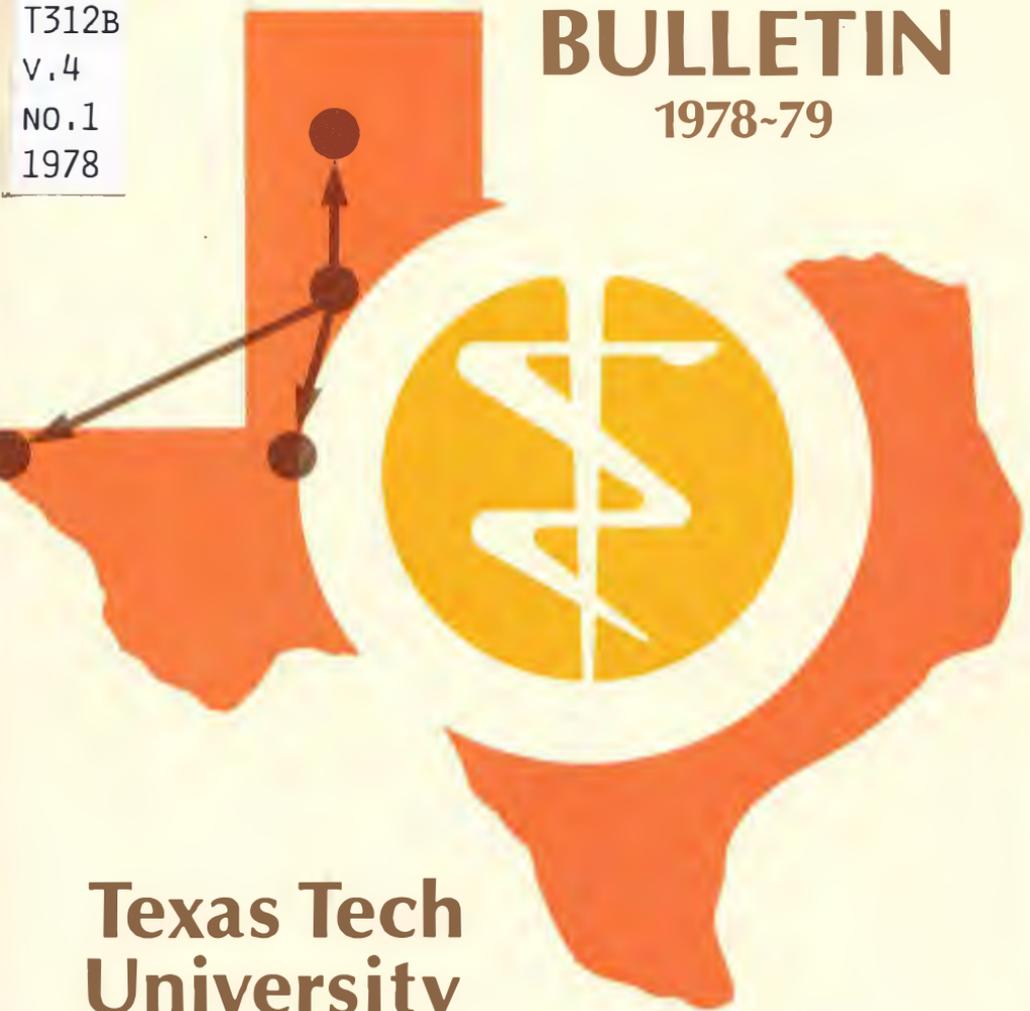


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BULLETIN

1978~79



**Texas Tech
University
School of Medicine**

**INFORMATION AND ADMISSION
APPLICATIONS FOR PROGRAMS AT TTUSM
ARE AVAILABLE AS FOLLOWS:**

**THE DOCTOR OF MEDICINE
PROGRAM:**

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Assistant Dean for
Admissions—Health
Sciences Centers
Texas Tech University School
of Medicine
P.O. Box 4569
Lubbock, TX 79409
Phone: 806/743-2297

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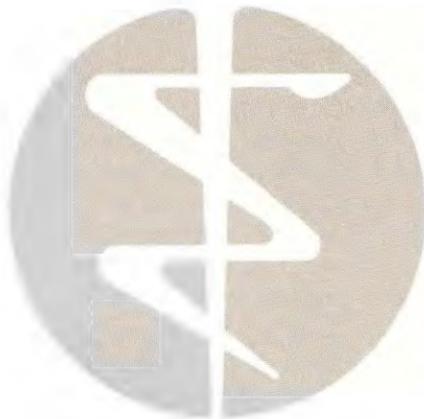
Texas Tech University
Health Sciences Center
Library of the Health Sciences

Lubbock

THE COVER illustrates Texas Tech University School of Medicine at Lubbock with Regional Academic Health Centers (RAHCs) in Amarillo, El Paso, and the Permian Basin at Odessa. Instruction in the basic sciences is completed in Lubbock with the clinical curriculum and residencies integrated among each of the four locations.

BULLETIN

TEXAS TECH UNIVERSITY SCHOOL OF MEDICINE



SEPTEMBER 1978
VOL. 4 • NO. 1

This catalog is an official bulletin of Texas Tech University School of Medicine containing policies, regulations, procedures, programs, courses, schedules, and fees in effect as the publication went to press. The School of Medicine reserves the right to make changes at any time to reflect current board policies, administrative regulations and procedures, amendments by state law and fee changes.

Texas Tech University School of Medicine is open to all persons regardless of race, color, religion, sex or national origin who are

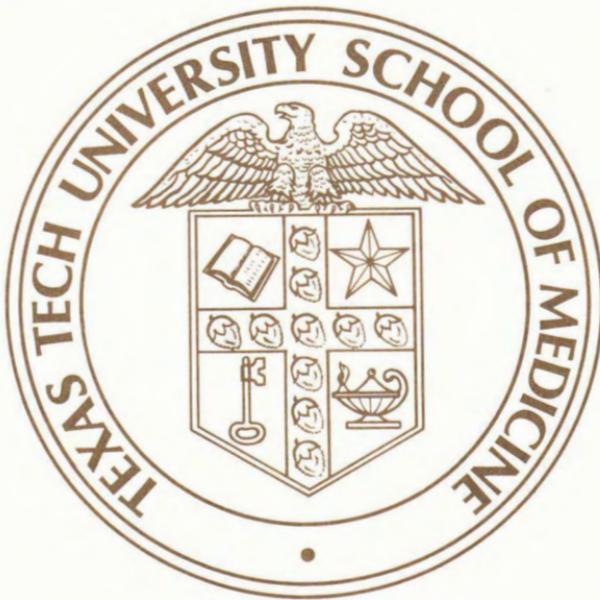
otherwise eligible for admission as students. The School of Medicine is an Equal Opportunity Employer and no applicant or employee will be discriminated against because of race, color, religion, sex or national origin concerning employment or during the course of employment at this institution.

Since the programs, course schedules, policies, regulations, procedures and fees contained herein are subject to continuous review and evaluation, the School of Medicine reserves the right to make changes at any time without notice. This publication is therefore intended for information only.

The Bulletin is published by Texas Tech University School of Medicine, P.O. Box 4569, Lubbock, Texas 79409.

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PRESIDENT'S MESSAGE



The Texas Tech University School of Medicine is the only medical school in the state of Texas located on the campus of a major, multi-purpose university. Curriculum enrichment is derived from this commonality of setting on the nation's third largest contiguous campus. In addition to the professional curriculum offered by the School of Medicine, the university offers rich multi-disciplinary studies through its six colleges, including Agricultural Sciences, Arts and Sciences, Business Administration, Education, Engineering and Home Economics, and two schools, the Graduate School and the School of Law. The university and the medical school are committed to continuous improvement of the education, research and public service programs involving the more than 22,000 Tech students. Within the medical school many of these programs are executed not only through the Lubbock headquarters but also through the school's Regional Academic Health Centers at Amarillo, El Paso, Lubbock and the Permian Basin.

*Cecil Mackey
President
Texas Tech University and
Texas Tech University School of Medicine*

VICE PRESIDENT'S MESSAGE



Created by the Legislature to address problems of health care delivery in primarily rural West Texas, Texas Tech University School of Medicine is developing regional programming to a level unparalleled in medical education. Academic Centers in four cities allow TTUSM to augment health services in those cities while offering students a selection of educational experiences. TTUSM programming will be the prototype for schools of nursing, allied health and pharmacy as they are developed.

*Richard A. Lockwood, M.D.
Vice President for the Health Sciences Centers*

DEAN'S MESSAGE



The objective of undergraduate curriculum at TTUSM is competence in all medical areas with emphasis on primary care. This objective is requisite to a specialty in any discipline and to the art of patient care. At TTUSM, rural rotations supplement urban programs and research exposure to amplify student experience and duplicate the realities of practice.

*George S. Tyner, M.D.
Dean, Texas Tech University School of Medicine*

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ACADEMIC CALENDARS

FALL 1978

August

- 21 (Mon) 1st Year—Orientation
22 (Tues) 1st & 2nd Year—Registration & Orientation
23 (Wed) 1st & 2nd Year—First Day of Term I & III Classes

September

- 4 (Mon) 1st & 2nd Years—Labor Day Holiday
5 (Tues) 3rd Year—Registration & Orientation
3rd & 4th Years—First Day of First Rotation
26-27 4th Year—National Board Of Medical Examiners, Part II
(Tues & Wed)
29 (Fri) 4th Year—Last Day of First Rotation

October

- 2 (Mon) 4th Year—First Day of Second Rotation
27 (Fri) 3rd Year & 4th Years—Last Day of First & Second Rotation
30 (Mon) 3rd & 4th Years—First Day of Second & Third Rotations

November

- 22 (Wed) 4th Year—Last Day of Third Rotation
23-24 1st, 2nd, 3rd, 4th Years—Thanksgiving Holidays
(Thurs & Fri)
27 (Mon) 4th Year—First Day of Fourth Rotation

December

- 15 (Fri) 1st & 2nd Years—Last Day of Term I & III Classes
16 (Sat) 1st & 2nd Years—First Possible Day for Final Examinations
22 (Fri) 3rd & 4th Years—Last Day of Second and Fourth Rotations
25-29 1st, 2nd, 3rd, 4th Years—Yuletide Holidays

January

- 1- 5 Yuletide Holidays
(Mon-Fri)

SPRING 1979

8 (Mon) 1st, 2nd, 3rd, 4th Years—First Day of Term II & IV Classes and of Third & Fifth Rotations

February

2 (Fri) 4th Year—Last Day of Fifth Rotation

5 (Mon) 4th Year—First Day of Sixth Rotation

March

2 (Fri) 3rd & 4th Years—Last Day of Third & Sixth Rotations

5 (Mon) 3rd Year—First Day of Fourth Rotation

5- 9 4th Year—Spring Holidays

(Mon-Fri)

12 (Mon) 4th Year—First Day of Seventh Rotation

19-23 1st & 2nd Years—Spring Holidays

(Mon-Fri)

April

6 (Fri) 4th Year—Last Day of Seventh Rotation

9 (Mon) 4th Year—First Day of Eighth Rotation

20 (Fri) 2nd Year—Last Day of Term IV Classes

21 (Sat) 2nd Year—First Possible Day for Final Examinations

27 (Fri) 3rd Year—Last Day of Fourth Rotation

30 (Mon) 2nd Year—First Day of Term V Classes

30-May 4 3rd Year—Spring Holidays

(Mon-Fri)

May

4 (Fri) 1st & 4th Years—Last Day of Term II Classes and of Eighth Rotation

5 (Sat) 1st Year—First Possible Day for Final Examinations

7 (Mon) 3rd & 4th Years—First Day of Fifth & Ninth Rotations

25 (Fri) 2nd Year—Last Day of Term V Classes

26 (Sat) 2nd Year—First Possible Day for Final Examinations

28 (Mon) 2nd, 3rd, 4th Years—Memorial Day Holiday

June

1 (Fri) 4th Year—Last Day of Ninth Rotation

3 (Sun) 4th Year—Graduation

12 & 13 2nd Year—National Board of Medical Examiners, Part I

(Tues & Wed)

29 (Fri) 3rd Year—Last Day of Fifth Rotation

GENERAL INFORMATION

HISTORY

Texas Tech University School of Medicine, created by the 61st Texas Legislature in May 1969, was established as a regional school, headquartered on the campus of Texas Tech University at Lubbock.

Objectives of the School of Medicine are to provide quality medical education, to address problems of health care delivery in rural areas and to develop education programs throughout West Texas emphasizing primary health care.

Texas Tech University School of Medicine formally opened in August 1972 with a freshman class of 36 and junior class of 25. Admission of students was accomplished in a record-setting 23 months from initiation of planning to implementation of programs. More common start-up periods range from four to eight years.

The medical school is the first operational phase of the Texas Tech University Health Sciences Centers. The Health Sciences Centers concept is designed to facilitate coordination of the medical school's regional programs and development of schools of Nursing, Pharmacy, Allied Health and Veterinary Medicine. These future health professional schools have been approved by the Coordinating Board, Texas College and University System, and their establishment awaits funding by the Legislature.

The school's Ambulatory Teaching Clinic initiated delivery of patient care in 1973. Currently the teaching clinic includes eleven specialties: pediatrics, orthopaedics,

dermatology, medicine, obstetrics / gynecology, surgery, ophthalmology, family practice, psychiatry, preventive medicine and community health, and physical medicine and rehabilitation.

Ground was broken in 1973 for the Health Sciences Centers Building, permanent home of the School of Medicine. The building will contain nearly 18 acres of floor space. One-third of the building was finished and dedicated in June 1977. The building and adjacent county teaching hospital are the first phase of a health sciences campus at Texas Tech.

The Texas Tech Regional Academic Health Center at Amarillo was dedicated in June 1976. The 37,000 square foot facility is within the Amarillo Medical Center on land provided by the Amarillo Area Foundation, Inc.

The first phase of approximately 25,000 square feet for the Regional Academic Health Center in El Paso was dedicated in 1977.

Planning and development efforts are now being initiated for a fourth center to be established in the Permian Basin. Educational programs will involve health resources in Andrews, Big Spring, Midland and Odessa. A building for this center is envisioned at some future date and will be located in Odessa.

The School of Medicine graduated its fourth class in 1977. In addition to the doctor of medicine, the school was approved between 1973 and 1976 to offer Master of Science and Doctor of

Philosophy degrees in five basic science fields and to offer residency programs in five medical specialties.

OBJECTIVES

TTUSM has educational programs in undergraduate medical education, graduate medical education, graduate school education, and continuing medical education. The purpose of these programs is to educate professionals for careers in medical science. The undergraduate medical program is designed to prepare medical students for graduate medical programs. The graduate medical programs prepare physicians for specific types of health care delivery. Almost all medical specialties are represented. These include the primary care areas of family practice, general internal medicine, and general pediatrics. The continuing medical education program provides an opportunity for the practicing physician to obtain supplemental training as needed or desired. The graduate school program trains professionals for research and teaching in the basic medical sciences.

TARBOX PARKINSON'S DISEASE INSTITUTE

The Tarbox Parkinson's Disease Institute was established by the Texas Legislature in 1972 for the purpose of furthering research, patient care, and education in Parkinson's Disease and related neurological disorders. The Tarbox Institute is named after Mr. Elmer L. Tarbox, a graduate of Texas Tech University and for many years state representative to the Texas Legislature from the Lubbock

area.

The educational activities include the sponsorship of regular symposia which bring together leading international scientists involved in both basic and clinical research related to the neurological disciplines.

The First Tarbox Symposium was held in Lubbock in October, 1976; its proceedings were published by Plenum Press in its *Advances in Experimental Medicine and Biology* Series. The Second Tarbox Symposium was held in February, 1978.

The Tarbox Fellowship program was instituted in 1977 and represents the research thrust of the Institute. The first Tarbox Fellow is pursuing postdoctoral training in the neuro-physiological laboratories of the Department of Physiology.

The Tarbox Clinic for Parkinson's Disease was established in 1978 on a regularly scheduled basis at the Texas Tech University School of Medicine. The Clinic is concerned with the diagnosis and treatment of persons with known or suspected Parkinson's Disease. The Clinic services benefit from the full support of the Medical School's diagnostic, inpatient, and rehabilitation services.

Dr. Jack Dunn, Professor and Chief, Division of Neurologic Surgery is acting medical director of the Tarbox Clinic. Dr. Alexander D. Kenny, Professor and Chairperson, Department of Pharmacology and Therapeutics, is the acting director of the Tarbox Parkinson's Disease Institute.

REGIONAL MEDICAL EDUCATION

Texas Tech University School of Medicine is a regional medical school and a vital part of its philosophy of education and service is its outreach program.

Unlike schools in large urban areas where the medical school-medical center complex may be located within a few square blocks of real estate, many of the Texas Tech University School of Medicine facilities and faculty are distributed throughout West Texas—an area encompassing approximately 135,000 square miles and 106 counties. The regional medical school concept complements the program in family practice training at TTUSM. In a large, urban medical center, primary and ambulant care may be only classroom concepts to medical students. At TTUSM students work and learn in actual primary health care delivery situations, in ambulatory clinical environments.

In addition to affiliation agreements with selected health care institutions throughout the West Texas region, the School of Medicine has developed a Regional Academic Health Center (RAHC) system. The RAHCs are a part of the region's health education system along with affiliated health care institutions. There currently are three RAHCs in operation: Amarillo, El Paso and at the main campus in Lubbock. Junior-senior medical students may receive part of their training in the clinical environment of an RAHC outside of Lubbock. The RAHCs also conduct continuing education programs for health professionals in their respective areas. A fourth center in the Permian Basin is being planned.

The RAHCs are staffed and operated by the faculty of the School of Medicine, with resident physicians as junior members of the medical staff.

PHYSICAL FACILITIES

Texas Tech Regional Academic Health Centers (RAHC) serve as academic bases for fulfillment of the Medical School's commitment to both medical education and health care service for West Texas.

RAHCs in Lubbock, Amarillo and El Paso work in conjunction with affiliated institutions in the regions they serve to provide programs for medical students and resident physicians and continuing medical education opportunities for practicing physicians.

Individual clinical strengths and opportunities at each location are emphasized. Medical students rotate through the three centers at various stages of their medical education to benefit from a full spectrum of experiences.





Amarillo Regional Academic Health Center
1400 Wallace Blvd.



El Paso Regional Academic Health Center
4800 Alberta



Lubbock RAHC and Health Sciences Center Hospital
Indiana at 4th Street

Amarillo

The Texas Tech Regional Academic Health Center at Amarillo serves as a base for clinical education for senior medical students and resident physicians.

A new 37,000 square foot facility for the RAHC was dedicated in April 1976. The building, located within the Amarillo Medical Center, includes space for teaching, a library and auditorium, research and support services.

Clinical experiences are provided through affiliation with High Plains Baptist Hospital, Northwest Texas Hospital, Psychiatric Pavilion, St. Anthony's Hospital, Veterans Administration Hospital and Killgore Children's Psychiatric Center.

The center also is a base for coordination of rural and urban preceptorships in clinics and private practices throughout the Panhandle region.

Emphasis at the Amarillo center is on primary care, particularly family practice, with support provided by other clinical departments.





El Paso

A building for the Regional Academic Health Center at El Paso was dedicated in 1977. The facility includes academic space for clinical departments, auditorium, classroom and support space. Additional clinical departments currently housed in temporary facilities will be added in later phases of construction.

All junior students are presently based in El Paso for training in the clinical areas of Surgery, Obstetrics and Gynecology, Psychiatry, Internal Medicine and Pediatrics. Family Practice, while not the primary thrust in El Paso, supports other clinical training programs. Some senior students and resident physicians in most clinical specialties are based in El Paso. The location of resident physician programs in El Paso is essential to the training of junior medical students in that center.

The center provides clinical experiences through affiliation with R. E. Thomason General Hospital and William Beaumont Army Medical Center.

Urban and rural preceptorship programs for students in the El Paso region are coordinated through this RAHC.





Lubbock

The Regional Academic Health Center at Lubbock is incorporated in the home base facilities of the School of Medicine. All freshman and sophomore students are based there. Some seniors and resident physicians in Family Practice, Orthopaedic Surgery and Ophthalmology are currently located in Lubbock.

When the Health Sciences Center Hospital is open, a full spectrum of residency training programs will be developed in preparation for establishing education for juniors in Lubbock by 1980. Preceptorship programs, model clinic programs and outreach efforts in the Lubbock region are coordinated through the center.

Affiliated institutions in Lubbock include the City-County Maternity Clinic, Posey Center, St. Mary of the Plains Hospital, University Hospital, West Texas Hospital, Veterans and Health Sciences Center Hospital Administration Outpatient Clinic. Additional affiliations include Central Plains Comprehensive Community Mental Health /Mental Retardation Center (Plainview) and Central Plains General Hospital (Plainview), Permian General Hospital (Andrews) and the Veterans Administration Hospital (Big Spring).





Permian Basin at Odessa

As student enrollments are increased over the next decade, a fourth center may be required. Presently, planning and development efforts are being established for the center. Programmatic efforts will focus initially on Continuing Medical Education and senior electives. Postgraduate efforts and expanded undergraduate offerings will be developed as appropriate at a later date.

FACULTY

The full-time faculty of the School of Medicine currently numbers 170. In addition, 555 West Texas area health care professionals and scientists have been appointed to the clinical faculty of the School of Medicine. As the School's educational programs grow and as the Regional Academic Health Centers develop, both the full-time faculty and the clinical faculty will grow with them.

LIBRARY OF THE HEALTH SCIENCES

The Library of the Health Sciences at Texas Tech University School of Medicine was developed in a record time span of 11 months, and presently contains approximately 60,000 bound volumes. More than 1,800 periodicals published both domestically and in foreign countries are received and bound regularly.

Associated libraries in the Amarillo and El Paso Regional Academic Health Centers of the medical school also are being

developed, and anticipated collections of about 40,000 volumes in each location are growing daily.

Besides offering its bound volumes and periodicals as a valuable reference collection, the Library houses a Media Library comprised of audio-visual materials, films, tapes, and other non-book media to aid in the learning experience. Teaching devices such as a medical injectable teaching arm and a heart-sound simulator are available for use.

Computerized searching services with access to more than 50 data bases on a variety of subjects ranging from medicine and engineering to education, agriculture, and many others are available. These data bases come from sources nationwide, especially the National Library of Medicine, Bethesda, Md. A few of the data bases available include MEDLINE, TOXLINE, AGRICOLA, NTIS, and others.

Study carrels and other study facilities are provided within the Library for students, faculty, and residents.

Medical students also have access to the Texas Tech University Library, which contains more than 1.5 million items including U.S. Government documents and substantial holdings in the sciences.

TEXAS TECH UNIVERSITY MEDICAL SCHOOL FOUNDATION

The Texas Tech University Medical School Foundation was formed in August, 1970, exclusively for charitable, education and scientific purposes and to assist in the establishment of the School of Medicine. It was chartered by the

Secretary of State, State of Texas as a non-profit corporation with a perpetual duration, on February 18, 1970.

