

VANDERBILT  
UNIVERSITY



*School of Medicine*

1964-65

VANDERBILT UNIVERSITY

*School of Medicine*

1964-65



*Containing general information, appointments,  
and courses of study for the 1964-65 session,  
corrected to October 15, 1964, ✓ NASHVILLE*

*School of Medicine Calendar, 1964-65*

September 8-11, Tuesday-Friday	Registration and orientation
September 14, Monday	Fall semester instruction begins
November 26, Thursday	Thanksgiving Day: a holiday
December 19, Saturday	Christmas holidays begin at 12:00 noon
January 4, Monday	Instruction resumes
January 27, Wednesday	First semester ends
January 28, Thursday	Second semester begins
April 20-21, Tuesday-Wednesday	National Board examination for 4th year students (Part II)
May 24, Monday	Examination period begins
May 26, Wednesday	Examination period ends
May 27, Thursday	Senior picnic
May 29, Saturday	Reception for seniors and parents
May 30, Sunday	Commencement
June 22-23, Tuesday-Wednesday	National Board examination for 2nd year students (Part I)

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<sup>1</sup>Died February 7, 1964.

<sup>2</sup>Died August 25, 1964.

# Vanderbilt University Administration



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# GENERAL INFORMATION

THE first diplomas of graduation from Vanderbilt University were issued to sixty-one new Doctors of Medicine on February 25, 1875. The diplomas were in accord with an arrangement that the Vanderbilt trustees had made with the University of Nashville whereby that university's medical school was recognized as serving both institutions. The students could elect to receive their degrees from either university. Thus Vanderbilt embraced a fully-organized and functioning medical school before its own campus was ready for classes in October of that year.

The arrangement continued for twenty years, and the School of Medicine remained on the old "South Campus" for thirty more. In the beginning, the School was owned and operated as a private property of the practicing physicians and surgeons who comprised the faculty and received the fees paid by the students. This system was typical of medical education in the United States at that time. Vanderbilt made no financial contribution to the School's support and had no control over the admission requirements, the curriculum, or the standards for graduation. Even so, the catalogue proclaimed the instruction to be "inferior in no respect to that of any medical school in the country."

In 1895, the School was reorganized under the control of the Board of Trust. The requirements for admission were raised, the course of study was lengthened, and the system of instruction was changed to make way for laboratory work in the basic sciences. Subsequently there was a gradual increase in the quality of training offered.

The famous report of Abraham Flexner, which was published by the Carnegie Foundation in 1910 and was afterward credited with revolutionizing medical education in America, singled out Vanderbilt as "the institution to which the responsibility for medical education in Tennessee should just now be left." The Flexner Report declared Vanderbilt to be "the only institution in position at this juncture to deal with the subject effectively. This does not mean that Vanderbilt has now any large sums of money available . . ."

Large grants from Andrew Carnegie and his foundation and from the Rockefeller-financed General Education Board enabled Vanderbilt to carry out the recommendations of the Flexner Report. (These two philanthropies, with the Ford Foundation added in recent years, contributed altogether more than \$20,000,000 to the School of Medicine from 1911 onward.) The reorganized School drew upon the best-trained scientists and teachers in the nation for its faculty. The full benefits of the reorganization were realized when the decision was made to move the School to the main campus, thus integrating instruction in the medical sciences with the rest of the University.

## PLAN OF INSTRUCTION

The objective of the program of medical education at Vanderbilt University is to produce the highest quality of medical graduate. A good medical

education is best achieved by demanding excellence in performance on the part of the student, excellence in teaching, research and service on the part of the instructors, and by providing for close contact between the student and his teachers.

During the four years of undergraduate medical education at Vanderbilt, the student will gain an understanding of the foundations of medical science necessary for the pursuit of any medical career, as well as a respect for the responsibilities of the physician to society. After graduation, most students continue their education by spending several years in training in clinical specialties or in research fellowship programs.

The curriculum of Vanderbilt University School of Medicine provides time for all students to take courses of their own choosing. The student thereby has an opportunity to increase his knowledge in fields in which he has particular interest, or to correct deficiencies in fields of importance to his overall medical education.

Students bear a high level of responsibility for participation in the curriculum in an effort to develop the sense of obligation for continuing scholarship necessary to keep apace of the rapid advances in medical knowledge.

The College of Arts and Sciences and the Graduate School of Vanderbilt offer courses which augment the medical curriculum, particularly during the senior year. As the Medical School is located on the University campus, the total facilities of Vanderbilt University are available to the medical student.

### MEDICAL CENTER BUILDINGS

When the School's new quarters were opened in 1925, they were called "the best-arranged combination school and hospital to be found in the United States." The Medical Center buildings now encompass in excess of 750,000 square feet of floor space due to addition to research and clinical facilities.

Recent additions include:

The Andrew B. Learned Graduate Science Hall, a laboratory for research in the sciences basic to medicine and health-related research being conducted by members of the University's Medical and Graduate faculty. This building, which joins the main building on the north, was completed in 1961.

The West Wing addition to Vanderbilt University Hospital, a 154-bed patient care facility completed in 1962. This wing, which joins the main building at the southwest corner, is circular in shape with the nursing station located in the center surrounded by rooms for patients.

The Clinical Research Center, a United States Public Health Service regional facility for research in clinical medicine. This unit contains 21 beds and approximately 10,000 square feet of laboratory space. At the time of its opening it was the largest noncategorical clinical research center in the nation.

The West Court building, completed in 1964, contains a greatly expanded X-Ray department, the entrance to the University Hospital, offices for

admission and discharge of patients, a newborn nursery and additional space for the Department of Pediatrics.

The Northeast Wing, a multi-purpose structure housing a complete laundry, the medical storeroom, research laboratories and the Medical Library. Stacks and reading room were occupied by the library in 1964. An outstanding collection on the History of Medicine is accommodated within the library.

Other buildings in the Medical Center include the Medical Arts Building, erected in 1955 to provide part-time members of the clinical faculty with convenient office space; Mary Henderson Hall, which houses the Vanderbilt University School of Nursing; and the Bill Wilkerson Hearing and Speech Center, a community-operated diagnostic and treatment center for audiological and speech problems.

The Medical Center contains all the equipment and facilities necessary to operate a modern teaching hospital and a school of medicine. The laboratories and clinical facilities are closely coordinated to allow a ready flow of ideas between the laboratories of the medical sciences and the wards and outpatient clinics. Teaching laboratories are provided for the major subdivisions within medical science and for the clinical departments.

The hospital contains 513 beds and 45 bassinets divided into the following seven service units: medicine, surgery, obstetrics, gynecology, pediatrics, ophthalmology, and psychiatry.

The outpatient clinics are located on the first floor and contain a series of examining, treatment, and teaching rooms for general medicine and surgery, pediatrics, neurology, dermatology, psychiatry, dental surgery, orthopedic surgery, ophthalmology, otolaryngology, obstetrics, gynecology and urology.

There are 11 operating rooms and three delivery rooms.

Besides the clinical facilities offered by the wards and outpatient clinics of the University Hospital, the School of Medicine has clinical privileges in the 2300 bed Central State Hospital for psychiatric patients. Vanderbilt is closely affiliated with the 500 bed Veterans Administration Hospital, it being a Dean's Committee hospital. The Nashville Metropolitan General Hospital, containing 240 beds and outpatient facilities, is another affiliate of the School of Medicine. The chiefs-of-service of this hospital are all members of the Vanderbilt faculty.

### *MEDICAL LIBRARY*

The Library of the School of Medicine was founded in 1906. A year later the Nashville Academy of Medicine donated the private library of Dr. Richard Douglas, consisting of 2,500 volumes. This nucleus has been augmented by generous gifts from local physicians. The library has been the recipient of many grants from the Rockefeller Foundation which made rapid development possible. The collection now contains most of the material needed for research in any of the medical sciences. It contains complete files of the important journals, both in English and foreign languages, numerous well-selected monographs and basic textbooks, and the important reference works and bibliographic indexes.

The Library on May 1, 1964 contained 65,026 volumes and received 1,021 current periodicals and serial publications.

A collection of books, journals and memorabilia illustrating the history and development of the literature of medicine, especially that of the United States, is being developed. This collection is kept in a History of Medicine Room provided by a generous donor. The funds for acquiring this collection have come largely through the gifts of patrons of the Library. Donations of letters, photographs, books, and money are gratefully received.

A FRIENDS OF THE MEDICAL LIBRARY FUND has been established honoring faculty, students and other friends of the School of Medicine, and these memorial donations are used for the purchase of current and historical publications.

Professional librarians provide reader assistance and instruction in the use of medical literature. First year medical students are given orientation in the arrangement and services of the Library, and small group seminars are held for demonstration of methods of information retrieval, including practical experience in the use of medical indexes, abstracts, review publications, and specialized bibliographic products of modern computer technology.

A Xerox 914 copier machine is provided for library use within the limits of copyright laws, and loan services are maintained with local and out-of-town libraries. Through the facilities of the Joint University Libraries system, which contained a total of 916,128 volumes as of May 1, 1964, students have ready access to publications in other fields.

The Medical Library is open from 8:15 a.m. to 11:00 p.m. Monday through Friday; from 8:15 a.m. to 4:30 p.m. on Saturday, and from 9:00 a.m. to 12:00 noon and 2:00 to 5:00 p.m. on Sunday; it is closed on legal holidays.

## STUDENT AFFAIRS

### HONOR CODE

All work in the School is performed in accordance with Honor Committee regulations. Suspected violations of the system are investigated by the Student Honor Committee, which is composed of representatives of all four classes.

### VANDERBILT SOCIETY OF HISTORICAL MEDICINE

The Society was organized by the Class of 1953 for the purpose of encouraging awareness and appreciation of our medical heritage in the medical school community. Regular dinner meetings are held at which speakers are invited to present papers for discussion. In the interest of fostering "a clear view of the panorama of medicine," membership in the Society is open to both students and faculty. Demonstrations and displays of books and pictures of historical significance are provided through the courtesy of the Medical Library.

## STUDENT BODY

Number of students per class (1964/65) is as follows: Freshmen—53; Sophomores—52; Juniors—53 (2 transfers); Seniors—47. The present student body comes from 28 states and 4 foreign countries.

## STUDENT HEALTH SERVICE

1. A physical examination by the family physician is required of all new students.

2. For protection against communicable disease, all new students must have an X-ray of the chest within a twelve-month period prior to admission to the University and a vaccination against smallpox within the prior three years. It is highly recommended that all students be immunized against typhoid, tetanus, poliomyelitis and diphtheria.

3. The University operates the Student Health Service and infirmary for students with mild illnesses. For severe illness, students are admitted to Vanderbilt University Hospital. At hours when the Student Health Service is closed, students may receive medical care at the Emergency Service of the Vanderbilt University Hospital.

Special medication, special services, X-ray examinations, special laboratory tests, fees to private physicians, and hospital room and board charges will be paid for by the student.

4. *Student Insurance Plan:* A health insurance plan has been adopted by the University for all students. Students adequately protected by other insurance or who do not wish to be enrolled in this plan must sign a waiver before September 30 of the year concerned. Otherwise, coverage is automatically provided. Married students desiring to insure their families must apply for dependent coverage.

The plan is designed to supplement the Student Health Service and provides hospital, surgical, and in-hospital medical care benefits. For an annual premium of \$19.50 the plan provides coverage for 12 months including vacation periods.

## LIVING ARRANGEMENTS

The Vanderbilt residence halls are an integral part of the University's educational facilities.

Rooms may be occupied on the day before the opening of the semester and through the last day of the semester. Basic furniture is provided by the University, and the occupant is responsible for the condition of both furniture and room, being charged with all damage. Residents furnish their own sheets, pillow cases, towels, pillows, and blankets. Sheets, pillow cases, and towels may be rented.

Rooms are rented by the semester. All rent is payable in advance at the Bursar's Office. Students withdrawing from the University for any reason, are not entitled to return of room rent, and the University will not be liable for its return or refund.



Rooms for men may be reserved by application to the Housing Office; rooms for women, by application to the office of the Dean of Women. Both offices are in Kirkland Hall. A room reservation deposit of \$50 is required at the time of reservation. Refund of the room reservation deposit will be considered if the cause for the request is judged to be a matter beyond the applicant's control and if the request, in writing, is received by July 1.

A variety of accommodations, including single rooms and suites with private and connecting baths, are available for men in McTyeire Hall. These rooms rent for \$145 to \$185 a semester. Single and double rooms in Wesley Hall are also available, at rates that range from \$100 to \$135 per semester. Wesley Hall is on Twenty-first Avenue facing the Joint University Libraries.

#### HOUSING FOR FAMILIES

A variety of apartments are available for married students. Application forms and additional information are available at the Housing Office, 218 Kirkland Hall.

Two new apartment buildings, Morgan House and Lewis House, contain 240 air-conditioned units. These buildings feature efficiency, one and two bedroom apartments, either furnished or unfurnished. Rent for furnished apartments varies from \$95 to \$120 per month; unfurnished apartments cost \$85 to \$95 per month.

Twenty furnished units (two bedrooms) are available in the Highland-Forde Apartments.

#### OTHER HOUSING

Suitable living quarters in the city of Nashville are easily available.

#### UNIVERSITY DINING FACILITIES

The Vanderbilt Hospital cafeteria is located within the building.

The University's main cafeteria in Rand Hall serves students, faculty and employees. By the semester, students can board at Rand for approximately 15 per cent less than the daily cash prices for meals. Students engaging board by the semester should apply at the office of the Director of Food Services.

The Divinity School refectory serves meals to professional and graduate students, faculty, and staff.

#### AUTOMOBILES

Students driving on the campus must register their cars with the Department of Safety. Parking spaces are not available for all cars registered, and students are urged to use off-campus parking.

#### ATHLETIC FACILITIES

Vanderbilt Memorial Gymnasium may be used by medical students and their families. Facilities include an enclosed swimming pool. Tickets to basketball and football games may be purchased at reduced rates.

# EXPENSES AND FINANCIAL AID

THE average annual expense of a student in the School of Medicine, exclusive of clothes and incidentals but including living accommodations, is estimated as amounting to approximately \$3,000.

## TUITION AND FEES

The University reserves the right to change the schedule of tuition and fees without further notice.

Tuition Fee for the Academic Year.....	\$ 1,460.00
<i>This tuition fee may be paid in equal installments at the beginning of each semester. An arrearage in tuition for any session must be paid before admission to the succeeding session.</i>	
Application Fee (To accompany Application Form).....	10.00
Contingent Deposit.....	10.00
<i>This deposit will be required of first and second year students to cover breakage of apparatus and damage to building, and will be returned, less the charges, at the close of the academic year.</i>	
Diploma Fee (Charged to graduating students, payable during the second semester).....	10.00

First-year medical students who are also senior in absentia students at Vanderbilt University are required by the College of Arts and Science to pay a \$60 senior in absentia fee.

Students who register for the regular courses in the Medical School must pay the full tuition each year. There will be no exception to this requirement.

Graduate students who enroll in regular courses in the medical curriculum for credit toward an academic degree and later become candidates for the degree of Doctor of Medicine may be required to pay the full tuition as indicated above.

Students withdrawing from the University for any reason are not entitled to any return or repayment of tuition, fees, room rent, or any other regular charges or assessments, and the University will not be liable for the return or refund of same.

## MICROSCOPES, BOOKS AND EQUIPMENT

Each student is required to possess a standard four-objective microscope and a suitable substage light.

The minimal cost of books is approximately \$75 a year. All purchases made at the Vanderbilt Book Store are on a cash basis.

All students must acquire hemocytometers and ophthalmoscopes during the second year.

Students also must have clean white laboratory coats.

## FINANCIAL ASSISTANCE

Financial assistance for the education of the medical student at Vanderbilt University is available from two sources. The more important of these are the revolving loan funds contributed by alumni, industrial organizations and friends which are awarded to students in financial need on a long-term basis without interest. The student is morally obligated to make a contribution to this revolving fund when he becomes financially able. The other source is the recent government appropriation allowing student loans through federal credit. Loans to students usually come from these two funds. The amount of money available is limited. Each student is expected to use his own assets to their full extent. The policy of Vanderbilt University is to supplement these assets so that no student need withdraw from medical school because of financial difficulties.

**ALPHA KAPPA KAPPA ALUMNI ASSOCIATION SCHOLARSHIP FUND.** These funds are made available to students by alumni of the Alpha Kappa Kappa medical fraternity.

**THE WILLIAM A. DIMMICK MEDICAL SCHOLARSHIP FUND.** This fund has been established by friends to honor Reverend William A. Dimmick. It is to be used for the education of worthy medical students as a revolving scholarship loan fund.

**GALE F. JOHNSTON LOAN FUND.** The funds donated by Gale F. Johnston at the suggestion of his wife Miriam are to be used as a revolving loan fund for students in the School of Medicine.

**THE IKE J. KUHN SCHOLARSHIP.** This scholarship is provided by a bequest from the will of Mr. Ike J. Kuhn, and is awarded in the School of Medicine to a worthy boy or girl born and reared in any of the states commonly known as the "Southern States."

**LIFE & CASUALTY INSURANCE COMPANY FUND.** The funds made available to Vanderbilt University are to be used as a revolving loan fund for students in the School of Medicine.

**THE THOMAS L. MADDIN, M.D. FUND.** This fund is provided by a bequest from the will of Mrs. Sallie A. C. Watkins in memory of Doctor Thomas L. Maddin to be used by some worthy young man for medical education at Vanderbilt.

**THE JAMES PRESTON MILLER TRUST.** This trust, left by the will of James P. Miller in memory of his father, James Preston Miller, provides funds to assist in the medical education of deserving young men and women at Vanderbilt University. Residents of Overton County, Tennessee, are to be given first preference, and residents of Tennessee to be given second preference.

