University of North Texas Health Science Center at Fort Worth



Texas College of Osteopathic Medicine

1995-1996 Catalog





University of North Texas Health Science Center at Fort Worth

Texas College of Osteopathic Medicine 3500 Camp Bowie Boulevard Fort Worth, Texas 76107-2699 817-735-2000

1995-1996 Catalog

Rules and regulations in this catalog are effective July 1, 1995, and apply to all students unless otherwise indicated. This catalog is the official catalog for the Class of 1999. The provisions of this catalog may be subject to change without notice as a result of official administrative actions in the health science center, legislative act or decisions by the attorney general of the state of Texas. Information provided by this catalog does not constitute a contract between the UNT Health Science Center/TCOM and a student or an applicant for admission. The institution is not responsible for any misrepresentation or provisions that might arise as a result of errors in preparation.

Students are responsible for observing the regulations contained herein; therefore, they are urged to read this catalog carefully. This catalog does not contain all health science center/TCOM rules, regulations and policies for which a student is responsible. Students should also consult other publications such as the student handbook and specific contracts.

An EEO/affirmative action institution.

Mission Statement University of North Texas Health Science Center at Fort Worth

The University of North Texas Health Science Center at Fort Worth is committed to achieving excellence in its programs of education, research and service. The health science center maintains the mission and traditions of Texas College of Osteopathic Medicine and a long-standing relationship with the University of North Texas. The center also shares programs with other health-related and academic institutions.

The health science center educates osteopathic physicians and other health professionals dedicated to careers in health care, teaching and research. Through its graduate programs, the center provides educational opportunities to biomedical scientists for roles in academic institutions, government agencies and industry. Primary health care is central to the mission of the institution. The center has a special mission to meet the needs of individuals in the geographic areas, and within the age, ethnic and socioeconomic groups, in which primary health care is most needed. Health care education and services emphasize promotion of health, prevention of disease and concern for the costs to the patient and to society.



Education

Undergraduate, graduate and postgraduate teaching programs provide strong foundations of knowledge and skills in the basic and clinical sciences. A focus is on the promotion of health and social, psychological, emotional and lifestyle factors that affect healthful living. Health care services delivered by the institution provide a critical educational arena where faculty served as both teachers and health care professionals, clinical services and education throughout the community, including primary care to underserved individuals. The health science center serves as an educational resource to further the continuing education of practicing physicians and other health professionals.

role models in providing care. Each student is guided along a path of learning that has as its goals the development of critical thinking, problem solving and independent lifelong learning. Particular attention is given to developing attitudes, ethical behavior and personal attributes that characterize a caring health professional sensitive to the special need for primary health care.

Research

The health science center is a community of scholars who are members of the international scientific community. As members of scientific societies and other professional groups, faculty contribute to national and international dialogues in the sciences, medicine and health care. By engaging in scholarly pursuits that contribute to further understanding of health and disease, the faculty and students serve the community, the state and the nation.

Service

The health science center serves the community, the state and the nation, contributing to the exchange of knowledge and its application. Faculty, staff and students take part in outreach programs providing

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Accreditations

The University of North Texas Health Science Center at Fort Worth is approved by the Texas Higher Education Coordinating Board and is a member of the Alliance for Higher Education, the Association of Academic Health Centers and the Council for the Advancement and Support of Education. The University of North Texas Health Science Center at Fort Worth is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award master's and doctoral degrees. Texas College of Osteopathic Medicine is fully accredited by the Bureau of Professional Education of the American Osteopathic Association which is recognized by the U.S. Office of Education. TCOM is approved by the Texas State Board of Medical Examiners and is a member of the American Association of Colleges of Osteopathic Medicine.

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Information is current as of July 1, 1995

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Academic Calendar 1995-1996

for medical school program only

Fall 1995

August 7-11 Orientation for Year I students

August 11 Registration for Year I and II students

August 14 First day of fall classes for Year I and II students

August 21 Last day to register for Year I and II classes

August 30-31 Administration of Step II: United States Medical Licensing Exam (USMLE)

September 4 Labor Day Holiday*

September 8

Last day to withdraw from fall semester with partial refund of tuition

September 15 Convocation

September 27-28 Administration of Step I: USMLE

October 5 Hospital Visitation Day

October 9

Last day of Semester 5 classes for Year III students

October 13

Fall semester grades for Semester 5, Year III students due to Registrar

October 17-18

Administration of Parts I & II: National Board of Osteopathic Medical Examiners (NBOME) October 23 Clinical Clerkships begin for Year III students

November 23-24 Thanksgiving Holiday*

- December 5-6 Administration in Austin of Step III: USMLE for medical school graduates
- December 15 Last day of fall classes for Year I and II students

December 18-January 1 Winter Holiday*

December 21 Fall semester grades for Years I and II due to Registrar

Winter/Spring 1996

January 2 First day of spring classes for Year I and II students

January 15 Martin Luther King Jr. Holiday*

January 29 Last day to withdraw from spring semester with partial refund of tuition

February 20-21 Scheduled administration (tentative) of Level III: Comprehensive Osteopathic Medical Licensing Examination (COMLEX) for medical school graduates March 5-6 Scheduled administration (tentative) of Step II: USMLE

March 11-15 Spring Break for Year I and II students

March 12-13 Scheduled administration (tentative) of Level II: COMLEX

March 20 Research Appreciation Day

May 3 Last rotation day for Year IV students

May 6 First day of Semester 8 classes, Year IV students

Year IV clerkship grades due to Clinical Affairs

May 10 Last day of classes for Year II students

May 17 Last day of classes for Year IV students

Spring semester grades for Year II students due to Registrar

May 24 Last day of classes for Year I students

Semester 8 grades for Year IV students due to Registrar

May 27 Memorial Day Holiday *

May 31

Spring semester grades for Year I students due to Registrar

Summer 1996

June 1 Commencement

June 4-5 Scheduled administration (tentative) of Part I: NBOME

June 11-12 Scheduled administration (tentative) of Step I: USMLE

Scheduled administration (tentative) of Level III: COMLEX for medical school graduates

June 17 Registration and first day of classes for Semester 5 classes, Year III students

June 26-27 Scheduled administration (tentative) in Austin of Step III: USMLE for medical school graduates

July 4 Independence Day Holiday*

July 15 Last day for Year III students to withdraw with partial refund of tuition

* Please note that holidays may vary for clinics and members of the faculty and staff.

One/The Health Science Center

Overview

The University of North Texas Health Science Center at Fort Worth is dedicated to providing a healthier future for a changing world through teaching and promoting osteopathic medicine, fostering scientific discovery and delivering quality care to the local community and beyond.

The center was founded in 1970 as Texas College of Osteopathic Medicine. The formation of America's seventh osteopathic medical school (there are now 16) began with the efforts of several osteopathic physicians who saw a need in Texas for a college of medicine that would focus its energies on the education of the family medicine/primary care physicians who were so badly needed throughout the state. It was a bold response to a critical need as well as a natural outgrowth of the osteopathic medical profession's devotion to whole-person, whole-family health care.

In 1972, a relationship was forged that not only contributed significantly over the years to the breadth of medical and health education in North Texas, but also laid the foundation for the medical school's evolution into a health science center. TCOM, then a privately funded school, contracted with North Texas State University (now the University of North Texas) in nearby Denton to teach basic science courses to first- and second-year medical students. The first graduating class of 18 received their doctor of osteopathy (D.O.) degrees in 1974.

The successful collaboration between the two schools combined with TCOM's commitment to "specializing" in the education of primary care physicians earned the confidence of state government leaders. In 1975, TCOM became a state-supported medical school (separate from the university) under the jurisdiction of the North Texas Board of Regents.

In response to TCOM's remarkable growth and its achievements in health care

and science, the Texas Legislature redesignated the medical school as a health science center in 1993. TCOM became the cornerstone component, retaining its osteopathic identity and focus. The second component of the center was created in October 1993 when the Department of Biomedical Sciences at UNT was transferred and redesignated as the Graduate School of Biomedical Sciences.

Texas College of Osteopathic Medicine

Through innovative dedication to a century-old osteopathic tradition, TCOM has become a state and national leader in achieving a critical 21st-century goal: training physicians skilled in comprehensive primary care/family medicine and disease prevention. Almost three-fourths of TCOM's graduates practice primary care medicine. Others successfully apply their extensive, unique training in specialty careers as diverse as aerospace medicine and heart transplant surgery.

Since the 1970s, TCOM's focus has been on teaching future physicians more than the essential skills; to prepare them for not only a changing population, but also a transforming environment of medicine. As TCOM gained momentum and stature in the '80s, three goals statements were developed that still direct the energies of the entire health science center.

TCOM's statement of educational goals, "Design of the Medical Curriculum in Relation to the Health Needs of the Nation," was adopted in 1980. This futuristic analysis boldly surveyed the health status and trends of the nation, the cost and quality of care, the distribution of care, and the merits and deficits of the existing system. It defined how the people and programs of TCOM should contribute to finding solutions for the problems. The goals made TCOM one of the first medical schools in America to change its curriculum to emphasize the prevention of disease, not just its treatment, and the recognition of the patient, rather than the physician, as the ultimate source of good health. (For more details , please see Chapter Five.)

TCOM's research goals statement, adopted in 1984, recognized that a strong biomedical research program is essential to the education of well-trained, scientifically responsive physicians and to the increased exposure of the osteopathic profession. It proposed an aggressive plan for increasing research publications, scientific presentations, funding, and collaborations between basic science and clinical faculty members.

In 1987, TCOM adopted a service goals statement declaring that acting for the benefit of others and directing one's activities to the improvement of human welfare is at the core of TCOM's philosophy. It outlined the responsibilities of the men and women of TCOM to be role models of service to the institution, the community and the profession.

Today, TCOM is the medical school of choice for 1,630 graduates and more than 400 current students.

Over 150,000 visits were made in 1994 to TCOM's 24 community health care sites. More than half the visits were for primary care in the medical school's six family medicine clinics, the two internal medicine clinics and the pediatric clinic. Other specialties within TCOM's practice network include obstetrics/gynecology, occupational health, osteopathic manipulative medicine, osteoporosis prevention and treatment, allergy/immunology, geriatrics, physical therapy, psychiatry, public health/preventive medicine, sports medicine/rehabilitation, international travel medicine, hyperbaric medicine, surgery, DNA identity testing and pathology.

Medical students work alongside physicians in these clinics, more than a dozen affiliated teaching sites across Texas and many local private practices, each experiencing about 3,800 hours of varied patient care before graduating.

TCOM faculty physicians also provide support for the city/county public health department, the Tarrant County Hosital District and the Tarrant County Medical Examiner's Office in addition to managing the corporate wellness programs for several large local employers and many small businesses.

TCOM Clinics

The following clinics are under the administration of the Department of Family Medicine:

Central Family Practice Clinic 999 Montgomery, Fort Worth Clifton Cage, D.O., Director

Godley Family Practice Clinic 117 Main Street, Godley William Clark, D.O., Director

Northside Family Practice Clinic 1851 Harrington, Fort Worth Richard Baldwin, D.O., Director

Seminary Drive Medical Center 1305 East Seminary Drive, Fort Worth John Whitham, D.O., Director

Southside Family Practice Clinic 959 E. Rosedale, Fort Worth John Carter, D.O., Director

Westside Family Practice and CHAMPUS Clinic 5944 River Oaks Boulevard, Fort Worth Stephen F. Urban, D.O., Director TCOM's specialty clinics/laboratories include:

Allergy and Immunology DNA/Identity Laboratory Gerontology Assessment and Planning Hyperbaric Medicine and Wound Care Internal Medicine Internal Medicine Northeast (in Bedford) International Travel Medicine Obstetrics and Gynecology Occupational Medicine and Corporate Health Osteopathic Manipulative Medicine Osteoporosis Prevention and Treatment Pathology/Clinical Laboratory Pediatrics Physical Therapy Psychiatry and Human Behavior Public Health/Preventive Medicine Sports Medicine/Rehabilitation Surgery

Clinical Teaching Affiliates

Several Texas health care facilities serve as affiliated teaching sites for TCOM students. They are:

Bay Area Medical Center Corpus Christi Mel S. Eliades, D.O. Director of Clinical Clerk Education

Dallas Family Hospital Dallas P.T. Sullivan, D.O. Director of Medical Education

Dallas/Fort Worth Medical Center Grand Prairie Steve Gates, D.O. Director of Medical Education

Darnall Army Community Hospital Fort Hood Diamond Hill Community Health Center Fort Worth Theresa Falcon, D.O., Director

Federal Medical Center Fort Worth John Barry, M.D., Clinical Director

Fort Worth Veterans Administration Outpatient Clinic Fort Worth J. Rush Pierce, M.D., Chief of Staff

John Peter Smith Hospital Fort Worth Woody V. Kageler, M.D. Vice President for Medical Affairs

Northeast Community Hospital Bedford Denise Peers, D.O. Director of Medical Education

Osteopathic Medical Center of Texas Fort Worth Deborah Blackwell, D.O. Director of Medical Education

Primary Care Clinic Granbury Elizabeth Palmarozzi, D.O., Clinic Director

Sam Rayburn Memorial Veteran's Center Bonham James Robbins, M.D., Chief of Staff

Tri City Health Centre Dallas Cynthia L. Shughrue, D.O. Director of Medical Education

The University of Texas Health Science Center at Tyler Tyler Arthur L. Frank, M.D., Ph.D. Director of Medical Education

William Beaumont Army Medical Center El Paso

North Texas Medical Education Consortium

The UNT Health Science Center is a founding member of the North Texas Medical Education Consortium, a precedentsetting effort to enhance both local health care and medical education. Other members of the collaboration, which was begun in 1992, are the University of North Texas, Harris Methodist Health System, the Osteopathic Medical Center of Texas, the Tarrant County Hospital District and the University of Texas Southwestern Medical Center at Dallas. The consortium's goals are to provide high-quality learning experiences for medical residents and health professions students and to improve access to health care for Tarrant County residents through collaborative training programs in hospitals and community clinics.

Center for Osteoporosis Prevention and Treatment

The center was established in 1994 by the Department of Internal Medicine's Division of Rheumatology to unite clinical and basic science expertise in fighting this debilitating affliction. Goals are: to foster research and clinical efforts to improve the diagnosis, prevention and treatment of osteoporosis; to provide devices and drugs to initiate and validate new preventive techniques and therapies; to forge partnerships with other medical schools since these studies involve large numbers of patients and multi-center research activities; and to develop educational programs and service models to educate the public and health care providers about osteoporosis.

Research protocols involve phase III and phase IV studies using novel pharmacologic agents for the prevention and treatment of osteoporosis. Research efforts are enhanced by the recent acquisition of a DEXA X-ray densitometer, which facilitates the early diagnosis of bone mineral density abnormalities. Funding is being sought to study the incidence of osteoporosis in ethnic minorities in north Texas as compared to the rest of the nation, to explore the quality-of-life changes that occur in osteoporosis patients and to discover novel therapies of treatment.

Institute of Forensic Medicine

Established in the early 1980s, the institute was revitalized in 1990 to bridge the teaching and research activities between the Department of Pathology and the Tarrant County Medical Examiner's Office. The goal of the institute is to further the teaching functions of both areas in undergraduate medical education.

The institute incorporates autopsy examinations attended by students to augment their knowledge and understanding of sudden death, pathophysiology and trauma. Medical students may also take an elective rotation that incorporates important laboratory elements for primary care practitioners, including forensic toxicology, scene investigation, criminalistics, more intensive exposure to forensic autopsies and the clinical laboratory.

Research interests of the institute faculty span the gamut of cases commonly seen in a busy, urban medical examiner's office. The focus is on sudden death due to cardiovascular disease, sudden infant death syndrome, gunshot wounds, blunt/sharp force injuries and the forensic aspects of mass disasters.

North Texas Eye Research Institute

Formed in 1992, the institute includes more than 20 faculty members from anatomy and cell biology, pharmacology, and biochemistry and molecular biology, as well as experts from Fort Worth's Alcon Research Laboratories and the ophthalmology community.

The institute's goals are to serve as an academic and research focus for basic and clinical science activities within the Fort Worth/Dallas Metroplex vision community and to offer pre- and postdoctoral academic and research experiences. Institute initiatives include the offering of visual science courses, a Visiting Distinguished Visual Scientist Seminar Program and a weekly journal club.

Specific areas of research interests include neovascularization, trophic factors, wound healing, aging, cell death, retina transplantation, glaucoma and diabetic complications.

Substance Abuse Institute of North Texas

The institute was inaugurated in 1993 by the departments of pharmacology and psychiatry and human behavior. Basic science and clinical faculty members of both the health science center and UNT collaborate in research, educational and service activities. An internationally recognized board of scientific advisors and civic leaders guide the institute's progress.

The institute encourages collaborative efforts by professionals from state agencies as well as from the private sector to help solve the widespread substance abuse problem. Faculty also develop and provide training at predoctoral, doctoral and postdoctoral levels. The institute also sponsors seminars for professionals and groups interested in substance abuse prevention and treatment.

Research projects focus on delineating molecular and neurobehavioral bases of the etiology and neuropathology of alcohol, cocaine, opiate, bensodiazepine, amphetamine and marijuana abuse. They include research on gene expression, receptor

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cloning, receptor functions and neurotransmitter abnormalaties related to substance abuse. There are active programs of preclinical research aimed at developing medications for cocaine abuse and alcoholism.

Texas Institute for Research and Education on Aging

The institute was formed in 1991 to coordinate the multidisciplinary expertise and resources of the University of North Texas in Denton and the University of North Texas Health Science Center at Fort Worth. The purpose of the institute is to develop internationally recognized and innovative research, educational programs and service models that promote the independence and well-being of older adults.

Research focused on the biology of aging encompasses a broad spectrum ranging from fundamental chemical and molecular biological changes to many of the physiological changes associated with aging.

The institute's clinical geriatric care and practice research involves sociologists, gerontologists, medical specialists and social workers who study the effectiveness of clinical services and identify the need for new programs.

Recent projects on the design and financing of long-term care systems focus on minority needs assessment and adult day health care. Such projects have the potential to help in policy analysis and the reshaping of community-based care in Texas and the nation.

An example of recent health promotion research by the institute is a project funded by the U.S. Administration on Aging that promotes well-being among senior volunteers through an intergenerational program to help new parents follow through with their children's immunizations.

Wound Healing and Hyperbaric Medicine Research Institute

The institute was established in 1992 through the research efforts of the Wound Healing/Tissue Repair Unit in the Department of Biochemistry and Molecular Biology and the Clinical Hyperbaric Research Group in the Department of Public Health and Preventive Medicine. Since substantial support is received from the pharmaceutical and biotechnology sectors, research partnerships extend outside the institution into the Fort Worth/Dallas Metroplex, the nation and internationally.