The Foundation is responsible for accepting donations, gifts and grants of money and property and administering these funds on a charitable, educational or non-profit basis on behalf of the School of Medicine. In addition, the Foundation helps provide support for training facilities, research, and financial assistance for students.

Officers currently serving the Texas Tech University Medical School Foundation are:
James G. Morris, M.D., President
Harris Underwood, Vice President
Harry Jung, Secretary
Ken Thompson, Treasurer
S. C. Arnett, Jr., M.D., Immediate Past-President

CONTINUING EDUCATION AND EDUCATIONAL DEVELOPMENT

TTUSM's Office of Continuing Education and Educational Development maintains a two-fold purpose in its operation. They are easily related and vastly different.

Educational Development is a program designed to help faculty and staff enhance their effectiveness as teachers. Curriculum, instructional media and evaluation functions are performed by educational specialists who work with faculty and staff as a team to carry out the program's objectives. Educational consultants are available to the faculty in the solution of educational problems.

Continuing Education develops programs for faculty and practicing physicians to increase, improve or maintain medical knowledge and skill. A number of specialty societies and academies are

requiring continuing education credits for recertification. Several states also require continuing education credits for relicensing. The Liaison Committee on Continuing Medical Education (LCCME) has accredited the TTUSM department of CME, enabling the office to sponsor conference programs for Physicians' Recognition Award (PRA) credit.

CME works with faculty sponsors in planning and implementing medical conferences. Any faculty member with an idea for a conference contacts the CME office and the process begins. A target group and its needs are determined. Funding for the conference is developed. Based on the target group needs, an educational objective for the course is formulated. Curriculum is tentatively outlined.

A core faculty is selected to work with CME deciding a permanent curriculum. They also develop course evaluation procedures.

When conference plans are finalized, CME begins planning brochures and publicity for the conference. Mailings are made to the target audience. The office handles all physical arrangements for the conference, including hotel accommodations and menu planning. All applications for the conference are sent to the CME office for official tabulation.

Following the conference, CME conducts evaluation procedures to ensure the conference followed its proposed objectives and followed through with proposed curriculum.

Admission

GENERAL REQUIREMENTS

Admission to the Texas Tech University School of Medicine is not a right acquired by exceeding the minimum entrance requirements, but is a privilege granted to those especially qualified applicants for the purpose of providing the public with highly trained physicians dedicated to first class health care delivery. The Admissions Council has the responsibility of evaluating a large number of applicants for the qualities which will best ensure the attainment of this goal. The academic record and the Medical College Admission Test (MCAT) provide an estimate of intellectual ability and attainment. The less tangible personal qualities are judged from the written comments, letters of recommendation, biographical data, and personal interviews.

The requirements for admission to Texas Tech University School of Medicine include at least 90 credit hours of college level study in an accredited institution; however, since the traditionally high standard of medical practice requires a broad concept of human relations, maturity of judgment and a constantly increasing amount of scientific knowledge, the receipt of the baccalaureate degree is strongly recommended. The undergraduate student planning a career in medicine is advised to complete the minimum required courses prior to his senior year so that his college transcript reflects a more accurate ability in the sciences when evaluated by the Admissions Council. Because of the curriculum flexibility, there are no preferred

undergraduate majors. Equal consideration is given to non-science majors provided they demonstrate an aptitude for handling scientific material.

Required pre-medical courses are:

Courses	Semesters
General Chemistry (with lab)	2
Organic Chemistry (with lab)	2
General Biology (with lab)	2
Physics (with lab)	2

In addition, a reasonable working knowledge of conversational Spanish is recommended. Students lacking Spanish language training will be encouraged to achieve first year college Spanish proficiency prior to the required Medical Spanish course given in the second year. Calculus also is highly recommended but not required. All required pre-medical courses must be completed prior to matriculation.

The New MCAT for 1978 is required for all applicants to the 1979 entering class. The MCAT will be valid for only a two year period of time and thereafter must be retaken. It is strongly recommended that the New MCAT be taken in the spring of the year in which the application to medical school is submitted; however, the fall test will still allow time for the applicant to be considered for the upcoming class. Application to take the MCAT should be made to MCAT Registration, The American College Testing Program, Box 414, Iowa City, Iowa 52240. Application blanks may be obtained through the counseling and testing service at the student's college or university.

RESIDENCY REQUIREMENTS

Texas Tech University School of Medicine follows the non-resident rules and regulations for determining resident status as published by the Coordinating Board - Texas College and University System. Attendance at a college or university in Texas by itself does not satisfy the bona fide residence requirements. A copy of the Rules and Regulations for Determining Residence Status may be obtained by writing to the Texas Coordinating Board, Texas College and University System, L.B.J. Building, P.O. Box 12788, Austin, Texas 78711.

APPLICATION PROCEDURES

Texas Tech University School of Medicine is a participant in the centralized application service provided by the Association of American Medical Colleges (AAMC). Applicants need to complete one standardized application when applying to any of the medical schools participating in the American Medical College Application Service (AMCAS), and supply only one set of transcripts to AMCAS. The application will be reproduced and the transcripts standardized prior to distribution to medical schools designated by the applicant.

An individual using AMCAS must be applying for the first year of study leading to the M.D. degree. Students applying for transfer or advanced standing must request application information and material directly from the Office of the Registrar at Texas Tech University School of Medicine.

AMCAS applications may be obtained from the Association of American Medical College

Application Service, Suite 301, 1776 Massachusetts Ave., N.W., Washington, D.C. 20036, or from the Office of the Registrar at this school. The completed forms are returned directly to the AAMC by the applicant. Early application is advisable, but may not be initiated before **June 15**. The deadline for receipt of applications at Texas Tech University School of Medicine is **November 1**.

Immediately upon receipt of the AMCAS application, a supplementary packet will be sent from the Admission Office of this school requesting additional information. The packet should be completed as soon as possible and returned, along with an application fee of \$10, to the

Office of the Registrar
Texas Tech University School of
Medicine
P.O. Box 4569
Lubbock, Texas 79409

Applicants are carefully evaluated by the Admission Council with regard to their potential for pursuing a curriculum leading to the Doctor of Medicine degree. Academic achievement, MCAT scores and a personal interview constitute the major factors for applicant evaluation before a final decision is made. There is no discrimination because of race, creed, sex, or national origin.

TIMETABLE OF APPLICATION AND ACCEPTANCE

Filing of formal application by applicant

- Earliest date: June 15
- Latest date: November 1
- Early Decision deadline date: August 1
- Application fee: \$10 due with application

Notification of acceptance by School

- Earliest date: October 1
- Latest date: When class is filled
- Time from receipt of application to acceptance notice: varies

Applicant response to acceptance offer

- Maximum time: 2 weeks
- Deposit fee to hold place in class (applies on tuition): \$100, due upon acceptance

TUITION AND FEES

All fees are subject to change without prior publication.

The full amount of tuition and fees for the nine-month school year is due at registration.

Approximate Cost for 9-Month School Year

	Resident	Non-resident
Tuition	\$ 267.00	\$ 800.00
Building Use	100.00	100.00
University Center	20.00	20.00
Student Services*	52.00	52.00
Laboratory and Course Fee	32.00	32.00
General Property Deposit	7.00	7.00
Student Health*	21.00	21.00
Microscope	75.00	75.00
Liability Insurance	25.00	25.00
	<hr/>	<hr/>
	\$ 599.00	\$1132.00

For further information about Admissions contact:

Berry N. Squyres, M.D.
Assistant Dean for
Admissions

Texas Tech University School of Medicine
P.O. Box 4569
Lubbock, Texas 79409

Tuition and Fees

Tuition and fees for each academic year are due and payable in full at the time of registration and a student is not enrolled until his fees are paid in full.

Texas Resident \$267.00
Nonresident \$800.00

Laboratory Fee

Laboratory fees will vary from \$32.00 to \$49.00 per year depending upon the character of the courses.

Student Use Fee

A Student Use Fee of \$100.00 a year is required by state law to be paid by all students at the time of registration.

Student Service

Each student is required to pay a Student Services Fee of \$52.00* at the time of registration.

Student Health Service

The Texas Tech University School of Medicine operates the Student Health Service and provides treatment for all students in Texas Tech University including the School of Medicine. The Student Health Service Fee is \$21.00* per nine-month period.

University Center

A University Center Fee of \$20.00 a year is required of all students.

*Fee increase to be recommended for 1978-1979.

Microscope Fee

The Texas Tech University School of Medicine makes available microscopes on a rental basis. A single \$75.00 rental fee payable at the time of registration for first-year students covers the use of the microscope during the first two academic years.

Property Deposit

Each student enrolled must make a general property deposit of \$7.00. This deposit is subject to charges for property loss, damages, breakages, or violation of rules in the library or laboratories.

Student Hospitalization Coverage

Cost of the plan to a single medical student is \$49.75 per year.

Housing

Texas Tech University School of Medicine does not furnish living quarters for its students. Housing is an individual matter and each student must make his own arrangements. Estimated living costs for room and board range upward from \$175 per month.

Campus Parking

Limited parking facilities are available on the medical school grounds. Any student wishing to park on the campus will be required to obtain a permit and pay a Parking and Registration Fee of \$18.00 per year.

Liability Insurance

\$25.00 per year.

REFUND OF TUITION AND FEES*

The medical student who officially withdraws from the Texas Tech University School of Medicine

during the course of an academic year will be entitled to a refund of tuition and fees in proportion to the length of time between the date of registration for the academic year and the date of official withdrawal in accordance with the schedule below, subject to this policy.

Forms for withdrawal will be available from the Office of the Registrar, Texas Tech University School of Medicine.

Expiration of Calendar Days from the Official Date of Registration	Benefits for Which the Student Is Entitled
Official Date of Registration through 59 Calendar Days	80% Tuition and Allowable Fees
60 through 78 Calendar Days	60% Tuition and Allowable Fees
79 through 97 Calendar Days	40% Tuition and Allowable Fees
98 through 116 Calendar Days	20% Tuition and Allowable Fees
After 116 Calendar Days	0%

*Board of Regents Minutes, TTUSM, October 17, 1975.

FINANCIAL AID

The objective of the Financial Aid staff at Texas Tech University School of Medicine is to provide financial assistance to students who, without such assistance, would not be able to pursue a medical education.

There are several types of financial aid including loans, scholarships, and grants which are offered to students on the basis of financial need and other qualifications as specified by state and federal agencies as well as private donors.

Financial need is defined as the difference between the anticipated

costs of attending TTUSM and the amount of money available to the student from all sources. A need analysis is required of applicants for most financial aid programs.

Although qualifications for each financial aid fund might differ, and aid at TTUSM comes from many sources, no student or prospective student shall be excluded from participation in or be denied the benefits of any financial aid program on the basis of race, color, national origin, religion, or sex.

Students seeking financial aid or information about financial aid should contact:

Director of Financial Aid
Texas Tech University School of
Medicine
P.O. Box 4569
Lubbock, Texas 79409



Student Life

RECREATION AND ENTERTAINMENT

ORGANIZATIONS

The student body of Texas Tech University School of Medicine currently holds memberships in the American Medical Student Association, the Student National Medical Association, the Texas Academy of Family Practice, the Organization of Student Representatives and the American Medical Women's Association. Also, medical students serve on state committees in conjunction with the Texas Medical Association—Student Business Section. In addition, the Texas Tech Medical Student Association coordinates informal programs on medically related topics and various community service projects.

HOUSING

Texas Tech University maintains 20 residence halls which accommodate approximately 7,300 students for board and room. Medical students are eligible for University housing if they desire it, and assignments will be made according to student preference if space is available. For further information, students interested in University housing should contact the

Texas Tech Housing Office
P.O. Box 4629
Texas Tech University
Lubbock, Texas 79409

In addition, there are numerous off-campus apartments and housing facilities available near the campus. Students are expected to make their own arrangements concerning off-campus housing.

In Lubbock, TTUSM is on the campus of Texas Tech University, affording students easy access to campus recreational and entertainment facilities at student rates. The music and drama departments maintain a calendar of events in addition to Lubbock's cultural arts programming.

In addition to varsity and intramural sports, Tech maintains facilities for individual recreation. On-campus athletic facilities include an indoor swimming pool, lighted tennis courts, gymnasium facilities and area for field sports. Through the Department of Recreational Sports, rental equipment is available for camping and boating.

Municipal facilities for sports and civic cultural arts programming are available in Amarillo, El Paso and Odessa.

STUDENT HOSPITALIZATION COVERAGE

At the time of registration each student will complete a health insurance enrollment card indicating the extent of his/her coverage and the name of the carrier and policy number. All medical students enrolled in Texas Tech University School of Medicine are expected to carry health insurance, either the plan offered through the Texas Tech School of Medicine, or a similar policy providing equivalent coverage.

For additional information or specific questions concerning health insurance coverage, students should contact the Assistant Dean for Student Services.

STUDENT HEALTH SERVICE

The Texas Tech University School of Medicine operates the Student Health Service and provides treatment for all students in the Texas Tech University complex, including the School of Medicine.

The Student Health Service provides treatment through the ambulatory clinic. Physicians and health care personnel are available 24 hours a day. Treatment is confined to the clinic; student health service physicians do not make routine dormitory or house calls. Transportation for the transfer of on-campus students who are ill is available through the University Police Service.

Regular clinic hours are 8 a.m. to 5 p.m. Monday through Friday in the Student Health Clinic, 2nd Floor, South Wing of Thompson Hall. At other hours, services may be secured by telephoning or visiting the After Hours Clinic, 1st Floor, West Wing of Thompson Hall. A nurse is on duty and a physician on call at all times.

Between the hours of 8 a.m. to 5 p.m. Monday through Friday the services of a laboratory are available for a variety of tests. Also, between 8 and 5 Monday through Friday pharmacy service is available.

Student requiring in-patient care or who have serious injuries or chronic illnesses requiring hospitalization will be given necessary emergency care by the Student Health Clinic and then transferred to a local hospital for additional treatment.

The Health Service staff will notify the parents, guardians or nearest relative of a patient believed to be threatened with a serious illness or thought to be in need of an emergency surgical operation.

The Student Health Service cannot be responsible for continuing treatment of students suffering from chronic diseases. The student health primary care physicians will provide referrals to specialists to give special care to students who need it and who are unacquainted with Lubbock physicians.

Three components are represented in the Student Health Service program. They are:

Personal health services, including preventive, diagnostic, therapeutic and rehabilitative care for both physical and emotional problems.

Environmental surveillance and control, including occupational medicine.

Education for health that includes educational programs for individuals through which they may be motivated to healthful individual and community behavior.



THE COURSE OF STUDY

UNDERGRADUATE MEDICAL EDUCATION

The primary goal of Texas Tech University School of Medicine is to prepare physicians for all areas of medical endeavor. Recognizing the specific needs of the nation, a secondary goal is to foster interest among its trainees in patient care, and especially in primary care. Furthermore, considering the special health care needs of West Texas, a tertiary goal is to interest many of its trainees in rural health care delivery.

The undergraduate medical curriculum has two goals. The short-term goal is to prepare medical students for any area of graduate medical education. The long-term goal is to prepare medical students for practice after graduate medical education. In order to attain these goals, the undergraduate medical curriculum: (1) provides a broad but intense introduction to medical knowledge, (2) seeks to develop scientific problem-solving skills in medical students, (3) begins to develop the ability of medical students to assume sole responsibility for their own education, and (4) encourages an interest in the primary care specialties, but not to the exclusion of the secondary and tertiary care specialties.

CURRICULUM

The curriculum consists of a four year (140 week) program of study in the basic and clinical sciences leading to the Doctor of Medicine degree.

Texas Tech University School of Medicine recognizes the need for integrating both the basic and the clinical sciences. Towards this end, clinical topics are introduced in the first semester. Approximately twenty per cent of the time in the first two years is devoted to clinical courses. In addition, the basic science courses include correlation by clinicians. During the last two clinical years, basic scientists participate in clinical teaching.

In order to enable medical students to direct their own education, the curriculum includes elective courses in the first and fourth year.

Recognizing the impact of the large Spanish-speaking population in West Texas on both medical training and practice, Texas Tech University School of Medicine includes a unique course in Medical Spanish in its curriculum.

CURRICULUM REVISION

In the interest of improving medical education, the curriculum undergoes continuous review. Any part, or all of the curriculum may be changed at any time, without prior notice, by Texas Tech University School of Medicine.

TUTORIAL TEAM INSTRUCTION

An important element in the School of Medicine is the Tutorial Team Instruction program. Tutorial Teams consist of the faculty mentors and about 12 students at various levels of training. This program is designed to meet student needs which are not regularly met by the school curriculum. These needs fall in to three broad categories: (1) academic and personal counseling; (2) educational experiences not provided by the curriculum; (3) opportunities for social and leisure time activities.

The mentors not only function as members of the group but also serve as a student advocate as needed, assist with student academic advisement and provide a role model for the students.

This program provides a forum for students and faculty to discuss controversial and sensitive issues in small group settings and allows students the opportunity to take an active role in their educational experiences. Additionally, students learn to function as group members and receive personalized attention as required. The Tutorial Team is recognized as a formal channel of communication from students to the various offices of the Dean.

ACADEMIC REGULATIONS

A grade is assigned for all courses in which a student is regularly enrolled during any semester. Only through regular enrollment can a grade be earned. A passing grade may be earned only if the student is enrolled for the duration of the course and a grade, once given, may not be changed without the approval of the

department chairman.

All credits are expressed in semester hours. An overall cumulative weighted average of 75 will be required for graduation. The grade of 'I' (incomplete) is given only when a student's work is satisfactory in quality but due to reasons beyond his control, has not been completed. It is not given in lieu of an 'F' (failing). The instructor assigning the grade will stipulate in writing, at the time the grade is given, the conditions under which the 'I' may be removed. Students who receive the grade 'I' will have a maximum of two semesters in which to complete work for the course and remove this grade, or it will be changed to 'F' automatically at the end of the second semester following receipt of the 'I'. Grades of 'I' received as a result of illness will be dealt with on an individual basis.

The grade of 'WP' is given for a course officially dropped provided the student's work is passing at the time the course is dropped. The grade of 'WF' is given when the student's work is not passing at the time the course is dropped.

The lowest passing numerical grade for any course is 70. The lowest acceptable weighted average for promotion and/or graduation is 75. If a course is repeated, the second grade shall be used for purposes of promotion. Both grades shall be used for calculation of the cumulative weighted grade average. All grades shall remain on a permanent transcript. The weighted average for a semester is determined by dividing the total number of quality points acquired during that semester by the total number of semester hours of all courses in which the student was registered

in that semester, exclusive of courses in which a grade of 'WP' or 'S' is received. In the same manner, the overall weighted grade average is obtained by dividing the total number of quality points earned in all courses taken at this school by the total number of semester hours of all courses for which the student has registered at this school, but excluding hours for which the grade of 'WP' or 'S' is received. The hours of courses receiving grades of 'WF' and 'U' are included in calculating weighted averages.

A student may repeat courses for credit with the prior approval of the academic dean. When a course is repeated, only the grade made in the last registration is used in calculating the weighted grade average for meeting promotion requirements. Repeated registrations are counted in the total overall weighted grade average.

Work completed at another school may be transferred with the approval of the academic dean and the appropriate department chairman. Grades for transferred work will be recorded as 'CR' (credit) and will not be considered for calculating the weighted grade average. Transfer of credits toward the Doctor of Medicine degree is never automatic but rather shall be made at the discretion of the dean upon recommendation of the appropriate advisory faculty bodies.

GRADING PROCEDURES

A grade is assigned for all courses in which a student is regularly enrolled during any semester. Only through regular enrollment can a grade be earned. A passing grade may be earned only if the student is enrolled for the

duration of the course and a grade, once given, may not be changed without the approval of the department chairperson.

All credits are expressed in semester hours. An overall cumulative weighted grade average of 75 will be required for graduation. The grade of "I" (incomplete) is given only when a student's work is satisfactory in quality but due to reasons beyond his/her control, has not been completed. The grade "I" (incomplete) should also be used when a student is going to be re-tested or otherwise re-evaluated in a course. This is not given in lieu of a failing grade. Grades of "I" received as a result of illness will be dealt with on an individual basis. The instructor assigning the grade will stipulate in writing, at the time the grade is given, the conditions under which the "I" may be removed. Students who receive the grade "I" will have a maximum of two semesters in which to complete work for the course and remove this grade, or it should be changed to a failing grade at the end of the second semester following receipt of the "I".

The grade of "WP" is given for a course officially dropped provided the student's work is passing at the time the course is dropped. The grade of "WF" is given when the student's work is not passing at the time the course is dropped.

The lowest passing numerical grade for any course is 70. The lowest acceptable weighted average for promotion and/or graduation is 75. If a course is repeated, the second grade shall be used for purposes of promotion. Both grades shall be used for calculation of the cumulative weighted grade average. All grades shall remain on a permanent transcript.

Work completed at another school may be transferred with the approval of the academic dean and the appropriate department chairperson. Grades for transferred work will be recorded as "CR" (credit) and will not be considered for calculating the weighted grade average. Transfer of credits toward the Doctor of Medicine degree is never automatic but rather shall be made at the discretion of the dean upon recommendation of the appropriate advisory faculty bodies. The grade "CR" (credit) should also be used for students enrolled in extra-credit electives during any semester or the summer.

All credits are expressed in semester hours. The second and third digits of the course number represent the credit hours. Passing grades: numerical grades that are 70-100, "S" (satisfactory). Failing grades: numerical grades below 70, "U" (unsatisfactory). Other grades: "CR" (credit), "WP" (withdrawal passing), "WF" (withdrawal failing), "I" (incomplete), "X" (course audited). Grades with NO point values: "S", "U", "CR", "WP", "WF", "I", "X".

The weighted average for a semester is determined by dividing the total number of **quality points*** acquired during the semester by the total number of semester hours of all courses in which the student was registered in that semester, exclusive of courses in which a grade of "WP" or "S" is received. In the same manner, the cumulative weighted grade average is obtained by dividing the total number of quality points earned in all courses taken at this school by the total number of semester hours of all courses for which the student has registered

at this school, but excluding hours for which the grade of "WP" or "S" is received. The hours of courses receiving grades of "WF" and "U" are included in calculating weighted averages.

A student may repeat courses for credit with the prior approval of the academic dean. When a course is repeated, only the grade made in the last registration is used in calculating the weighted grade average for meeting promotion requirements. Repeated registrations are counted in the total overall weighted grade average.

* **Quality points** for a course are the product of the number of course credits and the numerical grade received by the student.



FIRST YEAR CURRICULUM

Medical education begins with the basic medical sciences with an introduction to clinical topics. The first year curriculum allows some freedom to choose among elective courses.

SEMESTER I

Course	Hours
Anatomy	272
Biochemistry	128
Emergency Care	16
Electives	16
Clinical Anatomy	8
Biostatistics	8
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TOTAL:	448

SEMESTER II

Course	Hours
Physiology	208
Neuroanatomy	128
Clinical Biochemistry	32
Biochemical Genetics	32
Orthopaedic Surgery	16
Electives	16
Integrated Case Analysis	16
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TOTAL:	448

THIRD YEAR CURRICULUM

The third year curriculum introduces the medical students to the major disciplines of medicine through a series of clinical clerkships.