**THE PROVIDENT PHARMACEUTICAL LOAN FUND.** The funds made available to Vanderbilt University are to be used as a revolving loan fund for students in the School of Medicine.

**THE THOMAS W. RHODES FELLOWSHIP.** Funds provided by the will of Georgine C. Rhodes were left to Vanderbilt University for the purpose of establishing one or more fellowships in the School of Medicine.

**THE THOMPSON AND GREEN STUDENT SCHOLARSHIP FUND.** This fund is to be used as a revolving loan fund for students in the School of Medicine. Preference in making the loans is given to students from middle Tennessee, northern Alabama and southern Kentucky.

**THE JOE AND HOWARD WERTHAN FOUNDATION SCHOLARSHIP FUND.** The funds made available by this foundation to Vanderbilt University are to be given or loaned to those students in the School of Medicine needing financial assistance.

### *Employment Opportunities for Wives*

Nashville is a middle-sized city (450,000) affording employment opportunities common to an industrial, business and educational center. Major employers include Vanderbilt University, two national insurance companies, and the State Government. Every attempt is made to find a position within the University for wives of students who have demonstrated skills in business, office routine, laboratory work or patient care skills such as nursing, x-ray technology and nursing aides. If interested in a position on the University campus, students should contact the Office of the Director, Medical Center Personnel, Nashville, Tennessee 37203.

# SCHOLARSHIPS AND FELLOWSHIPS HONORS AND AWARDS

## *SCHOLARSHIPS*

Vanderbilt University School of Medicine has a number of scholarships available to worthy applicants with distinguished scholastic records. Information and application forms may be obtained from the Committee on Fellowships and Scholarships or from the Dean of Medical Students.

**JUSTIN POTTER MERIT SCHOLARSHIPS.** The Justin Potter Merit Scholarships commemorate Mr. Justin Potter, a Nashville business man, industrialist, and financier. These scholarships were established in 1963 by Mr. Potter's family and are awarded by the Committee on Admissions of Vanderbilt University School of Medicine and the Justin Potter Merit Scholarship Committee. They are awarded annually to five applicants who have legally established residences in any of the following Southern states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

Stipends of \$2,500 annually shall be awarded to successful candidates and, once awarded, shall continue at this rate for four years contingent upon satisfactory performance.

Method of selection of the Justin Potter Scholars is as follows: The Committee on Admissions of Vanderbilt University School of Medicine recommends to the Justin Potter Merit Scholarship Committee candidates who desire this scholarship and merit consideration. Selected candidates are invited to Nashville to visit with the Committee (candidates will be reimbursed for their expenses). The Committee composed of outstanding business men, physicians, and educators will make the final selection, the five successful candidates being designated "Justin Potter Merit Scholars."

**THE PFIZER LABORATORIES MEDICAL SCHOLARSHIP PROGRAM.** This scholarship of one thousand dollars is given each year to a medical student who needs financial assistance and who has outstanding scholastic ability.

## *STUDENT RESEARCH FELLOWSHIPS*

Student research under the sponsorship of members of the faculty of the pre-clinical and clinical departments is endorsed as an integral part of the medical curriculum. Fellowships are usually awarded for the summer months or on a part-time basis during the academic year. Current stipends vary from \$750 to \$990 for the summer programs depending upon experience. Funds for fellowship support are available through the Committee on Fellowships and Scholarships and from individual departments within the Medical School. Funds are provided from a variety of sources, including the United States Public Health Service, Lederle Laboratory Division of American Cyanamid Company, Ford Foundation, The Tobacco

Industry Research Foundation, and The Allergy Foundation of America. Research projects may be taken as electives for credit but without remuneration. Special arrangements can be made for participation in research programs abroad or in other medical schools within the United States.

### HONORS AND AWARDS

**FOUNDER'S MEDAL.** This medal is awarded to the student in the graduating class of each School of the University who has attained the highest average standing in scholarship throughout the four consecutive years of study.

**ALPHA OMEGA ALPHA.** A chapter of this honor medical society was established by charter in the School of Medicine in 1923. Not more than one sixth of the students of the fourth-year class are eligible for membership and only one half of the number of eligible students may be elected to membership during the last half of their third year. This society has for its purpose the development of high standards of personal conduct and scholarship, and the encouragement of medical research. Students are elected into membership on the basis of their scholarship, character, and originality.

**THE BEAUCHAMP SCHOLARSHIP.** This scholarship, founded by Mrs. John A. Beauchamp in memory of her husband who was for many years superintendent of the Central State Hospital in Nashville, is awarded to the student showing the greatest progress in neurology and psychiatry and who is otherwise worthy and deserving.

**THE BORDEN UNDERGRADUATE RESEARCH AWARD IN MEDICINE.** Established in 1945 by the Borden Company Foundation, Inc., this award provides \$500 to the person in the graduating class of the School of Medicine who while enrolled in the School has carried out the most meritorious undergraduate research. Originality and thoroughness of research shall be of primary consideration. Candidates for the award should apply to the Committee on Fellowships and Scholarships for consideration.

**THE MERRELL AWARD IN PATHOLOGY.** Established in 1953 by the William S. Merrell Company, this award of \$150 is provided annually for the two most outstanding papers on research in the field of pathology by Vanderbilt University medical students. The author of the first place paper will be awarded \$100 and the author of the second place paper, \$50. Candidates for the award should submit their papers to the Committee on Fellowships and Scholarships.

**THE C. V. MOSBY BOOK AWARD.** The C. V. Mosby Company awards yearly one of its books to the medical student with the highest scholastic rank in each class.

**THE ROCHE AWARD.** This award, a gold wrist watch provided by Roche Laboratories, is presented to the medical student with the highest cumulative scholastic rank after two years of medical school.

**THE ALBERT WEINSTEIN PRIZES IN MEDICINE.** Three prizes, established in memory of Albert Weinstein, M.D. are awarded at graduation to senior students who, in the opinion of the faculty of the Department of Medicine, merit recognition for high scholastic attainment, the qualities which characterize the fine physician, and the preparation and presentation of a meritorious paper in any field in medicine. Dr. Albert Weinstein graduated from Vanderbilt University in 1926 and as Founder's Medalist from Vanderbilt University School of Medicine in 1929. Following training at Vanderbilt and Johns Hopkins he returned to Vanderbilt as Chief Resident in Medicine, 1933-1935, and served as a distinguished member of the faculty and Clinical Professor of Medicine until his death on October 1, 1963. Despite a busy and successful practice, Dr. Weinstein contributed regularly to the medical literature and maintained a major interest in the teaching of medical students. These prizes were established in 1964 by contributions from friends, associates, and former patients of Dr. Weinstein.

# ADMISSION

THE School of Medicine selects its students from those who fulfill one of the following conditions:

1. Graduates of a college or university of recognized standing.
2. Seniors in absentia of a college or university of recognized standing who will be granted the Bachelor's degree by their colleges after having completed successfully one year of work in the School of Medicine. A properly accredited statement to this effect from the colleges shall accompany all applications for admission as seniors in absentia. A form is furnished for this purpose.
3. Students of foreign universities of recognized standing who have completed three years of collegiate education may be admitted to the School of Medicine at the discretion of the Committee on Admissions.

Approximately fifty-two students, both men and women, are admitted to the first year class.

As admission to the School of Medicine is competitive, students will be selected on the basis of the quality of their college work and the general fitness of the applicant for the study of medicine.

## MINIMUM REQUIREMENTS

Every candidate must present evidence of having satisfactorily completed during his college course the following minimum requirements, in which a semester hour is the credit value of sixteen weeks work consisting of one hour of lecture or recitation or at least two hours of laboratory work:

1. *Biology*. Eight semester hours including laboratory work. The course may be general biology, zoology, or zoology and botany, but not more than half may be botany.

2. *Chemistry*. A minimum of 12 semester hours is required. Eight of these must be in general inorganic chemistry including laboratory work. A minimum of 4 semester hours credit in organic chemistry is required, covering both aliphatic and aromatic compounds including laboratory work.

3. *Physics*. Eight semester hours are required including laboratory work. It is desirable that emphasis be placed on quantitative laboratory work.

4. *English and Composition*. Six semester hours.

Students are urged to take courses in college which will strengthen their foundation in basic natural and social sciences, mathematics and their cultural background.



## MEDICAL COLLEGE ADMISSION TEST

The Medical College Admission Test is given under the auspices of the Association of American Medical Colleges, and is required of applicants to Vanderbilt. It is given twice a year at most universities and colleges. Since the examination score is used by medical schools in the selection of applicants, students should take the test, at the latest, in the Spring prior to the time application is submitted.

The score made on this examination will be used by the Committee on Admissions in considering applications for admission to the School of Medicine, together with the scholastic record and recommendations.

### APPLICATIONS FOR ADMISSION

Application forms may be obtained from the Registrar, School of Medicine, Vanderbilt University, Nashville, Tennessee 37203.

Applications for admission may be filed fifteen months in advance of date of entrance. The Committee on Admissions begins its consideration of applicants in September, and will accept new applications until the class is filled.

Successful applicants are required to make a deposit of \$50. This deposit is credited toward the payment of the first tuition, and is returnable until January 15th, in the event the student does not matriculate.

### ADMISSION TO ADVANCED STANDING

Applicants who have satisfactorily completed one or two years of study at approved medical schools may be accepted for admission to the second or third year class, provided

1. Application for advanced standing must be filed according to the procedure described for admission to the first year. A deposit of \$50 is required of successful applicants.
2. Applicants must furnish evidence of having satisfied the conditions of admission and of having completed all the work required of students in the class they desire to enter.
3. Applicants must present a certificate of honorable dismissal from the medical school they have attended.

# REGULATIONS

## HONOR CODE

ALL work in this University is conducted under the Honor Code. For the successful operation of the honor system the cooperation of every student is essential. A Student Honor Committee exists for the purpose of investigating cases of violation of this system.

## EXAMINATIONS AND PROMOTIONS

Successful completion of the courses of the medical curriculum and scholastic standing are determined by the character of the student's daily work and the results of examinations. Examinations may be written, oral, or practical, and may be held in conjunction with each course or at the end of the academic year. The quality of work of each student is considered, usually at the end of each semester, by a committee composed of the instructors responsible for his more important courses.

Students who fail in two major courses or fail a re-examination in a major course may be required to withdraw from the School. Students who have had no reported failures may be required to withdraw from the School if their work has been of a generally unsatisfactory quality. Students may be given credit for a subject by re-examination, but failures remain on their records, and may be counted as a cause for requesting withdrawal, provided another failure in a major course occurs.

Major Courses are as follows:

*First Year*—Biochemistry, Gross Anatomy, Histology, and Physiology.

*Second Year*—Methods in Clinical Science, Microbiology, Pathology, and Pharmacology.

*Third Year*—Medicine, Obstetrics-Gynecology, Pediatrics, and Surgery.

*Fourth Year*—Medicine, Obstetrics-Gynecology, Pediatrics, Psychiatry, and Surgery.

Students will be notified whenever the Committee on Promotions considers their work of poor quality.

Any student who indicates by his work or his conduct that he is unfit for the practice of medicine may be requested to withdraw from the School at any time.

Any student who fails to pass a course will be required to remove the failure before being permitted to enter the courses of the next academic year.

## REQUIREMENTS FOR DOCTOR OF MEDICINE DEGREE

Candidates for the degree of Doctor of Medicine must be mature and of good moral character. They must have spent at least four years of study or its equivalent as matriculated medical students. The last two years of this study must have been in this School. They must have completed satisfactorily the medical curriculum, have passed all prescribed examinations, and be free of indebtedness to the University. Students fulfilling these requirements will be recommended for the degree of Doctor of Medicine.

### NATIONAL BOARD EXAMINATIONS

All second-year students are required to take for credit Part I and all fourth-year students are required to take for credit Part II of the National Board Examinations. Part II is given in April and Part I is given in June.

### BASIC SCIENCE EXAMINATIONS

About twenty states now require examinations on the basic science subjects (anatomy, bacteriology, chemistry, pathology, and physiology) as a preliminary to medical licensing examinations. Since the various states are not uniform in their requirements, a considerable impediment to movement of physicians from state to state by reciprocity is created. Each student is urged to achieve certification in the basic sciences as soon as possible.

### EXTRACURRICULAR WORK

Students engaging in outside work must report such activity to the Dean of Students at the beginning of the school year or at any time during the school year that such work is undertaken. In those instances in which the work is considered prejudicial to the student's education, he may be required to discontinue it. Outside work is not allowed in the first and second years.

# INSTRUCTION LEADING TO THE M.D. DEGREE

The curriculum is divided into a basic set of required courses taken by all students, and elective courses which may be chosen. Required courses constitute the nucleus of medical education at Vanderbilt; elective courses are an integral part of each student's educational experience in the Medical School, but allow considerable flexibility of individual curricula. Each student is assigned a faculty adviser to aid in the selection of elective courses, and the program of electives must be approved by the Assistant Dean for Medical Education.

All electives are courses for credit, graded on the same basis as required courses, and are non-remunerative. The following types of courses may be elected: lecture series; specialty clinics; clinical clerkships or research experience, at Vanderbilt or other institutions; Vanderbilt undergraduate or graduate courses.

Two hours each week have been designated "Dean's Hours" for the entire curriculum, and the attendance of all students and faculty is expected. These hours are used for presentations of school-wide interest, e.g., lectureships, medical society meetings, student papers.

Students are encouraged to participate in the summer research fellowship program.

The Medical School curriculum is scheduled during the conventional University nine months, and is divided on a semester basis.

*First Year:* Most of the year is spent in the study of anatomy, biochemistry, and physiology. All day Wednesday and Saturday morning (during the second semester) are reserved for study and electives. Electives available to the freshmen cover a wide range of subjects, e.g., Essentials of Human Embryology, Fundamental Principles in Use of Radioisotopes, Topics in General Physiology, Medicine in Families and the Community, Medical Genetics, Foundations of Behavioral Research.

*Second Year:* Courses include microbiology, pathology, pharmacology, medical statistics, preventive medicine, and psychiatry. Students begin the study of patients during the second semester, when all the clinical departments cooperate in giving the student an introduction to history taking, physical examination, and laboratory study of patients through a series of lectures, demonstrations, and individual practice by the student. A variety of electives may be taken, either on Wednesday or at scattered times through the week.

*Third Year:* Ward clerkships in Medicine, Obstetrics-Gynecology, Pediatrics and Surgery occupy the third year. Students have close contact with a limited number of selected patients under the supervision of attending physicians and house staff.

*Fourth Year:* During one semester seniors serve as clinical clerks in Psychiatry and as clerks to ambulatory patients in the Out-Patient Service. Here they have opportunity to see disease in its earlier stages, when more difficult of diagnosis, under conditions of office practice and with opportunities for follow-up examinations and observation over relatively long periods.

Seniors have an entire semester designated as elective. The opportunities for use of this elective semester include research fellowships in a clinical or pre-clinical department, at Vanderbilt or other institutions; advanced ward clerkships in clinical areas; combinations of a variety of specialty clinics and lecture courses. The flexibility of the fourth year curriculum gives the student maximum opportunity for individual development.

### 1st YEAR FALL SEMESTER

### Schedule of Courses

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00-12:00	Biochemistry	Anatomy		Anatomy	Biochemistry	Anatomy
1:00-4:00	Biochemistry	Anatomy		Anatomy	Biochemistry	
4:00-5:00		Dean's Hour		Dean's Hour		

### 1st YEAR SPRING SEMESTER

### Schedule of Courses

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00-12:00	Anatomy	Physiology		Physiology	Anatomy	
1:00-4:00	Anatomy	Physiology		Physiology	Anatomy	
4:00-5:00		Dean's Hour		Dean's Hour		

1. Elective time is unshaded.
2. Most Freshmen should take 4-5 elective hours each semester.
3. The Thursday Dean's Hour will be used for lectures on the history of medicine, and the doctor-patient relationship.

## 2nd YEAR FALL SEMESTER

## Schedule of Courses

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00	Pathology			Pathology	Pathology	Microbiology
9:00						
10:00		Pathology				
11:00				Microbiology		
12:00						
1:00	Methods in Clinical Science	Epidemiology		Pathology	Microbiology	
2:00		Psychiatry		Microbiology		
3:00		Dean's Hour		Dean's Hour		
4:00						

1. Elective time is unshaded.
2. Most Sophomores should take 4-5 elective hours each semester.
3. Clinical-Pathological conferences will routinely be given in the Thursday Dean's Hour.

## 2nd YEAR SPRING SEMESTER

## Schedule of Courses

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00						
9:00	Pharmacology	Methods in Clinical Science		Med. Stat.	Pharmacology	Pharmacology
10:00				Prev. Med.		
11:00				Psychiatry		
12:00						
1:00	Methods in Clinical Science	Methods in Clinical Science		Methods in Clinical Science	Pharmacology	
2:00						
3:00						
4:00		Dean's Hour		Dean's Hour	Radiology	

1. Elective time is unshaded.

2. Most Sophomores should take 4-5 elective hours each semester.

3. Clinical-Pathological conferences will routinely be given in the Thursday Dean's Hour.



# 3rd YEAR

# Schedule of Courses

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00-12:00		Wards:	12 weeks, Medicine 12 weeks, Surgery 6 weeks, Pediatrics 6 weeks, Obstetrics & Gynecology			
1:00-4:00						
4:00 P.M.	14 hrs Surgery 12 hrs Orthopedic Surgery	Dean's Hour	18 hrs Medicine 18 hrs Pediatrics	Dean's Hour	12 hrs Radiology 12 hrs Anesthesiology 12 hrs*	

\*Lectures on Medical Jurisprudence and Medical Ethics.