The goal of the institute is to serve as a vehicle for multidisciplinary research between the basic and clinical sciences and to conduct research not only at the fundamental tissue, cell and molecular levels but also in response to real clinical needs. A key purpose is to translate research results into viable treatments that minimize the pain and suffering caused by debilitating consequences of problem wounds.

Current research interests focus on the injury and repair of external epithelia such as skin and cornea, and internal surfaces such as the digestive tract. Of particular interest is the impact of aging and metabolic disorders such as diabetes on wound healing. Research emphasis is placed on the quality of wound healing with reduction in the scarring and keloid formation as a specific clinical interest. Treatment of tissue hypoxia with hyperbaric oxygen as a promoter of healing is of major interest. The impact of growth factor and cell replacement therapies is seen as the major future pursuit. In vitro models of the human skin and corneal tissues have been developed to provide reproducible and highly controlled studies on a variety of wounds and to reduce the use of animal models.

Institute of Nutrition and Chronic Disease Prevention

The long-term mission of this institute, formed in 1995, is to promote good health by preventing the development and progression of chronic diseases through an emphasis on sound nutritional practices.

The institute is developing three broad areas of focus: basic and applied research, higher education, and public education and community service. Activities will address the role of nutrition in preventing cardiovascular risk factors, lipoprotein metabolism and lipid-lowering drugs. Research will focus on the nutritional components and molecular mechanisms of disease processes at the cell, organ and whole organism level. Clinical activities will include the development of programs for diabetes, preventive cardiology, rehabilitation for those with vascular disease, osteoporosis, and dietary intervention in the aging process and cancer.

The formation of this institute will enhance collaborative research between physicians and basic scientists from a number of departments. More importantly, it will promote interactions with the local and national professional community.

Institutional Support Services

Department of Medical Education

The Department of Medical Education is an academic unit with a primary support function. The department supports the advancement of the health science center's community of scholars through faculty development. The department strives for qualitative improvement of all academic programs through curriculum development and the provision of logistical support services. The department seeks to provide insight into the reasoning processes employed by effective physicians and to facilitate their acquisition by the faculty and students of the health science center.

This department develops and maintains the academic schedules of the medical school, gives staff support to the Curriculum Committee and its subcommittees, maintains data files on the medical school curriculum and assists students in preparation for licensure examinations. The department also assists faculty with the development of their academic knowledge, skills and abilities.

Office of Research and Biomedical Technology

The Office of Research and Biomedical Technology develops policies and administers programs to enhance research and scholarly activity and to assure institutional compliance with all mandated requirements related to research. The office assists in proposal development, identification of and negotiations with potential sources of support, and post-award management of research funds, intellectual property, and patent and copyright matters.

The office coordinates all basic and applied research, clinical trials and biomedical technology programs, including the research institutes and centers of excellence. Programs that promote these activities include seminars and workshops, faculty research programs, summer research training programs, collaborative and community outreach activities and a variety of programs to encourage students to enter careers in the health sciences.

The office also plays a leadership role in establishing and nurturing new research partnerships, technology transfer, and commercialization with industry and the private sector.

Gibson D. Lewis Health Science Library

The health science center's library supports the education, patient-care, research and community-service functions of the institution by meeting the information needs of faculty, students, staff and the local health sciences community.

The library provides large collections of print and non-print materials in the basic and clinical health sciences. Library collections include more than 130,000 bound volumes and more than 2,000 biomedical journal titles.

The library's Special Collections includes 1,900 volumes, with primary emphasis on osteopathic medicine and 19th century American medicine. Also included is an oral history collection of recorded interviews with individuals who either witnessed or participated in the development of TCOM and the osteopathic profession in Texas.

The Learning Resource Center houses an audio-visual software collection of some 4,500 programs, computer software and 90 anatomic models. Rooms and carrels also are equipped with video playback and slide-tape equipment for both large and small group viewing.

The LRC houses a Microcomputer Teaching Laboratory used for a computer literacy program. The lab contains 24 user stations (Macintosh II and IBM PC), an instructor station and a variety of printers. The library provides access through interlibrary loan to the collections of 25 members of HEALTHLINE, a local consortium of libraries, to the collections of 14 other medical school libraries that are members of the South Central Academic Medical Libraries Consortium, and to the services and resources of the National Network of Libraries of Medicine, South Central Region (including Texas, Arkansas, Louisiana, Oklahoma and New Mexico) and its national counterpart, the National Library of Medicine in Bethesda, Md.

Traditional reference services as well as the latest in on-line information services are provided to faculty, staff and students through MEDLINE and more than 200 other databases and files. The library is totally automated having installed the Library Information System (LIS) developed by Georgetown University Medical Center. The system provides access to library collections as well as to information from the full CD Plus MEDLINE database, which indexes more than 3,000 biomedical journals since 1966.

Library services, including free document delivery, are provided for third- and fourthyear TCOM students on rotation in local clinics and hospitals through the Extramural Services Program. Twenty rotation sites are equipped with telefacsimile units that give students access to the library's computer searches and/or articles within minutes.

The 110,000-square-foot library building was funded by state appropriations of \$10.8 million to house the library, biomedical communications and campus computer facilities. The library occupies about 53,000 square feet on the top three floors of the four-story facility, and can accommodate more than 200,000 volumes and more than 500 users.

Biomedical Communications

The Department of Biomedical Communications is an educational service unit that supports development and implementation of health science center programs. Composed of medical arts/photography, print services, audio-visual/television and electronic engineering, the department's primary functions are the design and production of various forms of learning materials and the repair of equipment used by faculty and students.

Videotaping of procedures, patients or lectures, as well as production of specialized educational or promotional programs, is available both in the studio and on location. New video teleconferencing technology links the health science center and the University of North Texas in Denton to teach courses and conduct meetings. The department also receives programs on a variety of medical and policy issues via satellite.

Classroom playback of instructional videos, set-up of audio-visual equipment for classroom use, student equipment check-out, maintenance of biomedical and electronic equipment, audio-visual systems design, and duplicating and offset printing are additional services offered by the department.

Medical arts personnel create charts, graphs, illustrations, posters, brochures, newsletters and magazines for the various educational, research and community service endeavors of the institution. Medical photographers provide the prints and slides to complete these instructional and promotional materials, as well as on-site photography of patients, procedures and important events.

Information Technology Services

Information Technology Services provides quality computer and telecommunication services to all academic, academic administrative and fiscal administrative areas of the health science center.

Academic Information Services administers the National Board of Medical Examiners and United States Medical Licensing Examinations, and provides scoring for classroom examinations. The effectiveness of TCOM's undergraduate and graduate curriculum is monitored through course and instructor evaluations. Using academic performance databases, this division provides analysis and reporting for a variety of academic and administrative applications.

Systems and Programming Services designs and implements computer systems and programs for fiscal and academic administrative areas of the institution. Currently, the division is completing a project to integrate all management information, from areas both internal and external to the health science center, into an enterprise-wide data system.

Network and Microcomputer Services is responsible for the design, installation and maintenance of academic and administrative local-area networks (LANs) on campus. Computer users connected to the LAN have access to a variety of software programs and are able to exchange data and electronic mail with users across the institution and off campus. Dial-in access is available for both IBM and Macintosh platforms.

The division provides consultation and user assistance to computer users relative to hardware and software use, communications, printing and planning a computer purchase.

Telecommunication Services operates and maintains the campus-wide telephone system with state-of-the-art equipment and software, and maintains and produces an inhouse telephone director for faculty and staff. This division also manages the telephone voice mail system, as well as all pagers and answering services, and advises users about cellular telephones. The division is responsible for submitting the Yellow Pages and White Pages information to appropriate telephone companies.

Records Mangement maintains a program for the economical and efficient management of institutional records. The division is responsible for the preparation and maintenance of the records-retention schedule and approves all requests for the disposal of state records and the conversion of paper files to CD-ROM and optical disk.

Continuing Medical Education

The Office of Continuing Medical Education is recognized as a leader in providing continuing education programming for physicians licensed to practice in Texas. The CME Office has been designated a provider and has accreditation status with the American Osteopathic Association and the Accreditation Council for Continuing Medical Education.

The CME Office provides an extensive calendar of conferences and medical symposiums on current topics that responds to the needs of medical practitioners in both rural and urban areas. Each year a comprehensive assessment is conducted to ensure that CME programming is directly related to the needs of practicing physicians.

Two/Admissions, Financial Aid and Fiscal Policies

Admission Requirements

To be considered for admission to Texas College of Osteopathic Medicine a candidate must meet the following requirements:

• The Medical College Admission Test (MCAT). The MCAT must have been taken no earlier than three years before application. The MCAT is administered in April and August of each year. Applicants are strongly urged to take the spring MCAT in the year before possible matriculation. Results from the fall MCAT will delay the completion of an application. Later scores may be considered at the discretion of the Admissions Committee. Information about the MCAT may be obtained by writing:

Medical College Admission Test Program P.O. Box 4056 Iowa City IA 52243

- Three years of college (90 semester hours or the equivalent number of quarter hours) at an accredited U.S. college or university. Strong preference will be given to applicants who have earned a bachelor's degree before matriculation. Required college-level courses taken for graded credit are:
- **Biology:** One academic year with laboratory experience as required for biology majors. Courses should cover the cellular and molecular aspects, as well as the structure and function, of living organisms.
- Chemistry: Two academic years with laboratory experience as required for chemistry majors. Academic year courses in general (or inorganic) and organic chemistry usually meet this requirement. Other options that adequately prepare

students for the study of biochemistry and molecular and cellular biology in medical school will be acceptable.

- Physics: One academic year with laboratory experience as required for physics majors.
- Expository Writing: One academic year. May be met with courses in creative writing, English or non-science courses that involve considerable expository writing.

Beyond these requirements, applicants are strongly encouraged to broaden their education by taking courses in the behavioral sciences and the humanities. The choice of a major field(s) of study is up to the applicant.

The processing of an application will be delayed if MCAT scores or grades from required courses are not included in the original application.

Health and Technical Standards

All candidates must meet health and technical standards to be admitted and participate in the educational programs of TCOM. Because the doctor of osteopathic medicine (D.O.) degree signifies that the holder is a physician prepared for entry into the practice of medicine within postgraduate training programs, it follows that the graduates must have the knowledge and skills to function in a broad variety of clinical situations and be able to provide a wide spectrum of patient care.

A candidate for the D.O. degree must have abilities and skills in five areas: observation; communication; motor; conceptual, integrative and quantitative; and behavioral and social. Technological compensation can be made for some disabilities in certain areas, but a candidate should be able to perform in a reasonably independent manner. The use of a trained intermediary means that a candidate's judgement must be mediated by someone else's power of selection and observation.

1. Observation. The candidate must be able to observe demonstrations and experiments in the basic sciences including, but not limited to, physiologic and pharmacologic demonstrations in animals, microbiologic cultures and microscopic studies of microorganisms and tissues in normal and pathologic states. A candidate must be able to observe a patient accurately at a distance and close at hand. Observation requires the functional use of the sense of vision and somatic sensations. It is enhanced by the functional use of the sense of smell.

2. Communication. A candidate should be able to speak, hear and observe the patients in order to elicit information; describe changes in mood, activity and posture; and perceive nonverbal communications. A candidate must be able to communicate effectively and sensitively with patients. Communication includes not only speech but also reading and writing. The candidate must be able to communicate effectively and efficiently in oral and written form with all members of the health care team.

3. Motor. Candidates should have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other diagnostic and therapeutic maneuvers. A candidate should be able to do basic laboratory tests (urinalysis, CBC, etc.), carry out diagnostic procedures (protoscopy, paracentesis, etc.), and read EKGs and X-rays. A candidate should be able to execute motor movements reasonably required to provide general care, osteopathic manipulation and emergency treatment to patients. Examples of emergency treatment reasonably required of physicians are cardiopulmonary resuscitation, the administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, the suturing of simple wounds and the 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, calculations, reasoning, analysis and synthesis. Problem solving, the critical skill demanded of physicians, requires all of these intellectual abilities. In addition, candidates should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

5. Behavior and Social Attributes. Candidates must have the emotional health required for full use of their intellectual abilities, the exercise of good judgement, 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, display flexibility and learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that will be assessed during the admission and education processes.

Application Procedures

TCOM participates in the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS).

Applicants using AACOMAS should be applying for the first year of study leading to the doctor of osteopathic medicine (D.O.) degree. Students applying for transfer should request application information from the Office of Medical Student Admissions. (See Procedures for Transfer, p. 15)

The procedures are:

1. For the entering class of 1996: Applications can be submitted to AACOMAS beginning July 1, 1995; the deadline for receipt of applications is December 1, 1995. Early applications are more effective than late ones, even if late applications meet the stated deadline.

The Office of Medical Student Admissions urges all applicants to submit their applications as early as possible, preferably no later than October 1.

2. AACOMAS application request cards may be obtained from the Office of Medical Student Admissions or from a health professions advisor. An applicant should mail the card to AACOMAS for the application and return the completed application to AACOMAS. Official transcripts from each college and university should be sent to AACOMAS. Please do not send applications and transcripts to TCOM if application is made before the December 1 deadline for receipt of these materials by AACOMAS.

3. Await notification of the receipt of the application. An applicant will first receive notice from AACOMAS and later from the Office of Medical Student Admissions.

For each applicant, there will be an initial review of MCAT scores, the AACOMAS application and the entire academic record. After this screening, a decision will be made on whether or not to continue processing the application. If the application is considered further, the following information will be requested:

- Responses to a supplemental application form.
- Letters of evaluation from a premedical/ health professions advisory committee or letters from faculty members who know the applicant well.
- Letters of evaluation from the applicant's most recent employer or from another person who knows the applicant well are optional. Letters from relatives are unacceptable.

If the applicant has worked extensively during college or is applying several years after college, three letters from employers and supervisors are appropriate in lieu of faculty letters. Please consult the Office of Medical Student Admissions about this situation.

After all required letters of evaluation are received, they will be added to the applicant's file and reviewed along with the other supporting materials. Decisions will then be made on which applicants to invite for personal interviews. Applicants who are not invited for interviews will be withdrawn from further consideration.

Applicants accepted before June 1 may delay their matriculation for one year and are guaranteed admission the following year. The request for deferment must be in writing.

Physical examination forms are sent to all accepted applicants. The form should be completed by the applicant's physician or, if the applicant chooses, the physical examination may be performed by a physician at TCOM's Central Family Practice Clinic. There is no fee, except costs of laboratory tests as needed.

Early Decision Program

In addition to processing an application as described, TCOM has an additional route of application, the Early Decision Program (EDP). Applicants can take advantage of the EDP if they:

- are Texas residents.
- have exceptional GPA and MCAT scores.
- apply only to TCOM.

Applicants who are interested in the EDP should submit their application to AACOMAS as soon as possible after June 1. The Office of Medical Student Admissions must receive all application materials no later than August I, and all decisions on EDP applicants are made by October 1. If an applicant is accepted under the EDP, the applicant is obliged to accept the offer.

For well-qualified candidates who have a preference for TCOM and desire an early decision, the EDP is an advantage.

Applicant Selection

As a state-supported medical school, TCOM is required to admit 90 percent Texas residents for each entering class of 115 students. There is strong competition for the 10 percent of non-resident positions in each entering class. All applicants must be U.S. citizens or permanent residents in order to be considered.

The Admissions Committee selects applicants who are academically competent to accomplish the work necessary to successfully progress through the curriculum and who demonstrate the greatest promise of becoming competent osteopathic physicians.



Academic excellence alone does not assure acceptance. Evidence of personal integrity, maturity, creativity, motivation for medicine, the ability to work cooperatively with others and a sense of dedication in service to others are factors that will be evaluated by the committee. These qualities and attitudes will be evaluated by several means, including letters of evaluation, the scope and nature of extracurricular activities, the breadth of undergraduate education and personal interviews. The committee will look at all aspects of the applicant's entire academic record, including trends in scholastic performance. The committee also considers an applicant's personal experiences, job history (if applicable) and the motivation to become an osteopathic physician. An interviewed candidate can be accepted, rejected or placed on an alternate list.

There is no prejudice for or against any applicant who reapplies. If possible, such applicants are encouraged to identify any liabilities and rectify them before reapplying through AACOMAS. Applicants who are not accepted have the opportunity to review their applications with an admissions officer in an effort to pinpoint the reason(s) for the action.

Student Diversity

The University of North Texas Health Science Center is committed to the policy that all applicants will be considered without regard to age, race, creed, sex, national origin, veteran's status or disability.

The health science center actively recruits qualified ethnic minorities and promotes the benefits of multi-cultural awareness and diversity. Once admitted, competitive students are eligible for a number of attractive financial aid packages, including scholarships, loans, grants and other assistance. An experienced support staff also is available to assist students in completing the curriculum. In addition, several campus organizations are oriented toward minority and other underrepresented students. Further information may be obtained from the admissions, student affairs and financial aid offices.

Texas Residency

The rules and regulations for determining residency status are set forth by the Texas Higher Education Coordinating Board. Residency for the academic year is based on the student's status as of the annual registration day. Questions regarding these requirements should be referred to the Office of Medical Student Admissions.

An alien living in the United States under a visa permitting permanent residence, or one who has filed with the proper federal authorities a declaration of intention to become a citizen, has the same privilege of qualifying for Texas residency status for tuition purposes as has a U.S. citizen.

Procedures for Transfer

Students enrolled in fully accredited medical colleges in the United States may be considered for admission in advanced standing (transfer) to the third year of medical studies at TCOM upon completion of the equivalent of the first two years of medical education as now offered at TCOM. The applicant must have valid personal reasons for transfer, maintained good academic standing and meet all other requirements for admission. Applicants must be in good academic standing at the school where they are enrolled and be eligible for continuation there.

Admission is competitive and depends upon place availability in a given class. No specific number of spaces is set aside for advanced standing (transfer) candidates.

Preliminary Requirements

Before any application for admission in advanced standing (transfer) is processed, an applicant must first submit the following information:

- Official transcripts of all medical school coursework.
- Official copies of the medical school curricula where attended.
- Evidence of Texas residency.
- Indicate if a previous applicant to TCOM and the outcome of that application.

If any of these requirements are not met, the application will be denied and further processing will be terminated.

If all preliminary requirements are met, you will be invited to submit all the required materials and information as detailed below.