Clerkship	Weeks
Medicine	8
Surgery	8
Psychiatry	8
Pediatrics	8
Obstetrics and Gynecology	8
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TOTAL:	40

SECOND YEAR CURRICULUM

The second year curriculum includes more clinically-related basic science courses as well as more clinical science courses.

SEMESTER III

Course	Hours
Pathology	160
Microbiology	112
Introductory Psychiatry	64
Introduction to Medicine	48
Preventive Medicine & Community Health	32
Parasitology	16
Forensic Medicine	16
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TOTAL:	448

SEMESTER IV

Course	Hours
Pathology	160
Pharmacology	112
Introduction to Medicine	52
Medical Spanish	48
Psychiatric Interviewing	28
Dermatology	16
Ophthalmology	16
Otolaryngology	16
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TOTAL:	448

FOURTH YEAR CURRICULUM

The fourth year curriculum completes the introduction to the major medical disciplines and provides an opportunity for the medical students to seek additional exposure to these and the subspecialty areas of medicine.

Clerkship	Weeks
Family Practice Clerkship	8
Family Practice Rural Preceptorship	4
Medicine	4
Electives (usually 5)	20
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TOTAL:	36

DOCTOR OF MEDICINE PROGRAM

ANATOMY

*Professor William G. Seliger, Ph.D.,
D.D.S., Chairperson*

Professors: Berlin, Sproat, Wolcott

*Associate Professors: Markwald,
Richards, Rylander*

*Assistant Professors: Bolender,
Casady, Dalley, Hutson, Karkos,
Yee*

The core courses of anatomy are designed specifically as the first anatomy teaching episode for the training of physicians, not for the training of professional anatomists. When unlimited time is available to teach anatomy, the traditional methods are excellent, but today new clinical materials and techniques have seriously curtailed the available time for anatomy. The obvious solution, then, is to find more efficient and effective methods of teaching anatomy and to screen out all material from the basic courses that is not needed to train the general physician.

To accomplish this, the Department of Anatomy has restructured its courses and teaching methods to fit the needs of today's physician. The faculty uses a minimum number of hours for formal lectures and emphasizes the laboratory time. The course material is trimmed down to what directly applies to the training and practice of a physician. The students are taught to find material in source books rather than to commit large amounts of material to memory. New teaching methods using audiovisual aids, notes and

microscopic demonstrations increase the efficiency of the microanatomy laboratory time.

Thus, by careful incorporation of modern teaching methods, modern instruments, improved faculty contact and careful screening of course material, today's medical student can be taught the necessary material in greater depth and in a more meaningful manner despite the reduced amount of time.

Required Courses

MAN 50411—ANATOMY I m: Human microanatomy and embryology. An integrated course of Anatomy starting with the ultrastructural and light microscopic study of cells and continuing through developmental and microscopic anatomy. This course must be taken in conjunction with MAN 50811 Anatomy I g.



William G. Seliger, Ph.D., D.D.S.

MAN 50811—ANATOMY I g: A highly integrated course of general anatomical study (including human prosection) which embodies the gross morphology of the body and coordinates it with the clinical, developmental and microscopic aspects of the human body. This course must be taken in conjunction with MAN 50411 Anatomy I m.

MAN 50812—ANATOMY II: Neuroscience
—A detailed course of neuroscience, passing from the study of ultrastructural cytology, through the light of microscopic, gross and neuroanatomical aspects of the nervous system. This course includes strong emphasis on the functional and clinical aspects of neuroscience.

Undergraduate Courses for Allied Health Students

ANM 261—HUMAN ANATOMY AND PHYSIOLOGY: This course is designed to acquaint the student with the principles and substance of human biology. It is intended for students who have little or no background in the physical and biological sciences, but who require a knowledge of the structure and function of the human body as part of their education for careers in health professions. It is not intended to be a part of the sequence of general science courses; but is rather meant to orient the student toward human structure and function. It will include the structure and function of the following organs or systems: skin, musculoskeletal, cardiovascular, respiratory, renal, reproductive, endocrine, gastrointestinal, neurological, eye, ear, nose and throat of man. Emphasis is placed on presenting these materials from the standpoint of preparing allied health students to assume their roles on the health care team. This course will consist of lectures, demonstrations, prosections, the study of human prosected material and a wide variety of special human anatomical models.

ANM 212—APPLIED ENDOCRINOLOGY: A lecture and laboratory course reviewing the endocrine system and its effect on body, organ, tissue and cellular function in health and disease.

ANM 223—HUMAN BIOLOGY AND MICROSCOPIC TECHNIQUES: This lecture and laboratory course is designed to orient the student in tissue structure, development and function. Special emphasis is given to those anatomic areas where cytologic specimens may be obtained.

ANESTHESIOLOGY

*Professor Gabor B. Racz, M.D.,
Chairperson*

*Professor & Associate Chairperson:
Edward T. Thomas, M.D.*

Professor: Cockings

*Assistant Professors: Sabonghy,
Warren*

*El Paso—Associate Professor &
Associate Chairperson: Ronald
Heinrich, M.D.*

Associate Professor: Brown

Instructor: Contreras

*Amarillo: Electives available with
Clinical faculty. Arrangements
to be made with Dr. Racz.*

The Department of Anesthesiology offers a unique opportunity for the medical student to apply basic science knowledge in the actual patient setting.

The primary goal of the department is to teach future physicians the various forms and up-to-date methods of life support. Under supervision the students will have opportunities to gain first hand experience in the art and science of anesthesiology. Clinical pharmacology and medicine will be observed in the sick, the old and the young who need to undergo anesthesia for surgery. Electives offered to clinical medical students: care of the airway, respiratory and cardiovascular systems.

The department will also have input into the preclinical training in subjects where clinical expertise is called for to make the basic science information more applicable and understandable for the student.

Basic and clinical research projects will be open to interested students.

Skills and information learned through the Anesthesiology Department will permit the future young physician to approach with confidence the unconscious patient,

the trauma victim or a child that has an obstructed airway from croup.

Management of respiratory problems, acid-base and fluid balance, mechanical ventilation and the use of ventilators will be instructed in the operating room, intensive care unit and classroom setting.



Gabor B. Racz, M.D.

BIOCHEMISTRY

Associate Professor John W. Pelley, Ph.D., Acting Chairperson
Professors: Behal, Shetlar
Associate Professors: Everse, Morrow, Perez
Assistant Professors: Garner, Little, Stocco

The Department of Biochemistry of the school of medicine provides the educational and research programs in biochemistry for (1) professional students in medicine and related health sciences, (2) graduate students majoring or minoring in biochemistry, and (3) medical residents and housestaff.

Medical School Program: The Department of Biochemistry provides a required comprehensive course in medical biochemistry for first year medical students. The course is divided into lectures, laboratory-demonstrations and clinical correlation conferences. These largely clinical conferences afford students the opportunity to ask questions and to participate in discussions regarding lecture material. They establish a close relationship between the students, the faculty and the department. Finally, the clinical correlation sessions help demonstrate to the students the relevance of biochemistry to modern medicine. The laboratory-demonstrations provide foundational material for developing the concept of laboratory assisted diagnosis of disease. Recent advances in understanding disease are presented with illustrative cases from the medical literature. If the biochemical basis of the disease has been determined, the rationale for diagnosis and therapy will be examined. The Department of

Biochemistry provides required courses in clinical biochemistry and medical genetics to freshman medical students.

These required courses are described below.

Required Courses

MBC 50821—Biochemistry I: Medical Biochemistry. A study of life processes at the molecular level with emphasis on the biochemistry of man in health and disease.

MBC 50223—Biochemistry II: Human Biochemical Genetics. A study of the chromosomal and molecular basis of genetically related disease processes with emphasis on human genetic disorders and their consequences.

MBC 50324—Biochemistry III: Clinical Biochemistry. A study of clinical biochemistry with emphasis on the interpretation of clinical laboratory data and the concepts of laboratory-assisted diagnosis of human disease.



John W. Pelley, Ph.D.

BIOMEDICAL ENGINEERING AND COMPUTER MEDICINE

Associate Professor Blair A. Rowley, Ph.D., Chairperson

Professors: Ayoub, Portnoy, Ramsey

Associate Professor: Jarzembksi

Assistant Professors: Anderson, Cameron

The Department of Biomedical Engineering and Computer Medicine is concerned with education, research, and development in medicine and the allied health fields. Interdisciplinary methods are used which enable the department to draw on specialists covering a wide range of expertise. Educational efforts are directed towards teaching the health professional how to use technology effectively.

The department offers a special interdisciplinary master's degree study program, administered by the Texas Tech University Graduate School, by which a medical student may earn a master's degree while attending medical school. The department also offers senior electives for medical students.

Courses are available for engineers in the life sciences leading to a graduate degree with emphasis in Biomedical Engineering. Students have the option of pursuing the masters or Ph.D. level through the Masters of Engineering or the Interdisciplinary Ph.D. programs administered in the College of Engineering.

In research, the department is developing concepts and applications of technology in the problems of health care delivery. In addition, programs in bioelectric phenomena, instrumentation and rehabilitation are available and other areas of bioengineering, clinical engineering, and medical

engineering.

Efforts are also directed towards the appropriate use of computers in the medical setting and the development of biomathematical expertise in medical research. In particular, the application of the computer technology to medically remote populations is an on-going program. Additional research is directed in the area of computer usage in biostatistical theory.

The department also provides engineering development for all departments of the medical school. It furnishes expertise in intensive care, life support, implantables, monitoring, transduction, safety and instrumentation. In addition, consultation is available to the medical community at large.

Required Course

BME 50150—Biostatistics: This course introduces the basic biostatistical concepts frequently encountered by the student, researcher, or medical practitioner. It includes an introduction into the use of descriptive statistics, statistical tests,

confidence intervals, and other frequently encountered distributions. Examples are taken primarily from the basic and clinical sciences, emphasizing applications encountered by the medical student.

Elective Courses

BME 50100—Computer Medicine: This course introduces computers and their use in medicine. Clinical, patient care, and private practice applications are covered by lectures, demonstrations, and tours. Principles of programming are also presented that can be utilized by the student in other medical classes.

Senior Elective: This elective is available at various times for the 4th year medical student. It provides for in-depth work in this department and a clinical department linking computers into patient care activities as well as learning how to utilize biomedical engineering in the practice of medicine.

DERMATOLOGY

Associate Professor: Barbara H. Way, M.D., Chairperson

Assistant Professors: Barnes, Bloom

The Department of Dermatology provides educational and research programs in Dermatology for (1) undergraduate medical students, (2) residents, (3) and other students requiring instruction in Dermatology. In addition to the required sophomore course, the department offers elective preceptorship training to senior medical students and residents. The instructional program includes training in general dermatology, pediatric dermatology, dermatopathology, venereology, and dermatologic research.

Required Course

MDM 60101—Introduction to Dermatology: This course is designed to acquaint the sophomore student with the etiology, epidemiology, pathophysiology, clinical characteristics and prognosis of selected disorders of the skin. In addition, the student will be instructed in dermatologic diagnostic techniques and be given the opportunity to examine patients with specific skin diseases.



Blair A. Rowley, Ph.D.

FAMILY PRACTICE

Associate Professor Lawrence W. Patzkowsky, M.D., Acting Chairperson

Professors: Gordon, Wainscott

Associate Professors: Chinn, Culvahouse, Johnson, Mathewson, Mohaupt, Saxton, Squyres

Assistant Professors:

Balasurebramian, Brown, Fordyce, Jett, Lathouras, Weathers, Yates

Associate Clinical Professor: Johnson

Assistant Clinical Professors: Autrey, Bass, Gaddis, Hilton, Johnson

Instructors: Chauncey, Klover, McLeroy

The Family Practice Department has the responsibility for training medical students and their supportive personnel in the diagnosis and treatment of prevalent illnesses, recognition of rare diseases and in utilization of referral techniques for problem cases. The program demonstrates health maintenance methods through early recognition of change from the norm, through anticipation of such change, recognition of environmental problems and through the natural history of disease.

Family Practice is a clinical department that functions, not only to teach and train primary care physicians, but to serve as a model for organizing the medical health care team. The department's research is searching for more effective methods of delivery of medical care; its laboratories are clinical settings that include emergency rooms, ambulatory care centers, nursing homes, physicians' offices and community health care clinics of various types.

The Family Practice curriculum is a blend of classroom study and active participation in the rendering of patient care in clinics. Senior students spend 12 weeks in Family Practice Clinic, including a four-week preceptorship program.

Required Courses

MFP 50101—Emergency Medical Care: Techniques of emergency care are taught in the freshman year with a multiple disciplinary approach using appropriate teaching personnel from various departments of the medical school as well as experienced teachers from the community. Methods used are didactic lecture, audio visual demonstrations, simulated procedures, and when possible, emergency room observation.

MFP 80018—Family Practice: For senior students. Family-oriented health care, both in the office and hospital, are combined with seminars concerned with clinical skills, family dynamics and social-cultural relationships. The team approach to health care is emphasized along with community and psychological medicine. Includes a four-week preceptorship in a family practitioner's office, and four weeks in a rural clinic operated by the department.

Elective Courses

MFP 50100—Principles of Non-Urban Care: For freshman students. Non-urban care is described in didactic presentation, audio visual demonstration and provision of basic clinical experience by observation of actual care in a rural setting. Such descriptions and instruction are provided by faculty in the Departments of Family Practice, Radiology, Medicine, Preventive Medicine and Community Health, and Pediatrics.

MFP 80028—Family Practice Rural Preceptorship: Students are assigned to a variety of practices within the Regional Academic Health Center areas for a supervised exposure to day-to-day practice problems. Emphasis is on the application of clinical skills within the demands and limits of actual practice in a rural area. This preceptorship is normally for a period of four weeks, but can be extended in certain circumstances.

MFP 50102—Emergency Medicine: Students participate in delivery of emergency medical services in an emergency room setting. The students are a part of an emergency room team which is the first contact for patients and follows

the total care of the patient under the supervision of an emergency room physician especially skilled in this aspect of medical care delivery. The student has ample opportunity to become acquainted with emergency medical care in trauma, medical emergencies, surgical emergencies, pediatric and obstetrical emergencies. The student is able to follow all patients admitted to the Family Practice Service as an integral part of the team and is able to experience the responsibility of the delivery of emergency care.



L. W. Patzkowsky, M.D.



MEDICINE

Professor A. W. Holmes, Jr., M.D.,

Chairperson

Professor: Bartholomew

Associate Professors: Beceiro,

Blackwood, Ekery, Mills,

Periman, Secrest, Smith,

Stanbaugh, Wolf

Assistant Professors: Paragas,

Szeyko

The prime objective of the Department of Medicine is to develop in students the intellectual and physical mechanisms for the careful evaluation of the patient and the use of fundamental principles of the basic sciences in the rational study of the patient and his or her disease. This major aim translates into a series of instructional objectives which include,

1. teaching of the careful elicitation of a history
2. teaching of a thorough and orderly physical examination
3. teaching of techniques of clinical problem solving through
 - a. didactic discussions of disease processes emphasizing fundamental mechanisms and natural history of the disease
 - b. bedside discussion of patients and their problems and the means by which to help solve those problems.

Clinical teaching occurs in both in-patient and out-patient settings. Student activities are directed by salaried and volunteer members of the faculty and the activities of students are integrated

as part of the patient care team. Organized didactic sessions are programmed as necessary to ensure that a given body of knowledge is transmitted.

Required Courses

MIM 60433—Introduction to Medicine:

Through a combination of didactic presentations and preceptorial clinical sessions the student will be introduced to the techniques utilized in obtaining a history, performing a physical examination, and organizing a medical record.

MIM 71217—Junior Clerkship: Internal Medicine: This eight week course serves as an introduction to the broad field of internal medicine. Students will be expected to develop the ability to study a patient in an organized way utilizing historical and physical data to generate logical diagnostic possibilities which can then be tested by appropriate tests or procedures. While it is desirable for the student to learn some principles of therapy, emphasis is placed upon rational and accurate diagnosis.

MIM 80618—Senior Medicine Clerkship:

Students will spend one month on an in-patient medical service. Their clinical responsibilities will vary commensurate with the abilities they have developed during the previous experience in medicine.



Albert W. Holmes, M.D.

MICROBIOLOGY

Associate Professor Stanley Lefkowitz, Ph.D., Acting Chairperson

Professor: McKenna

Associate Professors: Baskett, Joys

Assistant Professors: Diedrich, Fralick, Gooch, Jones

Adjunct Assistant Professors: Hayes, Pence

The Department of Microbiology in the School of Medicine offers educational and research programs in Microbiology for (1) professional undergraduate students in the medical curriculum and related health sciences, (2) graduate students majoring in Microbiology and (3) other students requiring instruction in Microbiology.

Medical School Program: The Department of Microbiology offers a required comprehensive course in Medical Microbiology for second year medical students. The course is divided into lectures, laboratory demonstrations, and clinical correlation conferences. The clinical correlative conferences, given by members of the various clinical departments in the School of Medicine, can afford the students an opportunity to inquire into the relevance of Microbiology in modern medicine, especially in infectious diseases. The laboratory demonstrations provide clinical material for helping to establish the diagnosis of disease by standard laboratory diagnostic methods. Recent advances in understanding infectious diseases are presented from the medical literature.

The interplay of the parasite (bacterial, mycotic, and viral) and host in the development and subsequent outcome of infectious

diseases is the central theme of this course. A study of the biochemical, biological aspects of immune mechanisms and disorders of the immune system also is integrated into the course.

The required course is described below.

Required Course

MMB 60631—Medical Microbiology: A study of the role and place of bacteria, fungi and viruses in human infectious disease processes, with emphasis on the interplay of the host and parasite relationships. Heavy emphasis will be placed on the biochemical, biological and medical aspects of immune mechanisms and disease processes together with a study of immune deficiencies and diseases of the immunologic mechanism.



Stanley S. Lefkowitz, Ph.D.

OBSTETRICS AND GYNECOLOGY

*Professor Wayne Heine, M.D.,
Chairperson*
*Professors: Misenhimer, Scragg,
Reeves, Yannone*
Associate Professor: Semchyshyn
*Assistant Professors: Maciulla,
Phillips, Salazar*

Obstetrics and Gynecology deals with the woman as a primary care patient during her reproductive years, and with those functional aberrations and diseases of the female generative tract occurring at any time during life. The course of study provides the student with a basic knowledge of the reproductive process and an understanding of the function of the female reproductive system, especially during pregnancy and childbirth. The student gains practical experience through the management of normal pregnancy, the evaluation of the status of the fetus in utero, the supervision of labor, in the conduct of delivery, as well as management of complications.

Gynecology instruction focuses on presenting the basic principles of gynecologic examination and the diagnosis and therapy of disease of the female reproductive system. This includes the physiology of

menstruation, fertility, infertility and fertility regulation, as well as gynecological disease, cytology, oncology and pathology.

Required Course

MOB 71247—Obstetrics-Gynecology: A study of the treatment of female patients by the primary care practitioner. Obstetrics-gynecology spans the entire age range of womanhood and is extensively health oriented with emphasis on prevention of illness and on surgical and obstetrical techniques. The quality of human life is emphasized.



Wayne Heine, M.D.



OPHTHALMOLOGY AND VISUAL SCIENCES

*Professor James Price, M.D., Ph.D.,
Chairperson*

Professors: Buessler, Tyner

*Assistant Professors: Halpern,
Naegele, Speros, Lamberts*

Our educational objective in the lecture series is to provide each medical student with a core knowledge that is necessary to physicians who will practice in a wide range of medical disciplines. Seven problem areas are used to structure the series and enhancement lectures are included. The seven problem areas are: visual acuity, ophthalmoscopy, glaucoma, red eye, injuries, amblyopia/strabismus, and neuro-ophthalmology. An extensive audio-visual program is available as a required part of the student's work. Clinical instruction on ocular examination is given during the physical diagnosis rotation.

Electives are available. These include a clinical rotation and the possibility of a research period. Information about these electives can be obtained by contacting the department chairperson.



James Price, M.D., Ph.D.



ORTHOPAEDIC SURGERY

*Professor J. Ted Hartman, M.D.,
Chairperson*

*Associate Professor: Fordyce
Assistant Professor: Ananthkrishnan*

The primary goals of the department are to teach medical students, train physicians in the speciality of orthopaedic surgery, provide high quality medical care and further medical knowledge through clinical and basic research.

The departmental functions are divided into administration, teaching, patient services and research in pediatric orthopaedics, adult orthopaedics, traumatic orthopaedics and orthopaedic research. The principles of orthopaedic surgery are coordinated with the teaching of the basic sciences as applicable.

An approved residency program in Orthopaedic Surgery is conducted by the faculty members of this department.

Required Course

MOR 50101—Introduction to Orthopaedic Surgery. This course is designed to provide

first year students with an introduction to orthopaedic surgery. Its correlation with the basic sciences, especially anatomy, will be emphasized. The early part of the course will provide a review and interpretation of material necessary to provide an adequate background for discussion of the clinical aspects of traumatic and reconstructive orthopaedic surgery. This course is truly an introduction to the principle of musculoskeletal diseases and trauma.



J. Ted Hartman, M.D.





Harry F. Sproat, M.D.

PATHOLOGY

*Professor Harry F. Sproat, M.D.,
Chairperson*

*Professors: Schultz, Lautsch,
Gordon, Jr.*

*Associate Professors: MacNair,
Alexander, Buddingh, Messiha,
Pence*

Instructor: Balch

Pathology, often called the bridge between the basic sciences and clinical medicine, is concerned with the study of the causes, progressive mechanisms and effects of disease. The teaching of laboratory procedures that are helpful in the above studies is correlated with the teaching of the tissue changes that occur in the organ systems in disease processes.

The programs of the department are organized into four divisions: Anatomical Pathology; Clinical Pathology; Forensic Pathology; and Comparative Pathology.

In addition, the pathology

department is involved in inter-departmental teaching and participation whenever indicated.

Required Courses

MPA 60743—Pathology I: General Pathology and Introduction to Clinical Pathology. A study of the major categories of general disease processes with an introduction to basic clinical laboratory procedures in which the students are required to attain a satisfactory degree of proficiency.

MPA 60844—Pathology II: Organ System Pathology. A study of specific disease states by organ systems. During both semesters, teams of three or four students also rotate on autopsy call at local hospitals where they observe autopsy examinations under the supervision of local pathologists who are members of the clinical staff. Use of laboratory procedures in differential diagnosis is further demonstrated and correlated with systems being studied.

MPA 60110—Parasitology: Pathobiology. A study of the protozoan, helminth and arthropod parasites of man, vectors and animal reservoirs of human disease, and venomous and poisonous animals.

MPA 60101—Introduction to Forensic Medicine. Overview of regulations governing medical licensure and practice, informed consent, malpractice, medicolegal autopsies, medical records, workmen's compensation, prescription writing, drug control, competency/sanity/commitment, doctor-patient relationships.

