty members located off-campus may serve as a member or co-chair (but not chair) with a member as the chair. The student in agreement with the chair of the Advisory Committee has the responsibility for calling required meetings of the committee and for calling meetings at any other time considered desirable. For more information on the MS in Medical Sciences degree program, please refer to the Graduate Student Catalog. Below are some of the courses available for MS students in the Thesis and Non-thesis Option tracks. MSCI 601 Contemporary Topics in Advanced Cell Biology (5 credits)Advanced cell and molecular biology course examining the molecular basis of cellular functions relevant to human health. MSCI 627 Introduction to Physical Exam Skills and Patient Communication (3 credits) This is a course that teaches proper techniques for head-to-toe examinations of normal adults and pediatric patients. As well, students will learn methods for history taking and SOAP note documentation. The curriculum used for this course comes directly from Bates' A Guide to Physical Examination and History Taking, the text most often used in medical and PA schools. As such, mastery of this class will give the student a competitive edge for entrance to these institutions. MSCI 609 Responsible Conduct of Research (1 credit)Responsible conduct of research (RCR) is defined by NIH as the practice of scientific investigation with integrity. It involves the awareness of established professional norms and ethical principles in the performance of all activities related to scientific research. This course is designed as a survey of basic topics that trainees will need to understand as they enter into the practice of research. NEXT 620 Gross Anatomy (8 credits)This course will study the relationship of structures and the functional significance of the human body during its development and adult form as revealed through dissection. MSCI 689 - Med/PA School Preparation (2 credits)Weekly meetings will consist of medical school application coaching, mock medical and PA school interviews, MCAT assistance, Q&A with Texas A&M College of Medicine Med School representatives, and other preparatory activities. NEXT 605 Molecular Mechanisms of Drug and Toxin Action (4 credits)Introduction to the major tools and concepts of pharmacology. MSCI 612 Current Topics in Cell Signaling (3 credits)The course provides an overview of intracellular signal transduction pathways and will provide a clear understanding of the importance of these pathways in regulating cell growth, differentiation, apoptosis and other cellular processes, both under normal physiologic conditions as well as diseases. MPH 624 Biostatistics (2 credits)Introduction to methods used to acquire, extract, organize, analyze, store and interpret the major types of data of interest in systems biology. MPH 625 Bioinformatics (2 credits)Introduction to methods used to acquire, extract, organize, analyze, store and interpret the major types of data of interest in systems biology. MSCI 635 Mammalian Immunobiology (3 credits)Detailed survey of the mammalian immune system. MSCI 615 Medical Physiology (4 credits)This course is a survey of the functions of the human body: transport processes, feedback control systems, and homeostasis. MSCI 630 Pathogenesis of Human Disease (4 credits)Upon completion of this course, the student will be able to recognize and describe the molecular events responsible for various human diseases. MSCI 685 Directed StudiesThis course allows students and their Advisory Committee to design specific projects or experiences to enhance the student's knowledge toward their career goals. MSCI 691 Research (flexible credits) for students in the Thesis option NEXT 603 Neuropsychopharmacology (4 Credits)Pharmacology as it relates to behavior and the central nervous system. Prerequisites: MSCI 601, MSCI 602, or equivalents or course director approval. MSCI 689 Clinical Encounters (3 Credits)This course will focus on both the application of knowledge from the pre-requisite course and common encounters involving provider-patient relationships in clinical medicine. Prospective MS in Medical Sciences students apply through:2025 Texas A&M Graduate CAS Application Please, make sure to fill out the application for Texas A&M University - Medical Sciences Program Application. Avoid confusion with the program in Biomedical Sciences at Texas A&M University. Letters of Recommendation Two strong letters of recommendation indicating academic excellence, personal maturity, and exceptional motivation, as well as interest in the medical sciences, are an important part of the application. Transcripts Transcripts of a four-year baccalaureate degree from an accredited university are required. MCAT Test Scores MCAT or GRE scores are not required to apply to our program. Applicants whose native language is not English are required to submit proof of English proficiency, according to the guidelines of the Office of Admissions. The Test of English as a Foreign Language (TOEFL) is the most common test taken by applicants to our program. Other options and exemptions are found at the Office of Admissions. Domestic and International Applicants Domestic applicants are those individuals who are U.S. citizens, U.S. permanent residents, and Canadian citizens. International applicants are those individuals who are not U.S. citizens, U.S. permanent residents, or Canadian citizens. Application Deadlines Application opens: Early December Deadline: Rolling admission offers will occur in April, May, and June. Application Portal closes: June 15th Healthcare professionals report high demand. Learn how a master of medical science degree can advance your healthcare career.Medical science master's programs strengthen medical knowledge and skills.Graduates pursue careers in medical research, public health, and health informatics.A master of medical science degree can also help strengthen your med school application.The healthcare industry continues to grow. And a master of medical science degree can prepare you for in-demand roles in the field.During a master's program in medical science (MSMS), you'll expand your medical knowledge while developing analytical and research skills. Your degree can lead to opportunities in medical laboratories, research facilities, and healthcare organizations.An MSMS degree is also a great way to prepare for medical school or other professional health programs. Learn where a master of science in medical sciences can take you with our program guide.A master of science in medical sciences (MSMS) provides graduate-level training in human anatomy, biomedical science, and medical research. Similarly to a master's in health science, an MSMS offers specialized training for professional and research careers in healthcare. However, a medical science program emphasizes the scientific study of medicine.Some programs design their curriculum to prepare graduates for health professional schools, including dental, physician assistant, and physical therapist programs. A master's often translates into a higher salary. You'll qualify for advanced roles in public health, health education, and medical research. An MSMS can polish your resume for medical school. Many MSMS programs allow you to specialize in a focus area. The total cost of a master's can outweigh the earning potential. MSMS programs take 1-3 years. You may need additional education for several healthcare career paths.Most traditional master's programs take about two