Guidelines for Eligibility

- An applicant who has been dismissed from or has withdrawn from another medical college for academic reasons will not be considered for advanced standing (transfer).
- An applicant who has previously applied to TCOM for admission as a first-year student and was not accepted will be considered for advanced standing only if academic performance in medical school has been distinguished as determined by the Admissions Committee.
- An applicant who has taken all premedical or medical school studies in foreign institutions — including the medical schools of the Caribbean region — will not be considered for admission in advanced standing.
- Applicants from related professions, such as dentistry, or those who have completed the sciences basic to medicine as a graduate or health professional student

are considered for admission only to the first-year medical class, regardless of the degree held. However, if admitted, such students can request advance placement examinations in the subject areas previously completed.

Requirements

If all the aforementioned preliminary requirements are met, the following are required for full consideration as an applicant for admission in advanced standing.

- A completed application obtained from the Office of Medical Student Admissions and a filing fee of \$100. The deadline for receipt of applications is February 1 of the year of proposed matriculation. All necessary supporting documents must be received by March 1 of the year of proposed matriculation. Incomplete applications will be withdrawn from further consideration. No exceptions will be made.
- Official transcripts from all undergraduate colleges, graduate schools and medical colleges. Official transcripts of the most recent medical school studies completed are needed first. Copies of transcripts are not acceptable.
- A letter of evaluation from the dean of students at the medical school currently being attended. This letter must indicate that the dean of the school has given full approval for the application for transfer.
- Official scores from all Medical College Admission Tests taken.

- Passing scores on all external examinations taken (NBOME, USMLE). Official test results should be sent directly to the Office of Medical Student Admissions from the testing boards. The applicant should indicate when examinations are to be taken if no scores are available.
- A personal statement of reasons for applying for admission in advanced standing. This statement should be addressed to the Admissions Committee.
- A personal interview. Applicants who are under serious consideration may be invited to TCOM for personal interviews at the discretion of the Admissions Committee.

The Admissions Committee will consider only applications that are complete in every aspect and received on or before February 1.

UNT/TCOM Seven-Year Dual-Degree Program

TCOM and the University of North Texas offer a cooperative baccalaureate/ osteopathic physician program wherein UNT students can earn their baccalaureate and D.O. degrees in seven years instead of the usual eight. Qualified students earn a bachelor's degree in either biology, chemistry or biochemistry after completing three years at UNT and the first year at TCOM. Then, after the last three years in the TCOM curriculum and successful completion of graduation requirements, the students earn their doctor of osteopathic medicine degrees. For entrance requirements and more information, contact the Office of Medical Student Admissions.

Student Financial Aid

The University of North Texas Health Science Center offers a number of scholarship and loan programs to assist students in meeting the costs of financing a medical education. Though financial aid is an alternative for eligible students, it should be considered a supplement to a student's own financial resources.

A student may apply for financial aid by completing the Free Application for Federal Student Aid (FAFSA). This should be done immediately upon acceptance to TCOM and yearly thereafter.

Federal Programs

Students who complete the FAFSA, show financial need as determined by the needsanalysis service and meet all general eligibility requirements as outlined for each program may apply for federal financial aid. In addition, most aid programs require that the recipient adhere to academic and/or financial criteria in order to maintain eligibility. Some programs have limited funds; therefore, student files that are completed first are considered first. Major federal programs available include:

- Exceptional Financial Need and Financial Assistance for Disadvantaged Health Professions Students Scholarship Programs
- Federal Work Study
- Scholarship for Disadvantaged Students
- Health Education Assistance Loan Program
- Loans for Disadvantaged Students
- Federal Perkins Loans
- Federal Family Education Loan Programs

Students interested in the armed forces programs should contact their local recruiter or a recruiter in the Dallas/Fort Worth Metroplex.

In addition, students may apply through

the health science center's Financial Aid Office for various state, institutional and private scholarship/loan programs. Students may also apply directly to private foundations for scholarships and loans. Several programs have individual selection criteria and various award limits. Contact the Financial Aid Office for more information.

Fiscal Policies

The UNT Health Science Center is a state-supported institution subject to state laws. However, students have an option to pay tuition and fees by installment. All other financial obligations to the college must be paid in advance. Fees are subject to change by the Board of Regents, the Texas Legislature or legal rulings of the Texas attorney general.

Tuition Refund Policy

A tuition refund is based on the date of withdrawal. A request for withdrawal must be submitted to the executive dean of TCOM, and a withdrawal form must be signed by the registrar. Upon official notification of withdrawal by the registrar, the Accounting Office will mail the appropriate refund to the student's forwarding address and/or to the applicable federal loan program. (See other withdrawal information elsewhere in this catalog.)

Payment plan fees, late fees and ID card fees are not refundable. By action of the

Board of Regents, no part of the fees or tuition can be refunded to students who withdraw, for any cause, after the twentieth day of each semester except for those students attending their first semester at TCOM who receive financial aid. Those students will receive a pro-rated refund based on the number of weeks remaining in the semester provided they leave before the 60percent-completion point of the semester. After the 60-percent-completion point, the institutional refund policy described below will be followed.

The schedule for refunds under the regulations for all other students is 80 percent first week, 70 percent second week, 50 percent third week and 25 percent fourth week.

Tuition, Fees and Other Charges

1995-96 in-state tuition: \$6,550.

1995-96 out-of-state resident/foreign student tuition: \$19,650.

Estimated 1995-96 expenses for nine months for a single student: \$19,563 (includes in-state tuition, fees, books, supplies, room and board, transportation and personal expenses).

The following fees apply to all students during the 1995-96 academic year:

Student Service Fee: \$155 per academic year (includes cholesterol screening fee for first-year students).

Building Use Fee: \$180 per academic year.

Medical Malpractice Fee: \$25 per academic year.

Activity Center Fee: \$50 per academic year.

Medical Service Fee: \$75 per academic year.

Property Damage Fee: \$10 one-time charge. Each student pays the deposit, which is refundable by request upon final withdrawal or graduation. If not claimed within four years after last enrollment date, the deposit is forfeited.

Student Identification Card: \$5 for first-year students.

Laboratory Fee: \$25 per academic year for first- and second-year students.

Microscope Fee: \$50 per nine-month academic year for first- and second-year students. Microscopes are used for laboratory instruction in the Departments of Anatomy and Cell Biology, Microbiology and Immunology and Pathology, according to procedures established by the departments.

Computer Fee: \$50 per academic year for first-, second- and third-year students.

Graduation Fee: \$30 per academic year for fourth-year students.

The following fees also are in effect during the 1994-95 academic year:

ID Card Replacement Fee: \$10.

Late Registration Fee: first day, \$5; second day, \$7.50; third day, \$10; fourth day, \$12.50; fifth day, \$15; sixth day, \$15.

Late Tuition Payment Fee: The rate is \$15 per month to be applied as of the first day of the month follow-ing each beginning semester date.

Installment Payment Plan Fee: \$15.

Transcript Fee: \$4 per copy. The first TCOM transcript is free.

Photocopy Fee for Diploma: \$6 per copy.

Returned Check Service Charge: Any check returned to the college must be redeemed by the person writing the check. A service charge of \$5 must be paid.

Special Examinations: These are based on the charge of the examining body or agency at the time of the examination.

Parking Fee (Optional): Reserved parking with unassigned space is available at \$75 per academic year; restricted parking without assigned space is available at \$30 per academic year.

Student Responsibilities

Each student enrolled in the University of North Texas Health Science Center/Texas College of Osteopathic Medicine is individually responsible for knowing current scholastic regulations, the general and specific requirements, and the operational policies that apply to registration and instruction.

Scholastic Regulations

This catalog contains the official scholastic regulations of TCOM. Academic policies and scholastic regulations also are presented in the Student Handbook and other official college documents.

A student who completes the curriculum in four consecutive years is required to meet the graduation requirements listed in the catalog of entry and/or any subsequent or additional program requirements. In the event of an extension beyond the four years, the student must meet the requirements for the class with whom the individual graduates.

The college reserves the right to amend or add to the scholastic regulations at any time during the enrollment period provided that such changes or additions are intended to improve the quality of medical education in the college, and are introduced in a fair and deliberate manner with appropriate notice provided to all students affected by the changes.

A student who is required to repeat an academic year will meet all graduation requirements listed in the catalog in effect for the class with whom the individual graduates.

A student who is required to repeat or remediate courses may be subject to certain scholastic regulations other than those established for the student class with which the individual entered the college, as determined by the vice president for health affairs and executive dean of TCOM.

The academic record of any student who has been dismissed and reapplies will be a part of the materials reviewed for readmission. If allowed to reapply, the student will not have to apply through AACOMAS, but must go through the entire TCOM admissions process.

Course Syllabus

The course syllabus contains specific educational requirements — assignments, evaluations, grading and other conditions of performance — that must be satisfactorily completed in order to receive a passing grade. Modifications to the requirements and procedures of a course may be made when judged necessary to improve instruction or to conform to scholastic regulations of the college.

Attendance

Attendance is expected of students at all lectures. One hundred percent attendance is required at all laboratories and clinical experiences.

There are limited excused absences with permission of the vice president for health affairs and executive dean of TCOM. It is recognized that there may be isolated instances when an individual must be absent; however, the student who misses a class is not excused from the subject materials presented during the lecture or laboratory period. No makeup laboratories will be conducted.

In the rare event of absence from an examination, written permission to take a makeup examination must be obtained first from the department chairman and then the associate dean for basic sciences or assistant dean for clinical affairs. It is essential that each student make every effort not to miss any examination.

Students may receive excused absences for certain college-related activities. No

absences will be excused without written approval, in advance, from the vice president for health affairs and executive dean of TCOM.

As professionals, students are expected to adhere to this attendance policy with diligence.

Any exception to this policy may be made only with the approval of the associate dean for student affairs.

Participation in Special Environments

Medical education occurs in a special environment in which all students will participate in order to satisfactorily complete the course of instruction. Classrooms, laboratories and clinical facilities require physical, chemical, social and interpersonal environments in which each student must participate in order to accomplish the educational requirements established for all courses. Failure to participate in required academic classes will result in consideration for dismissal from the college.

Registration

Registration is conducted annually during the summer at TCOM for first-, second- and third-year students. Fourth-year students register by mail.

Registration consists of paying tuition and fees and completing registration forms for the Office of the Registrar, Financial Aid Office and Office of Student Affairs.

Students may register for and attend only those courses and clinical rotations listed on their official academic schedules of classes, as approved by the vice president for health affairs and executive dean of TCOM. Students may not be enrolled in two or more courses meeting at the same time.

Only students properly enrolled by the registrar may attend classes. Any examinations or other materials completed by an individual who is not officially enrolled will be destroyed. No record will be kept of examinations or other academic work done by individuals whose enrollment in a course has not been authorized by the registrar. Examinations or other course materials completed by a dismissed student who is attending classes while under an official appeal will not be scored and will be retained by the registrar pending outcome of the appeal.

Late fees are assessed for each day following the designated date of registration. A check returned because of insufficient funds will incur a penalty and also may result in a charge for late registration. (See Fiscal Policies, p. 17, for more information.)

Immunizations

The Texas Department of Health requires that all students in higher education institutions must show proof of immunizations before registration. Any validated document of immunization presented by a student is acceptable provided it shows the day, month and year when each immunization was received. Proof of required immunizations must be submitted to the registrar at the time of registration.

Such proof is not required for an individual who submits an affidavit or certificate signed by a physician licensed to practice in the United States that states, in the physician's opinion, the required immunization would be injurious to the health and well-being of the student or any member of his or her family or household. Unless a lifelong condition is specified, the affidavit or certificate is valid for one year from the date signed by the physician and must be renewed every year for the exclusion to remain in effect.

Immunization conditions required by the Texas Department of Health are that: all students born after January 1, 1957, who are enrolled in health-related courses that involve direct patient contact in medical care facilities must show proof of two doses of measles vaccine, one dose of mumps vaccine or proof of immunity to these diseases; and all students must show proof of one dose of tetanus/diptheria vaccine within the past 10 years; all students enrolled in health-related courses must show proof of either one dose of rubella vaccine administered on or after the first birthday or serologic proof of rubella immunity; all medical students, residents and interns shall receive a complete series of hepatitis B vaccine or show proof of serologic immunity.

Prospective students may be given provisional enrollment of up to one semester to attend classes while getting the required immunizations or documentation as long as no direct patient care is involved.

Student health care providers cannot be provisionally enrolled without the receipt of

at least one dose of the MMR vaccine if direct patient contact will occur during the provisional enrollment period.

Hospitalization Insurance

All students are required to provide for their own health insurance while attending TCOM. Effective June 1, 1992, each student enrolled is required to show proof of health/ hospitalization insurance at the time of registration. Recognized proof of coverage is a photocopy of the policy naming the student as insured or a letter from the insurance company stating that the student is insured for hospitalization care. Proof of coverage must be submitted to the registrar.

Students without insurance coverage may elect to purchase hospitalization insurance from a carrier of their choice or purchase the Student Hospitalization Plan endorsed by the college. Insurance information, rate of annual premium and applications may be obtained from the Office of Student Affairs.

Records

Transcripts

The term academic transcript refers to a copy of the official permanent record of a student's approved academic course work, including academic marks, scholarships and degrees. At the student's request, a class rank may be shown on the transcript.

Class rankings are established once a year after the end of the spring semester. To request information about a class ranking, a Rank Request form from the Office of the Registrar must be completed. The request will be processed and sent within 24 hours to the student's box or home address or to external agencies as requested by the student.

Students may obtain copies of their transcripts by submitting written requests to the Office of the Registrar. The first copy of the TCOM transcript is free. A \$4 fee is charged thereafter for each official transcript. A \$1 fee is charged for each copy of an undergraduate transcript in a student's file.

Acts of the 61st Texas Legislature, Chapter 675, 1969 Regular Session, provide legal penalties for any alteration of academic records or transcripts with the intent to use such a document fraudulently. A person who violates this act or who aids another in violating this act is guilty of a misdemeanor and upon conviction is punishable by a fine of not more than \$1,000 and/or confinement in the county jail for a period not to exceed one year.

Accessibility of Student Records

The Family Educational Rights and Privacy Act of 1974, also known as the Buckley Amendment, grants students in institutions of higher education the right of access to their educational records. It grants students the right to inspect their educational records, with the exception of confidential letters and statements of recommendation that the student has waived the right to inspect.

Before disclosing any personally identifiable information, the health science center must obtain written consent from the student.

The Family Educational Rights and Privacy Act considers certain information to be "directory information" and subject to disclosure without prior consent from the student. Directory information relating to students includes the following: the student's name, address, telephone listing, date and place of birth, hometown, major field of study, participation in officially recognized activities and sports (including weight and height of members of athletic teams), classification, degrees and awards received, the most recent educational agency or institution attended by the student and the dates of attendance.

⁼ Students who desire that all or part of their directory information not be released must submit a written request to the Office of the Registrar during the first 12 days of the fall semester. Forms for submitting the written request to withhold directory information are available in the student's fall registration packet and in the Office of the Registrar.

Grades and other academic evaluations will be made available to the vice president for health affairs and executive dean of TCOM and to other center personnel as the executive dean may direct so as to carry out administrative and academic responsibilities of the center.

The health science center will notify students in writing of the academic offices in which their educational records are maintained at fall registration each year.

Grades

Numerical Course Grades

The grading standard for all TCOM courses will be a numerical system ranging from 0 to 100, with 75 as the lowest passing grade. A grade of 74 or less is defined as a failing grade. Numerical course grades will be rounded off to the nearest whole number (e.g., 74.1 to 74.4 will be recorded as a 74; 74.5 to 74.9 will be recorded as a 75).

For purposes of promotion and graduation, a cumulative weighted average of 75 or better is required. The weighted average for a block or semester is determined by dividing the total number of grade points earned by the total number of hours attempted, excluding courses in which a "CR" grade is achieved.

Grade points for a course are the product of the number of hours for that course and the numerical grade received. If the numerical grade is below 75 (74 or less), the earned grade points will be given for that course. The cumulative weighted average is obtained by dividing the total number of grade points earned in all courses by the total hours of all courses attempted. (See Remedied Grades.)

Grade Symbols and Designations

W: Withdrawal in good academic standing or Withdrawal, not in good academic standing. WP: Withdrawal passing. WF: Withdrawal failing. NC: No credit. CR: Credit. I: Incomplete. AUD: Audit.

Recording Grades

No grade will be removed or deleted from a student's official permanent record once properly recorded, except in the case of inaccurate recording. All incomplete "I" grades will remain on the student's transcripts, but will be slashed and the earned grade recorded next to the incomplete grade. It is assumed that faculty members exercise their best judgment in formulating grades. Changes are not permitted after grades have been filed with the registrar, except to correct clerical errors. A request for error correction must be initiated within 30 days after the close of the semester or term for which the grade was awarded. Requests for correction after 30 days require approval of the vice president for health affairs and executive dean of TCOM.

Appropriate payment of tuition and fees must be made in order for final course grades to be entered in the student's official permanent record. Grades assigned during a period of instruction for which there are unpaid tuition and fees will be made available by the registrar for official college purposes, such as the review of academic performance. However, those grades will not be entered on the student's official permanent record or released on an academic transcript until appropriate payment is received by the college.

Incomplete Grades

A grade of "I" (Incomplete) will be assigned only when a student has not completed all academic requirements and assignments, including regular examinations, due to documented illness or circumstances beyond a student's control. A student may not advance to the next academic year until all failures and incomplete ("I") grades are remedied. All incomplete "I" grades will remain on the student's transcript, but will be slashed and the earned grade recorded next to the incomplete grade. A student will not be promoted to clinical rotations with an incomplete grade without prior approval of the vice president for health affairs and executive dean of TCOM.

Semester Grades

Grades are reported to the Office of the Registrar within seven working days of the conclusion of a course.

Grades are mailed to students at the end of each semester. The semester grade report

includes grades for the present academic term as well as the cumulative weighted average earned throughout the academic program.

Grades will not be released over the telephone and will be kept in confidence.

Students who fail an examination are required to consult with the course director within five working days following notification of the failed examination.

Remedied Grades

A student who receives a failing grade (74 or less) in a course will have to repeat that course in accordance with the promotion requirements and achieve either a grade of 75 or a "CR." Failure to achieve either a grade

of 75 or better or a "CR" in a remedied or repeated course is grounds for dismissal.

When a course is repeated or remedied, all attempted credit hours and earned grade points are counted in computing the cumulative weighted average. An asterisk is placed next to these courses to indicate that the course has been repeated. Entries for the repeated course and the remedied grade are shown elsewhere on the transcript.

Course/Instructor Evaluation

Each student has a responsibility as a professional to provide constructive evaluation of each course, clinical rotation and instructor in the curriculum. This responsibility will be met by participation in the course evaluations routinely administered by the college.