PEDIATRICS

*Professor Mary Ann South, M.D.,
Chairperson*

*Associate Professors: Blackburn,
Burkeholder, Mullins, Rai,
Varma*

*Assistant Professors: Handal,
Maurer, Menchaca, Park,
Parrino, Sridaromont*

Instructor: Levin

The course of study in the Department of Pediatrics provides each student with an adequate, closely supervised and progressively responsible learning experience in the care of infants and children, either sick or well. To this end, primary emphasis is placed on practical application of basic science knowledge to the solution of clinical problems. Students observe and participate in diagnostic and care programs concerned with the premature and the newborn, growth and developmental processes, immunology, infectious diseases, hematology, adolescent medicine, developmental disabilities, endocrinology, allergy, cardiology, psychiatry, communicable diseases and in the problems of a nutritional or metabolic nature. There will be emphasis on preventive as well as therapeutic medicine. Both the ambulatory and hospitalized patients, along with well-baby care, offer the student interested in family practice or in pediatrics as a specialty, the necessary broad range of experience.

Electives for senior students are available in nephrology, immunology, hematology, adolescent medicine, developmental disabilities, endocrinology, cardiology, infectious disease and general pediatrics (at Lubbock) and hematology, infectious disease, and

general pediatrics (at El Paso).

An elective course is available to freshman students in introduction to well-baby care at Lubbock. This gives an introduction to the care of infants as well as a broad overview of preventive pediatrics.

Required Course

MPD 71237—Pediatrics: A comprehensive overview of the physician's role in the care of the well and sick child.

Elective Course

MPD 50100—Introduction to Well-Baby Care.



Mary Ann South, M.D.

PHARMACOLOGY AND THERAPEUTICS

*Professor Alexander D. Kenny, Ph.D.,
Chairperson*
*Associate Professors: Lombardini
Pang, Pirch, Potter*
Assistant Professor: Tenner

Pharmacology is the biomedical science concerned with the interactions of chemicals with living systems and their constituent parts. The emphasis in the Doctor of Medicine Program is on the study of chemicals in their role as therapeutic agents used in the prevention, alleviation, treatment, or diagnosis of human disease, and as toxic agents producing undesirable effects. The laboratory component focuses on autonomic-cardiovascular pharmacology. Clinical relevance is stressed both in the lecture material and in a complementary series of clinical conferences.

Required Course

MPH 60613—Medical Pharmacology: A study of chemicals in their role as therapeutic agents used in the prevention, alleviation, treatment, or diagnosis of human disease, and as toxic agents producing undesirable effects.



Alexander D. Kenny, Ph.D.



PHYSICAL MEDICINE AND REHABILITATION

*Professor Lester E. Wolcott, M.D.,
Chairperson
Associate Professor: Richards
Assistant Professor: Heinrich
Instructor: Yairi*

The Department of Physical Medicine and Rehabilitation participates in educational, service and research activities. A comprehensive restorative patient care program offers the environment for the students' clinical experience as well as a service to the community and the region. This clinical experience is supplemented by educational materials for independent study, conferences and seminars related to structural and functional characteristics of human organisms related to health, mobility, self care and other normal human activities. Electro-diagnostic techniques and

therapeutic use of physical agents also are demonstrated. Basic and clinical research activities related to physical medicine and rehabilitation are pursued.



Lester E. Wolcott, M.D.



PHYSIOLOGY

Professor Charles D. Barnes, Ph.D.,

Chairperson

Professors: Frigyesi, Hughes,

Kopetzky

Associate Professors: Crass, Davies

Assistant Professors: Holloway,

Lutherer, Nathan, Orem

Instructor: Roberts

The Department of Physiology in the School of Medicine offers educational and research programs for students working for professional degrees in medicine, related health sciences areas and advanced degrees in Physiology.

Required Course

MPY 51222—A study of human physiology with major emphasis on body controlling systems and their interrelations. Pathophysiological mechanisms also are stressed.

Elective Courses

MPY 50301—Neurophysiology—Physiology of nerve cells and their processes with emphasis on excitability, conduction, synaptic transmission. Major portion of course devoted to physiology of neuronal systems including mechanisms of sensory and motor system function, neurobiological rhythms, integration, and role of the central nervous system.

MPY 50401—General Physiology—A general course in mammalian physiology designed to teach the basic principles of physiology. The subject matter will include cellular physiology, neuro, cardiovascular, respiratory, renal, water and electrolytes, gastrointestinal and endocrine as an introduction to physiology of the organ systems, with emphasis on the human.

MPY 60330—Clinical Physiology of Respiration—Mechanical, distributive, alveolar, transport, and integrative respiratory functions as applied to human pathology.

MPY 60334—Gas Exchange and the Regulation of Respiration—An in-depth study of the regulation of respiration and gas exchange in humans and in a variety of related species. Some emphasis will be

placed on the comparative aspects of respiratory physiology. The course will consist of discussions and oral presentations of original papers by the class. A written report dealing with some aspect of respiratory physiology will be required.

MPY 60335—Membrane Biophysics—Current topics and techniques in the physiology of excitable membranes. Discussion of Hodgkin-Huxley papers and more recent theoretical approaches to excitation and conduction in nerve, skeletal muscle, and cardiac muscle. Introduction to current biophysical techniques such as the voltage clamp, membrane noise analysis, lipid bilayers, and optical fluorescence.

MPY 60401—Advanced Physiology I: Neurophysiology—An in-depth study of the nervous system from the molecular to the behavioral level, with special emphasis on electro-physiology and reflexes.

MPY 60402—Advanced Physiology II: Circulation, Respiration, and Fluid Balance—A detailed study of respiration and the composition, circulation, and excretion of body fluids, including acid-base balance.

MPY 60403—Advanced Physiology III: Gastrointestinal System, Metabolism, and Endocrines—A study of gastro-intestinal function and the endocrine regulation of metabolic pathways, utilizing the classical and contemporary literature.



Charles D. Barnes, Ph.D.



*Robert H. Kokernot, D.V.M., M.D.,
Dr. P.H.*

**PREVENTIVE MEDICINE AND
COMMUNITY HEALTH**

*Professor Robert H. Kokernot,
D.V.M., M.D., Dr. P.H.,
Chairperson
Professor: Tyner
Associate Professors: Gruber, Way
Assistant Professor: Hayes*

The principal goal of this department is directed toward prevention and health maintenance. A new national health strategy has emerged with emphasis on disease avoidance as the best way of assuring higher levels of health and a higher quality of living. It also has become abundantly clear that disease avoidance is by far the most economical approach in terms of money, manpower and effort.

The teaching objectives of this department are to introduce principles and methods of general preventive medicine and to show their applicability to other medical

specialties. The service objectives involve participation in public health and neighborhood clinics as well as other health related community activities. Research activities are focused on health care delivery and health of the aged.

Required Course

MPM 60210—Preventive Medicine and Community Health: This course introduces principles and methods of general preventive medicine as it involves both the individual and his community.

PSYCHIATRY

*Professor K. D. Charalampous,
M.D., Chairperson
Professor: Tyner
Associate Professors: Flemenbaum,
Allen, Messiha, Peddicord,
Scott, Weddige, Yung
Assistant Professors: Arredondo,
Briones, Allen, Goggin*

The major purpose of the educational program is to provide comprehensive understanding of the field of psychiatry. The curriculum emphasizes the integration of broadly based knowledge and supervised clinical experience. The students are expected to obtain a basic understanding of the behavioral and emotional disturbances typically presented by psychiatric patients. A major theoretical tenet is that normal growth and development within the life cycle and the biological roots of psychiatry are essential features for a contemporary mastery of psychopathology.

The instructional approach uses a wide variety of innovative techniques within different clinical settings, providing both small group and individualized learning experiences together with traditional lectures to implement

the objectives of the program. Cooperative teaching programs, using specialists from other departments, as well as specialists from the Texas Tech University Complex, insure a broadly based choice of elective courses for the student during his final trimester.

Required Courses

MPS 50552—Normal Growth and Development and Psychopathological Deviations: The primary emphasis of the course is to understand the "normal" life cycle and the human deviations that are considered psychopathological. During the first half of the course, the life cycle from infancy to senescence is studied with an emphasis on the family's role in the socialization process. The second half of the course describes the development of traditional psychiatric syndromes. The students' interview skills are improved in the manner described in the introduction.

MPS 60273—The Psychiatric Interview as Process and Diagnostic Technique: The emphasis in this introductory course is the psychiatric interview, its value as information gathering and therapeutic technique. A faculty member supervises each student interview of a patient. A discussion follows which focuses primarily on the conduct of the interview and the psychopathological implications derived.

MPS 71257—Junior Clerkship: The clerkship provides an intensive and comprehensive experience in the field of psychiatry. The students obtain a supervised clinical experience in interviewing, diagnosis and treatment of patients. The students have supervised experience in both inpatient and outpatient facilities. An integral part of the clerkship is the students presentation at a case conference of a diagnostic formulation and treatment plan for a psychiatric patient. A seminar series augments the supervised clinical experience.

RADIOLOGY

*Professor William A. Dunnagan,
M.D., Chairperson*

Professor: Sackler

Associate Professors: Johnson, Terry

Assistant Professor: Blackwell

The Department of Radiology is involved in teaching the



K. D. Charalampous, M.D.



William A. Dunnagan, M.D.

applications of electromagnetic spectrum energies to the understanding of biological phenomena, the detection of disease and the maintenance of health.

Diagnostic radiologist is involved in every branch of clinical medicine, using x-rays to study physiology and pathologic processes *in vivo*. Ultrasound has and is being rapidly developed as a new mode in the diagnosis and treatment of human illnesses. The recordings in x-ray and ultrasound may be observed in a variety of ways including fluoroscopic images, video recordings or as images on x-ray film, or Polaroid film.

The therapeutic radiologist is concerned with the use of ionizing radiation in the treatment of diseases involving abnormal tissue formation. Radiation and/or drugs may be utilized by the therapeutic radiologist for the destruction of tumor cells.

The field of radiology also encompasses the use of medical isotopes in the diagnostic testing and treatment of disease. In addition, radiology involves medical physics, which is the study of the biological effects of interaction of electromagnetic energy and living tissues.

SURGERY

Full Time

*Professor Francis C. Jackson, M.D.,
Chairperson*

*Professor Richard L. Lawton, M.D.,
Vice Chairperson*

*Professor Mario Feola, M.D.,
Associate Chairperson
(Amarillo)*

*Professor: Edward Saltzstein, M.D.,
Associate Chairperson (El Paso)*

Professor (Adjunct) Eisner (El Paso)

*Professors: El-Domeiri, Firor,
Hardaway*

*Associate Professors: Austermann
(El Paso), Baker*

*Assistant Professor: Peacock
(El Paso)*

Instructor: Beesinger

Part Time

*Clinical Professors: Bricker,
Bronwell, Dalton, Hall, Salem,
Watkins (Amarillo), Woolam*

*Associate Clinical Professors:
Spaulding (Big Spring),
Wegleitner (El Paso), Koch,
Hewitt*

*Assistant Clinical Professors:
Mistrot, North, Rao (Big
Spring)*

*Clinical Instructor: Shroff (Big
Spring)*



Francis C. Jackson, M.D.

Division of General Surgery

Clinical Professor: Robert J. Salem, M.D., Chief

Professors: Eisner (El Paso), El-Domeiri, Jackson, Lawton, Saltzstein (El Paso), Hardaway (El Paso)

Associate Professor: Baker

Assistant Professor: Peacock (El Paso)

Clinical Professors: Bronwell, Woolam

Instructor: Beesinger

Instruction provided by the Division of General Surgery currently includes a correlative course in Clinical Sciences (Clinical Anatomy 50100, 16 hours, Semester I) and a clerkship in the Junior year (Surgery 70, MGS 71227, 8 weeks).

Electives (one month each) are offered in the Senior year.

All programs are designed to acquaint the student with the clinical discipline of surgery and introduce him to the principles and techniques used in the operative management of surgical disease and injury.

Basic science prerequisites include anatomy, pathology, physiology, pharmacology, and microbiology. The major clinical prerequisite is Introduction to Medicine 60433 (Physical Diagnosis).

The Introduction to Surgery provided in the **Junior Clerkship** reinforces an understanding of the pathophysiology of surgical disease, the techniques of arriving at judgmental decisions in management, pre and post operative care, and emergency care. The student learns as a participating member of the surgical team at one of the primary teaching centers affiliated with the Medical School. In this role, he masters the

technique of taking a surgical history, performs a physical examination, learns certain basic diagnostic and therapeutic techniques, and attends operations and autopsies. Teaching sessions include ward rounds, a lecture series, case reviews, and conferences. His performance is continuously supervised by faculty and resident surgeons. Finally, the student writes a report and reviews the literature based upon his experience in the care of one patient with surgical disease.

The **Senior Clerkships** are provided in all surgical specialties as elective preceptorial assignments to West Texas and other surgical centers. The purpose is to acquaint the student with the special management of patients in neurosurgery, urology, otorhinolaryngology, plastic and reconstructive surgery, pediatric surgery, oncology, organ transplantation, and trauma. The student usually functions at a more advanced level as a team member.

Grand Surgical Rounds for faculty, practicing physicians, residents, and students are held weekly on Saturdays in the new Medical School building.

Required Courses

MGS 50100 (Clinical Anatomy):

(Semester I): This course correlates gross anatomy with clinical management of disease and injury for the beginning medical student. The importance to the practicing physician of an anatomical knowledge of location, structure, function, nerve and blood supply of vital systems is emphasized.

MGS 71227 (General Surgery):

(Semester V-VI): An introduction to the pathophysiology of surgical diseases and the principles and techniques used in their diagnosis and management. Course includes participation in pre and post operative patient care, operating room and clinic experience as a member of a team of the surgical faculty.

Division of Cardiovascular Surgery

Clinical Professor: Donald L.

Bricker, M.D., Chief

Clinical Professor: Dalton

Assistant Clinical Professor: Mistrot

The division provides a series of lectures on the fundamentals of cardiovascular disease and management during Semester I (Clinical Anatomy, MGS 50100), the Junior Surgical Clerkship (MGS 71227) and an elective surgical clerkship. During the Senior year elective, the student acts as a preceptor to members of the division and learns the techniques of the diagnosis and surgical management of congenital and acquired disease. The student is exposed to a large number and variety of cardiovascular problems at one of the affiliated teaching hospitals. Instruction is also provided for residents in general surgery and family practice.

Division of Thoracic Surgery

Clinical Professor: Martin L. Dalton,

Jr., Chief

Clinical Professor: Bricker

Assistant Clinical Professor: Mistrot

The Division of Thoracic Surgery is concerned with instruction in the broad management. The teaching program is similar in format and design to that in the Division of Cardiovascular Surgery. A Senior elective includes care responsibilities in a preceptorial setting and includes ward round seminars, operating room experience, and pre and post operative care.

Division of Organ Transplantation

Professor Richard L. Lawton, M.D.,

Chief

Experience in the surgical

management of end stage renal disease is offered as an elective in the Senior year. The student will be exposed to the practical and theoretical aspects of transplantation, immunology, the use of artificial organ and man-machine interface as a life support system. Experience will include participation in the selection and management of the transplant patient, and the follow-up process through weekly conferences. In addition, the student will be instructed in long term storage of vital organs under a variety of conditions. Unique and standard techniques for prolonged vascular access will be included. Finally, the experience will bring the student in contact with a variety of specialties including social science, dietetics, nursing, nephrology, and the entire spectrum of medical specialties. In addition to the senior elective, a series of introductory lectures is offered during the Junior Clerkship (MGS 71227).

Division of Urology

Associate Clinical Professor A. Lee Hewitt, M.D., Chief (Acting)

This division provides two series of lectures on the genitourinary tract: one during Semester I of Clinical Anatomy (MGS 50100) and the second during the Junior Surgical Clerkship (MGS 71227) as well as offering a one month, preceptorial elective in the Senior year at one of the medical centers affiliated with TTUSM. The student is instructed in the urological diagnostic steps, the management of common urological disorders and the basic pathological and abnormal physiological changes which occur with these abnormalities.

Division of Oncology

Professors: Ali A. H. El-Domeiri, M.D., Chief, Richard L. Lawton, M.D.

A senior elective is offered in surgical oncology. Experience includes participation in the management of the patient with cancer using a multimodal, multi-disciplinary approach to the treatment of the disease. Because of the many 'faces' of cancer, it is essential that students be exposed to a broad patient population presenting a wide variety of associated problems (i.e., paraneoplastic). The multimodal approach is divided, or combined into surgical, radio, chemo, and immunotherapeutic techniques. Special surgical therapeutic modes will be discussed such as isolation perfusion of extremities, "de-bulking" techniques, prolonged continuous infusion of anatomic areas, immunotherapy, and a variety of combinations.

Discussions and lectures will relate to the natural history, viral etiology, and immunologic approach to the understanding of cancer. A combined Oncology and Breast Clinic will be held on a weekly basis. The student can participate in the day-to-day management of patients with malignant disease, and observe the role that others play in the control of this disease.

Division of Pediatric Surgery

Professor Hugh V. Firor, M.D., Chief

This division, in cooperation with the Department of Pediatrics, provides a series of lectures to Junior surgical clerks, (MGS 71227), residents, and faculty on the the surgical management of congenital defects, neonatal, and

children's diseases. A Senior elective clerkship of one month is also offered. Pre and post operative care of young infants is particularly emphasized.

Division of Trauma and Burns

*Associate Professor: C. R. F. Baker, Jr., M.D., Chief
Instructor: Beesinger*

The Division of Trauma and Burns is concerned with the physiologic and metabolic response of the body to severe injury. The division offers a Senior elective on resuscitation, evaluation, triage, and initial management of injured patients. The supportive management of injured patients. The supportive management of the severely traumatized patient includes particular attention to the fluid and electrolyte, renal, pulmonary, gastrointestinal, and nutritional problems during the most acute phase of care. The teaching mechanisms employed are introductory clinical material during basic science years, lectures within a core surgical curriculum (MGS 71227), clinical exposure during clerkships, including emergency department rotations, conferences, and rounds on the trauma service and unit.

Division of Otorhinolaryngology

Clinical Professor: James T. Hall, M.D., Chief

Associate Clinical Professor: Wegleitner (El Paso)

This division provides instruction to Freshmen (Clinical Anatomy 50100), Sophomores (MGS 60101), Juniors (MGS 71227) an an elective for seniors. The courses introduce the student to the methodology of examining the ear, nose, throat, and oral cavity,

using otolaryngological diagnostic instruments. Lectures, demonstrations, and surgical clinics are provided on diseases common to the upper respiratory tract, oral cavity, and ear including allergies, infections, tumors, and trauma. The senior elective is a preceptorial assignment to one of the clinical or full time faculty.

Required Course

MGS 60170 (Introduction to Otorhinolaryngology): This course is given in conjunction with the Medicine 60433 (Introduction to Medicine). The student is taught the proper techniques and instruments for examination of the ear, nose, and hypopharynx. Common diseases are discussed in terms of changes noted in normal examinations.

Division of Plastic and Reconstructive Surgery

*Associate Clinical Professor
Leonard I. Koch, M.D., Chief
(Acting)*
Assistant Clinical Professor: North

This division presents the principles of plastic and reconstructive surgery to the Freshmen (Clinical Anatomy 50100) and Juniors (MGS 71227) and offers electives for Seniors. Included in these courses are instruction in the principles of wound healing; restoration of musculo-skeletal function, repair of maxillo facial injuries and correction of certain congenital defects and reconstruction. Seniors may elect to spend their rotation with faculty preceptors or at other medical centers associated with TTUSM.

Division of Neurological Surgery

*Clinical Professor: J. Dunn, M.D.
Chief*

This division provides a series of lectures during the neuroscience

correlation period of Semester II and the Junior Surgical Clerkship.

Elective clerkships are offered in the senior year serving as preceptors with the Chief of the Division and for members of the neurosurgical faculty of the Regional Academic Health Centers.



POSTGRADUATE MEDICAL EDUCATION

INTERNSHIP AND RESIDENCY PROGRAMS

As a regional medical school with three clinical campuses being developed in Amarillo, El Paso, and Lubbock, emphases in primary-care programs with appropriate specialty and sub-specialty residencies are in various stages of development at Texas Tech University School of Medicine (TTUSM). Primary teaching hospitals are available in El Paso (R. E. Thomason General Hospital) and Lubbock (Health Sciences Center Hospital) with a complement of federally supported and community affiliated facilities available for teaching. In Amarillo, a consortium of affiliated hospitals has been organized as a "teaching hospital" to support the developing post-graduate education programs. Existing internships and residencies are approved by the Council on Medical Education of the American Medical Association, as well as by the respective medical specialty boards.

TTUSM participates in the National Intern and Residency Matching Program (N.I.R.M.P.) and follows the policies as established by this program. Information relative to the N.I.R.M.P. may be obtained by writing to:

*The National Intern and
Residency Matching Program
1603 Orrington Avenue
Evanston, Illinois 60201*

GENERAL REQUIREMENTS FOR APPOINTMENT

All applicants are required to be graduates of a medical school approved by the Council on Medical Education of the American Medical Association or from a medical school listed by the World Health Organization. Graduates of foreign medical schools must be certified by the Educational Council for Foreign Medical Graduates, or have fulfilled AMA requirements under the "fifth pathway", or be licensed to practice medicine in a state or territory of the United States. Interns and residents, in general, do not need to hold a license to practice in Texas, but those who do not must apply for an institutional permit and annual registration from the Texas State Board of Medical Examiners. This may be done through the Office of the Associate Dean for Clinical Affairs at the time of beginning service and thereafter on or before each July 1.

APPLICATION

Application and/or information requests should be directed to:

*James N. Burkeholder, M.D.
Associate Dean for
Clinical Affairs
Texas Tech University
School of Medicine
P.O. Box 4569
Lubbock, Texas 79409*

GRADUATE PROGRAMS

GENERAL INFORMATION

Development of a strong program of graduate education in the basic medical and related health sciences is one of the responsibilities and goals of the Texas Tech University Health Sciences Centers. This decision is based on the realization that present day medicine is dependent upon the academic framework and intellectual discipline of the chemical, biological, behavioral and medical sciences.

Graduate programs leading to the Master of Science and Doctor of Philosophy degrees are offered in the basic medical sciences: Anatomy, Medical Biochemistry, Medical Microbiology, Pharmacology and Therapeutics, and Physiology. Interdisciplinary M.S. and Ph.D. programs with concentration in Biomedical Engineering are offered through the cooperation of the department of Biomedical Engineering and the College of Engineering at Texas Tech University. Individual departmental descriptions can be found within this bulletin.

The Master of Science and Doctor of Philosophy degrees emphasize research. The degrees will be conferred in recognition of the soundness of scholarship in the specific field of knowledge. Evidence of such attainment will be provided through comprehensive written and oral examinations and through the presentation of an acceptable thesis or dissertation based upon independent research.

The basic admission

requirements include a Bachelor's Degree or the equivalent from an accredited college or university. An average of B and a score of 1100 on the combined verbal and quantitative portions on the Graduate Record Exam is highly desirable.