1. Elective time is unshaded.
2. Minimal elective hours = 0
3. Clinical-pathological conferences will routinely be given in the Thursday Dean's Hour.

### 3rd YEAR

### Rotation, in groups of one-sixth of class

STUDENT GROUP	1st 6 weeks	2nd 6 weeks	3rd 6 weeks	4th 6 weeks	5th 6 weeks	6th 6 weeks
1		Medicine	Pediatrics Ob-Gyn.	Ob-Gyn Pediatrics	Surgery	
2						
3		Surgery	Medicine	Medicine	Pediatrics Ob-Gyn.	Ob-Gyn. Pediatrics
4						
5	Pediatrics Ob-Gyn.	Ob-Gyn. Pediatrics	Surgery	Surgery	Medicine	
6						

*Schedule of Courses*

**4th YEAR**

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8-9						
A 9-12	Long-Term Care Clinic: one morning per week					
1-4						
4-5		Dean's Hour		Dean's Hour		
8-9						
B1 9-12	Psychiatry, 4 weeks Ob-Gyn Clinics 2 weeks					
1-4						
4-5		Dean's Hour		Dean's Hour		
8-9						
B2 9-12	Clinics: Pediatrics, 3 mornings per week Long-Term Care, 1 morning					
1-4						
4-5		Dean's Hour		Dean's Hour		
8-9						
B3 9-12	Clinics: Surgery, 3 mornings per week Long-Term Care, 1 morning					
1-4						
4-5		Dean's Hour		Dean's Hour		

i. Elective time is unshaded.

# 4th YEAR

## Rotation, in groups of one-sixth of class

Semester A 18 weeks, with Long Term Care Clinic required one morning per week.

Semester B\* B<sub>1</sub> 6 weeks: 4 weeks Psychiatry and 2 weeks Obstetrics & Gynecology Clinics

B<sub>2</sub> 6 weeks: Pediatrics Clinics (3 mornings per week) and Long Term Care Clinic (1 morning per week)

B<sub>3</sub> 6 weeks: Surgery Clinics (3 mornings per week) and Long Term Care Clinic (1 morning per week)

Student group	FALL SEMESTER			SPRING SEMESTER			LONG-TERM CARE CLINIC
	1st 6 wks	2nd 6 wks	3rd 6 wks	1st 6 wks	2nd 6 wks	3rd 6 wks	
1	A	A	A	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	Monday Tuesday Tu/Th/Fri.  Wednesday Thursday Friday
2	A	A	A	B <sub>2</sub>	B <sub>3</sub>	B <sub>1</sub>	
3	A	A	A	B <sub>3</sub>	B <sub>1</sub>	B <sub>2</sub>	
4	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	A	A	A	
5	B <sub>2</sub>	B <sub>3</sub>	B <sub>1</sub>	A	A	A	
6	B <sub>3</sub>	B <sub>1</sub>	B <sub>2</sub>	A	A	A	

\*Includes rotation at night in Emergency Room.

## LECTURESHIPS

**ALPHA OMEGA ALPHA LECTURE.** The Alpha Omega Alpha Honor Medical Society invites each year a scientist of prominence to deliver a lecture before the students, faculty, and local members of the medical profession. The first lecture was given during the school year 1926-1927.

**THE BARNEY BROOKS MEMORIAL LECTURESHIP IN SURGERY.** In 1952 through the generosity of a Vanderbilt alumnus an annual lectureship was established to honor the memory of Dr. Barney Brooks, formerly Professor of Surgery and Head of the Department and Surgeon-in-Chief of the Vanderbilt University Hospital. As a fitting memorial to Dr. Brooks these lectures have been given by physicians who have made distinguished contributions in clinical or investigative surgery. The first Barney Brooks Memorial Lecture in Surgery was given during the spring of 1953.

**THE ABRAHAM FLEXNER LECTURESHIP.** In the fall of 1927 Mr. Bernard Flexner of New York City gave \$50,000 to Vanderbilt University to establish the Abraham Flexner Lectureship in the School of Medicine. This lectureship is awarded every two years to a scientist of outstanding attainments who shall spend as much as two months in residence in association with a department of the School of Medicine. The first series of lectures was given in the fall of 1928.

**PAULINE M. KING MEMORIAL LECTURESHIP.** This lectureship was established in 1962 by Mr. Robert F. King of Klamath River, California, as a memorial to his wife. Each year a distinguished thoracic or cardiovascular surgeon is invited by the Department of Surgery to lecture at Vanderbilt University School of Medicine. The first Pauline M. King Memorial Lecture was given in the spring of 1963.

**GLENN A. MILLIKAN MEMORIAL LECTURE.** This lectureship was established in 1947 by the members of the then second-year class. It has subsequently received support by means of a capital fund by Dr. Glenn Millikan's father and mother, Dr. Robert A. Millikan and Mrs. Gretna B. Millikan, and friends. Contributions have been made to the fund by members of the founding class and other students. The lectureship is maintained to provide a distinguished lecturer in physiology.

**HUGH J. MORGAN VISITING PROFESSORSHIP IN MEDICINE.** This visiting professorship was established in 1959 through the generosity of faculty, former house officers, and friends of the late Dr. Hugh J. Morgan who served as Professor of Medicine and Chairman of the Department at Vanderbilt University School of Medicine from 1935 through 1959. As a tribute to Dr. Morgan and his outstanding qualities as a superior clinician, the Department of Medicine invites a distinguished physician to spend one week in residence during which time he assumes the teaching duties of the Professor of Medicine with students, house officers, and faculty. The first visiting professorship was awarded in 1959.

**THE COBB PILCHER MEMORIAL LECTURE.** In 1950 the Pi Chapter of the Phi Chi Medical Fraternity established the Cobb Pilcher Memorial Lecture to honor the memory of Dr. Pilcher, formerly Associate Professor of Surgery, distinguished neurosurgeon, and a member of Phi Chi fraternity. Each year a lecturer of prominence is selected. The first lecture was given in 1950.

# INSTRUCTION LEADING TO THE M.D. AND PH.D. DEGREE

Interested students at Vanderbilt are encouraged toward careers in academic medicine. In order to facilitate the development of teachers and medical investigators who are capable in clinical and basic medical sciences, a combined course of study leading to the M.D. and Ph.D. degrees has been instituted.

In addition to the educational benefits of the program, students may obtain scholarship support for part of the predoctoral period. It is expected that six to seven calendar years will be required for completion of the combined degree program.

All candidates must meet the requirements of both the medical and graduate schools for matriculation and graduation. Selection of the candidates will be made by the admission committees and deans of the graduate and medical schools. The graduate program of the student will be planned by his major adviser, a member of the graduate faculty, in the usual manner. Most students will enter the program after the sophomore year in medical school, and will complete the course work for both degrees and much of the thesis research before entering the clinical clerkships in the junior year of medical school.

# ADVANCED PROFESSIONAL TRAINING AND RESEARCH

The primary responsibility of the School of Medicine is education of medical students. In addition, there are active programs for graduate students in the pre-clinical sciences, for post-doctoral interns and residents, and for post-doctoral research trainees. At present, 715 students, trainees, technicians, and aides are receiving instruction at the School.

## *INTERNSHIP AND RESIDENCY TRAINING*

Students preparing for the practice of medicine usually spend one or more years in house staff training. Such experiences at Vanderbilt are particularly varied and well-supervised. Applicants for positions are carefully chosen, and make up a competent and stimulating group which has considerable responsibility in medical student teaching.

The faculty of the School of Medicine have professional responsibilities in Vanderbilt, Veterans, and Nashville General Hospitals. Most patients in these hospitals are cared for by members of the intern and resident staff.

Vanderbilt University Hospital is a referral center and consequently has a patient population with complex medical and surgical problems. Nashville General Hospital is a community owned facility in which many of the patients present advanced manifestations of disease. Veterans Administration Hospital is adjacent to the Vanderbilt Medical Center, and is extensively used for student and house staff teaching.

## *RESIDENCIES AND FELLOWSHIPS*

**THE HUGH J. MORGAN RESIDENCY IN MEDICINE.** In May of 1962, Mrs. Julia T. Weld of New York City generously made available a yearly gift to support the Chief Residency in Medicine named after the late Dr. Hugh J. Morgan, Professor of Medicine at Vanderbilt from 1935-1959. The awarding of the residency is announced each fall for the following July. The Hugh J. Morgan Residency allows the Department of Medicine to award an adequate salary to this important faculty position.

**DR. COBB PILCHER-WILLIAM HENRY HOWE FELLOWSHIP IN NEUROSURGERY.** In December 1945, the William Henry Howe Fellowship in Neurosurgery was established in the School of Medicine of Vanderbilt University. This fellowship was made available to the University by the late Dr. Pilcher and has been continued by the generosity of his family and friends.

## *POSTDOCTORAL COURSES*

Courses in individual departments are made available by special arrangement. These courses are under the direction of the Director of Continuing Education and the head of the Department concerned. Courses may be offered at any time during the year for periods of varying length. Only a limited number of physicians can be admitted to any course. Inquiries should be addressed to Dr. R. H. Kampmeier, Director of Continuing Education.

Fees for special courses are decided by the Dean and the Director of Continuing Education in cooperation with the head of the department in which the instruction is provided.

### *COURSES TOWARD MASTER AND PH.D. DEGREES*

Candidates for the degree of Master of Science or of Doctor of Philosophy may pursue work in the medical sciences given in the Medical School, either in regular courses or in special elective courses, provided such students are accepted by the heads of departments concerned and are registered in the Graduate School of the University. Graduate work in the medical sciences is regulated by the faculty of the Graduate School. Candidates for graduate degrees should apply to the Dean of the Graduate School.

Candidates for the degree of Master of Science in Audiology and Speech Pathology may pursue work in these fields in the Bill Wilkerson Hearing and Speech Center and the School of Medicine. Graduate work in this division is regulated by the faculty of the School of Medicine. Candidates should apply to the Registrar of the School of Medicine.

### *ENDOWED RESEARCH CHAIR*

**THE JOE AND MORRIS WERTHAN CHAIR OF EXPERIMENTAL MEDICINE.** Through the generosity of the Werthan family of Nashville, this professorship was established in 1951 for the purpose of furthering research in the general field of internal medicine. The present holder of the chair is Dr. Elliot V. Newman.

**CHAIR OF NUTRITION.** In the Fall of 1964, the Pet Milk Foundation of St. Louis, Missouri, established at Vanderbilt University School of Medicine a Chair of Nutrition to further research and teaching activities in this vital area of medicine. Dr. William J. Darby, Professor of Biochemistry and Chairman of the Department of Biochemistry and Director of the Division of Nutrition presently holds the chair.

### *ENDOWED RESEARCH FUNDS*

**THE RACHAEL CARPENTER MEMORIAL FUND.** This fund was established in 1933 by a gift of \$5,000 from Mrs. Mary Boyd Carpenter of Nashville. The income derived from this fund is to be used for education in the field of tuberculosis.

**THE BROWNLEE O. CURRY MEMORIAL FUND FOR RESEARCH IN HEMATOLOGY.** A memorial fund created by the friends of Brownlee O. Curry, the income from which is being used for the support of research in the field of hematology.

**THE JACK FIES MEMORIAL FUND.** The sum of \$5,000 was given to Vanderbilt University by Mrs. Hazel H. Hirsch as a memorial to her son, Jack Fies, the income from which is to be used to support research in the important field of neurological surgery. It is hoped that subsequent donations may be made by those who may be interested in creating a larger fund for this phase of research.



**THE JOHN B. HOWE FUNDS FOR RESEARCH.** In January, 1946, the members of the family of the late John B. Howe established two funds in the University to be known as the John B. Howe Fund for Research in Neurosurgery and the John B. Howe Fund for Research in Medicine. The expenditures from the funds for neurosurgery and medicine are administered through the Department of Surgery and the Department of Medicine.

**THE GEORGE HUNTER LABORATORY.** This laboratory for the study of infectious diseases was established as a part of the Department of Medicine from funds provided by the Benwood Foundation, Inc., of Chattanooga, Tennessee, in honor of Mr. George Hunter of that city.

**THE MARTHA WASHINGTON STRAUS-HARRY H. STRAUS FOUNDATION, INC.** The Foundation provides support for research in the Department of Medicine in the field of cardiovascular diseases.

**THE LESLIE WARNER MEMORIAL FUND FOR THE STUDY AND TREATMENT OF CANCER.** This fund was established in 1932 in the memory of Leslie Warner of Nashville, Tennessee. It consists of \$7,200, of which \$3,600 was contributed by the nieces and nephews of Mrs. Leslie Warner.

### *MILITARY AND DISASTER MEDICINE*

Vanderbilt University School of Medicine was one of the original medical schools conducting a program of military and disaster medicine under the Medical Education for National Defense plan. Separate courses in military and disaster medicine are not offered. Material on mass casualties, emergency first aid, radiation injury, radiation biology, chemical and germ warfare, and other aspects of military medicine is presented in the course material offered by the Departments of Pharmacology, Preventive Medicine, Medicine, Radiology, and Surgery.

# COURSES OF STUDY

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NOTE: *Required medical school courses are numbered 501 to 519. Elective medical school courses are numbered 521 to 599.*


Courses in the 500 series make up the curriculum of the medical student. Those courses carrying credit in the Graduate School are indicated by a 300 series number before or after the title. Figures in brackets in 300 series course descriptions indicate semester hours of credit in the Graduate School.

Description of elective courses include the class year to which the course is available, number of clock hours per week, semester offered, and length of course if less than a semester.



# Anatomy

- JACK DAVIES, M.D., *Professor of Anatomy and Chairman of the Department*  
JAMES W. WARD, Ph.D., M.D., *Professor of Anatomy*  
VINCENT J. DEFEO, Ph.D., *Associate Professor of Anatomy*  
VIRGIL S. LEQUIRE, M.D., *Associate Professor of Anatomy*  
MARY PHILLIPS GRAY, Ph.D., *Assistant Professor of Anatomy*  
G. RODMAN DAVENPORT, Ph.D., *Assistant Professor of Anatomy*  
JOHN LANGDON NORRIS, M.D., *Assistant Professor of Anatomy*  
PETER IAN CLARKSON RENNIE, Ch.B., *Assistant Professor of Anatomy*  
ELWYN A. SAUNDERS, M.D., *Assistant Professor of Orthopedic Surgery in Anatomy*  
LUKE H. MONTGOMERY, *Research Associate in Anatomy*

 The Department of Anatomy offers courses leading to the Ph.D. degree. Courses described below which are numbered in the 300 series are offered primarily for that program but are open to medical students by special arrangement.

501. HISTOLOGY (322). This course gives the student a familiarity with the normal structure of the principal tissues and organs of the body. Fresh tissues are used wherever possible for the demonstration of normal cellular function, and in analyzing the characteristics of particular cells. FALL. [4] *Dr. Davies and Staff.*

502. GROSS ANATOMY (321). This course is devoted to a systematic dissection of the human body. The instruction is largely individual and the work of the student is made as independent as possible. SPRING. [10] *Dr. Davies and Staff.*

503. NEUROLOGY (323). Covers the histological aspect of the nervous system, including the structure of nerve cells, fibers and endings, the histology and pathways of the spinal cord, the structure and connection of cerebrospinal and autonomic nerves and ganglia, and the histology of the organs of special sense. FALL. [2] *Dr. Ward and Staff.*

521. DEVELOPMENTAL BIOLOGY. First and Fourth years. A comprehensive, multidisciplinary study in mammalian developmental biology covering gametogenesis, gamete transport, fertilization and implantation, development and functions of the placenta, uterus, parturition, and lactation. Emphasis will be placed on morphology, endocrinology, and effects of ionizing radiation. This course is presented as a fundamental aspect of biologic science rather than as a medical specialty. (Obstetrics-Gynecology 521.) Four hours per week. SPRING. *Drs. DeFeo and Glasser.*

522. ESSENTIALS OF HUMAN EMBRYOLOGY. First, Second, and Fourth years. A course in human embryology including fertilization, implantation, organogenesis and the fetal period. Normal development is stressed as a

guide to the interpretation of adult anatomy and of congenital defects. Two hours per week. FALL. *Drs. Davies and Norris.*

523. ADVANCED NEUROLOGY (324). Second and Fourth years. An intensive study of the relations, structures, and function of the various parts of the central nervous system is made with the aid of gross specimens and dissections, serial sections of brain stems, and experimental demonstrations. The lectures are a guide to the laboratory work and present the type of evidence on which the present conceptions of the nervous system are based. Three hours per week; first twelve weeks. FALL. [2] *Dr. Ward and Staff.*

524. MORPHOLOGICAL BASIS FOR BIOCHEMICAL ACTIVITY (331). Second and Fourth years. Presents the anatomical evidence for localization of various intra and extra-cellular functions, including the following topics: (1) Problems of fixation and staining of tissues. (2) Tissue homogenization, with biochemical and electron-microscopic characterization of the various cell fractions. (3) Critical evaluation of selected histochemical reactions. Four hours per week. FALL. *Drs. Davenport and Norris.*

525. INTERPRETATION OF ULTRASTRUCTURE. Second and Fourth years. A discussion of bacterial and plant morphology, cell membranes and organelles, cellular inclusions, the application of histo- and immunocytochemistry to electron microscopy, radioautographic electron microscopy, X-ray diffraction. One hour per week. SPRING. *Drs. Rennie, Davies, Norris, and Robinson.*