According to the Administrative Policy on Student Evaluation of Courses and Instructors, each student is required to complete course/instructor evaluations in order to receive a grade for the course.

If a student fails to complete course/ instructor evaluations, grades earned in the applicable courses will be made available by the registrar for official college purposes (such as the review of academic performance) but will not be entered on the student's official permanent record or released on an academic transcript until satisfactory completion of the course/ instructor evaluations.

Any student who fails to meet this requirement will receive a grade of "I" (Incomplete), which can be remedied only by satisfactory completion of the course/ instructor evaluations. The incomplete "I" grade will remain on the students transcript, but will be slashed and the earned grade recorded next to the incomplete grade.

Special Academic Programs

A student may request the privilege of a special academic program under extenuating circumstances. Requests to be considered for a special academic program will be directed to the vice president for health affairs and executive dean of TCOM, who will act on the request after consultation with the Student Performance Committee, Office of Academic Affairs and appropriate faculty members. There is no assurance that requests will be granted.

Guidelines for a special program are as follows:

- Requests for a special program must be made either before enrolling in the fall semester of the freshman year or within three weeks after the beginning of the first semester of each year of classes.
- No request will be considered at any other time in the year unless there is documented evidence of a medical or personal problem that would prevent the student from completing the year with a full course load. Under no circumstances will special programs be granted to students only for reasons of not being in good academic standing or to students who have not applied themselves in studies, including attending class.

Furthermore, students should have indicated, as proven by their efforts at the health science center, that they have the characteristics to be successful in the medical school curriculum.

• Any student (other than a transfer student) granted a special program will be placed on a five-year program. All academic and non-academic requirements of the college will apply to any student on a special program.

Auditing

Students may audit classes if they have obtained permission from the vice president for health affairs and executive dean of TCOM and have paid all tuition and fees. These students will be expected to meet all classes and take examinations unless prior arrangements have been made with the course director and department chairman. No grades will be given for audited classes, but these courses will be shown on the academic transcript.

Advanced Placement

To qualify for advanced placement a student must have taken a course judged equivalent by the appropriate academic department within two years before the first date of classes at TCOM and must have been awarded a minimum grade of "B." Candidates who fail these criteria may still be recommended for advanced placement by a department if they have completed a similar course and have obtained a minimum grade of 80 or above in a written comprehensive examination given by the department.

Requests for advanced placement or waiver for any TCOM course must be declared by the student on the day of first registration for TCOM or not later than the first day of classes of the first year of study. The student must then present all supporting documents to the appropriate academic department through the Office of the Registrar. In the case of a first semester, Year 1 course, the student is required to attend all classes and take all exams until the disposition of the advanced placement request. The departmental recommendation will be reviewed in the Office of Academic Affairs and must be approved by the vice president for health affairs and executive dean of TCOM.

The decision regarding a request for advanced placement will be transmitted in writing to the student by the vice president for academic affairs and dean, who also will instruct accordingly the registrar and the concerned department.

Courses for which advanced placement is granted will be assigned the grade "CR," which will not contribute to the student's cumulative weighted average.

Examinations

Subject Exams in Basic Sciences

At the end of each semester a series of National Board of Medical Examiners-based subject examinations is administered. Only students who have successfully passed the corresponding courses are permitted to take these examinations. The subject examinations are evaluated relative to national norms and scored as pass/fail. Passing the subject examinations is required before a student may take Part 1 of the National Board of Osteopathic Medical Examiners (NBOME) and for promotion to the third year.

National Boards

All students are required to take Part I of the examination administered by the National Board of Osteopathic Medical Examiners upon completion of the second year of the medical curriculum. A student is eligible to take Part I upon satisfactory completion of one-half of the second year. To be eligible, a student must have received a passing grade in courses totaling one-half of the semester credit hours in the second-year curriculum.

A student is required to pass Part I (per the minimums established by the National Board of Osteopathic Medical Examiners) for promotion to the third year. Students who do not pass Part I will be allowed to remain as provisional students in the third year and will be required to retake the examination at the regularly scheduled examination period in the fall of the third year. These students will be allowed to continue in the third-year classification on a provisional basis pending results of the second examination.

A student who does not achieve a satisfactory result on the second examination will be dismissed from the college.

Students may audit appropriate basic science courses in order to prepare for reexamination with the approval of the vice president for health affairs and executive dean of TCOM, department chairman and the course director.

All students are required to take Part II of the examination administered by the National Board of Osteopathic Medical Examiners in the fall of their fourth year. A student is required to pass Part II (per the minimums established by the National Board of Osteopathic Medical Examiners) for graduation.

Students who do not pass Part II will have a second opportunity to take the test during the spring of the fourth year. Students who are unsuccessful on the second try will be dismissed from the college.

Licensing Examination Review

The health science center encourages all medical students to utilize programs that provide a review for the examinations administered by the National Board of Osteopathic Medical Examiners (NBOME) and the United States Medical Licensing Examinations (USMLE).

Final Examinations

No student will be exempt from taking final examinations. No final examination will be given early or late, except in the case of unusual circumstances acceptable to the course director, the department chairman and the vice president for health affairs and executive dean of TCOM. Each case of this type will be considered on its individual merits.

Academic Honors

It is a tradition at the health science center to recognize its highest scholars and promote academic excellenc. Honors are determined after academic semesters 1 through 5, semester 8 and at graduation. Academic honors are noted on the student's official permanent record.

The Dean's List for semesters 1 through 5 recognizes those students whose weighted averages are 90 percent or greater and who make up the highest 10 percent of each class enrolled in the college.

The distinction of President's Scholar is awarded to those graduating seniors who have been named to the Dean's List for every semester of enrollment in the college.

Academic honors are awarded with the degree at graduation ceremonies to the graduates whose cumulative weighted average is 90 percent or greater and who make up the highest 10 percent of the graduating class. The students in this group shall be designated as graduating with honors. For the purpose of determining academic honors for graduation, grades will be calculated for honors at the beginning of the Eighth Semester Program. In no case will grades for honors be considered after this date.

No graduate will be named to the Dean's List or receive a degree with honors who has failed a course, who has not been enrolled as a full-time student or who has been placed on academic or disciplinary probation.

Promotion Requirements

Normal progression through the curriculum requires that a student achieve a cumulative average of at least 75 in each academic year and that there be no failing grades (below 75) that have not been corrected. Achievement of this standard in each academic year is required for promotion to the next academic year. This standard also must be met before a third-year student will be allowed to begin clinical rotations. The same standard must be achieved in the fourth year in order to graduate. In addition, the graduating student must have passed Parts I and II of the examination administered by the National Board of Osteopathic Medical Examiners and must have sat for the senior comprehensive examination.

The academic standards for successful completion of each course or clinical rotation are determined by the department or interdisciplinary unit under which the course or rotation is administered. The student has the primary responsibility for acquiring knowledge and clinical proficiency and for meeting the academic standards set for each course or program. The health science center in no way guarantees that any student once enrolled will achieve any level of academic or professional accomplishment.

Students who do not meet the standards specified for promotion, for beginning clinical rotations or for graduation, may be given an opportunity to correct their deficiencies either at specified times during the academic year or by adding an additional period of time to their medical education. Remediation is to be regarded as a privilege that must be earned by the student. This and other conditions of remediation are described under "Academic Standing" in the Student Handbook.

Academic Probation

Students must meet the minimal standards and requirements set by the college in order to remain in good academic standing. Students will be placed on academic probation if they have a cumulative weighted average of less than 75 or if a failing grade is received in any course. They will be removed from academic probation only after successfully correcting their particular deficiency.

Academic standing is reviewed by the Student Performance Committee periodically throughout the year and includes consideration of a student's overall performance in the TCOM curriculum during any and all periods of enrollment. Academic probation or other actions may be recommended for students with failing grades and a cumulative weighted average below 75 or for students whose performance in a number of courses is passing but low (such as a grade of 75-79). In addition, students may be placed on academic probation for ethical, professional or personal standards that fall below those established by the college.

Academic probation should be regarded as a serious matter and is official notice to students that the quality of their performance during the probationary period must improve in order to remain eligible to continue in the college. Any students who fail to improve their performance in the areas identified by the Student Performance Committee during the probationary period may be continued on probation, asked to withdraw or dismissed from the college.

Withdrawal, Leaves, Dismissal

Withdrawal

An application for voluntary withdrawal from the college must be made in writing to the vice president for academic health and executive dean of TCOM. The application will be accompanied by a personal interview except in rare and special circumstances. Every effort should be made to assure that no misunderstandings or errors occur in the withdrawal process. Students who leave the college without notifying the Office of the Dean and the Office of the Registrar, and without completing the established withdrawal procedures within 30 days, will automatically be terminated from the college.

An entry will be made on the official permanent record indicating the academic standing of the student at the time withdrawal is granted. "Withdrawal in good academic standing" will be recorded provided the student is not on academic probation and has received no course grades or averaged examination grades of less than 75 during the semester in which the withdrawal is requested. "Withdrawal not in good academic standing" will be recorded if the student is on academic probation or has received course grades or averaged examination grades of less than 75 during the semester in which the withdrawal is requested.

In addition, students must report to the Office of the Registrar to sign a withdrawal form before they can officially withdraw from the college. Students who do not complete this application for voluntary withdrawal will not be entitled to an official withdrawal and will not be considered for readmission at a later date.

Readmission following the withdrawal procedure is not assured unless it is a part of the final decision and/or agreement made by 1 course, the student is required to attend all classes and take all exams until the disposition of the advanced placement request. The departmental recommendation will be reviewed in the Office of Academic Affairs and must be approved by the vice president for health affairs and executive dean of TCOM.

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A student who does not achieve a satisfactory result on the second examination will be dismissed from the college.

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No graduate will be named to the Dean's List or receive a degree with honors who has failed a course, who has not been enrolled as a full-time student or who has been placed on academic or disciplinary probation.

Promotion Requirements

Normal progression through the curriculum requires that a student achieve a cumulative average of at least 75 in each academic year and that there be no failing grades (below 75) that have not been corrected. Achievement of this standard in each academic year is required for promotion to the next academic year. This standard also must be met before a third-year student will be allowed to begin clinical rotations. The same standard must be achieved in the fourth year in order to graduate. In addition, the graduating student must have passed Parts I and II of the examination administered by the National Board of Osteopathic Medical Examiners and must have sat for the senior comprehensive examination.

The academic standards for successful completion of each course or clinical rotation are determined by the department or interdisciplinary unit under which the course or rotation is administered. The student has the primary responsibility for acquiring knowledge and clinical proficiency and for meeting the academic standards set for each course or program. The health science center in no way guarantees that any student once enrolled will achieve any level of academic or professional accomplishment.

Students who do not meet the standards specified for promotion, for beginning clinical rotations or for graduation, may be given an opportunity to correct their deficiencies either at specified times during the academic year or by adding an additional period of time to their medical education. Remediation is to be regarded as a privilege that must be earned by the student. This and other conditions of remediation are described under "Academic Standing" in the Student Handbook.

Academic Probation

Students must meet the minimal standards and requirements set by the college in order to remain in good academic standing. Students will be placed on academic probation if they have a cumulative weighted average of less than 75 or if a failing grade is received in any course. They will be removed from academic probation only after successfully correcting their particular deficiency.

Academic standing is reviewed by the Student Performance Committee periodically throughout the year and includes consideration of a student's overall performance in the TCOM curriculum during any and all periods of enrollment. Academic probation or other actions may be recommended for students with failing grades and a cumulative weighted average below 75 or for students whose performance in a number of courses is passing but low (such as a grade of 75-79). In addition, students may be placed on academic probation for ethical, professional or personal standards that fall below those established by the college.

Academic probation should be regarded as a serious matter and is official notice to students that the quality of their performance during the probationary period must improve in order to remain eligible to continue in the college. Any students who fail to improve their performance in the areas identified by the Student Performance Committee during the probationary period may be continued on probation, asked to withdraw or dismissed from the college.

Withdrawal, Leaves, Dismissal

Withdrawal

An application for voluntary withdrawal from the college must be made in writing to the vice president for academic health and executive dean of TCOM. The application will be accompanied by a personal interview except in rare and special circumstances. Every effort should be made to assure that no misunderstandings or errors occur in the withdrawal process. Students who leave the college without notifying the Office of the Dean and the Office of the Registrar, and without completing the established withdrawal procedures within 30 days, will automatically be terminated from the college.

An entry will be made on the official permanent record indicating the academic standing of the student at the time withdrawal is granted. "Withdrawal in good academic standing" will be recorded provided the student is not on academic probation and has received no course grades or averaged examination grades of less than 75 during the semester in which the withdrawal is requested. "Withdrawal not in good academic standing" will be recorded if the student is on academic probation or has received course grades or averaged examination grades of less than 75 during the semester in which the withdrawal is requested.

In addition, students must report to the Office of the Registrar to sign a withdrawal form before they can officially withdraw from the college. Students who do not complete this application for voluntary withdrawal will not be entitled to an official withdrawal and will not be considered for readmission at a later date.

Readmission following the withdrawal procedure is not assured unless it is a part of the final decision and/or agreement made by the withdrawing student and the vice president for health affairs and executive dean of TCOM. This final decision and/or agreement must be in writing so that it is clear to all involved parties.

Students who are granted readmission following withdrawal will re-enter at the beginning of an academic year and must register for all courses scheduled during the academic year of their withdrawal, including those previously completed and passed.

Leaves of Absence

A student in good academic standing may request a leave of absence in the event of a medical problem. Students requesting a leave of absence must inform the vice president for health affairs and executive dean of TCOM in writing. The request must be accompanied by a letter from a physician describing the nature of the disability for which the leave is requested and the estimated length of time needed for recovery.

After consultation with the student, the vice president for health affairs and executive dean will decide whether or not the leave is to be granted and the conditions under which the student may return to school.

Before a student is readmitted, a written request for readmission must be submitted by the student to the vice president for health affairs and executive dean. A letter from a physician stating that the student has recovered from the disability for which the medical leave was granted and is able to participate in a full academic program must accompany the readmission request.

Students must report to the Office of the Registrar to sign a leave of absence form before they can leave the college officially.

Dismissal

Dismissal from the college will be recommended if:

- 1. A student's cumulative weighted average for any one academic year is less than 75.
- 2. A student earns failing grades in 25 percent or more of the credit hours for any one academic year.
- 3. A student fails a course or rotation for the second time (no readmission would be granted at a later date).
- 4. A student exceeds the two-year maximum limit for completing one academic course or the six-year limit for completing requirements for graduation, exclusive of a leave of absence or withdrawal in good standing.
- A student has not demonstrated continued academic and professional growth and achievement.
- 6. A student has not passed the National Board examinations as set forth in policies by the health science center and the National Board of Osteopathic Medical Examiners.

Students will be recommended for unconditional dismissal with no opportunity for readmission if they withdraw or are dismissed due to poor academic progress, subsequently re-enter the college and then receive a failing grade in any course.

It should be clearly understood that the college, after due consideration and process, reserves the right to require the dismissal of any student at any time before graduation if circumstances of a legal, moral, behavioral, ethical, health or academic nature justify such an action.

Requirements for Graduation:* Class of 1999

Students who have satisfactorily completed all academic requirements and who have been recommended by the health science center faculty may be awarded the doctor of osteopathy (D.O.) degree, provided they are of good moral character and that they:

1. have maintained at least a cumulative weighted average of 75¹, have no unremedied failing grades and no grades of "!";

2. are at least 2I years of age;

3. have been in residence for four academic years at an accredited college of osteopathic medicine or college of medicine, the last two years of which must have been at TCOM;

4. have passed Part I and Part II of the examination administered by the National Board of Osteopathic Medical Examiners;

5. have completed the comprehensive examination prepared by the faculty and administered during the fourth year;

6. have complied with all legal and financial requirements of the college;

7. have exhibited the ethical, professional, behavioral and personal characteristics necessary for the practice of osteopathic medicine;

8. have completed an Exit Questionnaire and the Clearance Check Form from the Office of the Registrar. The Clearance Check Form, which must be returned to the registrar before graduation, is placed with the student's permanent record and serves as the final clearance from campus; and

9. attend the commencement at which the degree is to be awarded (only in unusual circumstances and with approval of the president will a degree be awarded *in absentia*).

A student who completes the curriculum in four consecutive years is required to meet the graduation requirements listed in the TCOM Catalog published for the year entered and/or any subsequent or additional program requirements. In the event of an extension beyond the four years, the student must meet the requirements for the class with whom the individual graduates.

¹Effective Aug. 30, 1993. For the Classes of 1995 and 1996, the grade is 70.

* Students who do not fulfill all graduation requirements by graduation day will not be allowed to participate in the commencement ceremony. In addition, they will not be considered graduates in any capacity until they have successfully completed all requirements.

Four/ Student Affairs

Office of Student Affairs

This office assists the president of the health science center in interpreting student needs, creating an atmosphere that stimulates learning and integrating extracurricular experiences into the formal learning programs.

The goals of this office are to encourage student participation in and contribution to the health science center's programs, to establish and coordinate a system of student academic advisement, and to interpret institutional regulations on academic and non-academic matters to students. The Office of Student Affairs includes student development, academic assistance, admissions, financial aid and the registrar.

Guidance, Counseling and Academic Advisement

The Student Development Office provides assistance to students from the time they apply for admission until graduation. Services provided through this office include the coordination of orientation week for incoming medical students, housing, child care, employment resources for student spouses, as well as information about Fort Worth and the surrounding area. A weeklong orientation program (including a learning strategies workshop and class registration) is scheduled each fall to provide first-year medical students with an opportunity to meet their classmates, faculty and administration, to provide information and details about important aspects of the curriculum and the health science center and to facilitate registration. Attendance at orientation is mandatory for all incoming medical students.

The Academic Assistance Office conducts a two-day learning strategies workshop for incoming students during the week of orientation. This program includes training in note-taking and test-taking, as



well as specific study skills pertinent to fall semester courses. A follow-up workshop occurs in January to help first-year students prepare for the spring semester courses.

Academic assistance services are available by appointment or on a walk-in basis. These services include counseling in learning skills effectiveness, time management, test-taking skills and a tutorial program.

The Office of Student Affairs works closely with both preclinical and clinical sciences faculty to provide direction and support in periods of academic difficulty, to plan alternate programs and to assist in reassessment of priorities.

Counseling referrals for discussion of personal problems for students and their families are available through the Employee Assistance Program (EAP). For more information, contact the Office of Student Affairs or the Student Development Office.