Instructions and materials for making application for admission to any of the programs at Texas Tech University Health Sciences Centers are available on request form:

Dr. Stanley S. Lefkowitz,
Associate Dean for Graduate
Programs, Health Sciences
Centers
Texas Tech University
School of Medicine
P.O. Box 4569
Lubbock, Texas 79409

The Texas Tech University School of Medicine reserves the right to cancel any scheduled course, as well as to withdraw any program from the list of graduate offerings, if the best interests of the institution require such action.

ANATOMY

*Professor William G. Seliger, Ph.D.,
D.D.S., Chairperson*

Associate Professor: Markwald

*Assistant Professors: Bolender,
Casady, Dalley, Hutson, Karkos,
Yee*

Majors and Minors for the Master's Degree and the Doctor's Degree in Anatomy

The Department of Anatomy offers programs leading to the Master of Science and Doctor of Philosophy degrees in the anatomical sciences. The objective of this graduate training is to prepare superior students for careers in teaching and research in the field of anatomy. The major areas of employment for anatomists are in medical and paramedical professional schools and research institutes.

The Department of Anatomy offers a program emphasizing well-rounded training in gross anatomy, microscopic anatomy, developmental anatomy and neuroscience. Specialized training is offered in areas such as histocytochemistry and ultrastructural morphology, including analysis of clinical specimens, mineralized tissue study, and instrumentation. Every effort is made to use the most modern concepts of teaching, stressing the relationships between structure and function.

Graduate Courses

ANM 5411—Anatomy I m: Human micro-anatomy and embryology. An integrated course of Anatomy starting with the ultrastructural and light microscopic study of cells and continuing through developmental and microscopic anatomy. This course must be taken in conjunction with ANM 5811 Anatomy I g.

ANM 5811—Anatomy I g: A highly integrated course of general anatomical study (including human prosection) which

embodies the gross morphology of the body and coordinates it with the clinical, developmental and microscopic aspects of the human body. This course must be taken in conjunction with ANM 5411 Anatomy I m.

ANM 5612—Anatomy II: Neuroscience—A detailed course of neuroscience, passing from the study of ultrastructural cytology, through the light microscopic, gross and neuroanatomical aspects of the nervous system. This course includes strong emphasis on the functional and clinical aspects of neuroscience.

ANM 5301—Clinical Applications of Electron Microscopy: Specimen preparation, theory and use of the electron microscope for clinical medicine, including specimen analysis and diagnosis of disease.

ANM 5302—Histochemistry: Techniques and applications of histochemical techniques for light and electron microscopy.

ANM 5303—Advanced Anatomical Studies: Advanced studies in surgical anatomy, gross anatomy, histology, embryology, neuroscience, or cell biology.

ANM 5304—Advanced Cytochemistry: Discussions and applications of current cytochemical theory and techniques.

ANM 5305—Medical Cell Biology: An interdepartmental course for graduate students in the biomedical sciences. Emphasis will be placed on the medical aspects of cell structure and function, including analysis of recent concepts and current literature. Techniques and methods of cell biology will also be examined in the laboratory.

ANM 5306—Biodynamics of Bone: Study of the morphology and cell biology of bone and bone changes.

ANM 5307—Surgical Anatomy: A study of the anatomy of the landmarks, approaches, and problems of the surgeon as related to the head and neck, musculoskeletal system, abdomino-pelvic cavity, and thoracic cavity.

ANM 5309—Biology of Reproduction: This course will analyze the various aspects of biological reproduction with an emphasis on human problems. The reproductive process will be taught from union of the gametes to the delivered fetus.

Morphology, in relation to functional and pathological states, will be stressed. Social aspects will be considered as they relate to current reproductive problems, i.e., abortion and contraception. The course will draw upon experts in the field from

anatomy, medicine, and physiology. **ANM 5310**—Microscopy and Microscopic Technique: Prerequisite: BIOL 431, Biological Techniques, or its equivalent. The first half of the course will be concerned with the theory, design, and use of the many various forms of light microscopes. The course will include lectures, demonstrations, and use of these instruments as well as an Abbe diffraction demonstration microscope explaining his theory and principles of image formation. The second half of the course will be concerned with the theory, techniques, and practices of general histological and cytological preparations. The various microtomes, fixatives, embedding materials and stains will be discussed and a number of them will be used in the laboratory. **ANM 5311**—Advanced Musculoskeletal System: Detailed study of the skeleton and muscles with the aid of models and gross dissection. The purpose of this course is to present a detailed view of the skeleton and muscles and their interrelations to produce movement. A detailed study of the joints will be presented, as well as a study of the functions of muscles and their innervations. **ANM 5312**—Advanced Medical Embryology. The purpose of this course is to provide an in-depth study into the developmental processes necessary to transform a zygote into a term fetus. Basic concepts of medical genetics will be utilized in order to provide a better understanding of the mechanisms involved in congenital malformations. Among the topics to be discussed will be: gametogenesis, fertilization, placentation, embryogenesis, experimental embryology, medical genetics and dysfunction, and congenital malformations. A laboratory will provide experience in identifying embryonic and fetal structures. Mechanisms of teratology will be studied through participation in a simple research project. **ANM 5113, 5213, 5313**—Selected Topics in Anatomy. Material may vary from semester to semester. May be repeated for credit if different topics are covered. **ANM 5316**—Autonomic Nervous System: Prerequisite: Anatomy II or its equivalent. Detailed study of the autonomic nervous system with major emphasis on the morphological, functional and developmental aspects. Clinical applications are also stressed. **ANM 5317**—Neuroendocrinology (3:3:1). Lectures and discussions on selected topics of current interest concerning the regulatory mechanisms and interrelationships of the neural and

endocrine systems. The role of the hypothalamus as it relates to and controls the other endocrine organs will be stressed. **ANM 5318**—Structure and Function of the Nervous System I: A detailed study of the neural system. An examination of both gross and fine structure, as well as cell biology of both the peripheral and central portions of the nervous systems will be included. The basic structures that are immediately pertinent to the makeup and function of the nervous system (meninges, vasculature, Schwann cells, microglia, neuroglia, ependyma, choroid plexus, neurons, neuropil, as well as special related structures, including pituitary gland, pineal body, other neuroendocrine structures, CSF, and interstitial substances) will be studied. In reviewing these, it is necessary to touch upon the physiology, chemistry and physics, as well as the microanatomy (including ultrastructure) of those elements. Using this cellular approach, the naturally complex functions of this system will be simplified. **ANM 5319**—Structure and Function of the Nervous System II: Prerequisite: Structure and Function of the Nervous System I. A variety of methods of investigation used for the functional study of the nervous system will be examined. Techniques and methods of measuring morphological, metabolic and electrical properties of nervous tissue will be discussed, demonstrated and used. These will be utilized to clarify the functional organization of the nervous system. Included will be applications and use of the cathode ray oscilloscope in the study of nerve impulses and nerve pathways (bioelectric study), cytochemistry, for interrelating some of the more important chemical systems with the functioning of the neural complex, as well as light and electron microscopy for the correlation of structure and function. This course will also include current controversies in neural research and will indicate some of the directions in which the neural sciences will move in the next decade. **ANM 5321**—Advanced Gross Anatomy. In-depth study into the gross anatomy of the following specific regions of the human body:
 Topographical Anatomy
 Head and Neck
 Thorax and Abdomen
 Pelvis and Perineum
 Extremities and Back
ANM 5333—Microscopic Anatomy of Human Tissues and Organs. A detailed

course in microscopic anatomy designed primarily for non-anatomy graduate students, advanced undergraduates in the biological sciences and allied health students who desire additional training in microscopic anatomy.

ANM 5613—Advanced Microscopic Anatomy. The course supplements and extends the core microscopic material of Anatomy I by emphasizing ultrastructural, cell biological and histopathologic aspects of tissues and organs. Attention is focused on connective tissue macromolecules, calcification, ossification, bone remodeling, muscle contractions, platelet aggregation and blood clotting, nerve intracellular transport and communication, immunologically active connective tissue cells, micro-circulation and structural-functional correlates of the endocrine, renal and reproductive systems. Didactic material is presented through formal lectures or student seminars covering current journal articles. Laboratories consist of completing fourteen fully programmed 35mm slide lessons on human cells, tissues and organs.

Additionally, each student is required to identify and record photomicrographically selected structures from a collection of prepared tissue sections.

ANM 631—Master's Thesis: Enrollment required at least twice.

ANM 711—Anatomy Seminar:

ANM 731—Anatomical Research:

ANM 831—Doctor's Dissertation:

Enrollment required at least four times.

BIOCHEMISTRY

*Associate Professor John W. Pelley,
Ph.D., Acting Chairperson*

Professors: Behal, Shetlar

*Associate Professors: Everse,
Morrow, Perez*

*Assistant Professors: Garner, Little,
Stocco*

The Department of Biochemistry of the School of Medicine provides the educational and research programs in biochemistry for (1) professional students in medicine and related health sciences, (2) graduate students majoring or minoring in biochemistry, and (3) medical residents and housestaff.

Graduate Student Program:
The Department of Biochemistry offers opportunities for study and research leading to the Master of Science and/or Doctor of Philosophy degrees in Medical Biochemistry.

Each student in this program must take a Preliminary Examination. This examination will include an assessment of the student's background in physical, organic, and either analytical or inorganic chemistry to ascertain his comprehension of these fields. The nature of the Preliminary Examination will be determined in part by the student's undergraduate curriculum. Satisfactory proficiency in one foreign language and in statistical methods are required for the Ph.D.

The written part of the Qualifying Examination (for admission to candidacy for the Ph.D. degree) consists of an integrated, five-day comprehensive examination after most of the course work has been completed. A thesis based on original biochemical research is required for the master's degree and the Ph.D. degree. Credit for the master's thesis shall be for at least six hours credit, but not more than 9 hours credit. Credit for the doctoral thesis shall constitute not less than one-sixth nor more than one-third of the total work presented for the Ph.D. Completion of the master's degree is not an obligatory step leading to the Ph.D. degree.

The major areas of research in the Department of Biochemistry are:

1. physical biochemistry of enzyme complexes
2. disorders of mucopolysaccharide metabolism and metabolism of

- complex carbohydrates
3. genetics of somatic cell hybrids
 4. chemical and kinetic mechanism of enzyme action
 5. mechanism of action of thyroid hormones in differentiating tissues
 6. mitochondrial compartmentation of enzyme complex aggregates
 7. studies on pancreatic enzyme secretion changes as early onset markers of pancreatic disease
 8. biochemical aspects of wound healing and hypertrophic scar formation
 9. immobilized enzymes in chemotherapy
 10. interconversion of lipids and structure and function of pancreatic lipase
 11. development of new techniques of clinical analyses.

Inquiries about the graduate program in Biochemistry should be sent to:

Chairperson, Department
of Biochemistry
Texas Tech University
School of Medicine
P.O. Box 4569
Lubbock, Texas 79409

Graduate Courses

BCH 5721—Biochemistry (7:5:2). Prerequisite: CHEM 335, 336 or equivalent. Human life processes at the molecular level with emphasis on biochemical homeostasis and control mechanisms. This course consists of a series of closely related lectures, laboratories, and clinical correlation sessions.

BCH 631—Master's Thesis (3). Enrollment required at least twice.

BCH 6127—Seminar in Somatic Cell Genetics (1:1:0). Prerequisite: Permission of instructor. May be repeated.

Presentation of current research topics in the genetics and molecular biology of eukaryotic cells, and related areas: oncogenesis, differentiation, ageing.

BCH 6320—Clinical Biochemistry (3:3:0). Prerequisite: BCH 5721, CHEM 433, 436, 437, or equivalent. A study of clinical chemistry with emphasis on the interpretation of clinical laboratory data and concepts of laboratory-assisted diagnosis of human disease.

BCH 6321—Biophysical Characterization of Macromolecules (3:3:0). Prerequisite: BCH 5721, CHEM 433, 436, 437 or equivalent. A study of the characterization of macromolecules with major emphasis on the analytical ultracentrifuge and related instrumentation, consisting of lectures and laboratory exercises and familiarity with the analytical ultracentrifuge and interpretation of data.

BCH 6322—Biomedical Radioisotope Techniques (3:3:0). Prerequisite: BCH 5721, CHEM 433, 436, 437, or equivalent. Basic radioisotope techniques as used in biomedical research with special emphasis on liquid scintillation counting techniques.

BCH 6324—Biochemical Basis for Inherited Disease (3:3:0). Prerequisite: BCH 5721, CHEM 433, 436, 437 or equivalent.

Biochemical and molecular basis of genetic disorders, genetic counseling, human population genetics, chromosomal defects, sex determination, and gene mapping in man.

BCH 6325—Advanced Genetics (3:3:0). Prerequisite: A course in genetics. Further development of concepts introduced in introductory course in genetics, molecular biology, gene mapping, extranuclear genetic systems, gene expression, population genetics.

BCH 6326—Advanced Human Genetics (3:3:0). Prerequisite: A course in genetics. Detailed consideration of population genetics, cytogenetics, molecular biology, and biochemistry as related to human heredity.

BCH 6328—Biochemistry of the Mitochondrion (3:3:0). Prerequisite: A course in general biochemistry. Subject areas involve structure-function relationships, ion and metabolite transport, enzyme and metabolite compartmentation, and enzyme regulation.

BCH 6329—Advanced Immunochemistry

(3:3:0). A study of protein, carbohydrate, and complex antigens and the specificity of the immune response to them.

BCH 6330—Special Topics in Environmental Biochemistry (3:3:0). Prerequisite: Consent of instructor; organic chemistry recommended. May be repeated with change in content for a total of 6 hours. Reading, conferences, and/or laboratory work on selected chemicals which may exist in ambient air, water, or food—separation, identification, and physiological effects.

BCH 6331—Special Topics in Toxicological Biochemistry (3:3:0). Prerequisite: Consent of instructor; organic chemistry recommended. May be repeated with change in content for a total of 6 hours. A consideration of the uses, abuses, and potential biochemical effects of agricultural chemicals. Reading, conferences, and/or laboratory work.

BCH 6332—Advanced Clinical Biochemistry (3:3:0). Advanced study of the use of chemistry in laboratory medicine for diagnosing disease and evaluating therapy. Consideration of new methods in clinical chemistry, use of automated equipment, organ profiles, and other current developments in clinical biochemistry.

BCH 6333—Topics in Developmental Biochemistry (3:3:0). In-depth study of biochemical mechanisms in embryonic and post-embryonic development including biochemistry of cellular differentiation, biochemical mechanisms in growth and morphogenesis, development of specific enzyme systems, and endocrine mechanisms in development.

BCH 6335—Topics in Biochemistry (3:3:0). Prerequisite: Consent of instructor. Specific areas of biochemistry not normally included in other courses. May be repeated for credit with change in content.

BCH 6336—Neurochemistry (3:3:0). A study of the biochemistry and regulation of metabolic processes characteristic of neural tissues, the biosynthesis and metabolism of neurotransmitters, the biochemical basis of certain neurological disease states in man, and the structure and mechanism of function of neurohormones, in normal and pathological states.

BCH 6521—Human Intermediary Metabolism and Its Regulation (5:5:0). Prerequisite: BCH 5721, CHEM 433, 436, 437 or equivalent. Consideration of normal and abnormal human intermediary metabolism with major emphasis on

biosynthetic and catabolic pathways and on modulation and control.

BCH 711—Biochemistry Seminar (1:1:0).

BCH 731—Biochemical Research (3).

BCH 831—Doctor's Dissertation (3).

Enrollment required at least four times.

BCH 839—Postdoctoral Research (3).

Independent study by postdoctoral fellows under the direction of the graduate faculty of the Department of Biochemistry. May be repeated for credit.

BIOMEDICAL ENGINEERING AND COMPUTER MEDICINE

Associate Professor Blair A. Rowley, Ph.D., Chairperson

Professors: Ayoub, Portnoy, Ramsey

Associate Professor: Jarzembksi

Assistant Professors: Anderson, Cameron

Study leading to the Master of Engineering (Biomedical option with special permission) and Doctor of Philosophy degrees is offered in cooperation with the College of Engineering of Texas Tech University through their interdisciplinary study programs.

The courses listed below currently are offered by the School of Medicine faculty, but are subject to revision as the interdisciplinary program undergoes further development. In addition, study programs utilize courses offered in the various departments of the College of Engineering.

Graduate Courses

BME 5101, 5201, 5301—Selected Topics in Biomedical Engineering:—The material covered may vary from semester to semester. These courses may be repeated for credit if different topics are covered for each registration.

BME 5302—Function and Structure of the Human Body for Biomedical Engineers I: This course introduces the basic micro and macro units of the human body. Biomedical Engineering principles, anatomy, and physiology of cells, tissues, skeletal system, muscular system and the nervous system are presented. Emphasis on the gross structure of the body and

The nervous system including senses provides a background for continued study in statics and kinematics of the body and nervous system response and control.

BME 5303—Function and Structure of the Human Body for Biomedical Engineers II: Prerequisite: Function and Structure of the Human Body for Biomedical Engineers I. This course presents six major systems of the human body: Cardiovascular, Respiration, Regulation of Fluids, Digestion, Endocrines, and Reproduction. Biomedical Engineering principles, Anatomy and Physiology are presented. Methods of testing and modeling body systems along with physiological functions and anatomical structure provide a basis for application of engineering analysis in the study of body functions, instrumentation design, and application of supportive electro-mechanical devices.

BME 5304—Systems Analysis in Biomedicine: This course presents a number of analytical methods which are very useful in advanced study of living systems. No advanced mathematics are required. Using realistic yet simple physiological examples analysis methods are developed in models and analogs, system properties of resistance and storage, step response, transfer functions, impedance, periodic signals, transient oscillations, resonance, and feedback.

BME 5305—Concepts of Biomedical Engineering: An introduction to the basic concepts of biomedical engineering including bioengineering, clinical engineering, medical engineering. The following subjects are treated: research, product development, legal implications, documentation, an introduction to physiological systems, and clinical instruments in common use.

BME 5306—Health Care Delivery Systems: Specific requirements of health care delivery systems in the physician's office, clinic, hospital, medical center, and emergency care are covered. Included are analysis of intensive care, automated data collection and analysis, data base use in diagnosis, multiphasic screening, laboratory systems, use of computers, communication, and systems concepts.

BME 5309—Modeling of Living Systems: An introduction to the theory and application of modeling techniques to living systems will be presented. Current methods of mathematical modeling including model formulation and solution will be discussed. Methods of testing,

normalizing, and verifying mathematical models using experiments will be presented. Students will be required to successfully complete a project using mathematical modeling to analyze a physiological system.

BME 6301—Bioelectric Phenomena: The objective of this course is to introduce graduate students with backgrounds in the physical sciences and engineering to the electrical behavior of nerve and muscle using mathematical techniques to provide a quantitative basis for observed phenomena. The material presented covers electrode theory; membrane structure and phenomena; propagated action potential and electrocardiography.

BME 731—Research (3): Prerequisite: Admission to doctoral study and consent of the instructor. May be repeated for credit.

CMB 5101, 5201, 5301—Selected Topics in Computer Medicine and Biomathematics:—The material covered may vary from semester to semester. These courses may be repeated for credit if different topics are covered for each registration.

CMB 5303—Programming for the Medical Sciences: An introduction to medical applications of computer programming. Comparison between levels and structures of programming languages, choosing a language based on job and hardware characteristics, programming the micro-computer, and the use of packaged software in the clinical and basic sciences are covered.

CMB 5302—Intermediate Biostatistical Analysis for the Medical Sciences: Prerequisites: An introductory knowledge of calculus or statistics or consent of instructor. The purpose of this course is to provide graduate students in health related areas with a working knowledge of commonly used statistical techniques for analyzing biological data. Emphasis is placed on training the student to recognize the design of the experiment, what reasonable assumptions may be made, and to perform the necessary analysis. The student will be expected to exhibit the ability to analyze appropriate data sets from his own specialty area.

CMB 731—Research (3): Prerequisite: Admission to doctoral study and consent of the instructor. May be repeated for credit.

HEALTH COMMUNICATIONS

*Professor Charles W. Sargent, Ph.D.,
Chairperson*

Departmental research includes the communication aspects of health care, the diffusion of health information, the role of the patient-consumer and health information programs based on knowledge-level and attitude data.

Graduate Courses

HCOM 5301, 5302—Health Communications Practicum in Health Sciences I and II. As a basis for understanding and interpreting the work of health professionals and other health scientists, and also as a basis for understanding from the patients' viewpoint, correlated concepts from the physical, biological and health sciences will be presented. Emphasis will be placed upon the appreciation of the total person and his life processes in illness and in health.

HCOM 5310—Health Communications Seminar I. Introduction to the new discipline of health communication. Application of human communication theory to health care and health service systems. Emphasis is placed upon health care provider-consumer intercommunication, and upon the communicational study of patienthood.

HCOM 5311—Health Communications Seminar II. Introduction to the new discipline of health communication. Application of human communication theory to health care and health service systems. Emphasis is placed upon health care provider-consumer intercommunication, and upon the communicational study of patienthood. Prerequisite: Seminar I (HCOM 5310).

HCOM 5312—Medical Writing and Reporting I. Application of reporting and news writing principles and techniques to the health field. Will include active criticism from medical and health professionals, including medical writers.

HCOM 5313—Medical Writing and Reporting II. Application of investigative reporting and newswriting principles and techniques to more complex material in the health field. Lab practice in preparing feature length materials and series.

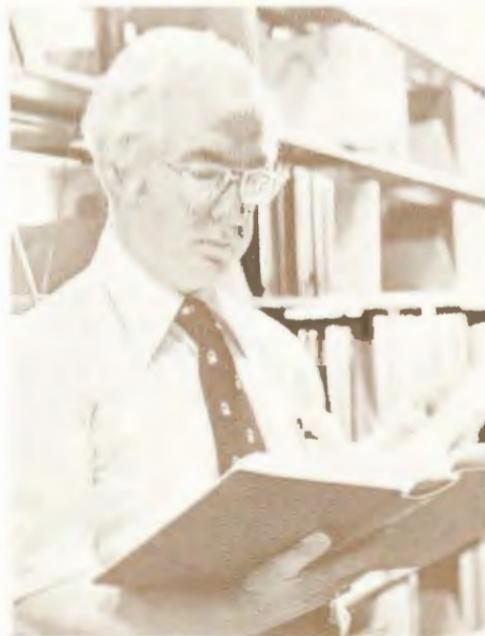
Criticism from health professionals. Prerequisite: Medical Writing and Reporting I (HCOM 5312).

HCOM 5314—Application of Communication Theory to Health Communications. Application of diffusion theory, persuasion and learning theory, motivation research to the information systems of health and medicine.

HCOM 5315—Health Communications Research. Critical examination and synthesis of past and ongoing research on the health communications process, focusing on mass communication research concerning health and medicine.

HCOM 5316—Introduction to Information Science. Computer-oriented techniques for mechanized non-numeric information processes, with emphasis on medical bibliographic record systems. Automated information systems such as MEDLARS, MEDLINE, TOXICON and others, as well as the design of an information system, will be emphasized.

HCOM 537—Information Storage and Retrieval. This course is designed to introduce the student to information organization and retrieval of natural language data. Computer techniques will be emphasized. Topics typically covered would include: an introduction to automatic information systems, the syntactic operations, the retrieval process, auxiliary information services, and data



Charles W. Sargent, Ph.D.

base retrieval systems. The course will emphasize mathematical and statistical methods of detailed analysis of system performance.