526. COMPARATIVE MAMMALIAN EMBRYOLOGY AND PLACENTOLOGY (332). Fourth year. This course will include: (1) A discussion of the early stages of mammalian development with special reference to the human (fertilization, implantation, formation of placental membranes). (2) Physiological and genetic problems of development. (3) Fetal and placental physiology. Four hours per week. SPRING. *Dr. Davies.*

527. LESSONS IN SURGICAL ANATOMY. Fourth year. Weekly review of surgical anatomy for medical students and for interns and surgical residents. Special areas of surgical interest will be reviewed with the aid of dissections and demonstrations. Embryological implications will be involved. Two hours per week. FALL & SPRING. *Drs. Davies, Rennie, and Saunders.*

581. RESEARCH FELLOWSHIP IN ANATOMY. Fourth year. Research opportunities are available by arrangement in the following: (1) Electron microscopy, (2) Histochemistry and histology, (3) Embryology, (4) Human development. Full time for twelve or eighteen weeks. *Dr. Davies and Staff.*

599. SEMINAR IN DEVELOPMENTAL BIOLOGY. First, Second, and Fourth years. One-hour-weekly seminar including lectures and discussion by the full-time faculty, visiting lecturers, and participating students. (Obstetrics-Gynecology 599.) One hour per week. FALL & SPRING. *Drs. Dickmann and DeFeo.*

327. EXPERIMENTAL METHODS IN NEUROLOGY. Conferences and research upon special phases of the structure and function of the nervous system. This course is designed to meet the needs of students desiring special training in neurology. [1-6] *Dr. Ward.*

329. EXPERIMENTAL METHODS IN HISTOLOGY. Research and conferences in special phases of the techniques and their principles of histology. The work is designed for the particular student's interests and includes general histological methods and special methods such as those of the electron microscope. [1-6] *Dr. Davies and Staff.*

330. SEMINAR IN ANATOMY. SPRING & SUMMER. [1-2] *Staff.*

399. RESEARCH. *Staff.*

## Biochemistry

WILLIAM J. DARBY, M.D., Ph.D., *Professor of Biochemistry and Chairman of the Department*

FRANK R. BLOOD, Ph.D., *Professor of Biochemistry*

JOHN G. CONIGLIO, Ph.D., *Professor of Biochemistry*

CHARLES S. ROBINSON, Ph.D., *Professor of Biochemistry, Emeritus*

OSCAR TOUSTER, Ph.D., *Professor of Biochemistry*

STANLEY COHEN, Ph.D., *Associate Professor of Biochemistry*

LEON W. CUNNINGHAM, Ph.D., *Associate Professor of Biochemistry*

GEORGE V. MANN, Sc.D., M.D., *Associate Professor of Biochemistry*

WILLIAM N. PEARSON, Ph.D., *Associate Professor of Biochemistry*

GUILFORD G. RUDOLPH, Ph.D., *Associate Professor of Biochemistry*

ARTHUR R. SCHULERT, Ph.D., *Associate Professor of Biochemistry*

JAN VAN EYS, Ph.D., *Associate Professor of Biochemistry: Investigator, Howard Hughes Medical Institute (On leave 1964/65)*

ROBERT A. NEAL, Ph.D., *Assistant Professor of Biochemistry*

JANET L. STONE, Ph.D., *Assistant Professor of Biochemistry*

CONRAD WAGNER, Ph.D., *Assistant Professor of Biochemistry*


LAKEN G. WARNOCK, Ph.D., *Assistant Professor of Biochemistry*

BENJAMIN J. WILSON, Ph.D., *Assistant Professor of Biochemistry*

MOHAMED ANTAR, M.D., *Research Associate in Biochemistry*

JOAN CLARK, Ph.D., *Research Associate in Biochemistry*

NAN SEN TSENG LUI, B.S., *Research Associate in Biochemistry*

 The Department of Biochemistry offers courses leading to the Ph.D. degree. Courses described below which are numbered in the 300 series are offered primarily for that program but are open to medical students by special arrangement.

501. BIOCHEMISTRY (321.) Lectures on the chemistry and metabolism of carbohydrates, proteins, lipids, nucleoproteins, and on the chemistry and function of enzymes, vitamins, and other factors related to cellular metabolism and body processes. FALL. [3] *Staff*.

502. BIOCHEMISTRY LABORATORY (322.) This laboratory course accompanies Biochemistry 501 and emphasizes chemical, physical, and physiological aspects of topics presented there. FALL. [3] *Staff*.

521. FUNDAMENTAL PRINCIPLES IN THE USE OF RADIOISOTOPES. First year. A presentation for medical students of fundamental principles of nuclear physics and tracer methodology necessary for understanding the use of radioisotopes in biology and medicine. Lectures will review: elementary nuclear physics; basic principles of tracer methodology; the design of experiments illustrating different types of radioisotopes; safety practices in handling isotopes, and the use of necessary instrumentation. Laboratory work includes experiments with different beta and gamma emitters in typical physiological or biological experiments. Four hours per week; first twelve weeks. FALL. *Drs. Coniglio and Rudolph*.

522. TOXICOLOGY (336.) Second and Fourth years. Lectures, discussion and assigned reading on the principles of toxicology with emphasis on metabolic and biochemical considerations. Subjects covered include naturally occurring toxicants, mycotoxins, bacterial toxins, chemical additives, residues of agricultural chemicals and other environmental contaminants. Two hours per week. FALL. [2] *Drs. Wilson, Blood, Neal, and Darby*.

523. FUNDAMENTALS OF HUMAN NUTRITION (328.) Second and Fourth years. This course presents the physiologic basis of clinical nutrition in health and disease. Deficiency diseases and nutrient requirements of man are considered, as well as the basis of diet therapy. Lectures and assigned readings. (Medicine 523.) One hour per week. SPRING. [1] *Dr. Mann*.

524. ADVANCED METABOLISM (334.) Second and Fourth years. Lectures and discussions of energy metabolism and regulatory mechanisms. Among the topics to be considered will be: thermodynamics and metabolism of high energy compounds, energy yielding reactions, oxidative phosphorylation, photosynthesis and the tricarboxylic acid cycle. Two hours per week. SPRING. [2] *Drs. Wagner and Warnock*.

525. CHEMICAL STRUCTURE AND BIOLOGICAL FUNCTION OF MACROMOLECULES. Second and Fourth years. Discussion of a series of macromolecular systems with consideration of the possible role of characteristic structural features in their biological function, biosynthesis, or degradation; e.g., hemoglobin, collagen, protein hormones, bacterial cell walls. One hour per week. SPRING. *Dr. Cunningham*.

526. BIOCHEMISTRY AND DIFFERENTIATION. Second and Fourth years. A course designed to acquaint the student with the biochemical aspects of development and differentiation. One hour per week. SPRING. *Dr. Cohen*.

527. NUTRITIONAL BIOCHEMISTRY. (335.) Second and Fourth years. A course in comparative nutritional biochemistry with emphasis on the whole animal. Prerequisite: a course in biochemistry or permission of the instructor. Two hours per week. FALL. [2] *Dr. Pearson.* (Offered 1965/66.)

528. CLINICAL BIOCHEMISTRY. Fourth year. Seminars on developments in biochemistry in relation to medicine and applications of biochemical principles to the study of disease. One hour per week. SPRING. *Dr. Rudolph.*

581. RESEARCH FELLOWSHIP IN BIOCHEMISTRY. Fourth year. Research opportunities under the guidance of appropriate staff members in any of the broad areas represented in the Department of Biochemistry. The time and schedule of presentations will be arranged and can be individualized to a considerable extent. Students are encouraged to pursue research on a continuing basis and for a minimum of three months. Longer periods are more desirable. Full time for twelve or eighteen weeks. *Dr. Darby and Staff.*

582. RESEARCH FELLOWSHIP IN NUTRITION. Fourth year. Clinical and metabolic research in man or experimental animals conducted under the direction of members of the staff. Students are encouraged to pursue research on a full-time basis for a minimum of three months. Selected students may participate in studies abroad (in the Middle East or elsewhere) in the current research program of the Division of Nutrition. Full time for twelve or eighteen weeks. *Dr. Darby and Staff.*

583. SPECIAL PROBLEMS IN NUTRITION. First, Second, and Fourth years. Individualized study of advanced topics or research in nutrition. Experimental laboratory and clinical studies will be offered under the guidance of a member of the staff of the Division. Six hours per week. FALL & SPRING. *Drs. Darby, Mann, and Pearson.*

584. PRECEPTORSHIP IN BIOCHEMISTRY. Fourth year. An opportunity for intensive review of basic biochemistry. Students will participate as instructors in the teaching of the course to freshman medical students and at the same time participate in graduate experiences, seminar and research in the department. Full time for twelve or eighteen weeks. *Dr. Darby and Staff.*

599. BIOCHEMISTRY SEMINAR (327.) First, Second, and Fourth years. This is a student seminar designed to familiarize medical and graduate students with current research developments in biochemistry, to afford the students an opportunity to review critically a variety of subjects and to gain experience in presenting and critically appraising such investigations. One hour per week. FALL & SPRING. [1] *Dr. Darby and Staff.*

323. SPECIAL PROBLEMS AND EXPERIMENTAL TECHNIQUES. Among the fields available are: (a) Advanced work in lipid metabolism, *Dr. Coniglio*; (b) The synthesis and metabolism of carbohydrates and amino acids, *Dr. Touster*; (c) Protein chemistry, *Dr. Cunningham*; (d) Metabolic toxicology,

*Dr. Blood*; (e) Enzymes of metabolism, *Dr. van Eys*; (f) Chemical embryology, *Dr. Cohen*; (g) Mineral and vitamin metabolism, *Dr. Pearson*; and (h) Special biochemical preparations. Admission to course, hours, and credit by arrangement. [2-4] *Staff*.

324. USE OF RADIOACTIVE TRACERS IN METABOLISM. This course is an introductory one in the application of radioisotopes to the study of metabolism, and is intended for graduate students in biochemistry, biology, physiology, and related fields. Two lectures and one three-hour laboratory. Prerequisite: permission of instructor. SPRING. [3] *Dr. Coniglio*.

325. MICRO-PHYSIOLOGIC TECHNIQUES IN BIOCHEMISTRY. A course designed to give experience in the techniques of animal experimentation. Lectures, discussions, and demonstrations on care, feeding, injection, and drawing of blood in different animals. Application of micro techniques of mammalian physiology to biochemistry. Lectures and laboratory. Prerequisite: permission of instructor. SPRING. [3] *Dr. Blood*. (Not offered 1964/65.)

326. BIO-ORGANIC CHEMISTRY. Lectures and discussion on the isolation, structural chemistry, and synthesis of biochemically important substances and on the relation of structure to biological activity. Prerequisite: an advance course in organic chemistry or permission of instructor. Two lectures per week. SPRING. [2] *Dr. Touster*. (Not offered 1964/65.)

327. SEMINAR IN BIOCHEMICAL LITERATURE. Admission to course by arrangement. Prerequisite: a course in fundamental biochemistry. FALL & SPRING. [1] *Staff*.

329. LIPID CHEMISTRY AND METABOLISM. Lectures and discussions on the chemistry, metabolism, detection, and separation of fatty acids, glycerides, phospholipids, and sterols. Prerequisite: a course in general biochemistry. Two lectures per week. SPRING. [2] *Dr. Coniglio*. (Offered 1965/66.)

333. PROTEIN CHEMISTRY. A course describing the physical and chemical methods employed in the study of macro-molecules of biological importance and the relation of protein structure to protein function. Prerequisite: Biochemistry 321 and elementary physical chemistry or permission of instructor. SPRING. [2] *Dr. Cunningham*.

399. RESEARCH. *Staff*.

## Microbiology

VICTOR A. NAJJAR, M.D., *Professor of Microbiology and Chairman of the Department*

SIDNEY P. COLOWICK, Ph.D., *American Cancer Society-Charles Hayden Foundation Professor of Microbiology*



SIDNEY HARSHMAN, Sc.D., *Assistant Professor of Microbiology*  
JOHN H. HASH, Ph.D., *Assistant Professor of Microbiology*  
JOHN P. ROBINSON, Ph.D., *Assistant Professor of Microbiology*  
VINCENZO BOCCHINI, Ph.D., *Research Associate in Microbiology*  
MARYDA COLOWICK, M.S., *Research Associate in Microbiology*  
BERNARDO V. FIDALGO, M.D., *Research Associate in Microbiology*  
ROBERT M. FLORA, B.A., *Research Associate in Microbiology*  
RONALD H. GOODING, Sc.D., *Research Associate in Microbiology*  
IRENE SCHULZE, Ph.D., *Research Associate in Microbiology*  
BANI TALAPATRA, D.Sc., *Research Associate in Microbiology*

The Department of Microbiology offers courses leading to the Ph.D. degree. Courses described below which are numbered in the 300 series are offered primarily for that program but are open to medical students by special arrangement.

501. MICROBIOLOGY (324.) Lectures and laboratory exercises. The important bacterial, mycotic, parasitic, and viral infections are considered from the standpoint of etiology, epidemiology, pathogenesis, immunology, and laboratory diagnosis. Ten hours of lectures, seminars and laboratory exercises. Prerequisite: Biochemistry 501-502 or equivalent. FALL. [6] Staff.

521. ADVANCED TOPICS IN MICROBIOLOGY (328.) Second and Fourth years. Consists of a lecture series of selected topics of advanced nature in: (a) Regulation of bacterial metabolism, (b) Bacterial and viral structure, (c) Immunochemistry, (d) Enzymology. Prerequisite: 501. Two hours per week. SPRING. [2] Drs. Robinson, Hash, Harshman, Colowick, and Najjar.

581. EXPERIMENTAL METHODS IN MICROBIOLOGY (327.) Second and Fourth years. A program of laboratory work concerned with: (a) Regulation of bacterial metabolism, (b) Structural studies on bacteria, bacterial and mammalian viruses, (c) Techniques in immunochemistry involving antibody synthesis, mechanism of antibody-antigen reaction and assay of antibody reactions, (d) Enzyme studies involving physicochemistry properties, kinetics, thermodynamics and mechanisms of action. Prerequisite: 501. Six hours per week. SPRING. Drs. Robinson, Hash, Harshman, Colowick, and Najjar.

582. RESEARCH FELLOWSHIP IN MICROBIOLOGY. Fourth year. Research fellowship covering immunochemistry, microbiology genetics, and bacteriophage. Full time for twelve or eighteen weeks. Dr. Najjar.

331. SPECIAL SEMINARS. Selected topics of current interest. [1] Staff.

399. RESEARCH. Staff.

# Pathology

- JOHN L. SHAPIRO, M.D., *Professor of Pathology and Chairman of the Department*  
FRANK R. BLOOD, Ph.D., *Associate Professor of Pathology*  
WILLIAM J. CHEATHAM, M.D., *Associate Professor of Pathology*  
ROBERT D. COLLINS, M.D., *Associate Professor of Pathology*  
JOHN B. THOMISON, M.D., *Associate Professor of Pathology*  
WILLIAM A. DEMONBREUN, M.D., *Associate Clinical Professor of Pathology*  
FRANK C. WOMACK, M.D., *Associate Clinical Professor of Pathology*  
GEORGE BARNEY, D.V.M., *Assistant Professor of Comparative Pathology*  
DAVID L. BEAVER, M.D., *Assistant Professor of Pathology*  
HARRY G. BROWNE, M.D., *Assistant Professor of Pathology*  
NORMAN ENDE, M.D., *Assistant Professor of Pathology*  
FRED W. RYDEN, M.D., Ph.D., *Assistant Professor of Pathology*  
BERTRAM E. SPROFKIN, M.D., *Assistant Clinical Professor of Neuropathology*  
KATHERINE ANDERSON GOODPASTURE, Ph.D., *Instructor in Pathology*  
RICHARD D. BUCHANAN, M.D., *Instructor in Pathology*  
LARRY E. DOUGLASS, M.D., *Instructor in Pathology*  
R. JACK FREEMAN, M.D., *Instructor in Pathology*  
JERRY K. HUMPHREYS, M.D., *Instructor in Pathology*  
EDWARD E. LITKENHOUS, M.D., *Instructor in Pathology*  
JAMES M. PHYTHON, M.D., *Clinical Instructor in Pathology*

501. GENERAL AND SPECIAL PATHOLOGY (321.) General and special pathology presented by lectures, demonstrations, discussions, and laboratory work. Gross and microscopic lesions characteristic of various diseases are studied and correlated. The class assists with post-mortem examinations performed during the course. [10] *Dr. Shapiro and Staff.*

521. PATHOLOGY OF DISEASES OF LABORATORY ANIMALS. Second and Fourth years. A course providing training in the interpretation of lesions in experimental animals, and designed particularly to aid in recognition and interpretation of natural diseases which could influence results and to evaluate laboratory animals as to their suitability for experimental purposes. One hour per week; six week units. *Dr. Barney.*

522. NEUROPATHOLOGY AND ITS CLINICAL CORRELATION. Second and Fourth years. In a series of weekly lectures and clinic-pathologic demonstrations the anatomic, physiologic and pathologic aspects of nervous system disease will be integrated. Designed for medical students at any level. One hour per week. SPRING. *Dr. Sprofskin.*

523. VIRAL DISEASES OF IMPORTANCE TO MAN. Second and Fourth years. Major viral diseases of importance to man, their pathogenesis, pathology and laboratory diagnosis will be discussed in a series of lectures and seminars. Two hours per week. SPRING. *Dr. Cheatham.*

524. GROSS PATHOLOGY OF THE NERVOUS SYSTEM. Second and Fourth years. A limited number of students will be accepted for participation in the weekly examination of current specimens obtained at necropsy and subsequent study of the pertinent microscopic specimens. One hour per week. FALL & SPRING. *Dr. Sprofskin.*