Housing

The Student Development Office provides resources on housing for incoming and current students. The health science center does not have on-campus student housing available. Resources are provided to help students make their own living arrangements. Resources include available housing nearby and in Fort Worth areas, apartment locator service information, relocation guides, regional crime statistics and temporary housing information.

Child Care

The health science center will provide students with information on child care options available in the area.

Job-Hunting Assistance for Student Spouses

The Student Development Office provides job-search resources to aid spouses seeking employment in the Fort Worth area.

ID Cards

Health science center identification cards are issued during fall registration.

Health Services

Health science center students and their dependents may use, by appointment, the health care services of the Central Family Practice Clinic on campus at no charge, except for laboratory procedures and drugs (on a cost basis). Insurance claims will be filed. Referrals to specialty areas are made as needed through the Central Family Practice Clinic on the same basis.

Food Service

Food is available from a catered food service for lunch, and from vending machines in the academic buildings and the Founders' Activity Center. A number of restaurants are within walking distance of the campus. Students are eligible for a discount at the Osteopathic Medical Center of Texas cafeteria with student ID.

Student Activities

Sports

Recreational activities are available in the Founders' Activity Center, as well as through softball, basketball and volleyball teams.

Student Organizations

Students may participate in a variety of

student organizations, including (but not limited to):

- American College of Osteopathic Family Physicians
- Texas Medical Association-American Medical Association/Medical Student Section
- American Geriatric Society
- Christian Medical and Dental Society
- D.O./Ph.D. Student Association
- Emergency Medicine Club
- Internal Medicine Association
- Military Medical Association
- Multicultural Medical Students Association
- National Osteopathic Women Physicians Association
- Psi Sigma Alpha, national osteopathic honor society
- Rural Health Organization
- Sigma Sigma Phi, honorary service fraternity
- Society for the Advancement of Osteopathic Medicine
- Speculum (yearbook)
- Student Associate Auxiliary (organization for student spouses)
- Student Government Association
- Student Osteopathic Medical Association
- Surgery Club
- Texas Association for Latin American Medical Students
- Undergraduate American Academy of Osteopathy
- Undergraduate Academy of Sports Medicine

All medical students are also eligible for free student membership in the Texas Osteopathic Medical Association and the American Osteopathic Association.

The Student Development Office coordinates the student organization calendar and registration process. The office also assists organizations with leadership development and the planning of activities and events. Students are encouraged to participate in organizations and campus-wide events for leadership and personal development. Contact the Student Development Office for more information.

Scheduling Events

Student organizations are required to schedule events, seminars, programs and lectures through the Student Development Office. Facilities reservation forms may be picked up from this office and submitted to the Office of Student Affairs for official approval and scheduling.

Honors Day

Each year during Honors Day, the health science center recognizes students who have excelled academically, as well as those who have made outstanding contributions to the institution, the community and the medical and scientific professions.

Military Affairs

The health science center is approved by the Texas Education Agency for the training of men and women who have served in the armed forces. Assistance is provided to students who are on active duty or who are veterans. To establish eligibility for assistance, a veteran should contact the Office of the Registrar for the appropriate forms. The completed forms and a copy of Form DD-214 should be forwarded to the Office of the Registrar.

Veterans wishing to continue their benefits at the health science center should complete a Transfer of Training Application and submit it to the registrar. A student must maintain a minimum cumulative weighted average of 70 to remain eligible to receive veteran's benefits. Veteran's benefit payments may not be made during any period of academic probation.

Respect for Diversity

The UNT Health Science Center is committed to the philosophy of a multicultural environment. The institution prohibits harassment based on race, gender, disability, age, national origin, religion, veteran status or lifestyle.

The "Nondiscrimination/Equal Employment Opportunity and Affirmative Action" policy affirms the requirement for every member of the health science center community to comply with existing federal and state equal opportunity laws and regulations.

The health science center has long been an open, tolerant and democratic institution, proud of its commitment to personal and academic excellence but unpretentious in the atmosphere of its campus in its willingness to accept all members of the health science center community at their face value as human beings.

The increasing diversity of the UNT Health Science Center community is one of the institution's greatest strengths. Differences of race, religion, age, gender, culture, physical ability, language, nationality and lifestyle make it a microcosm of the nation as a whole, reflecting the values of our pluralistic society. As an educational institution, the UNT Health Science Center is committed to advancing the ideas of human worth and dignity by teaching respect for human beliefs and values and encouraging open discussions. Hatred or prejudice and harassment of any kind are inconsistent with the center's educational purpose.

The UNT Health Science Center is strongly committed to the ethical principle that every member of the community enjoys certain human and constitutional rights, including the right to free speech. As a community of scholars, the health science center also is dedicated to maintaining a learning environment that is nurturing, fosters respect, and encourages growth among cultures and individuals represented here. Individuals who work, study, live and teach within this community are expected to refrain from behaviors that threaten the freedom and respect every individual deserves.

Sexual Harassment

A primary objective of the UNT Health Science Center is to provide an environment in which faculty, staff and students may pursue their careers and studies with a maximum of productivity and enjoyment.

Harassment of students on the basis of gender is a violation of Section 106.31 of Title IX of the Education Amendments of 1972. Harassment of health science center employees on the basis of gender is a violation of Section 703 of Title VII of the Civil Rights Act of 1964 and the Texas Commission on Human Rights Act. Sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature constitutes sexual harassment.

It is the policy of the health science center to maintain a workplace and a learning environment free of sexual harassment and intimidation. Behavior or conduct that interferes with this goal is not condoned or tolerated.

Americans with Disabilities Act

The UNT Health Science Center does not discriminate on the basis of an individual's disability and complies with Section 504 and Public Law 101-336 (Americans with Disabilities Act) in its admissions, accessibility, treatment and employment of individuals in its programs and activities.

The UNT Health Science Center provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law, who are otherwise qualified to meet the institution's academic and employment requirements. For assistance contact the Equal Employment Opportunity Office at the health science center.

Five/ Curriculum

Overview

The Texas College of Osteopathic Medicine curriculum is a four-year program leading to the degree of doctor of osteopathy. Emphasis is placed on the promotion of health and wellness in patients and on the necessity of treating each patient in the context of a wide variety of factors that influence health.

Semesters 1 and 2 of the first year are devoted primarily to instruction in the preclinical sciences. These are presented along with the fundamental clinical concepts and techniques of the osteopathic physician's approach to the patient. Instruction in the basic and clinical sciences is integrated wherever possible to enhance learning.

Semesters 3-5 are increasingly devoted to instruction in the clinical sciences in preparation for clinical clerkship rotations and preceptorships.

The next 20 months of the academic program comprise clerkship rotations and preceptorship assignments. During semesters 6 and 7 each student rotates through a series of required preceptorships, and clinic and hospital clerkships. These clinical rotations are scheduled in four-week blocks primarily in college teaching hospitals, college clinics and physicians' offices in or near the Fort Worth/Dallas area.

Semester 8 is a two-week period of oncampus instruction that includes clinical and classroom activities that are designed to round out each student's preparation for graduation. During this final semester each student prepares for comprehensive examinations and attends short courses and seminars on campus.

Teaching Methods

The instructional program at TCOM uses a variety of teaching methods and settings to prepare each student for the increasingly complex role of the physician in modern society.

While much of the instruction in the first five semesters takes place in classroom settings, the use of other teaching methods and materials is increasing. Many opportunities are provided for laboratory instruction in the preclinical sciences. The instructional program also contains computer-assisted instruction, small-group teaching, specialized workshops and simulated clinical experiences. Evaluation of student performance uses computerized testing, objective structured clinical examinations, competency-based assessments, observational techniques and standard paper-and-pencil tests.

Beginning with the first semester, students are placed in a variety of healthrelated agencies throughout Fort Worth to help them become familiar with the many agencies in the community and the health problems that will play a role in their lives as health care providers.

During the second year, students are assigned to the offices of area osteopathic physicians to experience firsthand the activities of general practice to remind students of TCOM's commitment to primary care. This assignment provides a gradual transition from classroom to clinical settings.

Goals

Students, faculty members, administrators and staff at TCOM are dedicated to the principles of academic excellence and constantly strive to improve the quality of the academic program.

A primary goal is to help each student develop skills in self-learning and selfevaluation that will serve during formal medical education and throughout a professional career.

Emphasis is placed on learning activities that help each student interact effectively with peers and promote cooperative relationships with others in the health professions. Central to all educational activities in the curriculum are the goals of teaching critical thinking and helping each student develop the skills required for clinical decision making.

TCOM's administration and faculty have committed themselves to a progressive revision of the curriculum in order to improve the probability that graduating physicians will increasingly transfer their clinical efforts:

- from therapy to prevention; that is, from remedial medicine to prophylactic medicine.
- from late-stage disease to early departure from health.
- from pathologic medicine to physiologic medicine, in order to help patients achieve and continue on their best physiologic path.
- from treating disease to teaching healthful living, especially by example.
- from intervention in the biologic processes to the search for optimal operation by improving the conditions in which they function.
- from a focus on parts of the body to a focus on the total person as the context in which the parts operate.

- from the physician to the patient as the source of health and the agent of cure. The physician's objective is to support and disencumber the natural processes of homeostasis, healing and recovery, and to place the patient in command of the situation.
- from a preoccupation with disease processes to concern about disease origins; that is, from causes of diseases to the factors that permit them to become causes.
- from specificity and multiplicity of disease to susceptibility to illness in general.
- from acute, crisis and episodic treatment to long-term care.

- from addressing acute episodic problems in isolation to dealing with them in the context of the total life and health of the patient.
- from an emphasis on deper-sonalized technology to a heightened awareness of human values and individual uniqueness.

These transfers of emphasis are not an abandonment of one kind of clinical objective for another. In the face of existing and accumulating disease and disablement, it is essential to adequately prepare students for acute, crisis and episodic care, as well as for prevention; for recognition of the occasional need for intervention in biologic processes, as well as for improved operating circumstances; and for differential diagnosis and appropriate treatment of victims of specific illnesses, as well as susceptibility to illness in general.

The goals of TCOM's educational program are broader than those of traditional medical education. Implementation of these goals in the curriculum is a continual process. Fundamental changes are being made in curriculum design and teachinglearning processes, composition and roles of the faculty, student selection, educational facilities and resources and, most importantly, the attitudes and professional qualifications of TCOM graduates. Implementation of these goals will help TCOM graduates meet the health care needs of Texas and the nation today and into the 21st century.

A complete faculty roster begins on page 43.

Sequence of Courses

Year 1, Semester 1 Biochemistry Embryology Gross Anatomy Manipulative Medicine I

Year 1, Semester 2

Medical Interviewing

Manipulative Medicine II Medical Histology and Cell Biology Medical Physiology Medical Neuroscience Nutrition Physical Examination Also to be completed by the end of Semester 2: Computer Literacy I

Year 2, Semester 3

Clinical Exposure I Manipulative Medicine III Medical Microbiology Pathology Pharmacology Physical Diagnosis Public Health and Preventive Medicine

Year 2, Semester 4

Clinical Exposure I (cont'd.) Manipulative Medicine IV Medical Ethics Medical Jurisprudence I Internal Medicine Pathology (cont'd.) Physical Diagnosis (cont'd.) Psychiatry Also to be completed by the end of Semester 4: Computer Literacy II

Year 3, Semester 5

Dermatology Introduction to Emergency Medicine Obstetrics and Gynecology Pediatrics Radiology Sports Medicine/Rehabilitation Surgery

Year 3, Semester 6, and

Year 4. Semester 7 Core Clerkships Ambulatory Care (12 weeks) **Emergency Medicine (4 weeks) General Practice Junior** Partnership (4 weeks) Manipulative Medicine (4 weeks) Internal Medicine (8 weeks) Mental Health (4 weeks) **Obstetrics and Gynecology** (4 weeks) Pediatrics (4 weeks) Subspecialty Internal Medicine (4 weeks) Surgery (8 weeks) Elective Clerkships (20 weeks) Vacation (optional) (4 weeks)

Year 4, Semester 8

Advanced Cardiac Life Support Certification Medical Jurisprudence II Special Guest Speakers One semester hour is assigned to each 16 hours of scheduled instruction, including examinations and exclusive of clinical clerkship rotations.

Throughout this catalog, the three or four digits of a course number assist in identifying the type of course, course series and semester in which it is taught.

A first number 5 refers to courses in the basic sciences division; 6 indicates clinical sciences; 7 is a required clinical clerkship rotation; 8, an elective clerkship rotation; and 9, an interdepartmental or other special course.

The second digit indicates the semester the course is begun, from 1 for the first semester of the first year to 8 for the second semester of the fourth year. The third and/or fourth digits are sequential numbers for course identification.

Many of the courses listed are taught cooperatively by faculty from several departments. Interdepartmental teaching is encouraged throughout the curriculum.

DEPARTMENT OF ANATOMY AND CELL BIOLOGY

James E. Turner, Ph.D., chairman

5101. Gross Anatomy

A complete study of the gross morphological features of the human body. Regions studied include: upper limbs; back, head and neck; thorax; abdomen; pelvis and perineum; and lower limbs. Integrated units in each region consist of organizational lectures with individual study exercises, radiographic and clinical correlations and dissection. Students are required to participate fully in the dissection of a human cadaver for successful completion of the course.

12 semester hours, first year, semester 1.

5202. Medical Histology and Cell Biology

Principles of cellular biology and a microscopic study of cells, tissues and organs. Emphasis is placed on structure-function relationships of the human body, and the clinical correlations are presented.

6 semester hours, first year, semester 2.

5103. Embryology

Principles of the development of the human embryo. Emphasis is on the first eight weeks of development, and the subsequent development of the organs and organ systems. The course is coordinated with Gross Anatomy so that the units in each region, consisting of lectures and a clinical case workshop, complement the presentations in Gross Anatomy.

3 semester hours, first year, semester 1.

5206. Medical Neuroscience

Study of the neuroanatomy, neurophysiology and neurochemistry of the central and peripheral nervous system. Coordinated lecture and laboratory program stresses normal structure and physiology of nervous system, including dissection of the human brain. Clinical case presentations are used to supplement classroom instruction.

5 semester hours, first year, semester 2.

Departmental Research Highlights

The major research focus within the Department of Anatomy and Cell Biology is in the visual sciences. There are five research programs whose common theme and focus center on studies of the retina photoreceptors, and the glial and retinal pigment epithelium in health and disease. In addition, the department is conducting research focused on the mechanisms of ocular diabetic complications, including sugar cataract development. Included in the research programs is an investigation into the role of mast cells and their products in the development and expression of experimental autoimmune uveitis. These research programs combined with five others within the basic science departments serve as the focus for the formation of the North Texas Eye Research Institute.

Other research programs within the department focus on central nervous system regeneration, mechanisms of targeting secretory proteins in polarized epithelial cells and the role of growth factors in mammalian embryo implantation, differentiation and development. Many of these research programs are funded by grants from the National Institutes of Health, Alcon Laboratories, the Multiple Sclerosis Society and the Ziegler Foundation.

DEPARTMENT OF ANESTHESIOLOGY

Paul A. Stern, D.O., chairman

The didactic program in anesthesiology is included in Course 5316, Medical Pharmacology.

811. Clinical Clerkship in Anesthesiology

An elective four-week rotation in anesthesiology for qualified students at an affiliated hospital.

4 semester hours.

DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

Ladislav Dory, Ph.D., acting chairman

5110. Principles of Biochemistry

Principles of biochemical structure and metabolism as they apply to human health and disease states.

7 semester hours, first year, semester 1.

Departmental Research Highlights

Research efforts are linked to major health issues such as the decline of the immune system, failure of wounds to heal, vision problems, coronary artery disease, the role of steroids in vascular disease, abnormalities in cholesterol metabolism, diabetes, the health problems of the elderly, and determination of enzyme mechanisms and other physical techniques by steady-state kinetics. Research spans a wide spectrum from basic biochemical and biophysical investigations to applied biotechnology to development of new pharamaceuticals to clinical trials. The department also maintains a program in molecular parasitology aimed at developing drugs that target a parasite without harming its host. Many research projects involve faculty members from other basic science and clinical departments.

Internationally recognized for their research, faculty members have received five Research Career Development Awards, four fellowships from the Alexander von Humboldt Foundation of Germany and a MERIT Award from the National Institute on Aging. Faculty members serve as consultants for the pharmaceutical and biotechnology industries, study sections and review panels of the National Institutes of Health, the National Science Foundation and other public and private agencies.

DEPARTMENT OF FAMILY MEDICINE

Samuel T. Coleridge, D.O., chairman

The Department of Family Medicine has been a principal educational component of the college since TCOM's inception. The largest clinical area of the institution, the department's six clinics (five urban, one rural) logged more than 50,000 patient visits during the last fiscal year, accounting for more than one-third of the total number of patient visits to TCOM's 24 clinics and laboratories. During the past year, the department has also begun providing full physician services at an additional urban community-oriented primary care clinic operated by the Tarrant County Hospital District, as well as at a rural primary care clinic associated with the Department of Public Health and the Hood County Hospital District in Granbury.

The department strives to respond to the health care needs of the Texas Department of Health's "Healthy Texans 2000 Partnership" report and numerous other studies that call for medical schools to be more responsive to meeting the state's severe need for family and primary care physicians — the kind of physicians who can meet 90 percent of a family's health needs. TCOM's remarkable record in graduating family medicine and primary care physicians is the best in Texas — consistently graduating the largest percentage of the state's eight medical schools. It is also one of the best in the nation.

The department provides a continuous influence in the lives of TCOM students. In the first two years, students are required to take three different family medicine courses. First-year students are placed in health-related agencies throughout Fort Worth for a broad exposure to community health. Second-year students work in the offices of local osteopathic physicians to experience family practice firsthand. The last two years include three months in family practice rotations, plus separate sports medicine and emergency medicine courses.

The department formed the Division of Rural and Urban Health to develop creative, collaborative methods of meeting health care needs in underserved areas of Texas. Rural health initiatives continually expand the college's activities in rural communities and have developed model programs in rural medical education that can be used in Texas and in other areas of the nation. The urban health collaborative activities have supported family-oriented, communitybased and culturally sensitive health care to medically underserved residents of Tarrant County. The division fosters multidisciplinary research, education and service across departmental and institutional lines to build effective coalitions that are solution-oriented.

An International Health Section of the department provides students opportunities to participate in community activities, research and clinical programs in our cultures, both in and outside the U.S. borders.

6101. Medical Interviewing

Medical Interviewing is the first portion of clinical courses that focus on the basic skills used by osteopathic physicians. This course teaches effective physician/patient communication skills. Students learn how to interact with simulated patients, using basic interviewing techniques, in order to obtain information concerning health problems and family histories.

2 semester hours, first year, semester 1.