HCOM 5317—Information Retrieval Systems Design. This course is concerned with the design of retrieval systems based upon theories covered in Information Storage and Retrieval (Course II). Topics typically covered are: information dissemination process, information centers, file organization, search strategy, output operations, language design, and retrieval evaluation. Prerequisite: Information Storage and Retrieval.

HCOM 5319—Seminar in Current Topics of Information Sciences. This will vary each semester emphasizing either information science topics or other topics in the health communications area.

HCOM 5320—Medical Photography. Advanced applications in medical environment including specialized equipment and procedures. Prerequisite: 6 hours of photography.

HCOM 5322—Medical Television. Advanced applications in medical television involving the patient and medical personnel, and unique problems involving the health sciences. Prerequisites: a beginning course in television direction.

HCOM 5324—Medical Illustration I. Advanced techniques involving illustration in medical education; evaluation of learning effect. Prerequisite: 12 hours of art and/or illustration.

HCOM 5325—Medical Illustration II. Advanced techniques involving illustration in medical education; evaluation of learning effect. Prerequisite: Medical Illustration I.

HCOM 5326—Visual Techniques Practicum. Introductory course involving media in health sciences education, research, and service programs. Working with the medical faculty and staff and patients in preparing instructional packages and ways to improve them.

HCOM 5327—Advanced Visual Techniques Practicum. Summary and practical course involving media in health sciences education, research, and service programs. Working with the medical faculty and staff and patients in preparing instructional packages and ways to improve them. Prerequisite: At least two of the courses in Medical Photography, Television or Illustration.

HCOM 5115—Individual Problems in Health Communications. Individual research and reporting projects. A student

may enroll in this course any number of times up to a maximum of 5 semester hours.

HCOM 5117—Health Terminology. Medical and health terminologies most important to health communicators, presented in the framework of general health and medical concepts. Includes both the specialized professional languages and vernacular of the health professions, the hospital, and other health care systems, and the idiomatic expressions of certain patient populations.

HCOM 560—Health Communications Internship. Students will perform communication functions for eight weeks at Texas Tech University School of Medicine Regional Health Education Centers, under joint supervision of the chairman of the student's advisory committee and a Texas Tech University School of Medicine faculty member at the Center, who will also determine content of the internship in consultation with the student, and evaluate a written and oral report of the experience. Students will normally do the internship at the end of their course work for the degree.

HCOM 5328—Analysis and Preparation of Scientific Papers. Designed to improve scientific writing, particularly directness, comprehensibility, logical organization and precision of expression. Requires a short journal article or equivalent during course.

MICROBIOLOGY

Associate Professor Stanley Lefkowitz, Ph.D., Acting Chairperson

Professor: McKenna

Associate Professors: Baskett, Joys

Assistant Professors: Diedrich, Fralick, Gooch, Jones

Adjunct Assistant Professors: Hayes, Pence

The faculty of the Department of Microbiology offers broadly based programs leading to the Master of Science and Doctor of Philosophy degrees in Medical Microbiology with sufficient flexibility and diversity of orientation to meet the needs of both the School of Medicine and of

Texas Tech University.

The course work and information presented below describe those aspects of the program of particular interest to students choosing to study and conduct research in the areas of medical microbiology which are traditionally found in a medical center. The program is currently in an expanding state and courses will be added as appropriate.

Students seeking information concerning admission to the graduate program in medical microbiology, training and research opportunities, or teaching and research assistantships in the Department of Microbiology of the Texas Tech University School of Medicine should contact the chairperson of the department.

I. The Graduate Program

The Department of Microbiology has no general requirement for a foreign language for either the Master of Science or the Ph.D. degree. However, it may be necessary for a student to demonstrate a proficiency in a foreign language(s) in certain programs.

Incoming students are urged to seek a faculty advisor within the first semester after enrolling in the department. This should be done in consultation with the department chairman, and thus will facilitate the formation of students' committees as they progress through the program of study.

II. The Master's Program.

Before being recommended for admission to a master's degree program, the student may be required to

take an examination which includes the subject matter usually required of undergraduates.

The master's degree will ordinarily require a minimum of 30 hours of graduate study. This does not include time required to complete any unfinished prerequisites or delays encountered on thesis problems. The graduate program requires that original research and a thesis be completed. Credit for the master's thesis shall be at least six credit hours, but not more than nine credit hours.

III. Doctor of Philosophy Degree.

The Doctor of Philosophy Degree indicates an ability to teach and train others in the field of specialization. A period of lecture and laboratory preparation in teaching may be required of all candidates. In addition, the quality of research demanded at the Ph.D. level is such that mastery of basic principles and techniques in Microbiology must be clearly demonstrated by the dissertation.

The Ph.D. Degree is awarded on the basis of scientific maturity and not solely on the basis of completion of the prescribed course of study.

The completion of the master's degree is not a prerequisite step leading to the Ph.D. Degree.

IV. Major areas of research interest in the Department of Microbiology include:

- A. Viral Oncology
- B. Tumor Immunology
- C. Microbial Ecology

- D. Microbial Genetics
- E. Infectious Diseases
- F. Molecular Biology
- G. Radiation Microbiology
- H. Clinical Microbiology.

Inquiries about the graduate program in Microbiology should be sent to the Chairperson, Department of Microbiology, Texas Tech University School of Medicine, Lubbock, Texas 79409.

Graduate Courses

MIB 6631—Medical Microbiology. A study of the role and place of bacteria, fungi and viruses in human infectious disease processes, with emphasis on the interplay of the host and parasite relationships. Heavy emphasis will be placed on the biochemical, biological, and medical aspects of immune mechanisms and disease processes together with a study of immune deficiencies and diseases of the immunologic mechanism.

MIB 6347—Microbial Ecology. Prerequisite: At least an introductory course in microbiology, or permission from the instructor. The aim of this course is to provide an understanding of the place of microorganisms in nature and in human society. Bacteria, fungi, protozoa, and algae will be considered with regard to their structure, function and role in a variety of ecosystems. The influence of physical, chemical and biological factors on microorganisms and microbial contributions to the environment will be described. Among the major themes of the course are the following: interactions between microbial population; interactions of microbial populations with plants and animals; microbial ecology of aquatic and terrestrial environments.

MIB 6321—Tumor Immunology. Prerequisites: Introductory courses in Microbiology, Biochemistry, Pathology, and Immunology; or, permission of the instructor. The objectives of this course will be to collate the various immunological, biochemical, and pathological parameters of tumor growth, both in animal model systems and man. Emphasis will be placed on investigations of current concepts of tumor immunity, transplantation and auto-immunity; immunological tolerance, surveillance, and enhancement; as well as viral induced

immunosuppression and inherited immunodeficiency states.

MIB 6322—Viral Oncology. Prerequisites: Introductory courses in Microbiology, Immunology and Virology or consent of instructor. This course is designed to introduce the concept of a viral etiology of cancer. It will be developed through an examination of the effects of oncogenic viruses on intact animals as well as isolated cells in vitro. Emphasis will be placed on the immunological relationships and host response to viruses using many of the known animal models. The implications of a possible viral etiology of human cancer will be explored.

MIB 6323—Topics in Bacterial Genetics. Prerequisites: General Microbiology, Microbial Genetics or equivalent, and consent of instructor. Lectures, demonstrations and review of literature on inheritance in bacteria and their viruses with emphasis on aspects relevant to infectious diseases.

MIB 6324—The Molecular Biology of Microorganisms. Lectures and discussions illustrating how modern techniques of genetics and biochemistry are being used to elucidate the structure and function of DNA, RNA, and Protein in prokaryotic cells. Courses in biochemistry and microbial genetics suggested, but not required.

MIB 5181, 5281, 5381—Special topics in Microbiology.

MIB 5380—Medical Mycology. Prerequisite: Two semesters of microbiology or consent of instructor. Course is concerned with medically important fungi and the mycoses caused by these organisms. Laboratory sessions will emphasize identification methods.

MIB 6325—Biology of Animal Viruses. Lectures and laboratory work illustrating viral infection and replication within the affected cell. The interaction at the cellular level between virus and host.

MIB 6326—Medical Virology. A study by lectures and discussions of the pathogenesis of viral diseases of man. The course treats viral infections at the level of the metazoan organisms, with chemotherapy and/or prophylaxis where indicated.

MIB 6327—Molecular Biology of Prokaryotic Membranes. Prerequisite: Permission of instructor. The molecular organization of prokaryotic membranes with emphasis on the correlation between structure and function of biological membranes.

MIB 6328—Radiation Biology. Prerequisite: Permission of instructor.

This course will deal with the effects of ionizing radiation on biological systems at the molecular, cellular, organ, and whole body level of organization. Introductory material on radiation chemistry and physics will be included.

MIB 711—Microbiology Seminar. May be repeated. Presentation of present research current topics by faculty and students in all areas of Microbiology.

MIB 712—Literature Reviews Seminar. Review of literature on special topics either assigned by instructor and/or selected by students. May be repeated.

MIB 631—Master's Thesis: Enrollment required at least twice.

MIB 731—Research. Prerequisite: Consent of instructor. May be repeated for credit.

MIB 831—Doctoral Dissertation. Enrollment required at least four times. Other courses available for the programs in microbiology are listed in the Graduate School Catalog.

PHARMACOLOGY

*Professor Alexander D. Kenny, Ph.D.,
Chairperson*

*Associate Professor James H. Pirch,
Ph.D., Director*

*Associate Professors: Lombardini,
Pang, Potter*

Assistant Professor: Tenner

The Pharmacology Graduate Program offers studies leading to the Master of Science and Doctor of Philosophy degrees. A minimum of three years of study beyond the bachelor's degree is required for the Ph.D. degree, but experience indicates that it usually takes at least four years and sometimes longer. The student must maintain a B average in Pharmacology courses and a B average in all other courses taken for graduate credit. During the period of study the student will complete the required graduate course work, take a preliminary examination, demonstrate a proficiency in biostatistics, take a qualifying examination, complete a Ph.D. dissertation based on original

research, and take a final examination in the dissertation field. A minimum of two years of study beyond the bachelor's degree is required for the M.S. degree. During the period of study the student will complete the required course work (thirty hours minimum, including thesis research), complete an M.S. thesis based on original work, and take a final comprehensive examination in Pharmacology.

The major areas of research in the Department of Pharmacology and Therapeutics are: endocrine, autonomic, cardiovascular, renal, biochemical and comparative pharmacology; drug metabolism; neuropharmacology; and psychopharmacology. More specific areas include: pancreatic endocrine function; regulation of vitamin D endocrine system: evolutionary and endocrine aspects of osmoregulation in lower vertebrates; alcoholism; Parkinson's Disease; pharmacology of brain electrical potentials; pharmacology of cardiac receptors; and taurine function and metabolism.

Inquiries about the Pharmacology Graduate Program should be sent to:

Director of Graduate Studies
Pharmacology and Therapeutics
Texas Tech University School
of Medicine
Lubbock, Texas 79409
phone: 806/743-2425.

Graduate Courses

PHM 5613—Pharmacology. The study of Pharmacology with emphasis on mechanisms of drug action, drug interactions, and therapeutics.

PHM 5218—Advanced Principles of Drug Action. An advanced course dealing with the mechanisms and dynamics of action of drugs on biological systems.

PHM 5321—Drug Metabolism and Biochemical Pharmacology. Enzyme kinetics and receptor occupancy theory. Metabolism of compounds in both

experimental animals and man with emphasis on basic metabolic pathways, mechanism of drug actions, and pharmacodynamics.

PHM 5322—Advances in Psychopharmacology. Pharmacology of hallucinogens, stimulants and depressants; their mode of action and structure-activity relationship. Pharmacological basis of psychopharmacotherapy with emphasis on extrapyramidal disorders and affective states. Extrapyramidal action of psychoactive drugs and their adverse effects.

PHM 5101, 5201, 5301—Topics in Pharmacology. Specific areas in pharmacology not normally included in other courses.

PHM 631—Master's Thesis. Enrollment required at least twice.

PHM 711—Pharmacology Seminar.

PHM 731—Pharmacological Research.

PHM 831—Doctor's Dissertation. Enrollment required at least four times.

PHYSIOLOGY

*Professor Charles D. Barnes, Ph.D.,
Chairperson*

*Professors: Frigyesi, Hughes,
Kopetzky*

Associate Professors: Crass, Davies

*Assistant Professors: Holloway,
Lutherer, Nathan, Orem*

*Adjunct Assistant Professors: Chinn,
Minnich*

The Department of Physiology in the School of Medicine offers educational and research programs for students working for professional degrees in medicine, related health sciences areas and advanced degrees in Physiology.

Graduate School Program: The Department of Physiology offers a graduate program leading to the Master of Science degree and the Doctor of Philosophy degree. Training in physiology is provided in the following fields of study: cardiovascular physiology including autonomic receptors, hemodynamics, and metabolism; respiratory physiology; body fluid

physiology; endocrine physiology; neurophysiology and biophysics. Research work is progressing in the department along each of these areas. The program is designed to train persons who will teach and conduct research in medical institutions.

Graduate Courses

PHY 5302—Experimental Neuroscience. A study of the current techniques used in the neuroscience research laboratory.

PHY 5310—Introduction to Physiological Research. Beginning graduate student to learn research approaches and techniques.

PHY 5822—Physiology. A study of human physiology with major emphasis on body-controlling systems and their interrelations. Pathophysiological mechanisms are also stressed.

PHY 631—Master's Thesis. Enrollment required at least twice.

PHY 6321—Cardiodynamics. Prerequisite: Medicine clerkship. A consideration of cardiac physiology and pathophysiology and its clinical application.

PHY 6322—Fetal and Neonatal Physiology. Emphasis on physiological mechanisms unique to life in utero, at birth, and during the first thirty days after birth.

PHY 6323—Renal Physiology. Discussion and correlation of recent advances in the normal and pathophysiological mechanisms of the kidney.

PHY 6324—Endocrinology of Pregnancy. Topics related to the role of endocrine glands in the support of the fetus, the maternal-fetal exchange, the development of endocrine function in the fetus, and the changes occurring at birth.

PHY 6325—Physiology of Neuroeffector Systems. A consideration of adrenergic, cholinergic, histaminic, and serotonin receptor systems and physiological applications.

PHY 6326—Applied Environmental Physiology. Physiological mechanisms involved in heat prostration, dehydration fever, cold exposure, and hypoxia.

PHY 6327—Pathophysiology of Hypertension. A study of current concepts of etiological mechanisms of hypertension.

PHY 6328—Advanced Endocrinology. Various endocrinopathies will be discussed in terms of recent advances in the areas of assay of endocrine gland function, control of hormone secretion, actions of hormones, mechanisms of action, and the

interrelationships between hormones.

PHY 6329—Pulmonary Circulation in Health and Disease. The hemodynamics of the pulmonary circulation and the factors which control it will be presented, supplemented by an analysis of selected clinical cases. Lectures and student presentations of original papers.

PHY 6331—Physiology of Muscle in Health and Disease. The subject matter of this course should be of interest to graduate students in physiology and biochemistry, as well as to medical students and house officers. Important aspects of muscle function will be covered. Selected topics are: chemistry of contractile proteins, current aspects of excitation-contraction coupling and the role of calcium, mechanical-energetic relationships in cardiac and skeletal muscle, regulation of glucose transport and glycolysis, transport and metabolism of fatty acids and amino acids, and protein synthesis. In addition, the course will cover current information relating to the biochemistry of ischemic heart disease and hypertrophy, as well as to abnormalities of skeletal muscle metabolism.

PHY 6332—Topics in Physiology. To be arranged. One month.

PHY 6335—Membrane Biophysics. Current topics and techniques in the physiology of excitable membranes.

PHY 711—Physiology Seminar.

PHY 712—Readings In Physiology. Review of the research literature on special topics either assigned by instructor or selected by students. May be repeated for credit.

PHY 731—Physiological Research.

PHY 831—Doctor's Dissertation. Enrollment required at least four times.

PREVENTIVE MEDICINE AND COMMUNITY HEALTH

*Professor Robert H. Kokernot,
D.V.M., M.D., Dr. P.H.,
Chairperson*

Professor: Tyner

Associate Professors: Way, Gruber

Assistant Professor: Hayes

The Department of Preventive Medicine and Community Health offers a core of elective courses in epidemiology and preventive medicine. These courses are open to graduate students in a variety of health, biomedical and health and social behavior fields. Prerequisites: Permission of the instructor.

Elective Courses

PMM 6211—Principles of Epidemiology. This course is concerned largely with epidemiologic methodology. Some of the ways in which properly conducted observations of the distribution and dynamic behavior of disease in the population can contribute to an understanding of etiologic factors, modes of transmission, and pathogenesis of disease are illustrated.

PMM 6212—Problems in Epidemiology. A course for students who wish to make an intensive study of some special problem in epidemiology.

PMM 6213—Epidemiology Seminar. Presentation of research in progress or recently completed by staff, students and visiting lecturers.



FACULTY

FULL-TIME

- ALEXANDER, Carter M.**, Associate Professor of Pathology; M.D., Columbia University College of Physicians and Surgeons, 1942.
- ALLEN, Karen S.**, Assistant Professor of Psychiatry; Ph.D., University of Maryland, 1973.
- ALLEN, Reuben, M.**, Assistant Professor of Psychiatry; M.D., University of Texas Southwestern Medical School at Dallas, 1970.
- ANANTHAKRISHNAN, C. V.**, Assistant Professor of Orthopaedic Surgery; M.D., Christian Medical College, Punjab University, Ludhiana, India, 1967.
- ANDERSON, Dwane E.**, Assistant Professor of Biomedical Engineering and Computer Medicine; Ph.D., Southern Methodist University, 1968.
- ARREDONDO, Rudolfo M.**, Assistant Professor of Psychiatry; Ed.D., Texas Tech University, 1976.
- ASHBY, Wendall B.**, Assistant Professor of Obstetrics & Gynecology; M.D., University of Texas Medical Branch at Galveston, 1974.
- AUSTERMAN, Warrington**, Associate Professor of Surgery; M.D., Albany Medical School, 1944.
- BAGG, Raymond J.**, Professor of Orthopaedic Surgery; M.D., New York Medical College, 1958.
- BAKER, C. Richard, Jr.**, Associate Professor of Surgery; M.D., Johns Hopkins University School of Medicine, 1961.
- BALASUBRAMANIAM, Subramaniam**, Associate Professor of Family Practice; M.D., Christian Medical College, Madras University, India, 1963.
- BALCH, James A.**, Instructor of Pathology; M.D., University of Texas Southwestern at Dallas, 1974.
- BARNES, Cary M.**, Assistant Professor of Dermatology; M.D., University of Kansas School of Medicine, 1967.
- BARNES, Charles D.**, Professor and Chairperson of Physiology; Ph.D., State University of Iowa, 1962.
- BARTHOLOMEW, Bruce A.**, Professor of Internal Medicine; M.D., University of Michigan Medical Center, 1958.
- BASKETT, Russell C.**, Associate Professor of Microbiology; Associate Dean for Academic and Student Affairs; Ph.D., University of Missouri, 1971.
- BECEIRO, Jose R.**, Associate Professor of Internal Medicine; M.D., Faculty of Medicine, University of Santiago, Spain, 1964.
- BEECHLER, Cash R.**, Assistant Professor of Internal Medicine; M.D., Ohio State University College of Medicine, 1971
- BEHAL, Francis J.**, Professor of Biochemistry; Ph.D., University of Texas at Austin, 1958.
- BLACKBURN, MICHAEL G.**, Associate Professor of Pediatrics; M.D., University of Heidelberg, West Germany Faculty of Medicine, Heidelberg, Germany, 1965.

- BLACKWELL, David Eric**, Assistant Professor of Radiology; M.D., Bowman Gray School of Medicine, 1973.
- BLACKWOOD, William D.**, Associate Professor of Internal Medicine; M.D., University of Texas Medical Branch at Galveston, 1965.
- BLOOM, Robert F.**, Assistant Professor of Dermatology; M.D., Loyola University Medical School, 1973
- BOLENDER, David L.**, Assistant Professor of Anatomy; Ph.D., West Virginia University, 1974.
- BRIONES, David F.**, Assistant Professor of Psychiatry; M.D., University of Texas Medical Branch at Galveston, 1971.
- BROWN, Craig D.**, Assistant Professor of Family Practice; M.D., University of Texas Medical Branch at Galveston, 1971.
- BROWN, Hugh A.**, Associate Professor of Anesthesiology; M.D., McGill University, 1959.
- BUDDINGH, Fred**, Associate Professor of Pathology; D.V.M., Colorado State University, 1951; Ph.D., University of California at Davis, 1969.
- BUESSELER, John A.**, University Professor, Professor of Ophthalmology; M.D., University of Wisconsin School of Medicine, 1944., M.S., University of Missouri, 1965.
- BURKEHOLDER, James N.**, Associate Professor of Pediatrics; Associate Dean for Clinical Affairs; M.D., University of Missouri, 1961.
- CAMERON, James M., Jr.**, Assistant Professor of Biomedical Engineering and Computer Medicine; M.S., Louisiana Tech University, 1973.
- CASADY, Robert L.**, Assistant Professor of Anatomy; Ph.D., University of California at Los Angeles, 1972.
- CHARALAMPOUS, Kanellos D.**, Professor and Chairperson of Psychiatry; M.D., Baylor College of Medicine, 1958.
- CHINN, John A., Jr.**, Associate Professor of Family Practice; M.D., University of Texas Medical Branch at Galveston, 1953.
- COATES, Penelope W.**, Associate Professor of Anatomy; Ph.D., University of Texas Southwestern Medical School at Dallas, 1969.
- COCKINGS, Eon**, Professor of Anesthesiology; M.D., University of Manchester College of Medicine, England, 1955.
- CONTRERAS, Arturo**, Instructor of Anesthesiology; M.D., School of Medicine, University of Chihuahua, Mexico, 1973.
- CRASS, Maurice F., III**, Associate Professor of Physiology; Ph.D., Vanderbilt University School of Medicine, 1965.
- CULVAHOUSE, Bruce M.**, Associate Professor of Family Practice; M.D., University of Tennessee, 1951.
- DAHL, Elmer V.**, Professor of Pathology; M.D., University of Southern California, 1953.
- DALLEY, Bernell**, Assistant Professor of Anatomy; Ph.D., University of Nebraska, 1974.
- DAVIES, Donald G.**, Associate Professor of Physiology; Ph.D., Johns Hopkins University, 1970.
- DIEDRICH, Dana L.**, Assistant Professor of Microbiology; Ph.D., Pennsylvania State University, 1974.
- DUNN, Jack, Jr.**, Professor of Surgery; M.D., University of Texas Medical Branch at Galveston, 1948.