525. SURGICAL PATHOLOGY. Third year. Each session is initiated by a lecture to be followed by presentation of pertinent microscopic lesions and roentgenograms. In the laboratory, fresh gross specimens and loan collections of slides are studied under supervision of resident and senior staff. The course correlates the clinical manifestations and the gross and microscopic changes of the common surgical diseases. (Surgery 521.) Three hours per week. *Dr. McSwain and Staff.*

526. OBSTETRICAL AND GYNECOLOGICAL PATHOLOGY. Fourth year. A series of lectures and laboratory exercises concerning the more important gross and microscopic lesions of the female reproductive system. The morphologic and functional aspects of the lesions and their clinical significance are emphasized. (Obstetrics-Gynecology 522.) Three hours per week; six week units. *Drs. Thomison and Parker.*

527. TROPICAL DISEASES. Fourth year. To stimulate interest in global medicine, the pathogenesis and diagnosis of infectious diseases (primarily tropical and subtropical in distribution) will be emphasized. Two hours per week. SPRING. *Drs. Ryden and Thomison.*

561. CLERKSHIP IN PATHOLOGY. Fourth year. Senior students will participate in all departmental activities, with responsibility in teaching and autopsy service. Investigative work as desired. Full time; six week units. *Dr. Shapiro and Staff.*

581. RESEARCH FELLOWSHIP IN ELECTRON MICROSCOPY. Fourth year. Techniques of electron microscopy as applied to specific research problems in pathology. Full time for twelve or eighteen weeks. *Dr. Beaver.*

582. RESEARCH IN PATHOLOGY (399.) Fourth year. Opportunities for research are offered to properly qualified students. Hours by arrangement. *Staff.*

## Pharmacology

ALLAN D. BASS, M.S., M.D., *Professor of Pharmacology and Chairman of the Department*


MILTON T. BUSH, Ph.D., *Professor of Pharmacology*

MURRAY HEIMBERG, Ph.D., M.D., *Associate Professor of Pharmacology*

LEON HURWITZ, Ph.D., *Associate Professor of Pharmacology (On leave 1964/65)*

CHARLES B. PITTINGER, M.D., *Associate Professor of Pharmacology*

ERWIN J. LANDON, Ph.D., M.D., *Assistant Professor of Pharmacology*  
 JOHN A. OATES, M.D., *Assistant Professor of Pharmacology*  
 B. V. RAMA SASTRY, D.Sc., Ph.D., *Assistant Professor of Pharmacology*  
 IRA WEINSTEIN, Ph.D., *Assistant Professor of Pharmacology*  
 FLORIS DE BALBIAN VERSTER, M.S., Ph.D., *Assistant Professor of Pharmacology*  
 (Effective November 1, 1964)  
 REGINALD W. BUTCHER, Ph.D., *Instructor in Pharmacology*  
 JAMES V. DINGELL, M.S., Ph.D., *Instructor in Pharmacology*  
 WILLIAM A. PETTINGER, M.S., M.D., *Instructor in Pharmacology*  
 G. ALAN ROBISON, M.S., Ph.D., *Instructor in Pharmacology*  
 SAROJ B. GHOSH, M.Sc., *Research Associate in Pharmacology*  
 ARTHUR S. HUMB, Ph.D., *Research Associate in Pharmacology*  
 VERNON D. JONES, Ph.D., *Research Associate in Pharmacology*  
 HERMAN L. PARRISH, M.S., *Research Associate in Pharmacology*  
 W. BOLTON SMITH, M.A., *Research Associate in Pharmacology*  
 HENRY G. WILCOX, Ph.D., *Research Associate in Pharmacology*

 The Department of Pharmacology offers courses leading to the M.S. and Ph.D. degrees. Courses described below which are numbered in the 300 series are offered primarily for that program but are open to medical students by special arrangement.

501. PHARMACOLOGY (321.) Lectures in which the reaction of the human organism to chemical substances is taken up in a systematic manner, and typical reactions demonstrated by animal experiments. Laboratory exercises in which the student has an opportunity to become familiar with pharmacological techniques. Six lectures a week and eight hours of laboratory work a week. SPRING. [8] *Dr. Bass and Staff.*

521. ENVIRONMENTAL RADIOACTIVITY: MINERALS AND TRACE ELEMENTS. Second and Fourth years. Covers physical and biological factors that govern the movement of radioactive substances in the ecological system, natural radioactivity, the hazards of wastes from atomic energy industry and the hazards of fall out, application of whole body counting techniques to the study of mineral metabolism in animals and man. (Medicine 524.) Three hours per week. SPRING. *Drs. Sastry and Heysel.*

522. CLINICAL PHARMACOLOGY. Fourth year. Lectures and clinical seminars on the pharmacological basis of therapeutics and on the clinical use and evaluation of drugs. (Medicine 526.) One hour per week. FALL. *Dr. Oates.*

523. THE RELATIONSHIP OF CHEMICAL STRUCTURE TO PHARMACOLOGICAL ACTION (323-1.) Fourth year. Discussion and demonstration of correlations between pharmacological action and molecular structure of organic substances, with special reference to the physical-chemical properties of these substances. Two hours per week. FALL. *Dr. Bush.*

524. AUTONOMIC PHARMACOLOGY (323-4.) Fourth year. The mechanisms of storage and release of catecholamines and acetylcholine will be discussed. Lectures on drugs modifying autonomic function through an action of hormone synthesis, storage, release, or direct combination with tissue enzymes or receptors will be given. Two hours per week. FALL. *Drs. Bass and Sastry.*

525. METABOLISM OF ANTIBACTERIAL AND ANTIFUNGAL AGENTS. Fourth year. Lectures and conferences on the penicillins, broad spectrum antibiotics, fungicidal, or fungistatic agents. Emphasis will be placed on mode of action, distribution, excretion and toxicity of the agent. Two hours per week. SPRING. *Dr. Weinstein.*

581. RESEARCH FELLOWSHIP IN PHARMACOLOGY. Fourth year. The various areas of Pharmacology including Clinical Pharmacology. Full time for twelve or eighteen weeks. *Dr. Bass.*

322. MECHANISM OF DRUG ACTION. Lectures and seminars will be held for students interested in acquiring a knowledge of the biochemical and physicochemical mechanisms involved in drug action. This will include: (1) Drug-receptor interactions, (2) The biochemical basis of drug therapy. Two sessions each week. Hours by arrangement. [2] *Dr. Hurwitz.* (Not offered in 1964/65.)

323. SPECIAL PROBLEMS AND EXPERIMENTAL TECHNIQUES IN PHARMACOLOGY. Lectures and laboratory covering the application of fundamental concepts of chemistry, physics, and biology to pharmacological theory and practice. Individual courses are offered including:

- (1) The relationship of chemical structure to pharmacological action. (Same as 523.) FALL. *Dr. Bush.*
- (2) Antimetabolites as pharmacological agents. FALL. *Dr. Landon.*
- (3) Endocrine pharmacology. SPRING. *Dr. Heimberg.*
- (4) Autonomic pharmacology. (Same as 524.) FALL. *Dr. Bass.*
- (5) Psychopharmacology. SPRING. *Drs. Bush and Dingell.*

These courses are offered only in alternate years. 323 (2), 323 (1), and 323 (4) offered in 1964/65.

330a-330b. SEMINAR IN PHARMACOLOGY. Admission to course by arrangement. FALL & SPRING. [1] *Staff.*

331a-331b. SEMINAR IN PSYCHOPHARMACOLOGY. An interdepartmental seminar involving the Departments of Pharmacology, Psychology, Psychiatry, and Anatomy. The topics covered relate to etiology of mental illness, behavioral psychology, and mechanism of action of drugs which are employed both as psychomimetic agents and psychotherapeutic agents. FALL & SPRING. [1-1] *Staff.*

399. RESEARCH. Experimental and theoretical aspects of the mechanism of action of chemical substances on cell, tissue and organ function,

especially in the following areas: cardiac pharmacology, cancer chemotherapy, antimetabolites as chemotherapeutic agents, metabolic fate of narcotic and tranquilizing drugs, design and synthesis of new molecules as possible chemotherapeutic substances. FALL & SPRING. Hours and credit by arrangements. *Staff.*

## Physiology

CHARLES RAWLINSON PARK, M.D., *Professor of Physiology and Chairman of the Department*

EARL W. SUTHERLAND, JR., M.D., *Professor of Physiology*

H. C. MENG, M.D., Ph.D., *Associate Professor of Physiology*

HOWARD E. MORGAN, M.D., *Associate Professor of Physiology; Investigator, Howard Hughes Medical Institute*

JANE H. PARK, Ph.D., *Associate Professor of Physiology*

ROBERT L. POST, M.D., *Associate Professor of Physiology*

HERMANN BADER, M.D., *Assistant Professor of Physiology*

EDWARD J. BATTERSBY, M.D., *Assistant Professor of Physiology*

ROGER H. BOWMAN, Ph.D., *Assistant Professor of Physiology; Established Investigator, American Heart Association*

RONALD R. DiNELLA, Ph.D., M.D., *Assistant Professor of Physiology*

TETSURO KONO, Ph.D., *Assistant Professor of Physiology*

MILOS KOPECKY, M.D., *Assistant Professor of Physiology*

DAVID M. REGEN, Ph.D., *Assistant Professor of Physiology; Investigator Howard Hughes Medical Institute*

AMAR K. SEN, M.D., Ph.D., *Assistant Professor of Physiology*

REGINALD W. BUTCHER, Ph.D., *Instructor in Physiology*

JOHN G. EXTON, M.D., Ph.D., *Instructor in Physiology*

JOEL HARDMAN, Ph.D., *Instructor in Physiology*


REN-JYE HO, Ph.D., *Instructor in Physiology*

G. ALAN ROBISON, Ph.D., *Instructor in Physiology*

JOHN G. T. SNEYD, Ph.D., *Instructor in Physiology*

I. M. E. AKTIN, M.D., *Research Associate in Physiology*

DUDLEY EARL, Ph.D., *Research Associate in Physiology*

 The Department of Physiology offers courses leading to the Ph.D. degree. Courses described below which are numbered in the 300 series are offered primarily for that program but are open to medical students by special arrangement.

501. PHYSIOLOGY (321.) This course consists of lectures, conferences, and laboratory work, designed to cover the essentials in physiology for

first year medical students. It or its equivalent is also required of all graduate students majoring in physiology. SPRING. [8] *Dr. Park and Staff.*

521. TOPICS IN GENERAL PHYSIOLOGY. First year. The course will start with the basic cellular processes of accumulation, membrane transport, bioelectric potentials, contraction, and secretion from the point of view of elementary applied physical chemistry. The discussion will extend to the operation of these processes in the function of erythrocytes, nerves, sensory receptors, muscles, glands, and excretory organs. When applicable the mechanism of the hormonal control of these cells will be included. One hour per week. SPRING. *Dr. Post.*

581. RESEARCH FELLOWSHIP IN PHYSIOLOGY. Fourth year. Opportunities will be available in the fields of membrane transport and intermediary metabolism and in the hormonal control of these processes. Full time for twelve or eighteen weeks. *Dr. Park.*

582. ADVANCED PHYSIOLOGY (323.) Second and Fourth years. This course deals with special topics in physiology and consists of laboratory work and conferences. Open to students who have had course 501 or its equivalent. Hours and credit by arrangement. *Dr. Park and Staff.*

322. PHYSIOLOGICAL TECHNIQUES AND PREPARATIONS. A course designed for advanced students. Hours and credit by arrangement. *Dr. Park and Staff.*

399. RESEARCH. *Staff.*

## *Anesthesiology*

CHARLES B. PITTINGER, M.D., *Professor of Anesthesiology and Chairman of the Department*

GEOFFREY BERRY, M.B., Ch.B., *Assistant Professor of Anesthesiology*

YILMAZ ERYASA, M.D., *Assistant Professor of Anesthesiology*

JOANNE L. LINN, M.D., *Assistant Professor of Anesthesiology*

BASEL M. MIXON, JR., M.D., *Assistant Professor of Anesthesiology*

IAN COBHAM, M.D., *Instructor in Anesthesiology*

PAULA F. CONAWAY, M.D., *Instructor in Anesthesiology*

RUPERTO E. PEREZ, JR., M.D., *Instructor in Anesthesiology*

501. ANESTHESIOLOGY. This course for third year students consists of a series of lectures on some aspects of anesthesiology applicable to the general practice of medicine. Among the topics presented will be: Preoperative evaluation of the patient; Premedication, selection of anesthetic agent and technique; Local anesthesia, resuscitation, and oxygen therapy. One hour per week for twelve weeks. *Dr. Pittinger and Staff.*

502. OPERATIVE SURGERY AND ANESTHESIOLOGY. A laboratory course for third year students offered jointly by the Departments of Surgery and Anesthesiology to provide experience in anesthesia and experimental surgery. Students work in groups of four, rotating responsibilities so that each receives experience in anesthesia. (See Surgery 502.) Three hours per week for twelve weeks. *Dr. Pittinger and Staff.*

561. CLERKSHIP IN ANESTHESIOLOGY. Fourth year. Didactic and operating room experience in the conduction of anesthesia, including pre- and post-anesthetic care. Full time, six week units. *Dr. Pittinger and Staff.*

599. ANESTHESIOLOGY SEMINAR. Fourth year. A series of lecture presentations and discussions of basic scientific principles related to anesthesiology. Students may register for one or two semesters. One hour per week. FALL & SPRING. *Dr. Pittinger and Staff.*

## Medicine

DAVID E. ROGERS, M.D., *Professor of Medicine and Chairman of the Department*

ROBERT CARL HARTMANN, M.D., *Professor of Medicine*

RUDOLPH H. KAMPMEIER, M.D., *Professor of Medicine, Emeritus*

GRANT W. LIDDLE, M.D., *Professor of Medicine*

ANN STONE MINOT, Ph.D., *Professor of Medicine, Emeritus*

ELLIOT V. NEWMAN, M.D., *Joe and Morris Werthan Professor of Experimental Medicine*

THOMAS F. PAINE, JR., M.D., *Professor of Medicine*

F. TREMAINE BILLINGS, M.D., *Clinical Professor of Medicine*

SAMUEL S. RIVEN, M.D., C.M., *Clinical Professor of Medicine*

W. DAVID STRAYHORN, M.D., *Clinical Professor of Medicine*

CLARENCE S. THOMAS, M.D., *Clinical Professor of Medicine*

THOMAS BOWMAN ZERFOSS, M.D., *Clinical Professor of Medicine, Emeritus*

A. BERTRAND BRILL, M.D., *Associate Professor of Medicine*

THOMAS E. BRITTINGHAM, M.D., *Associate Professor of Medicine*

ROGER M. DES PREZ, M.D., *Associate Professor of Medicine*

RICHARD FRANCE, M.D., *Associate Professor of Medicine*

ROBERT A. GOODWIN, M.D., *Associate Professor of Medicine*

LLOYD H. RAMSEY, M.D., *Associate Professor of Medicine; Investigator, Howard Hughes Medical Institute*

ROBERT T. TERRY, M.D., *Associate Professor of Medicine*

THOMAS F. FRIST, M.D., *Associate Clinical Professor of Medicine*

LAURENCE A. GROSSMAN, M.D., *Associate Clinical Professor of Medicine*

J. ALLEN KENNEDY, M.D., *Associate Clinical Professor of Medicine*

ADDISON B. SCOVILLE, JR., M.D., *Associate Clinical Professor of Medicine*

HARRISON J. SHULL, M.D., *Associate Clinical Professor of Medicine*

WILLIAM L. ALSOBROOK, M.D., *Assistant Professor of Medicine*

EDWARD J. BATTERSBY, M.D., *Assistant Professor of Medicine*

WILLIAM S. COPPAGE, M.D., *Assistant Professor of Medicine*



WILLIAM J. DARBY, M.D., Ph.D., *Assistant Professor of Medicine in Nutrition*  
 ERIC ENGEL, M.D., *Assistant Professor of Medicine*  
 JOHN M. FLEXNER, M.D., *Assistant Professor of Medicine*  
 ROBERT M. HEYSSEL, M.D., *Assistant Professor of Medicine*  
 M. GLENN KOENIG, M.D., *Assistant Professor of Medicine*  
 WILLIAM W. LACY, M.D., *Assistant Professor of Medicine*  
 DAVID H. LAW, M.D., *Assistant Professor of Medicine*  
 GEORGE V. MANN, Sc.D., M.D., *Assistant Professor of Medicine in Biochemistry*  
 WALTER E. NANCE, M.D., *Assistant Professor of Medicine; Markle Scholar*  
 JOHN A. OATES, M.D., *Assistant Professor of Medicine*  
 WILLIAM D. SALMON, JR., M.D., *Assistant Professor of Medicine*  
 STEPHEN SCHILLIG, M.D., *Assistant Professor of Medicine*  
 BRUCE SINCLAIR-SMITH, M.D., *Assistant Professor of Medicine*  
 CRAWFORD W. ADAMS, M.D., *Assistant Clinical Professor of Medicine*  
 BENJAMIN J. ALPER, M.D., *Assistant Clinical Professor of Medicine*  
 JAMES J. CALLAWAY, M.D., *Assistant Clinical Professor of Medicine*  
 WILLIAM J. CARD, M.D., *Assistant Clinical Professor of Medicine*  
 ORRIE A. COUCH, JR., M.D., *Assistant Clinical Professor of Medicine*  
 FREDERIC E. COWDEN, M.D., *Assistant Clinical Professor of Medicine*  
 ROBERT M. FINKS, M.D., *Assistant Clinical Professor of Medicine*  
 FRED GOLDNER, JR., M.D., *Assistant Clinical Professor of Medicine*  
 JOHN H. GRISCOM, M.D., *Assistant Clinical Professor of Medicine*  
 THOMAS B. HALTOM, M.D., *Assistant Clinical Professor of Medicine*  
 AUBREY B. HARWELL, M.D., *Assistant Clinical Professor of Medicine*  
 WILDER WALTON HUBBARD, M.D., *Assistant Clinical Professor of Medicine*  
 HERMAN J. KAPLAN, M.D., *Assistant Clinical Professor of Medicine*  
 RALPH W. MASSIE, M.D., *Assistant Clinical Professor of Medicine*  
 EDNA S. PENNINGTON, M.D., *Assistant Clinical Professor of Medicine*  
 THOMAS GUV PENNINGTON, M.D., *Assistant Clinical Professor of Medicine*  
 JAMES N. THOMASSON, M.D., *Assistant Clinical Professor of Medicine*  
 CHARLES B. THORNE, M.D., *Assistant Clinical Professor of Medicine*  
 RUSSELL D. WARD, M.D., *Assistant Clinical Professor of Medicine*  
 CLARENCE C. WOODCOCK, JR., M.D., *Assistant Clinical Professor of Medicine*  
 JOHN LANIER WYATT, M.D., *Assistant Clinical Professor of Medicine*  
 LUIS ARIAS, M.D., *Instructor in Medicine*  
 THOMAS G. ARNOLD, JR., B.S., *Instructor in Medicine, Martha Washington*  
     *Straus-Harry H. Straus Instructor in Biophysics in Medicine*  
 PETER E. BAUME, M.B., B.S., *Instructor in Medicine*  
 TURNER BLEDSOE, M.D., *Instructor in Medicine*  
 DENNIS A. BLOOMFIELD, M.B., B.S., *Instructor in Medicine*  
 RICHARD E. BRYANT, M.D., *Instructor in Medicine*  
 LEROY L. COOK, JR., B.A., *Instructor in Medicine*  
 NORMAN FLEISCHER, M.D., *Instructor in Medicine*  
 RICHARD D. GORDON, M.D., *Instructor in Medicine*  
 JAMES E. HANCHETT, M.D., *Instructor in Medicine*  
 JAMES E. HASTINGS, M.D., *Instructor in Medicine*  
 MARGARET E. HOOD, B.S., *Instructor in Medical Research*  
 DONALD P. ISLAND, B.S., *Instructor in Medical Research*  
 DAVID E. JENKINS, M.D., *Instructor in Medicine*  
 MARIAN ANN MELLY, B.S., *Instructor in Medical Research*  
 L. CLIFFORD MCKEE, M.D., *Instructor in Medicine*