years, on average, of full-time study to complete. However, you may be able to earn your MSMS quicker through an accelerated program. These programs condense coursework, often allowing you to complete your degree requirements in a year or less.Learn More About Our PartnersGraduate programs in medical science cover anatomy, physiology, microbiology, health informatics, and public health. During a master's in medical science, you'll strengthen your medical knowledge and research skills. Depending on the program, you may complete a research project or clinical requirements.While earning your master of medical science degree, you'll focus your studies with a specialization. Specialized coursework prepares you for focused career paths after earning your degree.Many master's programs in medical science offer specializations to customize your degree. Common options include public health, molecular medicine, and health informatics. Explore popular specializations to find the best match for your interests and professional goals. A public health specialization emphasizes community health, biostatistics, and epidemiological experiments. You examine disease risk factors and preventative healthcare. The concentration leads to opportunities as a public health professional or epidemiologist. During a molecular medicine concentration, you'll explore the biomedical sciences, with an emphasis on research, therapeutics, and vaccines. Graduates pursue careers as diagnostic molecular scientists, researchers, and biomedical scientists. A health informatics specialization emphasizes health information systems and data management in the medical sciences. Graduates pursue careers as clinical analysts, health informatics managers, and medical science specialists. An MSMS in medical education emphasizes health education. You explore education technology, empirical research on educational strategies, and learning theory. Graduates work as health education specialists, instructors, and researchers.The courses you'll take during a master of medical science degree will vary depending on the program and your specialization area. However, many MSMS programs include these common courses:Human Anatomy: You examine human anatomy from the perspective of healthcare providers, including clinical imaging techniques and clinical procedures. The course prepares you for medical science careers.Physiology: This course surveys physiological functions, the role of organ systems, and the maintenance of homeostasis. You also learn about disease conditions and physiology.Cellular Biology: You examine cellular function and organization. Topics include cell signaling, cell division, and cellular structure. The course may also cover disorders that alter the functions of cells.Human Pathology: You explore core principles of human pathology, including pathological analysis, diagnostic testing, and components of disease such as inflammation and tissue adaptation.Biostatistics: You'll develop their statistical analysis and reasoning skills, with a focus on clinical trials. The course covers clinical research, population-based research, and public health applications.Universities that offer a master of science in medical sciences typically require an accredited bachelor's degree with a minimum GPA. You may also need to complete prerequisite courses in biology and chemistry. While you don't need a specific major to get into MSMS programs, make sure you meet any prerequisite course requirements.Master's in medical science programs may also require: Letters of recommendation Personal statements Standardized tests such as the MCAT, DAT, or GRE Prerequisite math and science coursesCheck out our graduate admissions guide for more information.Learn More About Our PartnersA master's in medical science can lead to many health science careers, including in public health, clinical research, and health informatics. You'll also gain valuable skills for careers as a health educator, medical writer, or medical science liaison.Many students earn a master's in medical science to prepare for medical school or other doctoral programs in healthcare. Graduate-level coursework in medical science can help pursue a career as a physician, dentist, physical therapist, or other healthcare professional.Public HealthEpidemiologist*BiostatisticianClinical Research AssociateHealth Informatics SpecialistHealth Education SpecialistMedical or Health Science WriterMedical Science Liaison*May require or benefit from additional certification or licensureAn MSMS can increase your earning potential and open up new career opportunities. With a master's, you may qualify to work as a medical scientist. These professionals saw a median pay of \$99,930 in 2022, according to Bureau of Labor Statistics data. However, many employers prefer you hold a Ph.D. or medical degree for this position.You can also pursue opportunities in public health, health informatics, or microbiology. Your earning potential with a master's in medical science depends on your specialization and industry. For example, microbiologists working in the federal government report a median annual pay of \$119,500 (BLS, May 2022).The cost of a master of medical science degree varies greatly depending on the program. At the University of South Florida, tuition ranges from \$431 per credit for Florida residents to \$877 per credit for out-of-state students. Liberty University charges \$565 per credit for full-time learners, while Lasell University costs \$750 per credit.In addition to tuition, you'll also need to budget for fees, textbooks, and other expenses. While master of science programs report a median tuition cost of \$12,800, total costs exceed \$30,000.Earning a master of science in medical science can pay off. These master's programs can lead to high-paying careers in medical research, health informatics, and biomedical science.Medical science master's programs can also strengthen your application for a health professional program. For example, an MSMS degree can boost your GPA and demonstrate your ability to succeed in graduate-level medical science classes. That can help you get into a competitive med school or other health professional school.Yes, you can be a medical scientist with a master's degree. However, most employers prefer to hire candidates with a Ph.D. or a doctoral-level medical degree.After completing a master's in medical science and gaining research or laboratory experience, you can pursue opportunities as a medical scientist. You can also apply to medical school or Ph.D. programs in medical science.A medical science liaison connects medical companies with medical specialists who provide input on therapeutic development. For example, pharmaceutical or biotech companies rely on medical science liaisons to coordinate with physicians working in clinics or academic settings.Medical science liaisons typically need a background in medical science. Some employers require a doctoral degree, including an MD, Ph.D., or Pharm.D. degree.Discover the best master's in health science degree programs. Explore career options, earning potential, and more. Find your path to success in healthcare.by Tyler EppsUpdated September 17, 2024Health science master's programs prepare you for some of the nation's fastest-growing occupations. Explore the most affordable MHS degree options as well as financial aid possibilities.Succeeding in health informatics requires continuing education. Explore our picks for the best master's in health informatics online programs.