- DUNNAGAN, William A.**, Professor and Chairperson of Radiology; M.D., University of Maryland, 1951.
- EL DOMERI, Ali**, Professor of Surgery; M.D., Cairo University Faculty of Medicine, Egypt, 1958.
- ERICKSON, Harold M., Jr.**, Associate Professor of Psychiatry; M.D., University of Oregon Medical School, 1964.
- EVERSE, Johannes**, Associate Professor of Biochemistry; Ph.D., University of California at San Diego, 1973.
- FEOLA, Mario**, Professor of Surgery; M.D., Faculty of Medicine and Surgery, University of Naples, Italy, 1950.
- FIROR, Hugh V.**, Professor of Surgery; M.D., University of Maryland School of Medicine, 1953.
- FLEMENBAUM, Abraham**, Associate Professor of Psychiatry; M.D., Division of Health Sciences, University of the Valley, Cali, Colombia, S.A., 1964.
- FORDYCE, A.J.W.**, Associate Professor of Orthopaedic Surgery; M.D., University of Edinburgh College of Surgeons, Scotland, 1974.
- FRALICK, Joe A.**, Assistant Professor of Microbiology; Ph.D., University of Tennessee, 1970.
- FRIGYESI, Tamas L.**, Professor of Physiology; M.D., Semmelweis University of Medicine, Budapest, Hungary, 1951.
- GAINER, Barbara J.**, Assistant Professor of Radiology; M.D., University of Texas Southwestern at Dallas, 1966.
- GARNER, Charles W.**, Assistant Professor of Biochemistry; Ph.D., University of Texas at Austin, 1969.
- GERSTON, Kenneth F.**, Assistant Professor of Pathology; M.D., State University of New York, Downstate Medical Center, 1968.
- GHISELLI, Antonio**, Assistant Professor of Orthopaedic Surgery; M.D., Faculty of Medicine, University of Pretoria, South Africa, 1970.
- GILMER, Emily A.**, Assistant Professor of Health Communications; Reference Librarian; M.A., University of Missouri, 1972.
- GOGGIN, James E.**, Assistant Professor of Psychiatry; Ph.D., Yeshiva University, 1971.
- GOOCH, Gary T.**, Assistant Professor of Microbiology; Ph.D., Brigham Young University, 1974.
- GORDON, William H., Sr.**, Professor of Family Practice; M.D., Medical College of Virginia, 1933.
- GRUBER, Felix J.**, Associate Professor of Preventive Medicine and Community Health; M.D., Faculty of Medicine, Central University of Venezuela, Caracas, Venezuela, 1961; Dr. P.H., University of North Carolina School of Public Health, 1971.
- HALPERN, Jesse I.**, Assistant Professor of Ophthalmology; M.D., State University of New York, Downstate Medical Center, 1957.
- HANDAL, Gilberto A.**, Assistant Professor of Pediatrics; M.D., Faculty of Medicine, University of Chile, Santiago, Chile, 1966.
- HARDAWAY, Robert M., III**, Professor of Surgery; M.D., Washington University Medical Center, 1939.
- HARTMAN, J. Ted**, Professor and Chairperson of Orthopaedic Surgery; M.D., Northwestern University School of Medicine, 1952.

- HAYES, Jack**, Assistant Professor of Preventive Medicine and Community Health; Ph.D., University of Texas School of Public Health, Houston, 1973.
- HEINE, M. Wayne**, Professor and Chairperson of Obstetrics and Gynecology; M.D. Duke University School of Medicine, 1958.
- HEINRICH, George R.**, Associate Professor of Anesthesiology; M.D., University of Saskatchewan, Canada, 1962.
- HILLMAN, J. Richard**, Associate Professor of Anatomy; Ph.D., Colorado State University, 1969; M.D., Texas Tech University School of Medicine, 1976.
- HOLLOWAY, L. Shannon, Jr.**, Assistant Professor of Physiology; Ph.D., University of Florida School of Medicine, 1971; M.D., Texas Tech University School of Medicine, 1976.
- HOLMES, A. W., Jr.**, Professor and Chairperson of Internal Medicine; M.D., Case Western Reserve University School of Medicine, 1956.
- HUGHES, Maysie J.**, Professor of Physiology; Ph.D., University of Tennessee, 1963
- HUTSON, James C.**, Assistant Professor of Anatomy; Ph.D., University of Nebraska, 1976.
- JACKSON, Francis C.**, Professor and Chairperson of Surgery; M.D., University of Virginia, 1943.
- JARZEMBSKI, William B.**, Associate Professor of Biomedical Engineering and Computer Medicine; Ph.D., Marquette University, 1971.
- JETT, James D.**, Assistant Professor of Family Practice; M.D., Baylor College of Medicine, 1960.
- JOHNSON, Clark A.**, Associate Professor of Family Practice; M.D., University of Texas Medical Branch at Galveston, 1948.
- JOHNSON, Dale T.**, Associate Professor of Psychiatry; Ph.D., Vanderbilt University, 1966.
- JOHNSON, James F.**, Associate Professor of Radiology; M.D., Duke University School of Medicine, 1969.
- JONES, Randall T.**, Assistant Professor of Microbiology; Ph.D., University of Tennessee, 1969.
- JOYS, Terence M.**, Associate Professor of Microbiology; Ph.D., London University, England, 1961.
- JUDKINS, Timothy C.**, Assistant Professor of Health Communications; Associate Librarian; M.A., University of Missouri, 1971.
- KARKOS, Kenneth R.**, Assistant Professor of Anatomy; Ph.D., University of Rochester, 1973.
- KENNEDY, Virginia**, Assistant Professor of Preventive Medicine and Community Health; Coordinator of Health Systems Research; Ph.D., University of Texas School of Public Health, 1972.
- KENNY, Alexander D.**, Professor and Chairperson of Pharmacology and Therapeutics; Ph.D., St. Thomas Institute for Advanced Studies, 1950.
- KOKERNOT, Robert H.**, Professor and Chairperson of Preventive Medicine and Community Health; D.V.M., Texas A&M University, 1946; M.D., Baylor College of Medicine, 1950; Dr. P. H., Johns Hopkins University, 1952.
- KOPETZKY, Michael T.**, Associate Professor of Physiology; M.D., Charles University Medical School at Prague, Czechoslovakia, 1952.

- LATHOURAS, Nicholas G.**, Assistant Professor of Family Practice; M.D., National and Kapodistria University School of Medicine, Athens, Greece, 1961.
- LAUTSCH, Elizabeth**, Professor of Pathology; M.D., University of Laval, Canada, 1944.
- LAWTON, Richard L.**, Professor of Surgery; M.D., University of Nebraska College of Medicine, 1943.
- LEFKOWITZ, Stanley S.**, Associate Professor and Acting Chairperson of Microbiology; Coordinator of Research; Associate Dean for Graduate School; Ph.D., University of Maryland, 1961.
- LEO, Jin Shone**, Assistant Professor of Radiology; M.D., College of Medicine National Taiwan University, Taipei, Taiwan, 1969.
- LEVIN, Garrett S.**, Instructor in Pediatrics; M.D. School of Medicine, University of Chihuahua, Mexico, 1973.
- LITTLE, Gwynne H.**, Assistant Professor of Biochemistry; Ph.D., University of Wales, United Kingdom, 1960.
- LOCKWOOD, Richard A.**, Professor of Surgery; Vice President for the Health Sciences Centers; M.D., Johns Hopkins University, 1947.
- LOMBARDINI, John B.**, Associate Professor of Pharmacology and Therapeutics; Ph.D., University of California Medical Center at San Francisco, 1968.
- LUTHERER, Lorenz O.**, Assistant Professor of Physiology; Ph.D., University of Florida, 1969; M.D., Texas Tech University School of Medicine, 1977.
- LUTTENTON, Charles**, Assistant Professor of Radiology; M.D., University of Michigan Medical School, 1971.
- McKENNA, John M.**, Professor of Microbiology; Ph.D., Lehigh University, 1959.
- MacNAIR, Donald S.**, Associate Professor of Pathology; Director of Clinical Pathology; M.D., New York University, 1953.
- MACIULLA, Gregory J.**, Assistant Professor of Obstetrics and Gynecology; M.D., University of Arizona, 1973.
- MARK, Lloyd K.**, Professor of Radiology; M.D., Ohio State University, 1950.
- MARKWALD, Roger R.**, Associate Professor of Anatomy; Ph.D., Colorado State University, 1969.
- MATHEWSON, John J.**, Associate Professor of Family Practice; M.D., University of Illinois, 1952.
- MAURER, William F.**, Assistant Professor of Pediatrics; M.D., Ohio State University College of Medicine, 1966.
- MENCHACA, John A.**, Assistant Professor of Pediatrics; M.D., University of Texas Medical Branch at Galveston, 1967.
- MESSIHA, Fathy S.**, Associate Professor of Pathology and Psychiatry; Ph.D., Faculty of Medicine, University of Berne, Switzerland, 1965.
- MILLS, David M.**, Associate Professor of Internal Medicine; M.D., Case Western Reserve University School of Medicine, 1956.
- MISENHIMER, H. Robert**, Professor of Obstetrics and Gynecology; Associate Dean Regional Academic Health Center at El Paso; M.D., George Washington University School of Medicine, 1956.
- MOHAUPT, Frank X.**, Associate Professor of Family Practice; M.D., University of Cincinnati College of Medicine, 1950.

- MORALES, Carlos**, Associate Professor of Pathology; M.D., Faculty of Medicine, University of the Valley, Bogota, Colombia, 1963.
- MORROW, Kenneth J., Jr.**, Associate Professor of Biochemistry; Ph.D., University of Washington, 1964.
- MULLINS, David C.**, Associate Professor of Pediatrics; M.D., University of Texas Southwestern Medical School at Dallas, 1964.
- NAEGELE, Donald F.**, Assistant Professor of Ophthalmology; M.D., West Virginia University School of Medicine, 1969.
- NATHAN, Richard**, Assistant Professor of Physiology; Ph.D., University of Florida, 1971.
- OREM, John M.**, Assistant Professor of Physiology; Ph.D., University of New Mexico, 1970.
- ORR, Judith A.**, Assistant Professor of Health Communications; Cataloger, Health Sciences Library; M.L.S., North Texas State University, 1970.
- PANG, Peter K. T.**, Associate Professor of Pharmacology; Ph.D., Yale University, 1970.
- PARAGAS, Pablo D.**, Assistant Professor of Internal Medicine; M.D., University of Philippines College of Medicine, Quezon City, Philippines, 1963.
- PARK, Joon M.**, Assistant Professor of Pediatrics; M.D., Yonsei University College of Medicine, Seoul, Korea, 1959.
- PARRINO, Michael**, Assistant Professor of Pediatrics; M.D., Tulane University School of Medicine, 1968.
- PATRICK, Carolyn M.**, Assistant Professor of Health Communications; Associate Librarian; M.L.S., University of Texas Graduate School of Library Science, 1966.
- PATZKOWSKY, Lawrence W.**, Associate Professor and Acting Chairperson of Family Practice; Associate Dean Regional Academic Health Center at Amarillo; M.D., Oklahoma University School of Medicine, 1950.
- PEACOCK, Jack B.**, Assistant Professor of Surgery; M.D., University of North Carolina, 1964.
- PEDDICORD, Orene W.**, Associate Professor of Psychiatry; M.D., University of Texas Southwestern Medical School at Dallas, 1949.
- PELLEY, John W.**, Assistant Professor and Acting Chairperson of Biochemistry; Ph.D., University of North Carolina, 1969.
- PENCE, Danny B.**, Associate Professor of Pathology; Ph.D., Louisiana State University Medical Center, 1970.
- PERIMAN, Phillip O.**, Associate Professor of Internal Medicine; M.D., Washington University Medical Center, 1965.
- PERRY, Roger W.**, Associate Professor of Obstetrics and Gynecology; M.D. Medical College of Richmond, 1961.
- PIRCH, James H.**, Associate Professor of Pharmacology and Therapeutics; Ph.D., University of Kansas School of Medicine, 1966.
- POTTER, David E.**, Associate Professor of Pharmacology and Therapeutics; Ph.D., University of Kansas School of Medicine, 1969.
- PRICE, James T.**, Professor and Chairperson of Ophthalmology; M.D., Jefferson Medical College, 1963; Ph.D., University of California at Berkeley, 1971.

- RACZ, Gabor B.**, Professor and Chairperson of Anesthesiology; M.B., Faculty of Medicine, University of Liverpool, England, 1962.
- RAI, Uma S.**, Associate Professor of Pediatrics; M.D., Lucknow University, King George's Medical College, Lucknow, India, 1957.
- REEVES, Billy D.**, Professor of Obstetrics and Gynecology; M.D., University of Illinois, 1960.
- RICHARDS, Samuel D.**, Associate Professor of Physical Medicine and Rehabilitation; Assistant Vice President for Program Development; Ph.D., Southern Illinois University, 1966.
- ROBERTS, Lou A.**, Instructor in Physiology; Ph.D., University of California at Los Angeles, 1967.
- ROWLEY, Blair A.**, Associate Professor and Chairperson of Biomedical Engineering and Computer Medicine; Ph.D., University of Missouri, 1970.
- SABONGHY, Magdy M.**, Assistant Professor of Anesthesiology; M.D., University of Cairo, Egypt, 1965.
- SACKLER, Jay P.**, Professor of Radiology; M.D., New York Medical College, 1953.
- SALAZAR, Benjamin**, Assistant Professor of Obstetrics and Gynecology; M.D., University of Saint Thomas, Philippines, 1965.
- SALTZSTEIN, Edward C.**, Professor of Surgery; M.D., Northwestern University Medical School, 1957.
- SARGENT, Charles W.**, Professor and Chairperson of Health Communications; Ph.D., University of New Mexico, 1964.
- SAXTON, Norval L.**, Associate Professor of Family Practice; M.D., State University of Iowa, 1961.
- SCHULTZ, Lorraine E.**, Professor of Pathology; M.D., University of Wisconsin School of Medicine, 1944.
- SCOTT, Robert W.**, Associate Professor of Psychiatry; Ph.D., University of Houston, 1968.
- SCRAGG, William H.**, Professor of Obstetrics and Gynecology; M.D., New York Medical College, 1957.
- SECRET, Robert**, Associate Professor of Internal Medicine, M.D., University of Cincinnati, 1948.
- SELIGER, William G.**, Professor and Chairperson of Anatomy; D.D.S., Northwestern University, 1946; Ph.D., University of Wisconsin, 1964.
- SHETLAR, Marvin R.**, Professor of Dermatology and Biochemistry; Ph.D., Ohio State University, 1946.
- SMITH, Stephen R.**, Associate Professor of Internal Medicine; M.D., Harvard Medical School, 1963.
- SOUTH, Mary Ann**, Professor and Chairperson of Pediatrics; M.D., Baylor College of Medicine, 1959.
- SPEROS, Perry**, Assistant Professor of Ophthalmology; Ph.D., Indiana University, 1973.
- SPROAT, Harry F.**, Professor and Chairperson of Pathology; Professor of Anatomy; M.D., New York Medical College, 1946.
- SQUYRES, Berry N.**, Associate Professor of Family Practice; Assistant Dean for Admissions; M.D., University of Texas Medical Branch at Galveston, 1950.

- SRIDAROMONT, Somkid**, Assistant Professor of Pediatrics; M.D., Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand, 1967.
- STOCCO, Douglas N.**, Assistant Professor of Biochemistry; Ph.D., University of Toronto, Canada, 1972.
- SZEYKO, Gregory H.**, Assistant Professor of Internal Medicine; M.D., West Virginia University School of Medicine, 1971.
- TENNER, Thomas E., Jr.**, Assistant Professor of Pharmacology and Therapeutics; Ph.D., University of Texas Health Sciences Centers at San Antonio, 1976.
- TERRY, Ward**, Associate Professor of Radiology; M.D., Johns Hopkins University, 1964.
- THOMAS, Edward T.**, Professor of Anesthesiology; University of London, King's College, London, England, 1949.
- TYNER, George S.**, Professor of Ophthalmology; Professor of Psychiatry; Professor of Preventive Medicine and Community Health; Dean of the School of Medicine; M.D., University of Nebraska School of Medicine, 1942.
- UHRIG, Henry T.**, Associate Professor of Radiology; M.D., New York Medical College, 1955.
- VARMA, Surendra**, Associate Professor of Pediatrics; M.D., Lucknow University, King George's Medical College, Lucknow, India, 1962.
- WAINSCOTT, Paul E.**, Professor of Family Practice; M.D., Marquette University School of Medicine, 1964.
- WARREN, Phillip R.**, Assistant Professor of Anesthesiology; M.D., University of Texas Medical Branch at Galveston, 1972.
- WAY, Anthony B.**, Associate Professor of Preventive Medicine and Community Health; Assistant Dean for Graduate and Undergraduate Medical Education; M.D., University of Pennsylvania School of Medicine, 1967; Ph.D., University of Wisconsin, 1972.
- WAY, Barbara H.**, Associate Professor and Chairperson of Dermatology; M.D., University of Pennsylvania School of Medicine, 1968.
- WEATHERS, Paul E.**, Assistant Professor of Family Practice; M.D., Indiana University School of Medicine, 1947.
- WEDDIGE, Richard L.**, Associate Professor of Psychiatry; M.D., University of Texas Medical Branch at Galveston, 1965.
- WOLCOTT, Lester E.**, Professor and Chairperson of Physical Medicine and Rehabilitation; M.D., University of Buffalo School of Medicine, 1951.
- YATES, Loren K.**, Assistant Professor of Family Practice; M.D., University of Oklahoma Medical School, 1957.
- YEE, John A.**, Assistant Professor of Anatomy; Ph.D., University of Utah, 1974.
- YUNG, Christoph**, Assistant Professor of Psychiatry; M.D., College of Medicine, National Taiwan University at Taipei, Taiwan, 1963.

ADJUNCT

- BENSBURG, Gerald J., Jr.**, Adjunct Professor of Psychiatry; Ph.D., George Peabody College, 1957.
- CASTILLO, Ingeborg K.**, Adjunct Instructor of Health Communications; Serials Librarian; M.S., Texas Woman's University, 1975.
- CHINN, Chung**, Adjunct Assistant Professor of Physiology; Ph.D., University of Washington, 1970.
- CHAUNCEY, M. Kathy**, Adjunct Instructor of Family Practice; M.S., Texas Tech University, 1972.
- EISNER, David**, Adjunct Professor of Surgery; M.D., Case Western Reserve University School of Medicine, 1937.
- EKERY, Dorothy**, Adjunct Associate Professor of Internal Medicine; M.D., New York University, 1963.
- HARTMAN, Bernard H.**, Adjunct Associate Professor of Physiology; Ph.D., University of Connecticut, 1965.
- HEINRICH, Paul E.**, Adjunct Assistant Professor of Physical Medicine and Rehabilitation; M.S., University of Missouri, 1967.
- JONES, J. Knox, Jr.**, Adjunct Professor of Pathology; Ph.D., University of Kansas, 1962.
- KLOVER, Ruth V.**, Adjunct Instructor of Family Practice; M.S., University of Missouri, 1971.
- MAHONE, Charles H.**, Adjunct Professor of Psychiatry; Ph.D., University of Michigan, 1959.
- MALLOY, Sandra M.**, Adjunct Instructor of Health Communications; Assistant Reference Librarian; M.S., University of Southern California at Los Angeles, 1976.
- MOORE, Mary Jane**, Adjunct Instructor of Health Communications; Assistant Cataloger; M.A., University of Missouri, 1977.
- ROUSH, Dona**, Adjunct Instructor of Health Communications; Associate Librarian; M.L.S., University of Oklahoma, 1971.
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CLINICAL

ANESTHESIOLOGY

ARTHUR, Jack C., M.D., Assistant Clinical Professor
BARBER, Ivan J., Jr., M.D., Assistant Clinical Professor
COOPER, Betty M., M.D., Associate Clinical Professor
EASLEY, Thomas D., M.D., Associate Clinical Professor
GARRETT, Richard E., M.D., Associate Clinical Professor
HUTCHINSON, Val A., M.D., Associate Clinical Professor
ISERN-AMARAL, Jesus H., M.D., Assistant Clinical Professor
KACZMAREK, John F., M.D., Assistant Clinical Professor
MOYES, James R., M.D., Assistant Clinical Professor
NORTON, Richard Geiger, M.D., Associate Clinical Professor
PEARSON, Harve D., M.D., Assistant Clinical Professor
QUINTERO, Federico J., M.D., Assistant Clinical Professor
SESSOMS, William D., M.D., Associate Clinical Professor
THITIVARANA, Thein, M.D., Clinical Instructor
TJIA, Stefanus R., M.D., Assistant Clinical Professor
TSAI, Samuel Ching-Sam, M.D., Assistant Clinical Professor
VARDY, Richard Lee, M.D., Associate Clinical Professor

DERMATOLOGY

BALDWIN, Jack P., M.D., Assistant Clinical Professor
BUGG, Robert N., M.D., Associate Clinical Professor
COLE, Richard D., M.D., Associate Clinical Professor
COOPER, Merrill M., M.D., Associate Clinical Professor
EAST, William R., M.D., Associate Clinical Professor
FORT, Samuel Laurens, M.D., Associate Clinical Professor
GARRETT, Henry D., M.D., Associate Clinical Professor
HERMAN, Peter Simon, M.B., B.S., Associate Clinical Professor
JOHNSON, H. Fred, M.D., Associate Clinical Professor
LAUR, William E., M.D., Associate Clinical Professor
POSEY, Randall E., M.D., Associate Clinical Professor
SIMPSON, Michael H., M.D., Associate Clinical Professor
WALLER, Jack D., M.D., Associate Clinical Professor
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FAMILY PRACTICE

ARCHER, John, M.D., Associate Clinical Professor
AUTREY, Walter C., M.D., Assistant Clinical Professor
BARNEBEE, James H., M.D., Assistant Clinical Professor
BASS, Bill, Jr., M.D., Assistant Clinical Professor
BAYOUTH, Ed Frank, M.D., Associate Clinical Professor
BLACK, Douglas Baxter, M.D., Associate Clinical Professor
BLACKBURN, John D., M.D., Associate Clinical Professor
BRANCH, Thomas, M.D., Associate Clinical Professor
BRYAN, Garrett, M.D., Associate Clinical Professor
BRYAN, John M., M.D., Associate Clinical Professor
CONE, Jesse D., M.D., Assistant Clinical Professor
DAUGHERTY, Bill, M.D., Assistant Clinical Professor