JOHN D. PERRINE, M.D., *Instructor in Medicine*  
 ROBERT C. RIGGINS, M.D., *Instructor in Medicine*  
 HAROLD H. SANDSTEAD, M.D., *Instructor in Medicine*  
 WILLIAM SCHAFFNER III, M.D., *Instructor in Medicine*  
 JAMES D. SNELL, JR., M.D., *Instructor in Medicine*  
 JOHN R. WOODS, M.D., *Instructor in Medicine*  
 LAWRENCE K. WOLFE, M.D., *Instructor in Medicine*  
 ARTHUR RAY ANDERSON, M.D., *Clinical Instructor in Medicine*  
 EDWIN B. ANDERSON, M.D., *Clinical Instructor in Medicine*  
 H. R. ANDERSON, M.D., *Clinical Instructor in Medicine*  
 JACK M. BATSON, M.D., *Clinical Instructor in Medicine*  
 ROBERT T. COCHRAN, M.D., *Clinical Instructor in Medicine*  
 RAYMOND R. CROWE, M.D., *Clinical Instructor in Medicine*  
 IRWIN B. ESKIND, M.D., *Clinical Instructor in Medicine*  
 E. WILLIAM EWERS, M.D., *Clinical Instructor in Medicine*  
 HOWARD R. FOREMAN, M.D., *Clinical Instructor in Medicine*  
 MILTON GROSSMAN, M.D., *Clinical Instructor in Medicine*  
 DAVID W. HAILEY, M.D., *Clinical Instructor in Medicine*  
 JOSIAH B. HIBBITS, M.D., *Clinical Instructor in Medicine*  
 JOSEPH E. HURT, M.D., *Clinical Instructor in Medicine*  
 IRA T. JOHNSON, M.D., *Clinical Instructor in Medicine*  
 JOHN P. KINNARD, JR., M.D., *Clinical Instructor in Medicine*  
 OTTO MORSE KOCHTITZKY, M.D., *Clinical Instructor in Medicine*  
 CULLEN R. MERRITT, M.D., *Clinical Instructor in Medicine*  
 FRED D. OWNBY, M.D., *Clinical Instructor in Medicine*  
 LENOR S. RIBEIRO, M.D., *Clinical Instructor in Medicine*  
 MARVIN J. ROSENBLUM, M.D., *Clinical Instructor in Medicine*  
 SOL A. ROSENBLUM, M.D., *Clinical Instructor in Medicine*  
 ROBERT M. ROY, M.D., *Clinical Instructor in Medicine*  
 HERBERT J. SCHULMAN, M.D., *Clinical Instructor in Medicine*  
 ABRAM C. SHMERLING, M.D., *Clinical Instructor in Medicine*  
 W. ANDERSON SPICKARD, M.D., *Clinical Instructor in Medicine*  
 LUTHER E. SMITH, M.D., *Clinical Instructor in Medicine*  
 EDWARD L. TARPLEY, M.D., *Clinical Instructor in Medicine*  
 W. CARTER WILLIAMS, JR., M.D., *Clinical Instructor in Medicine*  
 KAORU ABE, M.D., *Research Associate in Medicine*  
 WILEY HUGH MOORE, *Research Associate in Medicine*

#### DERMATOLOGY

ROBERT N. BUCHANAN, M.D., *Clinical Professor of Dermatology*  
 FRANK G. WITHERSPOON, M.D., *Assistant Clinical Professor of Dermatology*  
 JAMES R. HAMILTON, M.D., *Clinical Instructor in Dermatology*  
 BERNARD J. PASS, M.D., *Clinical Instructor in Dermatology*

#### NEUROLOGY

BERTRAM E. SPROFKIN, M.D., *Clinical Professor of Neurology*  
 CHARLES E. WELLS, M.D., *Associate Professor of Neurology*  
 ERIC BELL, JR., M.D., *Assistant Clinical Professor of Neurology*  
 WILLIAM M. CLARK, M.D., *Clinical Instructor in Neurology*

501. METHODS IN CLINICAL SCIENCE. An interdepartmental course designed to acquaint the student with the techniques, methods, and basic principles necessary to take careful histories, perform thorough physical examinations and to understand and utilize basic laboratory procedures employed in clinical medicine. Students are divided into small tutorial groups for intensive work with patients on the wards at Vanderbilt University Hospital, the Veterans Administration Hospital and Nashville General Hospital. Similar tutorial groups are utilized in the laboratory where students learn methods for examining urine, blood, sputum, gastric contents, feces, and body fluids. An introduction to neurologic diagnostic methods is included in the course. Additional training is given in special problems which relate to examination of pediatric, surgical and obstetrical patients. Radiological techniques are correlated with instructional sessions. Correlative sessions are interspersed with the above. In these sessions, methods by which the history, physical examination and laboratory aids can be used to arrive at diagnosis and decisions regarding further study and treatment are conducted by interdepartmental groups. *Drs. Rogers, Pennington, Hartmann, Wells, Minot, and the faculty of the Department of Medicine; Drs. Christie, Merrill and members of the Department of Pediatrics; Dr. Foster and members of the Department of Surgery; Dr. Noyes and members of the Department of Obstetrics-Gynecology; Dr. Klatte and members of the Department of Radiology; Dr. Shapiro and members of the Department of Pathology; members of the Departments of Anatomy, Pharmacology, and Biochemistry.*

502. CLINICAL CLERKSHIP. One-third of the third year class are assigned to the medical wards for twelve week periods. During the medical clerkship, time is divided equally between the Vanderbilt University Hospital and the Veterans Administration Hospital. The medical wards at Vanderbilt University Hospital are comprised of 75 ward beds used in teaching, plus an additional 21 beds in the Clinical Research Center. The Veterans Administration Hospital has approximately 80 teaching beds. At Vanderbilt University Hospital these services include patients with diseases of the nervous system and the skin in addition to general medical patients. At the Veterans Administration Hospital there is a separate neurologic ward to which clinical clerks are assigned for two weeks during their medical clerkship. In addition, there is an active pulmonary service which functions within the medical service at the Veterans Administration Hospital. Patients are under the care of members of the faculty of medicine. Sub-departmental areas are organized for teaching and clinical research as well as management of patients. The clinical clerkship is regarded as the backbone of the student's training in medicine, and represents the most intensive in-patient experience offered within the Department. It is believed that learning is most vivid through direct experience with patients, obtaining histories, doing physicals and laboratory studies, amplified by reading and by intensive contact with members of the house staff and teaching staff. Students are given considerable responsibility under the close supervision of the teaching staff. Additional instruction is carried out during rounds with the Chief of Service. In these sessions, clinical clerks present cases for discussion and criticism and the more important fields of internal medicine are covered. Instruction in dermatology consisting of a series of clinics and clinic demonstrations are held

once weekly within the Veterans Administration Hospital. Ward work is supplemented by numerous teaching and subspecialty conferences held throughout the academic year. *Drs. Rogers, Brittingham, Wells, Des Prez, Salmon, Buchanan, and members of the faculty of the Department of Medicine.*

503. CLINICAL LECTURES AND DEMONSTRATIONS. A series of 18 amphitheater clinics held bimonthly throughout the year. Cases and discussions on diseases of importance in medicine are presented. One hour per week. *Drs. Rogers, Brittingham, and Staff.*

504. MEDICAL OUT-PATIENT CLINIC. During the fourth year, each student is assigned one morning clinic period a week in the out-patient department. This experience gives the fourth year student major responsibilities for patient work-up and care in an environment that provides supervision and consultation from many branches of medicine. The long term care and follow-up of ambulatory patients and further refinement of skills in history taking and physical examination are stressed. During this period the student becomes acquainted with the resources which other services can bring to bear in the cooperative management of patients with chronic disease. Experiences with orthopedics, physiotherapy, social service and psychiatry are included. *Dr. Law and Staff.*

505. ELECTIVES IN MEDICINE. The Department of Medicine has many subspecialty divisions. Students in the third and fourth years may elect special clinical or research work within any division of the Department of Medicine. In general, these electives follow the lines noted in the courses below. It should be indicated, however, that flexible arrangements can be worked out on an individual basis through consultation with the faculty member who will assume responsibility for supervision and guidance of the student. Such special electives must be cleared through *Dr. Rogers and the Assistant Dean for Medical Education.*

521. INTRODUCTION TO CLINICAL NEUROLOGY. First year. A teaching clinic in which patients with nervous system disease will be presented and discussed in terms of the underlying anatomic and physiologic defects. Emphasis will be placed on the clinical manifestations of neural disorders as deviations from normal function. One hour per week. *SPRING. Dr. Wells.*

522. MEDICAL GENETICS. First, Second, and Fourth years. A general survey of genetics emphasizing the relevance of hereditary mechanisms to the pathogenesis of human disease. Topics discussed will include biochemical, quantitative and population genetics, the genetics of microorganisms, cytogenetics, pharmacogenetics, the genetic control of protein synthesis, mutation, consanguinity, and evolution. One hour per week. *SPRING. Dr. Nance.*

523. FUNDAMENTALS OF HUMAN NUTRITION. Second and Fourth years. The biochemical and physiological basis of nutrition with special emphasis upon human subjects. It consists of lectures and assigned readings. (Biochemistry 523.) One hour per week. *SPRING. Dr. Mann.*

524. ENVIRONMENTAL RADIOACTIVITY: MINERALS AND TRACE ELEMENTS. Second and Fourth years. Physical and biological factors that govern the movement of radioactive substances in the ecological system, natural radioactivity, the hazards of wastes from atomic energy industry and the hazards of fall-out, application of whole body counting techniques to the study of mineral metabolism in animals and man. (Pharmacology 521.) Three hours per week. SPRING. *Drs. Sastry and Heyssel.*

525. CLINICAL HEMATOLOGY. Second and Fourth years. A detailed, correlative clinical laboratory course. Each session will open with presentation of a patient followed by microscopic study, demonstration of pertinent specialized tests, and lastly an informal correlative discussion of the entire disease process. Three hours per week. SPRING. *Drs. Hartmann, Flexner, and Heyssel.*

526. CLINICAL PHARMACOLOGY. Fourth year. Lectures and clinical seminars on the pharmacological basis of therapeutics and on the clinical use and evaluation of drugs. (Pharmacology 522.) One hour per week. FALL. *Dr. Oates and Staff.*

527. CLINICAL ELECTROCARDIOGRAPHY. Fourth year. A course of lectures and workshops dealing with the interpretation of clinically important electrocardiographic abnormalities. One hour per week. FALL. *Dr. Battersby.*

528. CORRELATION OF CLINICAL AND PHYSIOLOGIC DATA IN HEART DISEASE. Fourth year. A case of heart disease from the wards will be presented at each session. Auditory and visual aids in the form of electrocardiograms, phonocardiograms, intracardiac pressure tracings, dye dilution curves, and cineangiograms will be used to emphasize the clinical findings. One hour per week. FALL & SPRING. *Drs. France and Arias.*

529. TOPICS IN INFECTIOUS DISEASES. Fourth year. A lecture course dealing with selected topics in infectious diseases. This course will stress pathogenesis, host-parasite relationships, diagnosis, and treatment. One hour per week. FALL. *Drs. Rogers and Koenig.*

530. TOPICS IN CLINICAL PHYSIOLOGY. Fourth year. A lecture and seminar course for the detailed examination of certain aspects of normal and pathologic physiology in man. Major concentration will be in circulatory, pulmonary, and renal physiology. Two hours per week. SPRING. *Dr. Newman and Staff.*

543. MEDICAL SPECIALTY CLINICS. Fourth year. Clinical experience in the following specialties is available to the student:

Allergy, Cardiology, Dermatology, Diabetes, Endocrinology, Gastroenterology, Hematology, Neurology and Venereal Disease. Three hours per week; six week units. *Dr. Rogers and Staff.*

561. CLERKSHIP IN MEDICINE. Fourth year. A clinical clerkship on the wards of Nashville General Hospital for those who wish to extend their

3rd year experience. Under supervision of the faculty and housestaff. Full time; six week units. *Dr. Paine.*

562. GASTROENTEROLOGY CLERKSHIP. Fourth year. This clerkship offers a broad experience in all clinical phases of gastroenterology including diseases of the hepato-biliary system and pancreas. Participation in endoscopy, biopsy procedures and radiology is coupled with evaluation of patients and participation in one of the on-going research projects. Seminars, rounds, and evaluation of current literature are regularly scheduled. Full time; six week units. *Drs. Law and Shull.*

563. HEMATOLOGY CLERKSHIP. Fourth year. Active participation in Hematology OPD, journal clubs, seminars, marrow conferences, and ward rounds at Vanderbilt University Hospital, Veterans Administration Hospital, and Nashville General Hospital. Laboratory experience in specialized hematologic, radioisotope and blood banking techniques. Optional research experience. Program can be tailored to needs and desires of individual student. Each student will have an adviser on the senior faculty. Full time; six week units. *Dr. Hartmann.*

564. CLERKSHIP IN NEUROLOGY. Fourth year. Advanced clinical clerkship experience on the neurology wards of Vanderbilt University Hospital, Veterans Administration Hospital, and Nashville General Hospital. Neurology outpatient experience, plus conferences and seminars in neurology. Special research projects optional. Full time; six week units. *Dr. Wells.*

565. CLERKSHIP ON CLINICAL RESEARCH CENTER WARD. Fourth year. The Clinical Research Center ward is operating at full strength with 21 beds under the aegis of all divisions of the Hospital. Most of the patients are medical and are a particularly selected and complicated group with a wide variety of diseases. Regular rounds will be made with the housestaff and investigators, and there will be an opportunity to attend the Clinical Research Conferences. Full time; six week units. *Dr. Newman and Staff.*

566. CLERKSHIP IN PULMONARY DISEASES. Fourth year. The basic form of the clerkship will be that of a substitute internship. Student responsibilities will include initial work-up and continuing treatment of new patients under the supervision of the full time staff on the Pulmonary Disease Service, Veterans Administration Hospital. Full time; six week units. *Dr. Goodwin.*

Research opportunities are available in all divisions of the Department of Medicine for selected students. Certain specific opportunities are outlined below.