6201. Physical Examination

This course teaches students comprehensive structural and physical exam skills. Students continue assessment of the patient through physical examination. Normal findings are stressed. Lectures are coupled with laboratory training sessions. In certain sessions students interact with simulated patients in the context of physical data collections. Clinical problems are periodically integrated with the normal findings.

2 semester hours, first year, semester 2.

6301. Physical Diagnosis

Physical Diagnosis teaches students to integrate skills learned in semesters 1 and 2 in actual patient encounters during clinical laboratory sessions. Students continue to develop their skills in interaction with patients while obtaining and recording information concerning patient health problems and family histories, continuing to perfect basic interviewing techniques. During this course, students begin the study of common abnormal findings. Lectures on physical diagnosis are coupled with laboratories. Emphasis is on history and physical examination and recording. Skin, HEENT, respiratory system, cardiovascular system, the reproductive systems, the musculoskeletal and nervous systems and the gastrointestinal system are emphasized. In the last weeks of this course, students are expected to demonstrate competence in completing a full history and physical examination on both pediatric, adult and geriatric simulated patients.

7 semester hours, second year, semesters 3 and 4.

6302. Clinical Exposure I

A field-based study of clinical medicine places the classroom experience of the student physician in the context of medical practice and introduces the student physician to a portion of the health care community. The program focuses on the role of the family physician in the health care community. Special emphasis is placed on the physician's role as a contributor of health care services.

5 semester hours, second year, semesters 3 and 4.

6501. Introduction to Emergency Medicine

This course incorporates a small number of selected, high-impact topics most relevant to emergency medical care. Topics are presented in a problem-oriented fashion. The course is divided into didactic and skills sections. The didactic portion focuses primarily on the differential diagnosis of selected problems. In the skills sessions, students will learn, integrate and demonstrate the cognitive and psychomotor skills related to the covered topics.

2 semester hours, third year, semester 5.

6505. Sports Medicine and Rehabilitation

Sports medicine refers to the diagnosis, treatment and early

rehabilitation of sports-related injuries or illnesses. This course presents the principles of sports medicine and rehabilitation for primary care physicians and relates these principles to all injured patients.

1 semester hour, third year, semester 5.

701. Core Clinical Clerkship in Family Medicine

A required 12-week rotation in the third or fourth year. Provides students with clinical experiences in family practice. Students are assigned to departmental outpatient clinics where they experience the problems of family care and continuity of care in addition to learning the patterns of patient referral and community aspects of health care. Weekly small group problem-solving sessions with selected faculty require students to work as teams to study, discuss and present clinical topics.

12 semester hours.

702. Core Family Practice Junior Partnership

A required four-week rotation in ambulatory care with a general practitioner.

4 semester hours.

703. Core Clinical Clerkship in Emergency Medicine A required four-week rotation in emergency medicine.4 semester hours.

801. Clinical Clerkship in Family Medicine

An elective four-week rotation in family medicine. 4 semester hours.

802. Family Practice Junior Partnership

An elective four-week rotation in ambulatory care. 4 semester hours.

803. Clinical Clerkship in Emergency Medicine

An elective four-week rotation in emergency medicine. 4 semester hours.

819. Clinical Clerkship in Sports Medicine/Rehabilitation

An elective four-week rotation in sports medicine and rehabilitation emphasizing the role of the primary care physician in the care of athletes.

4 semester hours.

838. Clinical Clerkship in Physical Medicine and Rehabilitation

An elective four-week rotation in the sports medicine and physical therapy clinics emphasizing the principles of rehabilitation of musculoskeletal, neurologic and orthopedic conditions.

4 semester hours.

6883. ACLS Certification

An intensive presentation following American Heart Association guidelines for Advanced Cardiac Life Support is presented to fourthyear students with the intention of their gaining national AHA certification.

2 semester hours, fourth year, semester 8.

Departmental Research Highlights

In 1990, the Department of Family Medicine established the Division of Research to actively promote research and scholarly activities among the department's faculty, residents from the four affiliated family practice residency programs and students.

The division's staff work closely with faculty, residents and students to teach writing and research skills and to promote scholarly activities within the department. Consulting and support services are available for faculty, residents and students interested in preparing papers for presentation at professional meetings, conducting research projects, writing manuscripts for publication and writing grant applications.

Current Department of Family Medicine grants include: the Predoctoral Training Program, which emphasizes curriculum development in physical diagnosis, rural health and geriatric medicine; and the Breast and Cervical Cancer Screening project, which screens lower-income women at TCOM's Seminary Drive Medical Center, one of the college's family practice residency clinics. Other grant proposals accepted during the past year include establishing an Area Health Education Center with other North Texas medical, dental, nursing and allied health schools to provide greater educational opportunities for health care students, and a postdoctoral training program.

DEPARTMENT OF INTERNAL MEDICINE

Michael B. Clearfield, D.O., chairman

6202. Nutrition

This course introduces the student to basic nutritional principles and provides an opportunity to apply those principles through a nutritional analysis of personal dietary habits.

1 semester hour, first year, semester 1.

6442. Internal Medicine Lecture Series

An emphasis is placed on high-impact diseases over the entire spectrum of internal medicine. Lectures cover material in the subsections of pulmonary disease, gastroenterology, neurology, infectious diseases, nephrology, rheumatology, hematology, oncology, endocrinology, immunology, cardiology, geriatrics and general medicine. Problem-solving methods, patient-oriented histories and small-group tutorials gradually are being introduced into this series. Consultation lectures from various basic science faculty members also are provided. The comprehensive nature of this course will provide students with the basic building blocks of internal medicine to start their own clinical experiences.

9 semester hours, second year, semester 4.

6564. Dermatology

This course concerns the diagnosis and treatment of common disorders of the skin, hair and nails. It is designed to present a clear, logical approach to dermatological disease that will enable a practicing physician to arrive at a reasonable differential diagnosis.

1 semester hour, third year, semester 5.

704-705. Core Clinical Clerkships in Internal Medicine

The on-campus clerkship is an eight-week program divided into two four-week sessions. One session is served in the general ward service at the Osteopathic Medical Center of Texas under the guidance of TCOM Department of Internal Medicine faculty members. Under rigorous audit, the clerk is responsible for the care of hospitalized patients. This care includes collection of data from initial evaluation to final disposition. An emphasis is placed on the skills of problem solving (data collection), management, planning and proper record keeping (criteria of evaluations) utilizing thoroughness, reliability, efficiency and logic. Manual skills are learned and reinforced.

The second four-week session is an ambulatory internal medicine rotation. The clerk is exposed to the multiple aspects of outpatient and ambulatory medicine including, but not limited to, rheumatology, neurology, diabetes management, general internal medicine, geriatrics (extended-care facility visits), public health, outpatient hemodialysis and outpatient endoscopy. This session also includes case presentations and lectures on specific topics.

Off-campus clerkships are served at affiliated hospitals and are generally based on the classic preceptor/clerkship format. The clerk spends eight weeks in a combined ambulatory and hospital-based program that has responsibilities and goals similar to the on-campus program.

4 semester hours each.

706. Core Clinical Clerkship in Subspecialty Internal Medicine

A required four-week clerkship in subspecialty internal medicine, including one of the following: pulmonary medicine, gastroenterology, nephrology and rheumatology. The clerk solves problems of actual patients using those data-gathering and processing methods learned in the core medicine clerkship. Physiologic, biochemical and anatomic principles are re-examined within the framework of problem solving. 4 semester hours.

804. Clinical Clerkship in Internal Medicine

An elective four-week rotation in internal medicine. 4 semester hours.

812. Clinical Clerkship in Dermatology

An elective four-week rotation in dermatology. 4 semester hours.

821. Clinical Clerkship in Rheumatology

An elective four-week rotation in rheumatology. 4 semester hours.

822. Clinical Clerkship in Cardiology An elective four-week rotation in cardiology. 4 semester hours.

823. Clinical Clerkship in Endocrinology An elective four-week rotation in endocrinology.4 semester hours.

824. Clinical Clerkship in Gastroenterology An elective four-week rotation in gastroenterology. 4 semester hours.

825. Clinical Clerkship in Geriatrics An elective four-week rotation in geriatrics.4 semester hours.

826. Clinical Clerkship in Hematology/Oncology An elective four-week rotation in hematology/oncology. 4 semester hours.

827. Clinical Clerkship in Infectious DiseaseAn elective four-week rotation in infectious disease.4 semester hours.

828. Clinical Clerkship in Nephrology An elective four-week rotation in nephrology. 4 semester hours.

829. Clinical Clerkship in Neurology An elective four-week rotation in neurology. 4 semester hours.

830. Clinical Clerkship in Pulmonary MedicineAn elective four-week rotation in pulmonary medicine.4 semester hours.

831. Clinical Clerkship in Ambulatory Internal Medicine An elective four-week rotation in ambulatory internal medicine. 4 semester hours.

Departmental Research Highlights

The Department of Internal Medicine has an active research program in both the clinical and the basic science aspects of internal medicine. Research efforts span the entire spectrum of the medical continuum with emphasis on disease prevention, nutrition and geriatrics. Ongoing basic research includes a career development award and NIH-funded research in lipid metabolism. Clinical trials include studies in arthritis, Alzheimer's disease, osteoporosis, tuberculosis, AIDS, cardiovascular disease, asthma, lipid proteins and many other aspects of internal medicine.

DEPARTMENT OF MANIPULATIVE MEDICINE

David A. Vick, D.O., chairman

Osteopathic medicine is based on a philosophy of health care that provides a systematic way of treating individuals in order to maximize health. Osteopathic physicians view each patient as a whole and consider all aspects of a patient's life in the assessment of health and disease. Besides assessing the individual organ systems, osteopathic physicians address the patient in terms of human spirit, mind, emotion, environment and social milieu.

The osteopathic philosophy is rooted in four basic concepts: first, that the body is self-regulating and has the capacity for healing itself in the face of illness; second, structure and function (anatomy and physiology) are mutually and reciprocally interdependent; third, adequate function of the body as a whole depends on unimpeded circulation, nerve conduction and organ motility; and fourth, disease is viewed on a continuum with health and varies in the degree that it deviates from health.

The mission of the Department of Manipulative Medicine is to apply these osteopathic concepts and philosophies to the teaching of students and residents, continuing research in the scientific bases for osteopathy, and treating patients in clinic and hospital settings.

The physicians in the Department of Manipulative Medicine use a variety of methods and treatments to maximize the body's inherent self-healing properties. Students will learn to use direct and indirect methods that act on structures to improve function and thereby augment the body's self-regulating and self-healing processes.

The numerous conditions that may be treated by manipulative medicine can be divided into several categories. In addition to treating the musculoskeletal system, osteopathic manipulative treatment can be beneficial to patients who have somatic components of other disease processes.

The courses in Osteopathic Manipulative Medicine (OMM) are designed to impart the osteopathic philosophy to students while teaching them the applications of the philosophy in the care of patients. Didactic and practice sessions emphasize hands-on training. The OMM courses are based on the principle of "progressive disclosure." At each level of training, the new information given to students builds on all previous teaching, reinforcing and augmenting their knowledge and skills of manipulation. The step-by-step process builds a solid foundation in osteopathic philosophy, principles and practice.

In 1993, the department established a clinic to treat economically disadvantaged patients. The new clinic is staffed by faculty members, residents, undergraduate teaching fellows and students serving a core manipulative medicine clerkship.

6100. Osteopathic Manipulative Medicine I

Introduction to osteopathic medicine, the osteopathic model, somatic dysfunction, palpation, and direct and indirect treatment methods.

2 semester hours, first year, semester 1.

6200. Osteopathic Manipulative Medicine II

Diagnosis and treatment of the pelvis and the sacrum and lumbar spine. Diagnosis of the thoracic and cervical spine.

3 semester hours, first year, semester 2.

6300. Osteopathic Manipulative Medicine III

Treatment of the thoracic spine, cervical spine and the OA joint; diagnosis and treatment of the ribs.

3 semester hours, second year, semester 3.

6400. Osteopathic Manipulative Medicine IV Advanced osteopathic treatment methods. 2 semester hours, second year, semester 4.

715. Core Clerkship in Manipulative Medicine

A required four-week rotation in the Department of Manipulative Medicine. The rotation includes an intensive didactic and hands-on review of OMM. Students see and treat their own patients in a resident- and/or faculty-supervised clinic and accompany faculty members during clinic hours. Students also participate in weekly literature discussions and case reviews. Students are responsible for an end-of-rotation written examination and a written case report.

4 semester hours.

Undergraduate Teaching Fellowship

Two students are selected each year to serve fellowships with the Department of Manipulative Medicine. The students' last two years of study are expanded to three to allow time for research, teaching and clinical service in the department.

DEPARTMENT OF MEDICAL EDUCATION

Francis X. Blais, D.O., acting chairman

9101. Computer Literacy I

Demonstrated understanding and hands-on competency in several aspects of computers, including microcomputer hardware and software, disk operating system, word processing, spreadsheets, database management and communications software.

1 semester hour, first year, semesters 1 and/or 2.

9302. Computer Literacy II

Demonstrated understanding and hands-on competency in several medical practice-oriented computer programs. Included are programs for assistance in clinical diagnosis and on-line medical information.

1 semester hour, second year, semesters 3 and/or 4.

INTR 900. Directed Studies in Academic Medicine

An elective four-week rotation in directed studies for external exam preparation.

4 semester hours.

Departmental Research Highlights

Research in the Department of Medical Education focuses on medical decision-making. The faculty of the department have developed analytical tools that assess the clinical competence of physicians. Their research into the reasoning of novice and expert clinicians has received wide acceptance. In keeping with the mission of the department, faculty conduct research with basic and clinical science faculty in a variety of fields.

The department also maintains a current evaluation database on the courses, faculty, preceptors and teaching sites used by the health science center. In addition to conducting program evaluations and peer evaluations of health science center faculty, the department produces routine reports to monitor the operation of the overall academic program.

DEPARTMENT OF MEDICAL HUMANITIES

C. Raymond Olson, D.O., acting chairman

• The Department of Medical Humanities embraces the disciplines of philosophy, ethics, history, social and cultural anthropology, sociology, law, religion and literature as they relate to the healing arts and to the societal and cultural factors in health and disease.

The department's aim is to incorporate issues on human values into the overall curriculum. Different viewpoints on medical culture, human values and their interrelationships are introduced to students through courses taught by medical humanities and other departments.

Students have the opportunity to do self-instructed and selective humanities-related study projects with approval through special consultations with the chairman.

6402. Medical Jurisprudence I

Legal aspects of medical practices, including legal principles, classification of legal theories, medical-legal reports, requirements for court testimony, negligence, medical malpractice and organization of medical practice.

1 semester hour, second year, semester 4.

6403. Medical Ethics

This course offers an introduction to biomedical ethics. Through case-based laboratory workshops, students wrestle with major ethical issues in current health care. Students learn the skills of ethical analysis essential to making medical moral choices and have the opportunity for critical reflection on their personal values, as well as their obligations as physicians.

1 semester hour, second year, semester 4.

6858. Medical Jurisprudence II

A review of Texas Medical Jurisprudence, including drug laws, fraud and abuse, licensure and disciplinary action, reporting requirements and hospital law.

1 semester hour, fourth year, semester 8.

813. Clinical Clerkship in Medical Humanities An elective four-week rotation in medical humanities. 4 semester hours.

DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

Michael Emmett-Oglesby, Ph.D., acting chairman

5314. Medical Microbiology and Immunology

Medical microbiology, basic and clinical immunology and infectious diseases are studied in eight modules consisting of lectures, laboratories and problem-solving medical cases with laboratory demonstrations and examples. In addition, 28 medical cases are solved by computer-assisted instruction. The course covers bacteria, viruses, fungi and parasites, and related diseases.

6 semester hours, second year, semester 3.

Departmental Research Highlights

Research in the Department of Microbiology and Immunology focuses on molecular biological approaches to problems of microbial physiology and pathogenesis. The genes involved in ultraviolet resistance of spores in *Bacillus subtilis*, the regulation of glycogen metabolism in *Escherichia coli* and expression of Staphylococcal genes during infection are among the microbial physiology problems being studied. Ohter projects involve immune and inflammatory responses in the respiratory tracts and the role of specific proteins in the early stages of carcinogenesis.

The Department of Microbiology and Immunology is expanding, and new faculty expertise is expected in areas of molecular immunology and virology. The research facilities of the department are modern and well equipped, and the above projects are funded by organizations including the National Institutes of Health, the National Science Foundation, the American Chemical Society and the American Cancer Society. Funds have also been obtained from private foundations and industrial firms, as well as the state of Texas. In addition, faculty members participate in editorial boards and review panels, and have been selected to chair national and international meetings as well as elected to hold offices in national societies.

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

Robert C. Adams, D.O., chairman

6547. Obstetrics and Gynecology

The etiology, diagnosis and management of gynecological disorders, including infectious diseases, congenital defects and malformations, endocrinology, oncology, infertility, trauma and related problems of the female genital system; the terminology, physiology and management of normal and problem pregnancy, labor, delivery and the puerperium.

3 semester hours, third year, semester 5.

707. Core Clinical Clerkship in Obstetrics and Gynecology

A required four-week rotation in obstetrics and gynecology. 4 semester hours.

807. Clinical Clerkship in Obstetrics and Gynecology

An elective four-week rotation in obstetrics and gynecology. 4 semester hours.

DEPARTMENT OF PATHOLOGY

Stephen L. Putthoff, D.O., chairman

6332. Pathology

Incorporates the general fields known classically as basic and systemic pathology. For much of the course, the approach is primarily at organ level after an introductory phase emphasizing fundamental pathophysiology. The latter encompasses processes associated with inflammation/repair, cell injury and death, infection, fluid/hemodynamic derangement and neoplasia. Subsequent systems approach illustrates major diseases and disorders encountered in the practice of medicine. Throughout, the language of medicine is emphasized in conjunction with morphology, clinical features and differential diagnoses, where appropriate. In addition, important pathologic aspects of clinical laboratory involvement in the diagnosis of disease are discussed. Autopsies will be conducted by faculty members as part of the course, and students are expected to attend these at the Tarrant County Medical Examiner's Office. These will be associated with lectures on mechanisms of forensic medicine and how they relate to the practice of medicine in modern society. The field of molecular pathology as applicable to the evaluation of parentage, genetic disorders, infectious disease and neoplasia is illustrated in an introductory fashion.

13 semester hours, second year, semesters 3 and 4.