DILLAHA, Carl, M.D., Assistant Clinical Professor
FAGAN, Peter, M.D., Associate Clinical Professor
FORDYCE, Moira, M.D., Assistant Clinical Professor
FRANK, Donald A., M.D., Assistant Clinical Professor
FREEMAN, Barton E., M.D., Assistant Clinical Professor
FREEMAN, Ray W., M.D., Associate Clinical Professor
GADDIS, William Rees, M.D., Assistant Clinical Professor
HAMPTON, Raymond M., M.D., Associate Clinical Professor
HERBERT, David C., M.D., Assistant Clinical Profesxr
HESS, Wallace I., M.D., Associate Clinical Professor
HILL, Gerald L., M.D., Associate Clinical Professor
HILTON, Gary, M.D., Assistant Clinical Professor
HOPE, Sherman Allen, M.D., Associate Clinical Professor
HUNDLEY, John C., M.D., Associate Clinical Professor
HUTCHESON, Zenas W., M.D., Associate Clinical Professor
JACKSON, Frank R., M.D., Assistant Clinical Professor
JOHNSON, Howard R., M.D., Assistant Clinical Professor
JOHNSON, Lowell, M.D., Associate Clinical Professor
JONES, Charles Eric, M.D., Assistant Clinical Professor
KERN, Billy B., M.D., Associate Clinical Professor
LACY, Ronald, M.D., Assistant Clinical Professor
LAMBERT, Cyrus T., M.D., Assistant Clinical Professor
LAYCOCK, Raymond, M.D., Assistant Clinical Professor
LEONARDI, Leo J., M.D., Assistant Clinical Professor
LIPSEY, Billy, M.D., Assistant Clinical Professor
MARABLE, Gerald LeWayne, M.D., Associate Clinical Professor
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MAYORGA, Alfredo, M.D., Associate Clinical Professor
McCALEB, Morgan H., M.D., Assistant Clinical Professor
McCRARY, John, M.D., Assistant Clinical Professor
MONTGOMERY, Clifford L., M.D., Associate Clinical Professor
MOORE, Eddie P., M.D., Assistant Clinical Professor
NALL, Joseph D., M.D., Assistant Clinical Professor
NESBITT, Lynn, M.D., Assistant Clinical Professor
PAGE, Carl F., M.D., Associate Clinical Professor
PATE, William Bart, M.D., Assistant Clinical Professor
PAYNE, Glen B., M.D., Assistant Clinical Professor
ROBINS, James L., M.D., Associate Clinical Professor
ROSEN, Albert M., M.D., Associate Clinical Professor
SHIELDS, Charles E., M.D., Assistant Clinical Professor
SMILEY, David Neil, M.D., Associate Clinical Professor
SMILEY, Evelyn J. King, M.D., Assistant Clinical Professor
SMITH, Carl Raymond, M.D., Associate Clinical Professor
SMITH, George Wilson, M.D., Associate Clinical Professor
STEWART, Paul, M.D., Assistant Clinical Professor
STONE, Noah Wilson, M.D., Associate Clinical Professor
TARRANT, Marvin R., M.D., Associate Clinical Professor
WALKER, Jack E., M.D., Associate Clinical Professor
WALLACE, Stephen E., M.D., Assistant Clinical Professor

WHITE, H. Richard, M.D., Assistant Clinical Professor
WHITE, L. A., Jr., M.D., Associate Clinical Professor
WILLIS, Harlan Leigh, M.D., Associate Clinical Professor
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ZENNER, George O., Jr., M.D., Associate Clinical Professor

INTERNAL MEDICINE

ALLISON, Walter M., M.D., Assistant Clinical Professor
ARCHER, Richard, M.D., Associate Clinical Professor
ARRINGTON, Joe O., Jr., M.D., Associate Clinical Professor
ATTAR, Monzer, M.D., Associate Clinical Professor
AYERDI, Evalt, M.D., Associate Clinical Professor
BODE, Robert R., D.O., Assistant Clinical Professor
BRAM, Melvin L., M.D., Assistant Clinical Professor
BRIDWELL, William T., M.D., Associate Clinical Professor
BUCHWALD, David, M.D., Assistant Clinical Professor
BURRELL, James H., III, M.D., Assistant Clinical Professor
BUSBY, Carroll L., M.D., Associate Clinical Professor
CARLSON, Andrew B., M.D., Associate Clinical Professor
CARNRICK, Millard, M.D., Associate Clinical Professor
CAVARETTA, Charles P., M.D., Associate Clinical Professor
COHEN, Arthur A., M.D., Associate Clinical Professor
COHEN, Martin, M.D., Assistant Clinical Professor
CROOM, William S., M.D., Associate Clinical Professor
DAUGHERTY, Roy, M.D., Associate Clinical Professor
DEAS, Bernard W., Jr., M.D., Assistant Clinical Professor
DOUGLAS, R. C., M.D., Clinical Professor
DUKE, Thomas W., M.D., Associate Clinical Professor
EDWARDS, Robert Allison, M.D., Associate Clinical Professor
EDWARDS, Walter Roy, M.D., Assistant Clinical Professor
EKERY, Fred N., M.D., Associate Clinical Professor
ENCK, Robert E., M.D., Assistant Clinical Professor
FAUST, Robert J., M.D., Associate Clinical Professor
FEINBURG, Walter D., M.D., Associate Clinical Professor
FOX, Melvin, M.D., Associate Clinical Professor
GALLOWAY, Nathan C., M.D., Associate Clinical Professor
GHOLSTON, Don E., M.D., Associate Clinical Professor
GLADSTONE, Larry A., M.D., Associate Clinical Professor
GLUCK, Franklin, M.D., Associate Clinical Professor
GORBY, Earl W., M.D., Associate Clinical Professor
GORDON, William H., Sr., M.D., Clinical Professor Emeritus
GREEN, Hal L., M.D., Associate Clinical Professor
GREENLEE, Ralph G., M.D., Associate Clinical Professor
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GROVES, Robert L., M.D., Assistant Clinical Professor
GULDE, Robert E., M.D., Associate Clinical Professor
GUNTHER, John S., M.D., Associate Clinical Professor
HARRELL, William R., M.D., Associate Clinical Professor
HORN, J. J., M.D., Associate Clinical Professor
HULL, O. Brandon, M.D., Clinical Professor
JENSEN, Jay B., M.D., Associate Clinical Professor

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KINCAID, Billy P., M.D., Associate Clinical Professor
KING, Samuel M., M.D., Associate Clinical Professor
KOVARSKY, Joel, M.D., Assistant Clinical Professor
LAUDERDALE, W. H., M.D., Associate Clinical Professor
LINDEN, David A., M.D., Associate Clinical Professor
LUND, Carl M., Jr., M.D., Assistant Clinical Professor
MALOOLY, Donald A., M.D., Associate Clinical Professor
MARGOLIS, Jack, M.D., Associate Clinical Professor
MATTISON, Myron D., M.D., Associate Clinical Professor
MAY, Robert P., M.D., Associate Clinical Professor
McCARTY, Robert H., M.D., Clinical Professor
McDONALD, Herbert, M.D., Associate Clinical Professor
MILTON, John L., M.D., Associate Clinical Professor
MITCHELL, Robert H., M.D., Clinical Professor
MORRISON, Robert E., M.D., Associate Clinical Professor
NALL, Joseph D., M.D., Assistant Clinical Professor.
NAWAZ, Karim, M.D., Assistant Clinical Professor
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NICKLAUS, Ted M., M.D., Associate Clinical Professor
NOBLET, William C., M.D., Assistant Clinical Professor
O'BRIEN, Larry Joe, M.D., Ph.D., Clinical Professor
PAPPAS, Patrick H., M.D., Associate Clinical Professor
PEARL, William R. E., M.D., Assistant Clinical Professor
PETTY, Wendell E., M.D., Assistant Clinical Professor
PITCHER, J. Loren, M.D., Clinical Professor
POSTMA, Lowell A., M.D., Assistant Clinical Professor
PRIDMORE, Ted T., M.D., Associate Clinical Professor
REESE, Leslie E., M.D., Associate Clinical Professor
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RYBURN, Frank M., Jr., M.D., Associate Clinical Professor
SAMUELS, David A., M.D., Assistant Clinical Professor
SANTILLAN, Carlos H., M.D., Assistant Clinical Professor
SCOTT, Wilbert E., M.D., Associate Clinical Professor
SEWARD, Charles W., M.D., Associate Clinical Professor
SEYFFERT, Willie A., Jr., M.D., Associate Clinical Professor
SHEFFIELD, Roy S., M.D., Associate Clinical Professor
SMITH, H. Wayne, M.D., Associate Clinical Professor
SMITH, Michael C., M.D., Assistant Clinical Professor
SMITH, Steven R., M.D., Assistant Clinical Professor
SNYDER, Lowell E., M.D., Associate Clinical Professor
SONNEMAKER, Robert E., M.D., Assistant Clinical Professor
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STANBAUGH, Glen H., M.D., Assistant Clinical Professor
STENHOUSE, Andrew C., M.D., Associate Clinical Professor
STRADER, Wilbur J., III, M.D., Associate Clinical Professor
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WOOD, Laurence W., Jr., M.D., Associate Clinical Professor
YOUNG, Michael B., M.D., Associate Clinical Professor

NEUROLOGY

GORDON, William H., Jr., M.D., J.D., Clinical Professor and Chairperson
CALKINS, Richard A., M.D., Clinical Professor
LEVINE, Johanan, M.D., Assistant Clinical Professor
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OBSTETRICS AND GYNECOLOGY

ANSLEY, Leslie R., M.D., Associate Clinical Professor
BOYCE, David Charles, M.D., Associate Clinical Professor
BROSELOW, Robert J., M.D., Assistant Clinical Professor
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DANIELL, Walter C., M.D., Assistant Clinical Professor
DeSHAN, Preston W., M.D., Clinical Professor
FILLIPONE, John Marion, Jr., M.D., Assistant Clinical Professor
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FORSYTHE, Ted Henderson, M.D., Clinical Professor
GUNTER, Charles A., M.D., Associate Clinical Professor
HAYNES, Aubrey H., M.D., Associate Clinical Professor
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JACOBS, Homer Avery, M.D., Associate Clinical Professor
JUBANG, Geoffrey, M.D., Assistant Clinical Professor
KILLAM, Allen P., M.D., Clinical Professor
LANDIS, Gilbert, M.D., Associate Clinical Professor
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MORRIS, James G., M.D., Associate Clinical Professor
OCHOA, Mario A., M.D., Assistant Clinical Professor
OTTERSON, Warren, M.D., Clinical Professor
PENNEY, Larry L., M.D., Associate Clinical Professor
PITCHFORD, William A., M.D., Assistant Clinical Professor
RANKIN, William E., M.D., Associate Clinical Professor
REAMEY, Kenneth, M.D., Associate Clinical Professor
RYAN, Gary T., M.D., Assistant Clinical Professor
SWAN, Robert W., M.D., Associate Clinical Professor

OPHTHALMOLOGY

ALLENSWORTH, William B., M.D., Assistant Clinical Professor
ALPAR, John J., M.D., Associate Clinical Professor
CURRIE, Hugh B., M.D., Associate Clinical Professor
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GAGE, Tracy Davis, M.D., Clinical Professor
GAMMILL, Ralph R., M.D., Associate Clinical Professor
GREEN, Ray L., M.D., Associate Clinical Professor
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HAMPTON, James R., M.D., Assistant Clinical Professor

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MOSS, Ennis E., Jr., M.D., Associate Clinical Professor
ROSEN, Robert, M.D., Assistant Clinical Professor
SHEETS, John H., M.D., Associate Clinical Professor
SNYDER, William B., M.D., Associate Clinical Professor
WALLACE, Grady M., M.D., Associate Clinical Professor
WILSON, Bill H., M.D., Associate Clinical Professor

ORTHOPAEDIC SURGERY

ARRENDONDO, C. Rene, M.D., Associate Clinical Professor
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CITRON, Ralph, M.D., Associate Clinical Professor
DEHNE, Ernest, M.D., Clinical Professor
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ELLIS, Oren H., M.D., Associate Clinical Professor
FONG, Don Leon, M.D., Associate Clinical Professor
GILL, Gurdev Singh, M.D., Assistant Clinical Professor
HYDE, Robert F., M.D., Associate Clinical Professor
JOHNSTON, Kenneth H., M.D., Associate Clinical Professor
JONES, William Kary, M.D., Associate Clinical Professor
KING, Barry Griffith, M.D., Associate Clinical Professor
LEONARD, Morton H., M.D., Associate Clinical Professor
LEWIS, Royce C., Jr., M.D., Associate Clinical Professor
LIVINGSTON, Ira G., M.D., Associate Clinical Professor
LOVELESS, J. Elbert, M.D., Associate Clinical Professor
MacDONALD, William F., M.D., Associate Clinical Professor
MAYES, Gordon W., M.D., Associate Clinical Professor
PAL, Dilip, M.D., Associate Clinical Professor
ROBBERSON, Joe F., M.D., Associate Clinical Professor
SADLER, Charles, M.D., Associate Clinical Professor
SANTOS, Ray E., M.D., Associate Clinical Professor
SCHOLZ, Kenneth C., M.D., Associate Clinical Professor
SCULLY, Thomas J., M.D., Associate Clinical Professor
SHANNON, Emmet, M.D., Associate Clinical Professor
SISCO, W. Ted, M.D., Associate Clinical Professor
SMITH, Richard D., M.D., Associate Clinical Professor
STAFFORD, Bobby Loyd, M.D., Associate Clinical Professor
THOMAS, Edward F., M.D., Associate Clinical Professor
VAN NORMAN, Russel, M.D., Associate Clinical Professor
VICHICK, Donald Anthony, M.D., Associate Clinical Professor
WHEELER, Donald K. M. D., Associate Clinical Professor

PATHOLOGY

BORNSTEIN, Frederick P., M.D., Clinical Professor
DENKO, John V., M.D., Associate Clinical Professor
DIAZ-ESQUIVEL, Jose A., M.D., Associate Clinical Professor
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HUTCHINSON, Lea R., V.M.D., Associate Clinical Professor
KALUS, Milan J., M.D., Associate Clinical Professor
KEFFLER, Richard A., M.D., Associate Clinical Professor
LONG, William Henry, M.D., Associate Clinical Professor
MEDINA, Ruben, M.D., Associate Clinical Professor
NANNINI, Louis, M.D., Associate Clinical Professor
NAU, Carl, M.D., Clinical Professor
NUGENT, Roderick Mathew, Jr., M.D., Associate Clinical Professor
ORINA, Adolf D., M.D., Associate Clinical Professor
PAIK, Hugh Hyetae, M.D., Associate Clinical Professor
PARKS, Leland H., Ph.D., Assistant Clinical Professor
RAY, John Pearl, Jr., M.D., Associate Clinical Professor
STRANGE, William H., M.D., Associate Clinical Professor
WILSON, Stuart D., M.D., Associate Clinical Professor

PEDIATRICS

ADAMS, Erie D., M.D., Associate Clinical Professor
ALPARD, Allan, M.D., Assistant Clinical Professor
ALVA, Jose D., M.D., Associate Clinical Professor
BARRON, Stanton J., M.D., Associate Clinical Professor
BARRY, David Hawe, M.D., Assistant Clinical Professor
BLONKVIST, Brent G., M.D., Associate Clinical Professor
BOARD, John Paul, M.D., Assistant Clinical Professor
BORIS, Glen J., M.D., Assistant Clinical Professor
BROWN, Joseph, III, M.D., Associate Clinical Professor
BUDWIG, Ira A., Jr., M.D., Associate Clinical Professor
CARR, Robert L., M.D., Associate Clinical Professor
CHELDELIN, Lawrence Vernon, M.D., Clinical Instructor
CHING, Lily Tan, M.D., Assistant Clinical Professor
CRAIG, Donald R., M.D., Associate Clinical Professor
CRISP, James R., III, M.D., Associate Clinical Professor
DEMPSEY, Edwin B., M.D., Associate Clinical Professor
DONALDSON, J. D., Jr., Associate Clinical Professor
DYER, Maurice E., M.D., Clinical Professor
ELLIS, Noel A., M.D., Associate Clinical Professor
FANG, Swat Cheng, M.D., Assistant Clinical Professor
FEARNOW, Ronald G., M.D., Clinical Professor
FOSTER, John Wood, M.D., Associate Clinical Professor
FURST, William D., M.D., Associate Clinical Professor
GALLO, Delia, M.D., Assistant Clinical Professor
GIBBS, Reagan H., M.D., Clinical Professor
GRANT, Wilson W., M.D., Assistant Clinical Professor
HANSEN, George H., M.D., Associate Clinical Professor
HEATH, Richard E., Jr., M.D., Clinical Instructor
HOLMES, T. H., Jr., M.D., Associate Clinical Professor
HORNE, Merrill, M.D., Assistant Clinical Professor

HUCHTON, Paul J., M.D., Associate Clinical Professor
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JONES, John E., M.D., Associate Clinical Professor
KAHN, Stuart W., M.D., Assistant Clinical Professor
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LAMPE, Richard Michael, M.D., Assistant Clinical Professor
LIPSCOMB, Joe L., M.D., Associate Clinical Professor
LONG, Dorothy Catherine, M.D., Associate Clinical Professor
LoPICCOLO, Philip F., M.D., Assistant Clinical Professor
McKIE, Virgil Cranston, M.D., Assistant Clinical Professor
McNEIL, James Lewis, M.D., Associate Clinical Professor
MOORE, Robert, M.D., Clinical Professor
MULLINS, William B., M.D., Associate Clinical Professor
NAQVI, Mubariz, M.D., Assistant Clinical Professor
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OLIVE, John Thomas, M.D., Associate Clinical Professor
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RANKIN, Jean M., M.D., Associate Clinical Professor
ROGERS, Paul Lynn, M.D., Associate Clinical Professor
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SASANO, Joseph R., Jr., M.D., Clinical Professor
SCHWAB, James A., M.D., Assistant Clinical Professor
SCHYDLOWER, Manual, M.D., Assistant Clinical Professor
SHATZ, Eugene Mark, M.D., Clinical Instructor
SORAJJA, Kent K., M.D., Assistant Clinical Professor
STRIPLING, Robert L., M.D., Associate Clinical Professor
SWENSON, Richard E., M.D., Assistant Clinical Professor
THITIVARNA, Vilaivan, M.D., Assistant Clinical Professor
WADDILL, George M., M.D., Associate Clinical Professor
WAGNER, Gerald W., M.D., Associate Clinical Professor
WEIR, Micheal Ross, M.D., Assistant Clinical Professor

PHYSICAL MEDICINE & REHABILITATION

BISHARA, Nabil, M.D., Assistant Clinical Professor
PREVENTIVE MEDICINE AND COMMUNITY HEALTH
BOARD, John Paul, M.D., Associate Clinical Professor
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GORBY, Earl W., M.D., Clinical Professor
KAHN, Gustav M., M.D., Associate Clinical Professor
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PSYCHIATRY

BRITAIN, Robert D., Jr., M.D., Assistant Clinical Professor
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DENNEY, Robert G., M.D., Assistant Clinical Professor
de SOCARRAZ, Miguel, M.D., Assistant Clinical Professor
FAGAN, Thomas P., Jr., M.D., Assistant Clinical Professor

FOLLET, William Wallace, III, M.D., Assistant Clinical Professor
HEACOCK, Allen Knowled, M.D., Assistant Clinical Professor
HELLER, Peter L., Ph.D., Assistant Clinical Professor
HOLMAN, Wilson T., M.D., Assistant Clinical Professor
JONES, Edmund P., Jr., M.D., Associate Clinical Professor
JONES, Mitchell W., M.D., Associate Clinical Professor
KAIM, Boris, M.D., Assistant Clinical Professor
KELLER, Charles W., Ph.D., Assistant Clinical Professor
KOLIN, Allen J., M.D., Assistant Clinical Professor
KOLMER, Harold S., M.D., Associate Clinical Professor
KRACKE, William Irvin, M.D., Assistant Clinical Professor
MILLER, John Thomas, Jr., M.D., Associate Clinical Professor
PENNAL, Hugh A., M.D., Associate Clinical Professor
QUINTANILLA, Jaime, M.D., Clinical Professor
RAINES, John William, M.D., Assistant Clinical Professor
RATHBURN, Donald, M.D., Assistant Clinical Professor
SCHUSTER, Frank P., Jr., M.D., Associate Clinical Professor
SHAW, R. Preston, M.D., Associate Clinical Professor
SMITH, Jerome A., M.D., Associate Clinical Professor
STOUT, Josephone, Ph.D., Associate Clinical Professor
WALL, Richard Lee, Ph.D., Assistant Clinical Professor
WALLACE, Ted P., M.D., Assistant Clinical Professor
WHITWORTH, Randolph H., Ph.D., Clinical Professor

RADIOLOGY

ARCHER, Evangeline, M.D., Assistant Clinical Professor
ARMSTRONG, Michael K., M.D., Assistant Clinical Professor
BERNHARDT, Donald R., M.D., Associate Clinical Professor
BLACK, Gordon L., M.D., Associate Clinical Professor
CHAFFIN, Walter T. C., M.D., Associate Clinical Professor
DAVIS, Charles Maurice, M.D., Assistant Clinical Professor
DOCKRAY, Kail Thord, M.D., Associate Clinical Professor
DROUTSAS, John Louis, M.D., Assistant Clinical Professor
DUVALL, Philip E., M.D., Associate Clinical Professor
EPLEY, Daniel Edmund, M.D., Associate Clinical Professor
FISHERMAN, William Harold, M.D., Associate Clinical Professor
GOLDEN, Melvin A., M.D., Associate Clinical Professor
GOSWAMI, Anilkumar P., M.D., Assistant Clinical Professor
GUEST, James A., M.D., Assistant Clinical Professor
HATCHETT, Capres S., M.D., Associate Clinical Professor
HENDRICK, Charles K., M.D., Associate Clinical Professor
HOROWITZ, Ira A., M.D., Associate Clinical Professor
JONES, Glenn Murray, M.D., Associate Clinical Professor
KALUS, Jindra, M.D., Assistant Clinical Professor
KUXHAUSEN, Donald Leopold, M.D., Associate Clinical Professor
LEMON, William L., M.D., Assistant Clinical Professor
MAZA, Vincente, M.D., Associate Clinical Professor
MUNOZ, Otto, M.D., Associate Clinical Professor
NASH, Preston W., M.D., Associate Clinical Professor
NELSON, Luther S., M.D., Associate Clinical Professor
NOBLES, Millard W., M.D., Associate Clinical Professor

PRATHER, Jerry Lynn, M.D., Associate Clinical Professor
RAPP, Gary S., M.D., Associate Clinical Professor
ROBINSON, Charles H., M.D., Associate Clinical Professor
ROGERS, William, M.D., Assistant Clinical Professor
ROSEN, Jerry, M.D., Assistant Clinical Professor
SENYSZYN, John H., M.D., Associate Clinical Professor
SMALLEY, Robert H., M.D., Associate Clinical Professor
STEWART, Howard R., M.D., Associate Clinical Professor
TUSTIN, James Ferguson, Jr., M.D., Assistant Clinical Professor
VOTAVA, Charles, M.D., Associate Clinical Professor
WILLIAMS, Buerk, M.D., Associate Clinical Professor
WILLIAMS, Thomas B., M.D., Associate Clinical Professor
WORD, J. Max, M.D., Assistant Clinical Professor

SURGERY

Division of Cardiovascular Surgery

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KIDD, Joe Neil, M.D., Assistant Clinical Professor
LIDDICOAT, John E., M.D., Associate Clinical Professor
LINDLEY, Jearl R., M.D., Associate Clinical Professor
MISTRO, Jean-Jacques, M.D., Assistant Clinical Professor
PARKER, Thomas M., M.D., Assistant Clinical Professor
RIVERA, Pablo Carrillo, M.D., Assistant Clinical Professor

Division of General Surgery

SALEM, Robert J., M.D., Clinical Professor & Chief
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