581. RESEARCH FELLOWSHIPS IN INFECTIOUS DISEASES. Fourth year. A program consisting of approximately 70 per cent time on a research project, 30 per cent in clinical work with problems related to infection. Full time for twelve or eighteen weeks. *Drs. Koenig, Rogers, and Staff.*

582. RESEARCH FELLOWSHIP IN SELECTED METABOLIC AND ENDOCRINE DISEASES. Fourth year. Course covers selected topics in endocrinology and metabolism by means of an assigned reading program, laboratory work, clinical demonstration, and seminar. The student has an opportunity to examine and discuss patients and perform appropriate laboratory procedures utilizing enzymatic, colorimetric, spectrophotometric, isotopic, chromatographic and bioassay techniques. A weekly seminar reviews the assigned reading in the area of a single disease or group of related disorders of metabolism. Full time for six weeks. *Drs. Salmon and Copping.*

583. RESEARCH FELLOWSHIP IN QUANTITATIVE CLINICAL CARDIOLOGY. Fourth year. The students accepted for this course must be interested in the study of cardiovascular disease and will be incorporated during their elective period into the full activities of this Division. Projects will include: (1) Instruction in elementary hemodynamics and intracardiac pressure wave analysis; (2) Acquisition of basic techniques such as arterial needle puncture, right heart catheterization, familiarization with standard physiological recording equipment; (3) Participation in work conferences and ward consultations. Twelve hours per week, for six or twelve weeks. *Dr. Sinclair Smith.*

584. RESEARCH FELLOWSHIP IN NUCLEAR MEDICINE. Fourth year. Problems in hematology and new applications of radioisotopes in medicine will be selected in accordance with the student's interest and background. Twelve hours per week, or full time for twelve weeks. *Drs. Heyssel and Brill.*

585. RESEARCH FELLOWSHIP IN CLINICAL PHYSIOLOGY. Fourth year. Students interested in participating in any research project being conducted by the staff members of the Division of Clinical Physiology (cardiac, pulmonary, and renal) are offered training on a selective basis. These fellowships provide undergraduate trainees with excellent early exposure and experience in the foundation and methodology of research work. Full time for twelve or eighteen weeks. *Dr. Newman and Staff.*

586. METHODS IN CLINICAL PHYSIOLOGY. First and Second years. An opportunity for experience in the foundation and methodology of research work. Six hours per week. FALL & SPRING. *Dr. Newman and Staff.*

587. RESEARCH FELLOWSHIP IN GASTROENTEROLOGY. Fourth year. Students are offered the opportunity of participating in the on-going research studies of the Division of Gastroenterology involving investigations in gastric secretion, intestinal absorption, protein metabolism and bilirubin metabolism. Full time for twelve or eighteen weeks. *Dr. Law.*

588. RESEARCH FELLOWSHIP IN HEMATOLOGY. Fourth year. A program consisting of approximately 80 per cent time on a specific research project and 20 per cent time in correlative clinical work. Full time for twelve or eighteen weeks. *Dr. Hartmann and Staff.*

# Obstetrics & Gynecology

- ROBERT W. NOYES, M.D., *Professor of Obstetrics and Gynecology and Chairman of the Department*
- JOHN C. BURCH, M.D., *Professor of Gynecology*
- FRANK E. WHITACRE, M.D., *Professor of Obstetrics and Gynecology*
- D. SCOTT BAYER, M.D., *Clinical Professor of Obstetrics and Gynecology*
- G. SYDNEY McCLELLAN, M.D., *Clinical Professor of Gynecology*
- EDWIN LEA WILLIAMS, M.D., *Clinical Professor of Gynecology*
- VINCENT J. DeFEO, Ph.D., *Associate Professor of Obstetrics and Gynecology*
- STANLEY R. GLASSER, Ph.D., *Associate Professor of Obstetrics and Gynecology*
- WILLARD O. TIRRILL, JR., M.D., *Associate Clinical Professor of Obstetrics and Gynecology*
- WALTER A. BONNEY, JR., M.D., *Assistant Professor of Obstetrics and Gynecology*
- SWAN BRASFIELD BURRUS, M.D., *Assistant Professor of Obstetrics and Gynecology*
- THOMAS H. CLEWE, M.D., *Assistant Professor of Obstetrics and Gynecology*
- ZEEV DICKMANN, Ph.D., *Assistant Professor of Obstetrics and Gynecology*
- PIERRE SOUPART, M.D., Ph.D., *Assistant Professor of Obstetrics and Gynecology*
- RUSSELL T. BIRMINGHAM, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- ROBERT L. CHALFANT, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- EVERETT M. CLAYTON, JR., M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- SAM C. COWAN, JR., M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- GEORGE B. CRAFTON, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- JAMES WOOD ELLIS, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- HAMILTON V. GAYDEN, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- B. KIMBROUGH HIBBETT III, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- ROLAND D. LAMB, M.D., *Assistant Clinical Professor of Gynecology*
- HORACE T. LAVELY, JR., M.D., *Assistant Clinical Professor of Gynecology*
- HOMER M. PACE, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- ROY W. PARKER, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- ROBERT C. PATTERSON, JR., M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- C. GORDON PEERMAN, JR., M.D., *Assistant Clinical Professor of Gynecology*
- SIDNEY C. REICHMAN, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- HOUSTON SARRATT, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- ROBERT H. TOSH, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- THOMAS F. WARDER, M.D., *Assistant Clinical Professor of Obstetrics and Gynecology*
- MARIE-CLAIRE ORGBIN-CRIST, Ph.D., *Instructor in Obstetrics and Gynecology*
- BASIL A. PHILLIPS, B.B.A., *Instructor in Obstetrics and Gynecology*



JAMES M. BRAKEFIELD, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
ROGER B. BURRUS, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
CHARLES M. GILL, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
PAUL A. GREEN, JR., M.D., *Clinical Instructor in Obstetrics and Gynecology*  
CHARLIE JOE HOBODY, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
CHARLES H. HUDDLESTON, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
ORRIN LESTER JONES, JR., M.D., *Clinical Instructor in Obstetrics and Gynecology*  
JAMES B. MILLIS, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
WILLIAM D. SUMPTER, JR., M.D., *Clinical Instructor in Obstetrics and Gynecology*  
ARTHUR SUTHERLAND, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
PAUL L. WARNER, M.D., *Clinical Instructor in Obstetrics*  
LARRY L. MORGENSTERN, M.D., *Research Associate in Obstetrics and Gynecology*

501. METHODS IN CLINICAL SCIENCE: INTRODUCTION TO OBSTETRICS AND GYNECOLOGY. As an integral part of the course Methods in Clinical Science, sixteen lectures will be given in the second year, approximately one-half of which will be in Obstetrics and one-half in Gynecology. These lectures will prepare the students for their clinical experiences in the third year. SPRING. *Dr. Noyes and Staff.*

502. CLINICAL CLERKSHIP. One-sixth of the third year class is assigned for one-third of a semester. An introductory experience in the labor and delivery suite, the postpartum ward, and the prenatal clinic. Approximately one-third of the experience will be at the Nashville General Hospital where some experience will be on the gynecological service. *Drs. Noyes, Whitacre, and Staff.*

503. CLINICAL GYNECOLOGY. Fourth-year students are assigned to gynecology patients who come to the outpatient department. The student assigned to a particular case follows that case as long as is necessary in the gynecology clinic or other appropriate clinics. In rotation, students will also be assigned to patients admitted to the Gynecology service; they will work up the patient and assist in the operating room on all cases to which they are assigned. Ward rounds are held at intervals by members of the full-time and clinical faculty of the department. *Dr. Noyes and Staff.*

521. DEVELOPMENTAL BIOLOGY. First and Fourth years. A comprehensive, multidisciplinary study in mammalian developmental biology covering gametogenesis, gamete transport, fertilization and implantation, development and functions of the placenta, uterus, parturition and lactation. This course is presented as a fundamental aspect of biologic science rather than as a medical specialty. Two hours of lecture and two hours of laboratory demonstration per week. (Anatomy 521.) Four hours per week. SPRING. *Drs. Glasser and DeFeo.*

522. OBSTETRICAL AND GYNECOLOGICAL PATHOLOGY. Fourth year. A series of laboratory exercises in which the gross and microscopic characteristics of the more important obstetrical and gynecological conditions are demonstrated. (Pathology 526.) Three hours per week; six week units. FALL & SPRING. *Drs. Parker and Thomison.*

523. PELVIC ANATOMY AND SURGICAL TECHNIQUE. Fourth year. Dissection of female pelvis from viewpoint of surgical anatomy alternating each week with laboratory surgical procedures emphasizing vascular anastomosis, bowel and urinary tract operations. Three hours per week; six week units. FALL & SPRING. *Drs. Bonney and Burrus.*

541. OBSTETRICAL CLINIC. Fourth year. All obstetrical patients are seen in this clinic. Includes initial work-up, management, and postpartum check-ups. Ordinarily, all new patients have a student work-up which is checked by the house officer or consultant. Three hours per week; six week units.

542. GYNECOLOGICAL CLINIC. Fourth year. All gynecological patients are seen in this clinic. Includes initial work-up and management. Ordinarily, all new patients have a student work-up which is checked by the house officer or consultant. Three hours per week; six week units.

543. OBSTETRICAL AND GYNECOLOGICAL SPECIALTY CLINICS. Fourth year. Experience in the following specialty clinics is available to the student: Endocrine and Infertility, Tumor, Dystocia and Contraceptive. Three hours per week; six week units. *Dr. Noyes and Staff.*

561. CLERKSHIP IN OBSTETRICS AND GYNECOLOGY. Fourth year. Clinical clerkship in Obstetrics-Gynecology at Vanderbilt University Hospital or Nashville General Hospital. Inpatient and outpatient services on both obstetrics and gynecology, night call on rotational basis. Weekly clinical and pathology conferences. Full time; six week units. *Drs. Noyes, Whitacre and Burrus.*

581. RESEARCH FELLOWSHIP IN OBSTETRICS AND GYNECOLOGY. Fourth year. Students may work with any member of the faculty on a problem relating to experimental aspects of reproductive biology. The laboratories and animal quarters of the department will be made available to the student. A written and oral report of the research will be required. Twelve hours per week; six week units. *Dr. Glasser and Staff.*

582. CLINICAL RESEARCH IN OBSTETRICS AND GYNECOLOGY. Fourth year. Students will work with a member of the faculty on any problem relating to the diagnosis or treatment of an obstetrical-gynecological disease. Research will be carried out in the library, medical records room, outpatient and inpatient areas, and laboratories of the department. A written and oral report of the research will be required. Three hours per week; six week units. *Dr. Noyes and Staff.*

583. EXPERIMENTAL METHODS IN REPRODUCTIVE BIOLOGY. First, Second, and Fourth years. Students may work with any member of the faculty on a problem relating to experimental aspects of reproductive biology. The laboratories and animal quarters of the department will be made available to the student. A written and oral report of the research will be required. Three hours per week. FALL & SPRING. *Dr. Glasser and Staff.*

599. SEMINAR IN DEVELOPMENTAL BIOLOGY. First, Second, and Fourth years. Weekly seminar including lectures and discussion by the full-time faculty, visiting lecturers, and participating students. (Anatomy 599.) One hour per week. FALL & SPRING. *Drs. Glasser and DeFeo.*

## Ophthalmology

GEORGE W. BOUNDS, JR., M.D., *Assistant Clinical Professor of Ophthalmology and Acting Chairman of the Division*

HENRY CARROLL SMITH, M.D., *Clinical Professor of Ophthalmology*

FOWLER HOLLABAUGH, M.D., *Associate Clinical Professor of Ophthalmology*

G. ALLEN LAWRENCE, M.D., *Assistant Clinical Professor of Ophthalmology*

PHILIP L. LYLE, M.D., *Assistant Clinical Professor of Ophthalmology*

FRED A. ROWE, M.D., *Assistant Clinical Professor of Ophthalmology*

JAMES LODEN, M.D., *Instructor in Ophthalmology*

MARSHALL JOHNSON, M.D., *Instructor in Ophthalmology*

JOHN B. BOND, M.D., *Clinical Instructor in Ophthalmology*

ABRAHAM PACHA CHEIJ, M.D., *Clinical Instructor in Ophthalmology*

L. ROWE DRIVER, M.D., *Clinical Instructor in Ophthalmology*

WALLACE H. FAULK, JR., M.D., *Clinical Instructor in Ophthalmology*

J. RALPH RICE, M.D., *Clinical Instructor in Ophthalmology*

SPENCER THORNTON, M.D., *Clinical Instructor in Ophthalmology*

LEE ROY MINTON, M.D., *Clinical Instructor in Ophthalmology*

JAMES BURNES, M.D., *Clinical Instructor in Ophthalmology*

J. W. WAHL, M.D., *Clinical Instructor in Ophthalmology*

501. CLINICAL OPHTHALMOLOGY. Instruction to third and fourth year students on the wards and in the outpatient service on diseases of the eye, both local and in association with systemic conditions, and on the various causes of disturbed vision. (See Surgery 502.) *Dr. Bounds and Staff.*

521. BASIC COURSE IN OPHTHALMOLOGY. Second and third years. Consists of lectures on diseases of the eye, plus experience in the outpatient department. The physiology and anatomy of the eye are reviewed briefly. One hour per week. SPRING. *Dr. Bounds and Staff.*

543. OPHTHALMOLOGY CLINIC. Fourth year. Outpatient evaluation of eye problems and refractions. Three hours per week; six week units. *Dr. Bounds and Staff.*

561. CLERKSHIP IN OPHTHALMOLOGY. Fourth year. This course consists of ward work as well as experience in the operating room for students who may choose to specialize in Ophthalmology. Full time for six weeks. *Dr. Bounds and Staff.*

# Orthopedic Surgery

J. WILLIAM HILLMAN, M.D., *Professor of Orthopedic Surgery and Chairman of the Department*

EUGENE M. REGEN, M.D., *Clinical Professor of Orthopedic Surgery*

GEORGE K. CARPENTER, M.D., *Associate Clinical Professor of Orthopedic Surgery, Emeritus*

S. BENJAMIN FOWLER, M.D., *Associate Clinical Professor of Orthopedic Surgery*

ARTHUR LEROY BROOKS, M.D., *Assistant Professor of Orthopedic Surgery*

ELWYN A. SAUNDERS, M.D., *Assistant Professor of Orthopedic Surgery*

J. JEFFERSON ASHBY, M.D., *Assistant Clinical Professor of Orthopedic Surgery, Emeritus*

DON L. EYLER, M.D., *Assistant Clinical Professor of Orthopedic Surgery*

JOHN GLOVER, M.D., *Assistant Clinical Professor of Orthopedic Surgery*

ARNOLD HABER, JR., M.D., *Assistant Clinical Professor of Orthopedic Surgery*

ANDREW H. MILLER, M.D., *Assistant Clinical Professor of Orthopedic Surgery*

THOMAS F. PARRISH, M.D., *Assistant Clinical Professor of Orthopedic Surgery*

JOHN A. BARROW III, M.D., *Instructor in Orthopedic Surgery*

STANLEY M. ELMORE, M.D., *Instructor in Orthopedic Surgery*

JOE G. BURD, M.D., *Clinical Instructor in Orthopedic Surgery*

GEORGE K. CARPENTER, JR., M.D., *Clinical Instructor in Orthopedic Surgery*

GEORGE WILLIAM DAVIS, JR., M.D., *Clinical Instructor in Orthopedic Surgery*

CHARLES M. HAMILTON, M.D., *Clinical Instructor in Orthopedic Surgery*

JOHN R. JONES, M.D., *Clinical Instructor in Orthopedic Surgery*

A. BRANT LIPSCOMB, M.D., *Clinical Instructor in Orthopedic Surgery*

EUGENE M. REGEN, JR., M.D., *Clinical Instructor in Orthopedic Surgery*

JOHN M. WAMPLER, M.D., *Clinical Instructor in Orthopedic Surgery*

501. METHODS IN CLINICAL SCIENCE: INTRODUCTION TO ORTHOPEDIC SURGERY. A series of lectures is presented in association with the course Methods in Clinical Science. Emphasis is placed upon the examination of the musculoskeletal system, assessment of normal and abnormal gait, standard measurement and recording of ranges of joint motion and muscle strength. Case presentations illustrate the basic mechanism of deformity and disability. SPRING. *Dr. Hillman and Staff.*

502. INTRODUCTION TO CLINICAL ORTHOPEDIC SURGERY. A series of twelve lectures is presented in the third year, covering traumatic and non-traumatic musculoskeletal conditions. Emphasis is placed upon the physiologic approach to the treatment of these problems. SPRING. *Dr. Hillman and Staff.*

503. ORTHOPEDIC INPATIENT SERVICE. During the third year Surgical clerkship, there are ten-day assignments of groups of two students to the

Orthopedic Ward of the Hospital. Combined resident-student rounds are held each day with attending staff. (See Surgery 502.) *Dr. Hillman and Staff.*

504. ORTHOPEDIC OUTPATIENT SERVICE. Outpatient experience in Orthopedic Surgery is coordinated with the general surgery and other clinics. (See Surgery 504.)