817. Clinical Clerkship in Pathology

An elective four-week rotation in pathology through the Institute of Forensic Medicine. This generally includes three weeks at the Tarrant County Medical Examiner's Office with emphasis on toxicology, medical investigation, scene evaluation and forensic necropsy. An additional week is spent at the TCOM Clinical Laboratory with emphasis on laboratory data interpretation, surgical and cytopathology with double-headed microscopy and peripheral smear/urinalysis evaluations. All rotation approvals are at the discretion of the chairman of the Department of Pathology.

4 semester hours.

DEPARTMENT OF PEDIATRICS

John K. Podgore, D.O., acting chairman

6551. Pediatrics

Holistic approach to the newborn, infant, child and adolescent, including development and care as part of the overall approach to health. Emphasis is placed on acquiring a foundation of knowledge sufficient to provide the student with fundamentals for entering the core clinical clerkship.

Subspecialty areas include perinatology, neonatology, pediatric infectious disease, orthopedics, hematology-oncology, allergy and immunology, gastrointestinal disorders, cardiology, neurology, rheumatology, genitourinary disorders, genetic and endocrinemetabolic disorders and adolescent medicine. Pediatric physical diagnosis, accidents and poisonings, child abuse, sudden infant death and nutrition, as well as growth and development, dermatology, infectious disease and emergency medicine in pediatrics are presented. 3 semester hours, third year, semester 5.

708. Core Clinical Clerkship in Pediatrics

A required four-week rotation in pediatrics, general and special pediatrics, including ICU and ICU nurseries and ambulatory care in a pediatric clinic.

4 semester hours.

808. Clinical Clerkship in Pediatrics

An elective four-week rotation in pediatrics. 4 semester hours.

DEPARTMENT OF PHARMACOLOGY

Harbans Lal, Ph.D., chairman

5316. Medical Pharmacology

A review of fundamental principles of drug action in humans, including physiochemical principles, pharmacodynamics, pharmacokinetics and drug interactions. Common drug classes are presented, with emphasis on their principal actions, mechanisms of action, adverse reactions, contraindications and therapeutic applications. Small group problem-solving sessions, laboratory exercises, computer-assisted instructions and clinical case presentations are used to supplement classroom instruction.

8 semester hours, second year, semester 3.

Departmental Research Highlights

Department of Pharmacology research includes: molecular mechanisms underlying neurodegenerative diseases such as schizophrenia, Alzheimer's disease and retinal degeneration; molecular mechanisms underlying hypertension and atherosclerosis; the potential role of nutrition, free radical mechanisms and immune dysfunctions in development of age-related dementias, including Alzheimer's disease; the development of medications to prevent and treat alcohol or cocaine abuse/dependence; the development of noninvasive assessments of "biological" or "functional" age in animal or human subjects; the development of safe and efficacious drug or nutritional treatments to extend the life span and prevent/treat cognitive or motor decline related to aging or Alzheimer's disease.

DEPARTMENT OF PHYSIOLOGY

Peter B. Raven, Ph.D., chairman

5206. Medical Neuroscience

Neuroanatomy, neurophysiology and neurochemistry; gross and fine structural study of the central and peripheral nervous system. Dissection of whole human brains. Coordinated lecture and laboratory program emphasizing normal structure and physiology of the nervous system. Clinical case presentations are used to supplement classroom instruction.

5 semester hours, first year, semester 2.

5207. Medical Physiology

A study of the functions of the organ systems, with emphasis placed on homeostatic control mechanisms. The major organ systems are covered, as well as additional topics on applied physiology. Problem-solving sessions, laboratory exercises and clinical guest lectures are utilized.

8 semester hours, first year, semester 2.

Prerequisite: Biochemistry 5110 or equivalent.

Departmental Research Highlights

The Department of Physiology is recognized nationally and internationally for its research on the integrative physiological mechanisms of cardiovascular regulation in health and disease. Research models specifically investigate the regulation of coronary circulation, cardiac function and myocardial energy metabolism of healthy and diseased hearts during exercise and ischemia. In addition, investigation of cardiovascular regulation during gravitational and exercise stress is performed in humans across all age groups. Specific emphasis is placed on investigating the reflex regulation of blood pressure. The department's various research projects are supported by grants from the National Institutes of Health, the American Heart Association (National and Texas affiliate) and the National Aeronautics and Space Administration.

DEPARTMENT OF PSYCHIATRY AND HUMAN BEHAVIOR

Harvey G. Micklin, D.O., chairman

6436. Principles of Psychiatry

Emphasis on holistic and behavioral medicine, including aspects of human sexuality and dysfunction. Growth and development, adaptation, personality functioning and symptom formation are presented. Psychiatric interview techniques, mental examination, psychological testing and recognition of a variety of psychopathological conditions are covered. Includes informed use of psychotropic drugs, other somatic treatments and psychiatric emergencies.

4 semester hours, second year, semester 4.

709. Core Clinical Clerkship in Mental Health

A required four-week rotation in psychiatry. 4 semester hours.

809. Clinical Clerkship in Mental Health

An elective four-week rotation in psychiatry or mental health. 4 semester hours.

Departmental Research Highlights

The Department of Psychiatry and Human Behavior is involved in several areas of research as it relates to mental illness. Currently, the major thrust in research involves neuropsychological/neuropsychiatric correlation with Alzheimer's disease. The department also is involved in research into substance abuse as well as in clinical drug trials.

DEPARTMENT OF PUBLIC HEALTH AND PREVENTIVE MEDICINE

John G. Mills, D.O., M.P.H., chairman

The Department of Public Health and Preventive Medicine is a multidisciplinary academic unit concerned with the well-being of healthy patients and the prevention of functional loss and impairment in persons already at risk. The department has two divisions, Public Health and Occupational Medicine, both representing a significant aspect of the health care needs and interests of the American public. Department faculty members participate in the teaching of public health, preventive medicine and occupational medicine.

The department serves as a regional resource center for occupational medicine consultation. It has the single largest number of board-certified occupational medicine specialists of any health science center in Texas and is the nation's only osteopathic medical school department that has faculty members board-certified in all subspecialties of preventive medicine. Department faculty includes individuals certified in preventive medicine, public health, occupational medicine and aerospace medicine.

6363. Public Health and Preventive Medicine

A lecture series in preventive medicine and community health. Major content areas include communicable disease control, environmental health, occupational medicine, epidemiology and biostatistics. Students also participate in a series of health care workshop designed to provide additional insight and practical experience in selected areas of personal interest.

3 semester hours, second year, semester 3.

805. Clinical Clerkship in Public Health and Preventive Medicine

An elective four-week rotation in public health/preventive medicine.

4 semester hours.

806. Clinical Clerkship in Occupational Medicine and Personal Health

An elective four-week rotation in occupational and personal health.

4 semester hours.

Departmental Research Highlights

The Department of Public Health and Preventive Medicine conducts clinical research and epidemiologic studies of patients seen in its various clinics. Faculty members have published their investigations in national and international biomedical journals. Past research has dealt with the health status of firefighters, medical students and college employees. Currently, databases are being used to assess health risks and preventive measures in police officers, hazardous waste workers and people traveling to developing countries. Department faculty members maintain research interests in a wide variety of topics relevant to preventive medicine, including epidemiology, occupational medicine, public health, substance abuse prevention, clinical outcomes measurement, rural health, nutrition, physical fitness, hyperbaric medicine and health promotion. Recent research grants have been awarded to PH/PM by public agencies and private organizations, including the U.S. Department of Education, the Department of Health and Human Services, the pharmaceutical industry and other state and local contributors.

DEPARTMENT OF RADIOLOGY

Mark A. Baker, D.O., acting chairman

6571. Principles of Radiology

The study of the basic principles of diagnostic X-ray, CT scanning, ultrasound, nuclear medicine, magnetic resonance and interventional radiology; correlation of anatomy, physiology and pathology; and the clinical application of these methods of examination.

2 semester hours, third year, semester 5.

818. Clinical Clerkship in Radiology

An elective four-week rotation in radiology. 4 semester hours.

DEPARTMENT OF SURGERY

Sam W. Buchanan, D.O., chairman

6560. Surgery Lecture Series

A basic course covering general surgery as well as thoracic and cardiovascular surgery, orthopedic surgery, urological surgery and neurosurgery. Nutritional support, critical care and basic surgical sciences also are presented. Following completion of the course, students should be aware of common surgical problems and know the diagnostic and therapeutic regimens associated with each. Students should not only be able to correlate principles of the basic sciences to clinical conditions but also have solid foundations in the basic clinical knowledge necessary for competent patient management in their clinical rotations.

The ophthalmology section is designed to give students an understanding of ocular anatomy and physiology and their relationship to common ocular disorders; examination techniques, diagnosis and treatment methods important to family physicians are emphasized. The otorhinolaryngology-facial plastic surgery section includes clinical diagnosis and therapy of disorders of the ear, nose, paranasal sinuses and throat, bronchoesophagology, respiratory allergy and diagnosis of head and neck neoplasms, including principles of examination and the use of diagnostic instruments and screening audiometers.

7 semester hours, third year, semester 5.

(10. Core Clinical Clerkship in Surgery

A required eight-week clerkship in surgery in an affiliated hospital. Students spend four weeks focusing on general surgery principles and procedures and two weeks studying orthopedics. The remaining two weeks are spent in one of the following subspecialty areas: neurosurgery, cardiovascular/thoracic surgery, ophthalmology, otorhinolaryngology/facial plastic surgery and urology.

8 semester hours.

- 810. Clinical Clerkship in SurgeryAn elective four-week clerkship in surgery in an affiliated hospital.4 semester hours.
- 814. Clinical Clerkship in OphthalmologyAn elective four-week clerkship in ophthalmology.4 semester hours.
- 816. Clinical Clerkship in OtorhinolaryngologyAn elective four-week rotation in otorhinolaryngology.4 semester hours.
- 832. Clinical Clerkship in OrthopedicsAn elective four-week rotation in orthopedics.4 semester hours.
- 833. Clinical Clerkship in Thoracic Surgery An elective four-week rotation in thoracic surgery.4 semester hours.
- 834. Clinical Clerkship in Neurosurgery An elective four-week rotation in neurosurgery.4 semester hours.
- 835. Clinical Clerkship in UrologyAn elective four-week rotation in urology.4 semester hours.

Departmental Research Highlights

The Department of Surgery is currently involved in a research program in conjunction with the Department of Biochemistry and Molecular Biology concerning wound healing and skin grown under controlled conditions. Clinical applications will be applicable to wound care in young and old patients. The department also is involved in informal studies in hemodynamics, nutrition and clinical outcomes.

Medical Scientist Training Programs

To encourage future physicians to pursue research in clinically relevant areas, TCOM offers dual-degree programs cooperatively with the health science center's Graduate School of Biomedical Sciences. In these programs, students can earn the doctor of osteopathy degree concurrently with either a doctor of philosophy or master of science degree in biomedical sciences while specializing in several areas. Approval of a master of public health degree is anticipated for the fall of 1995, allowing for a D.O./M.P.H. dual-degree program.

Dual D.O./Ph.D. Program

This dual-degree program is an excellent education for students who wish to pursue careers in research and/or academic medicine. It introduces students to modern research techniques and methodologies, which will reinforce a basic understanding of clinical techniques and procedures. Such a combination enables each D.O./Ph.D. candidate to carry out fundamental research programs in clinically relevant areas. The program's goal is to prepare its graduates to function independently in both basic and clinical investigation.

The program normally takes six years. At the end of this time, the student is expected to have completed the curriculum requirements for the D.O. degree in accordance with TCOM policies and for the Ph.D. degree in accordance with policies of the Graduate School of Biomedical Sciences and the relevant departments as they apply to the second degree.

A student should apply for admission into the dual-degree program at the time of application to the D.O. program. Under special circumstances, consideration will be given to students who want to enter the dual-degree program during the first two years of the D.O. program.

The following description is the general format of the dual-degree D.O./Ph.D. program; however, deviations from this format that meet the curriculum requirements are available.

Within the first two years of the program, the student will complete the basic science courses in the D.O. curriculum. The student also will select a graduate advisory committee and file an approved graduate degree plan of 90 credit hours, of which 45 credits of the D.O. basic science coursework applies. The student will be required to pass Part I of the examination administered by the National Board of Osteopathic Medical Examiners and Step I of the United States Medical Licensing Examination.

Within the second two-year block of the program, the student will complete Ph.D. degree course requirements and research toward the dissertation. The student will be required to pass the qualifying examination for the Ph.D. degree and have the approved dissertation research well on the way.

Within the last two years of the program, the student will complete the required clinical rotations and electives for the D.O. degree. The student will be required to pass Part II of the National Board examination and Step II of the United States Medical Licensing Examination, and defend the Ph.D. dissertation.

Graduates of the dual-degree Medical Scientist Training Program differ from most scientists because they have not only the medical training needed to investigate human problems but also the extensive research background in basic science needed to bring fundamental knowledge and insight into clinical investigations.

Areas of specialization in the program are anatomy and cell biology, biochemistry and molecular biology, microbiology and immunology, pharmacology and physiology.

Full stipends and tuition scholarships are available to students during their two years of graduate research work.

Students interested in the dual-degree D.O./Ph.D. program should contact the dean of the Graduate School of Biomedical Sciences.



Dual M.S./D.O. Program

Selected TCOM students who wish to seek the M.S. degree concurrently with the D.O. degree should contact the Office of the Dean in the Graduate School of Biomedical Sciences during the early planning stages about specific requirements for this program.

Dual D.O./M.P.H. Program

Approval of a master of public health degree is anticipated for the fall of 1995, allowing for this unique dual-degree program.

TCOM has continuously distinguished itself among the eight medical schools of Texas by graduating the highest percentage of physicians who choose careers in primary care, as well as the greatest proportion of graduates practicing in underserved rural areas. Often these primary care physicians must serve as the community public health official but have little training in this area. The dual D.O./ M.P.H. program will provide these physicians with the educational background and the public health experiences to be effective public health officials in underserved areas.

Training in public health is useful to primary care physicians who must often operate at the interface of individual, family and community health issues. The study of epidemiology, environmental health, behavioral sciences and other public health fundamentals would significantly enhance their ability to deal with public health problems that arise in the communities they serve.

The major objective of the D.O./M.P.H. program is to produce physicians capable of combining both public health and clinical practice. Students in this program will be prepared to:

• provide or coordinate the delivery of age-appropriate services to diverse populations using fundamental principles of public health

• provide leadership and support to communities regarding public health policy, administration and services

• manage family health care programs for their community, local governments and health care organizations

• participate in scholarly research in areas of health demography, disease prevention, health promotion, maternal and child health, aging, primary care, and health services research and policy

Those interested in the dual D.O/M.P.H. program should contact the Graduate School of Biomedical Sciences, Office of the Dean.

Other Graduate Degree Progams

Health science center faculty members participate in both master of science and doctor of philosophy degree programs in the biomedical sciences for non-medical students through the Graduate School of Biomedical Sciences. Descriptions of the M.S. and Ph.D. programs in biomedical sciences can be found in the health science center's Graduate School of Biomedical Sciences catalog.

Individuals who have already earned the D.O. degree and who may be interested in pursuing the Ph.D. degree should contact the dean of the graduate school for further information. Financial support may be available through private foundations, as well as through state and federally supported stipends.

Postgraduate Programs

TCOM offers the following postgraduate programs, which are conducted at the health science center, its affiliated hospitals and, where appropriate, other institutions that can provide quality educational experiences.

Residency Programs

TCOM firmly endorses the completion of more than one year of postgraduate training and supports the completion of a one-year rotating internship either as a part of a residency program (such as in general and family practice) or precursory training to be followed by residency training.

Residency Program in Anesthesiology

TCOM offers an American Osteopathic Association-approved residency program for training qualified osteopathic physicians in the practice of anesthesiology, as defined by the American Osteopathic Board of Anesthesiology. The TCOM program provides the educational requirements to qualify residents for membership in the American Osteopathic College of Anesthesiologists and for examination for certification by the American Osteopathic Board of Anesthesiology. This program will not be offered after July 1996. *Paul A. Stern, D.O., director*

Residency Program in Family Practice

TCOM offers an American Osteopathic Association-approved residency program for training qualified osteopathic physicians in family practice. The TCOM program is associated with four affiliated hospitals. Certification in family practice requires a three-year program that includes a special-emphasis track as the first year of the residency. The program provides the educational requirements to qualify residents for membership in the American College of Osteopathic Family Physicians and for eventual examination by the American Board of Osteopathic Family Physicians pursuant to certification in family practice.

Samuel T. Coleridge, D.O., director Larry S. Johnson, L.M.S.W.-A.C.P., administrative coordinator

TCOM and Osteopathic Medical Center of Texas Irvine D. Prather, D.O., director Dallas Family Hospital Craig Yetter, D.O., director Dallas/Fort Worth Medical Center David Haman, D.O., director Bay Area Medical Center (Corpus Christi) Brian Knight, D.O., director

Residency Program in General Internal Medicine

TCOM offers an American Osteopathic Association-approved residency program for training qualified osteopathic physicians in the practice of general internal medicine. The TCOM program provides the educational requirements to qualify residents for membership in the American College of Osteopathic Internists and for eventual examination by the American College of Osteopathic Internists pursuant to certification in general internal medicine. *Francis* X. Blais, D.O., director

Residency Programs in Manipulative Medicine

TCOM offers two American Osteopathic Association-approved residency programs for training qualified osteopathic physicians in manipulative medicine. The primary program provides the educational requirements to qualify residents to sit for the exam and receive certification in special proficiency in manipulative medicine offered by the American Academy of Osteopathy and eventual fellowship in manipulative medicine.

Jerry L. Dickey, D.O., director

Also available is a new one-year program, "Plus One," that allows physicians to earn a second certification in manipulative medicine after completing a primary residency in another specialty. *Gregory A. Dott, D.O., director*

Residency Program in Obstetrics/Gynecology

TCOM offers an American Osteopathic Association-approved residency program for training qualified osteopathic physicians in the practice of obstetrics and gynecologic surgery. The TCOM program provides the educational requirements to qualify residents for membership in the American College of Osteopathic Obstetricians and Gynecologists and for eventual examination by the American Osteopathic Board of Obstetrics and Gynecology pursuant to certification in obstetrics and gynecology. *Steve Buchanan*, *D.O.*, *director*

Residency Program in Preventive Medicine

This residency program is currently being restructured. Contact the Office of Graduate Medical Education for more information. John Mills, D.O., director

Residency Program in Psychiatry

TCOM offers an American Osteopathic Association-approved residency program for training qualified osteopathic physicians in the practice of psychiatry. The TCOM program provides the educational requirements to qualify residents for membership in the American College of Neuropsychiatrists and for eventual examination by the American Osteopathic Board of Neurology and Psychiatry pursuant to certification in psychiatry. American College of Graduate Medical Education approval is anticipated. TCOM

Harvey G. Micklin, D.O., F.A.C.N., director Tarrant County Hospital District Robert Denney, M.D., director

Residency Program in Surgery

TCOM offers an American Osteopathic Association-approved residency program for training qualified osteopathic physicians in the practice of general surgery. The TCOM program provides the educational requirements to qualify residents for membership in the American College of Osteopathic Surgeons and for eventual examination by the American Osteopathic Board of Surgery pursuant to certification in surgery.

TCOM and Osteopathic Medical Center of Texas Sam Buchanan, D.O., director Tri-City Hospital Westley Raborn, D.O., director, Tri-City Hospital

Residency Program in Urology

TCOM offers an American Osteopathic Association-approved residency program for training qualified osteopathic physicians in the practice of urology. The TCOM program provides the educational requirements to qualify residents for membership in the American College of Osteopathic Surgeons (Urology) and for eventual examination by the American Osteopathic Board of Surgery pursuant to certification in urology.

Donald Ross, D.O., director

Fellowship Programs

Fellowship Program in Critical Care Medicine

TCOM offers an American Osteopathic Association-approved fellowship program for training qualified osteopathic physicians in the practice of critical care medicine. The TCOM program provides the educational requirements to qualify fellows for membership in the American College of Osteopathic Internists and for eventual examination by the American College of Osteopathic Internists pursuant to certification in critical care medicine. *Philip Slocum*, D.O., *director*

Fellowship Program in Geriatric Medicine

TCOM offers a geriatric fellowship program for training physicians board-certified or board-eligible in internal medicine and family medicine. Funded through the Bureau of Health Professions, Human Resource Services Administration, the program provides training through geriatric research, program administration, teaching and clinical experiences. The two-year fellowship includes participation in an Intensive Geriatric Board Review Course to prepare physicians for the Geriatric Examination for Certiciate of Added Qualifications. *Janice A. Knebl, D.O., director*



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Six/ Faculty

DEPARTMENT OF ANATOMY AND CELL BIOLOGY

Turner, James E., Ph.D. Chairman and Professor; B.A. Virginia Military Institute, M.S. University of Richmond, Ph.D. University of Tennessee Agarwal, Neeraj, Ph.D. Assistant Professor; B.S. Panjab University, M.S. National Dairy Research Institute, Ph.D. The Postgraduate Institute of Medical Education and Research Aschenbrenner, John E., Ph.D. Associate Professor; B.S. Iona College, M.S. Rutgers University, Ph.D. Baylor University Cammarata, Patrick R., Ph.D. Professor; B.S. State University of New York at Stony Brook, Ph.D. Hunter College, City University of New York Chaitin, Michael H., Ph.D. Associate Professor; B.S. State University of New York at Albany, Ph.D. Florida State University Garner, Margaret H., Ph.D. Associate Professor; B.S. Marietta College, M.S. and Ph.D. Indiana University Leppi, T. John, Ph.D. Professor; B.A. Albion College, Ph.D. Yale University Moorman, Stephen J., Ph.D. Assistant Professor; B.S. Cornell University, M.S. State University of New York at Stony Brook, Ph.D. Colorado State University Orr, Edward L., Ph.D. Associate Professor;

Associate Professor; B.S. Cleveland State University, Ph.D. University of California at Berkeley Roque, Rouel S., M.D. Assistant Professor; B.S. and M.D. University of the Philippines Rosales, Armando A., M.D. Research Assistant Professor; B.S. and M.D. University of Santo Tomas Rudick, Victoria, Ph.D. Associate Professor; B.A. College of Wooster, Ph.D. Ohio State University Sheedlo, Harold, Ph.D. Research Assistant Professor; B.A. and M.A. Northern Michigan University, Ph.D. Memphis State University Schunder, Mary, Ph.D. Associate Professor; B.A. and M.A. Texas Christian University, Ph.D. Baylor University Wordinger, Robert J., Ph.D. Associate Professor; B.S. Pennsylvania State University, M.S. and Ph.D. Clemson University Adjunct Faculty Clark, Abbot F., Ph.D. Adjunct Assistant Professor

Collier, Robert, Ph.D. Adjunct Assistant Professor Kurtz, Stanley M., Ph.D., M.D. Adjunct Professor McCartney, Mitchell, Ph.D. Adjunct Assistant Professor

DEPARTMENT OF ANESTHESIOLOGY

Stern, Paul A., D.O., F.A.O.C.A. Chairman and Professor; B.S. Wayne State University, D.O. University of Health Sciences Kahn, Hyman, D.O., F.A.O.C.A. Associate Professor; D.O. Kirksville College of Osteopathic Medicine Adjunct Faculty Chaumette, A. Max, M.D. Adjunct Assistant Professor Classen, Ashley M., D.O. Adjunct Instructor Cogdill, James M., D.O. Adjunct Assistant Professor Gravbill, David B., D.O. Adjunct Instructor Kebabijan, S. Stevon, D.O., F.A.O.C.A. Adjunct Associate Professor Kelso, Elmer L., D.O., F.A.O.C.A. Adjunct Associate Professor Leech, Richard C., D.O. Adjunct Assistant Professor Martin, Randall P., D.O. Adjunct Instructor

Neisler, Gary L., D.O. Adjunct Instructor Ponitz, Kenneth C., D.O. Adjunct Assistant Professor Sears, Kristin, D.O. Adjunct Assistant Professor Shaw, Albert L., M.D. Adjunct Associate Professor Stanton, J. Michael, D.O., F.A.O.C.A. Adjunct Associate Professor Stein, Ralph G., D.O. Adjunct Instructor

DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

McConathy, Walter J., Ph.D. Acting Chairman and Associate Professor; B.A., B.S. and Ph.D., University of Oklahoma Cook, Paul F., Ph.D. Professor; B.A. Our Lady of the Lake College, Ph.D. University of California at Riverside Dimitrijevich, S. Dan, Ph.D. Research Assistant Professor; B.S. and Ph.D. University of Bath Dory, Ladislav, Ph.D. Associate Professor; B.S. University of Manitoba, Ph.D. McGill University Easom, Richard A., Ph.D. Assistant Professor; B.S. University of Bath, Ph.D. University of Glasgow Fungwe, Thomas V., Ph.D. Research Assistant Professor; B.S. College of Agriculture, B.S., M.S., Ph.D. Texas Tech University Gracy, Robert W., Ph.D. Professor: B.S. California State Polytechnic University, Ph.D. University of California at Riverside Grant, Stephen R., Ph.D. Assistant Professor; B.A. Westmar College, M.S. and Ph.D. University of Tennessee Harris, Ben G., Ph.D. Professor: B.S. Southwestern Oklahoma State University, M.S. and Ph.D. Oklahoma State University Kudchodkar, B. J., Ph.D. Research Associate Professor; B.S. University of Bombay, M.S. University of Punjab, M.S. and Ph.D. University of Saskatchewan

Kulkarni, Gopal, Ph.D. Research Assistant Professor; B.S. Karnatak University, Ph.D. Indian Institute of Science Lacko, Andras G., Ph.D. Professor; B.S.A. and M.S. University of British Columbia, Ph.D. University of Washington Rao, G. S. J., Ph.D. Research Assistant Professor; B.S. and M.S. Bangalore University, Ph.D. Indian Institute of Science Wu, Ming-Chi, Ph.D. Professor; **B.S.** National Taiwan University, Ph.D. University of Wisconsin Adjunct Faculty Alvarez-Gonzalez, Rafael, Ph.D. Adjunct Assistant Professor Cammarata, Patrick R., Ph.D. Adjunct Associate Professor Clark, Abbot F., Ph.D. Adjunct Professor McConathy, Walter J., Ph.D. Adjunct Associate Professor Nicholson, Wayne L., Ph.D. Adjunct Assistant Professor Rodriguez, Ricardo E., Ph.D. Adjunct Assistant Professor Romeo, Tony, Ph.D. Adjunct Assistant Professor Sims, James L., Ph.D. Adjunct Assistant Professor Zachariah, Nannepaga Y., Ph.D. Adjunct Associate Professor

DEPARTMENT OF FAMILY MEDICINE

Coleridge, Samuel T., D.O., F.A.C.E.P., F.A.C.O.E.P. Chairman and Professor; B.S. University of Akron, D.O. University of Health Sciences Baldwin, Richard B., D.O. Vice Chairman and Associate Professor: B.S. University of Oklahoma, D.O. University of Health Sciences Bowling, John R., D.O., F.A.C.O.F.P. Associate Professor; B.S. Ohio University, D.O. Kirksville College of Osteopathic Medicine Browne, Carol S., D.O. Assistant Professor: B.A. Southwestern University, D.O. Texas College of Osteopathic Medicine Cage, Clifford, D.O. Associate Professor; B.S. Muhlenberg College, D.O. Philadelphia College of Osteopathic Medicine Carter, John E., Jr., D.O., F.A.C.G.P. Associate Professor; B.S. Wayne State University, D.O. Chicago College of Osteopathic Medicine Clark, William H., Jr., D.O. Associate Professor: B.S. Baylor University, D.O. University of Health Sciences Faigin, Nancy, D.O. Associate Professor; B.S. Texas Wesleyan University, D.O. University of Health Sciences Falcon, Theresa, D.O. Assistant Professor; B.S., Texas A&M University, D.O., Texas College of

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Gonzalez, Adela N., M.P.A. Instructor; Administrative Director, Division of Rural and Urban Health; B.A., University of Corpus Christi, M.P.A., Southwest Texas State University Johnson, Larry Steven, L.M.S.W.-A.C.P. Assistant Professor; B.A. Creighton University, M.S.W. Our Lady of the Lake University Marshall, Muriel, D.O., M.P.H./ T.M., Dr.P.H., F.A.O.C.P.M. Associate Professor; Medical Director, Urban Health: B.A. Taylor University, D.O. Michigan State University College of Osteopathic Medicine, M.P.H./T.M. and Dr.P.H. Tulane University School of Public Health & Tropical Medicine McNulty, Heidi, D.O. Assistant Professor; B.S. University of California at Davis, D.O. College of Osteopathic Medicine of the Pacific Migala, Henri, M.S. Research Associate Professor; Director, Division of Research; B.A. and M.S., University of Texas at Arlington Palmarozzi, Elizabeth, D.O. Assistant Professor; B.S. Lamar University, D.O. Texas College of Osteopathic Medicine Papa, Frank J., D.O., Ph.D., F.A.C.E.P. Professor; Director, Division of **Emergency Medicine;** B.A. La Salle College, D.O. Philadelphia College of Osteopathic Medicine, Ph.D. University of North Texas

Peyton, Sarah A., M.S.S.W. Assistant Professor; Administrator, Urban Health; B.A. Colorado Women's College, M.S.S.W. University of Texas at Arlington Prather, Irvine D., D.O. Associate Professor; B.S. Marvville College, M.S. Virginia Polytechnic Institute and State University D.O. West Virginia School of Osteopathic Medicine Richards, David M., D.O., F.A.C.G.P. Professor; B.A. Baldwin Wallace College, D.O. Kirksville College of Osteopathic Medicine Rodriguez, Ernest G., P.A. Instructor; B.A. Baylor University, B.S., P.A. University of Oklahoma Saperstein, Phillip P., D.O., F.A.C.G.P. Professor; B.A. Yale University, D.O. Kansas City College of Osteopathic Medicine Stockard, Alan R., D.O. Assistant Professor; Director, Division of Sports Medicine/Rehabilitation; B.S. University of Texas at Arlington, D.O. Texas College of Osteopathic Medicine Urban, Stephen F., D.O., F.A.C.G.P. Professor: B.S. University of Buffalo, D.O. Kirksville College of Osteopathic Medicine Whitham, John A., D.O. Associate Professor; B.A. Luther College, D.O. University of Osteopathic Medicine & Health Sciences Whiting, Craig, D.O. Assistant Professor; B.S. Texas A&I University, D.O. Texas College of Osteopathic Medicine

Woodworth, Robert M., D.O., F.A.C.P.M., F.A.A.P., F.A.O.C.P.M. Assistant Professor; Medical Director, Rural Health; B.S. University of Michigan, M.P.H. University of Oklahoma, D.O. Chicago College of Osteopathic Medicine Zachary, T. Eugene, D.O., F.A.C.G.P. Associate Professor; B.A. University of North Texas, D.O. University of Health Sciences

Adjunct Associate Professor Angelo, Christopher, D.O. Adjunct Associate Professor Ansohn, John R., D.O. Adjunct Assistant Professor Apsley-Ambriz, Sara, D.O. Adjunct Associate Professor Beall, Benjamin, D.O. Adjunct Associate Professor Beard, Marianne, D.O. Adjunct Assistant Professor Beasley, George, D.O. Adjunct Assistant Professor Beaty, Barry, D.O. Adjunct Associate Professor Bickley, Mark, D.O. Adjunct Assistant Professor Boyd, John H., D.O. Adjunct Professor Burke, Andrew, D.O. Adjunct Associate Professor Burrows, Larry, D.O. Adjunct Associate Professor Calabrese, Glenn M., D.O. Adjunct Assistant Professor Carlton, Catherine, D.O. Adjunct Professor Carpenter, Billy, D.O. Adjunct Associate Professor Carter, Ruth E., D.O. Adjunct Associate Professor Castoldi, Thomas A., D.O. Adjunct Associate Professor Cook, Charles, D.O. Adjunct Associate Professor Czewski, James W., D.O. Adjunct Associate Professor Degler, Frank Adjunct Instructor DeLuca, Robert C., D.O. Adjunct Associate Professor Eve, Susan, Ph.D. Adjunct Professor Faigin, Al, D.O. Adjunct Associate Professor Farrar, Virginia, D.O. Adjunct Associate Professor Galewaler, John E., D.O. Adjunct Associate Professor Gardner, Bennett, D.O. Adjunct Associate Professor Garmon, Anesia, D.O. Adjunct Associate Professor

Adjunct Faculty

Alexander, Jerry, D.O.

Gershon, Robert, D.O. Adjunct Associate Professor Greene, David, D.O. Adjunct Associate Professor Griffin, Brad, D.O. Adjunct Associate Professor Guevara, Alex, Jr., D.O. Adjunct Assistant Professor Hall, Richard, D.O. Adjunct Professor Hawa, James, D.O. Adjunct Associate Professor Hayes, Randall, D.O. Adjunct Associate Professor Hayward, Bruce, D.O. Adjunct Assistant Professor Hazelip, Sandra, D.O. Adjunct Assistant Professor Henshaw, Clyde V., Jr., D.O. Adjunct Assistant Professor Hill, Frederick L., D.O. Adjunct Associate Professor Hinshaw, Duane, D.O. Adjunct Associate Professor Holiday, Joel, D.O. Adjunct Associate Professor Howell, Shelley, D.O. Adjunct Associate Professor Hulse, Al, D.O. Adjunct Associate Professor Katzen, Kenneth, D.O. Adjunct Assistant Professor Kirkwood, M. E., D.O. Adjunct Associate Professor Knight, Brian, D.O. Adjunct Associate Professor Kozura, John, III, D.O. Adjunct Associate Professor Lewis, Harold D., D.O. Adjunct Associate Professor Linton, James, D.O. Adjunct Associate Professor Maxwell, Jack, D.O. Adjunct Associate Professor McDaniel, Ron, D.O. Adjunct Assistant Professor McKinney, Carl, D.O. Adjunct Associate Professor Olson, Richard, D.O. Adjunct Professor Peters, Robert, D.O. Adjunct Associate Professor Peyton, Dean, D.O. Adjunct Associate Professor

Pifer, Kathryn, D.O. Adjunct Associate Professor Post, Yvonne C., D.O. Adjunct Associate Professor Puryear, Bill, D.O. Adjunct Associate Professor Rhodes, J.W., Ph.D. Adjunct Professor Rhodes, Roy L., D.O. Adjunct Associate Professor Rollins, Kari L., D.O. Adjunct Associate Professor Ruehle, Henry, D.O. Adjunct Associate Professor Russell, James Michael, D.O. Adjunct Associate Professor Seibel, Michael, D.O. Adjunct Associate Professor Sharp, Larry J., D.O. Adjunct Associate Professor Sharratt, Laura, D.O. Adjunct Assistant Professor Sparks, Robert, D.O. Adjunct Associate Professor Stark, Robert, D.O. Adjunct Assistant Professor Strazynski, Josef, D.O. Adjunct Associate Professor Stroud, Joyce, D.O. Adjunct Assistant Professor Thomas, William, D.O. Adjunct Assistant Professor Thompson, Jeff, D.O. Adjunct Associate Professor Thornburg, C. Wayne, D.O. Adjunct Assistant Professor Tilkin, Lynne, D.O. Adjunct Assistant Professor Todd, Jasen, D.O. Adjunct Assistant Professor Wallingford, Craig, D.O. Adjunct Assistant Professor Walton, John A., D.O. Adjunct Associate Professor Watson, Terry, D.O. Adjunct Associate Professor Wiseman, Rodney, D.O. Adjunct Associate Professor Worrell, Steve, D.O. Adjunct Associate Professor

DEPARTMENT OF INTERNAL MEDICINE

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Mills, Jeffrey A., D.O. Adjunct Assistant Professor Nophsker, Theodore, D.O. Adjunct Assistant Professor Ostransky, David, D.O. Adjunct Associate Professor O'Toole, Charles L., D.O. Adjunct Assistant Professor Pierce, J. Rush, M.D. Adjunct Professor Pincus, Lewis M., D.O. Adjunct Assistant Professor Rojas, George A., D.O. Adjunct Assistant Professor Schneider, Horace L., D.O. Adjunct Assistant Professor Sellman, Jack C., M.D. Adjunct Professor Skiba, Mary Ann, D.O. Adjunct Assistant Professor Swanson, Jan, D.O. Adjunct Assistant Professor Tacka, Francis, D.O. Adjunct Associate Professor Trese, Thomas J., D.O. Adjunct Assistant Professor Weaver, Robert E., M.D. Adjunct Assistant Professor Widerhorn, Josef, M.D. Adjunct Associate Professor

DEPARTMENT OF MANIPULATIVE MEDICINE

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DEPARTMENT OF MEDICAL EDUCATION

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DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

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DEPARTMENT OF PATHOLOGY

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DEPARTMENT OF PEDIATRICS

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DEPARTMENT OF PHARMACOLOGY

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DEPARTMENT OF PHYSIOLOGY

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DEPARTMENT OF PUBLIC HEALTH AND PREVENTIVE MEDICINE

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DEPARTMENT OF RADIOLOGY

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DEPARTMENT OF SURGERY

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