543. CEREBRAL PALSY CLINIC. Fourth year. Wide spectrum of severe neurological problems considered primarily from orthopedic and pediatric, aspects. Long term evaluation emphasized. Applied comprehensive care, with Pediatrics, Physical Therapy, Hearing and Speech Service, and Social Service. Three hours per week; six week units. *Drs. Hillman and Merrill.*

561. CLERKSHIP IN ORTHOPEDIC SURGERY. Fourth year. An intensive clinical experience in Orthopedic Surgery including inpatient, outpatient and operating room assignments. Supervision is by the resident staff and the Orthopedic Department staff. The clerk will participate in the full activities of the department and may be assigned to: 1) Childrens Orthopedics (State Crippled Childrens Clinics and Vanderbilt), 2) Nashville General Hospital, Veterans Administration Hospital and Vanderbilt University Hospital. Full time; six week units. *Drs. Hillman, Brooks, and Saunders.*

562. REHABILITATION CLERKSHIP. Fourth year. This clerkship is an integral part of the rehabilitation teaching program. Participation in programs providing long-term multidisciplinary medical care for inpatients and outpatients. Includes attendance at Birth Defects Clinic, Amputee Clinic, Cerebral Palsy Clinic, Arthritis Clinic, field trips to the Bill Wilkerson Hearing and Speech Clinic and the State Vocational Rehabilitation Service, plus weekly seminars on practical aspects of rehabilitation. The medical conditions which require teamtype care are demonstrated. In addition, the effective functioning of medical and paramedical participants will be in evidence. (Preventive Medicine 561.) Twelve hours per week; six week units. *Drs. Hillman, Quinn, Brooks, Kampmeier, Saunders, and Alper.*

581. RESEARCH FELLOWSHIP IN ORTHOPEDIC SURGERY. Fourth year. An opportunity for supervised experience in research related to the musculoskeletal system. Elements of project design and methods of assessment, development and application of laboratory equipment, controlled small animal experiments, and background correlative study will be emphasized. Currently active research projects in areas of biomechanics of bone, biochemical-biomechanical correlation, acute circulatory disorders in the extremities, scoliosis, and fat embolism are suggested topics, although other projects of particular interest to the fellow are equally acceptable. Each student will be given individual supervision by a staff member. Full time for twelve or eighteen weeks. *Drs. Hillman, Brooks, and Saunders.*

# Pediatrics

- AMOS CHRISTIE, M.D., *The Harvie Branscomb Distinguished Professor of Pediatrics and Chairman of the Department*
- RANDOLPH BATSON, M.D., *Professor of Pediatrics*
- JAMES C. OVERALL, M.D., *Clinical Professor of Pediatrics*
- WILLIAM D. DONALD, M.D., *Associate Professor of Pediatrics*
- JOSEPH A. LITTLE, M.D., *Associate Professor of Pediatrics*
- ROBERT E. MERRILL, M.D., *Associate Professor of Pediatrics*
- MILDRED STAHLMAN, M.D., *Associate Professor of Pediatrics*
- JOE M. STRAYHORN, M.D., *Associate Clinical Professor of Pediatrics*
- WILLIAM O. VAUGHAN, M.D., *Associate Clinical Professor of Pediatrics*
- THOMAS S. WEAVER, M.D., *Associate Clinical Professor of Pediatrics*
- ROBERT C. FRANKS, M.D., *Assistant Professor of Pediatrics*
- FRANCIS A. PUYAU, M.D., *Assistant Professor of Pediatrics*
- SARAH H. SELL, M.D., *Assistant Professor of Pediatrics*
- LUTHER A. BEAZLEY, M.D., *Assistant Clinical Professor of Pediatrics*
- EUGENE L. BISHOP, JR., M.D., *Assistant Clinical Professor of Pediatrics*
- HEARN G. BRADLEY, M.D., *Assistant Clinical Professor of Pediatrics, Emeritus*
- T. FORT BRIDGES, M.D., *Assistant Clinical Professor of Pediatrics, Emeritus*
- HARRY M. ESTES, M.D., *Assistant Clinical Professor of Pediatrics*
- DAN S. SANDERS, JR., M.D., *Assistant Clinical Professor of Pediatrics*
- CHARLES GORDON RENNICK SELL, M.B., B. Chiv., *Assistant Clinical Professor of Pediatrics*
- WILLIAM BROWN WADLINGTON, M.D., *Assistant Clinical Professor of Pediatrics*
- ETHEL WALKER, M.D., *Assistant Clinical Professor of Pediatrics*
- ERLE E. WILKINSON, M.D., *Assistant Clinical Professor of Pediatrics*
- WILLIAM F. FLEET, M.D., *Instructor in Pediatrics*
- CONSTANCE P. HASTINGS, M.D., *Instructor in Pediatrics*
- FRANK M. SHEPARD, M.D., *Instructor in Pediatrics*
- DOROTHY JEAN TURNER, M.D., *Instructor in Pediatrics*
- LOUIS UNDERWOOD, M.D., *Instructor in Pediatrics*
- LINDSAY K. BISHOP, M.D., *Clinical Instructor in Pediatrics*
- SAM W. CARNEY, JR., M.D., *Clinical Instructor in Pediatrics*
- NORMAN M. CASSELL, M.D., *Clinical Instructor in Pediatrics*
- ERIC MARTIN CHAZEN, M.D., *Clinical Instructor in Pediatrics*
- MOON Y. CHUNG, M.D., *Clinical Instructor in Pediatrics*
- ISABELLA COLLINS, M.D., *Clinical Instructor in Pediatrics*
- WILLIAM M. DOAK, M.D., *Clinical Instructor in Pediatrics*
- RAY L. DUBUISSON, M.D., *Clinical Instructor in Pediatrics*
- PHILIP C. ELLIOTT, M.D., *Clinical Instructor in Pediatrics*
- JOHN P. FIELDS, M.D., *Clinical Instructor in Pediatrics*
- CHARLES HIRSHBERG, M.D., *Clinical Instructor in Pediatrics*
- ROBERT H. HUTCHESON, JR., M.D., *Clinical Instructor in Pediatrics*
- WILLIAM C. KING, M.D., *Clinical Instructor in Pediatrics*
- LEONARD J. KOENIG, M.D., *Clinical Instructor in Pediatrics*
- SOL L. LOWENSTEIN, M.D., *Clinical Instructor in Pediatrics*
- DEWEY G. NEMEC, M.D., *Clinical Instructor in Pediatrics*

GABE A. PAYNE, JR., M.D., *Clinical Instructor in Pediatrics*  
BETTYE S. SCHURTER, M.D., *Clinical Instructor in Pediatrics*  
JOSEPH STERANKA, M.D., *Clinical Instructor in Pediatrics*  
JACK SWAN, M.D., *Clinical Instructor in Pediatrics*  
RICHARD P. TABER, M.D., *Clinical Instructor in Pediatrics*  
WILLIAM C. YOUNG, M.D., *Clinical Instructor in Pediatrics*  
THOMAS B. ZERFOSS, JR., M.D., *Clinical Instructor in Pediatrics*

501. METHODS IN CLINICAL SCIENCE: INTRODUCTION TO PEDIATRICS. As an integral part of the course Methods in Clinical Science, a series of lectures will be given in the second year. These lectures will prepare the students for their clinical experiences in the third year. Additionally, students are rotated through the department in small tutorial groups. SPRING. *Dr. Christie and Staff.*

502. CLINICAL CLERKSHIP. One-sixth of the third year class is assigned to the Pediatric wards for six weeks. Bedside instruction is given and patients are studied, emphasis being placed on the structure and function of the normal child. Physical diagnosis and variations from the normal and their prevention are considered. *Drs. Christie, Little, and Staff.*

503. PEDIATRIC OUTPATIENT SERVICE. During the Senior year, the class spends six weeks in a planned program in the Pediatric Outpatient Clinics. Patients, including well babies in a special clinic, are assigned to students who record histories, make physical examinations and carry out diagnostic and immunization procedures. Diagnosis and treatment are considered. Students rotate through special Pediatric clinics. *Dr. Christie.*

504. CLINICAL LECTURES AND DEMONSTRATIONS. A series of eighteen Amphitheater Clinics held bimonthly throughout the year. Cases and discussions on diseases of importance in pediatrics are presented. One hour per week. *Dr. Christie and Staff.*

521. WELL CHILD CONFERENCE. First year. Using the Well Baby Clinic as a setting, the principles of well child supervision will be demonstrated. The objectives of positive health will be emphasized. Three hours per week; six week units. *Dr. Christie and Staff.*

522. LECTURE SERIES IN PEDIATRICS. Fourth year. Lectures will cover the spectrum of diseases in the pediatric age group including a discussion of prenatal period, the newborn child, growth and development, and nutrition of infants and children. The preventive aspects of pediatrics are discussed. Focus is primarily on the normal child as a basis for the study of the diseases of children. Two hours per week. SPRING. *Dr. Christie and Staff.*

523. LECTURES IN NEWBORN PHYSIOLOGY. Fourth year. A series of lectures concerning the special problems of the newborn child. One hour per week; first six weeks. FALL & SPRING. *Dr. Stahlman.*

524. PEDIATRIC PATHOPHYSIOLOGY. Fourth year. Lecture course discussing alterations in normal physiology produced by various disease

states, including those of the newborn period, cardiac diseases, endocrine, renal and metabolic disorders. (Includes Pediatrics 523.) One hour per week. FALL & SPRING. *Dr. Puyau.*

525. PEDIATRIC SURGICAL PROBLEMS. Fourth year. A combined course offered by the departments of Surgery and Pediatrics utilizing patient demonstrations and didactic lectures. Diagnosis, preoperative preparation, surgery and postoperative care will be stressed. Course may be elected for units of six weeks to all year. One hour per week. FALL & SPRING. *Drs. Little and Stephenson.*

526. PEDIATRIC DENTISTRY. Fourth year. The course is for the student oriented towards pediatrics. It is taught with lecture, assigned reading and case presentation. There is a review of the embryological development and growth of the head, face and oral cavity, including craniometry, cephalometry, and dental developments. Effects of abnormal nutrition, oral manifestations of system disease, handicapped children's problem and public health aspects will be given. One hour per week. FALL & SPRING. *Dr. Carney.*

543. PEDIATRIC SPECIALITY CLINICS. Fourth year. Experience in the following speciality clinics is available to the student: Pediatric Cardiology, Mental Retardation, Well-Baby, Allergy, Endocrine and Metabolic, Seizure and Birth Defects. Three hours per week; six week units.

561. CLERKSHIP IN PEDIATRICS. Fourth year. Students shall serve as a house officer on the wards at Vanderbilt University Hospital or Nashville General Hospital. He shall have all associated responsibilities, including attendance at conferences. Full time; six week units. *Dr. Christie.*

562. CLERKSHIP IN NEWBORN CARE. Fourth year. Students will be instructed three afternoons a week in the special care involved in the supervision of newborns. Prerequisite: (or concomitant) Lectures in Newborn Physiology (Pediatrics 523.) Nine hours per week; six week units. *Dr. Stahlman.*

563. CLERKSHIP IN PEDIATRIC INFECTIOUS DISEASE. Fourth year. Ward and clinic patients will be studied, concentrating on history, clinical manifestations and microbiological laboratory procedures. Common pediatric infectious disease problems will be considered, as well as problems associated with antibiotic therapy, infections in special groups of patients. Three hours per week; six week units. *Dr. Sell.*

564. PEDIATRIC CARDIOLOGY CLERKSHIP. Fourth year. Special opportunity in pediatric cardiology, including laboratory as well as clinical experience. Full time; six week units. *Dr. Puyau.*

565. CLERKSHIP IN PEDIATRIC ENDOCRINOLOGY. Fourth year. An advanced course in which students will take part in both inpatient and outpatient care under the close supervision of the pediatric endocrinology section. Twelve hours per week; six week units. *Dr. Franks.*



566. CLERKSHIP IN PEDIATRIC REHABILITATION. Fourth year. Inpatient and outpatient care for patients with chronic disease and birth defects. Optional clinical research opportunities. Full time; six week units. *Dr. Merrill.*

581. RESEARCH FELLOWSHIP IN NEWBORN PHYSIOLOGY. Fourth year. Fellowship offering a concentrated experience in the newborn nursery and the laboratory. For students with special interest in the field of newborn physiology. Full time for twelve or eighteen weeks. *Dr. Stahlman.*

582. RESEARCH FELLOWSHIP IN PEDIATRIC INFECTIOUS DISEASE. Fourth year. Fellowship on special problems in infectious disease in pediatrics. Special techniques, including immunofluorescent techniques, in clinical microbiology included. Full time for twelve or eighteen weeks. *Dr. Sell.*

599. PEDIATRIC SEMINAR. Fourth year. Students after outside reading and research will prepare and present to their classmates a paper dealing with a pediatric subject. One hour per week. FALL & SPRING. *Dr. Christie.*

## *Preventive Medicine & Public Health*

ROBERT W. QUINN, M.D., C.M., *Professor of Preventive and Social Medicine and Chairman of the Department*

LOUIS D. ZEIDBERG, M.D., M.P.H., *Professor of Epidemiology (Died December 27, 1963)*

ALVIN E. KELLER, M.D., *Clinical Professor of Preventive Medicine and Public Health, Emeritus*

R. H. HUTCHESON, M.D., M.P.H., *Associate Clinical Professor of Preventive Medicine and Public Health*

RICHARD O. CANNON, M.D., *Assistant Professor of Hospital Administration*

RUTH E. SPRUANCE, M.S.S.W., *Assistant Professor of Medical Social Service*

ANNE SWEENEY, M.S., *Assistant Professor of Medical Social Service*

ROBERT M. FOOTE, M.D., *Assistant Clinical Professor of Preventive Medicine and Public Health*

C. B. TUCKER, M.D., M.P.H., *Assistant Clinical Professor of Preventive Medicine and Public Health*

W. CARTER WILLIAMS, M.D., M.P.H., *Assistant Clinical Professor of Preventive Medicine and Public Health*

FRED M. DOWNEY, M.D., *Instructor in Preventive Medicine and Public Health*

THERESA S. CARTER, M.S.W., *Instructor in Medical Social Service*

RUTH M. HAGSTROM, M.D., *Instructor in Preventive Medicine*

GARNET M. MORGAN, M.S.S.W., *Instructor in Medical Social Service*

- RAYMOND R. CROWE, M.D., *Clinical Instructor in Preventive Medicine and Public Health*
- JULIAN R. FLEMING, M.S., *Clinical Instructor in Sanitation*
- JAMES E. GOLDSBERRY, M.D., *Clinical Instructor in Preventive Medicine and Public Health*
- JOHN HEINTZELMAN, M.D., *Clinical Instructor in Preventive Medicine and Public Health*
- WILDER WALTON HUBBARD, M.D., *Clinical Instructor in Preventive Medicine and Public Health*
- CURTIS P. McCAMMON, M.D., M.P.H., *Clinical Instructor in Preventive Medicine and Public Health*
- A. H. TRITHART, D.D.S., *Clinical Instructor in Dental Health*
- PANUEL NYE LOWERY, M.A., *Research Associate in Preventive Medicine*

### BIOSTATISTICS

- EDWIN B. BRIDGFORTH, M.S., *Associate Professor of Biostatistics*
- CHARLES F. FEDERSPIEL, Ph.D., *Assistant Professor of Biostatistics*
- ANN DILLON, M.S.P.H., *Clinical Instructor in Biostatistics*
- CON O. T. BALL, *Research Associate in Biostatistics*

501. EPIDEMIOLOGY: GENERAL PRINCIPLES. Basic principles are presented in a series of lectures during the first semester of the second year. Medical statistics is taught during the second semester and these two courses complement each other. The approach in epidemiology is to acquaint the students with the general principles of epidemiology dealing with the agent, host, and environmental factors, their interrelationships, and influences on health and disease. The aim is to get the student to think in broad epidemiological terms of his patients and their problems, be they physical, emotional, or socioeconomic. One hour per week; first ten weeks. FALL. *Dr. Quinn and Staff.*

502. MEDICAL STATISTICS. Designed to acquaint the second year student with the elements of statistical reasoning as applied to medical problems. Topics include: Formulation of hypotheses; design of clinical and laboratory experiments; methods of collection and tabulation of data; analysis-of-variance techniques and nonparametric methods; methodology of short- and long-term medical studies; evaluation and use of vital statistics data. The course is organized around the presentation of examples from the literature. Twenty one hours. FALL & SPRING. *Mr. Bridgforth and Dr. Federspiel.*

503. PRINCIPLES OF PUBLIC HEALTH AND PREVENTIVE MEDICINE. A course of lectures intended to provide the second year student with the preventive point of view in the practice of medicine, to make him aware of the major health problems and of the changing nature of major health problems, and to acquaint him with the organized forces working for the advancement of public health. The following subjects are among those considered:

Epidemiology, etiology, modes of transmission and methods of prevention and control of communicable diseases; vital statistics; maternal and infant hygiene; the venereal disease problem; the more common occupational diseases; civilian defense and disaster control; school hygiene; principles of housing; water supplies and sewage disposal, and population problems. Clinical preventive medicine is emphasized in relation to cardiovascular diseases, diabetes, cancer; and the problems of geriatrics are presented. Stress is placed on principles in public health administration at international, national, state, and local levels and their relation to the practitioner of medicine. Twenty one hours. FALL & SPRING. *Dr. Quinn and Staff.*

521. MEDICINE IN FAMILIES AND THE COMMUNITY. First year. Three afternoons will be spent in discussion-seminars on the relevance of the practice of *preventive* medicine to continuing and comprehensive care. Medical care is emphasized from the point of view of individualized consideration of patients for the maintenance of good-health and rehabilitation from ill-health, taking account of family factors and general community environment. Comprehensive care means health promotion; prevention of disease through immunization and health education; maternal and infant health guidance, and periodic health evaluation; early diagnosis and treatment; disability limitation; and rehabilitation. Case presentations and discussion of families with medical problems illustrating the points above will be made in another three afternoons. Field visits will be made to the State Health Department (Stroke and Heart Disease Control Programs), Bill Wilkerson Hearing & Speech Center, Metropolitan Health Department, Williamson County Health Department (Planned Parenthood Clinic), Senior Citizens' Center (seminar on aging), and Middle Tennessee Tuberculosis Hospital. Three hours per week; twelve week units. *Dr. Quinn.*

522. APPLIED EPIDEMIOLOGY. Second year. The principles of epidemiology will be applied to the study of infectious, non-infectious, and chronic diseases and conditions such as accidents. Factors influencing the occurrence and distribution of various diseases and conditions will be studied with the ultimate objective of developing programs for their prevention and control. Application of epidemiologic methods will be demonstrated by means of exercises and problems. Tuberculosis, rheumatic fever, and syphilis will be taken as examples of chronic diseases which have a profound physical, emotional, economic and social effect on the patient, his family, and the community. The epidemiology and natural history of these illnesses will be considered in detail, with case presentations, and discussion of prevention and control. One hour per week. SPRING. *Drs. Quinn, Bridgforth, Federspiel, and Kampmeier.*

523. BIOMETRY. (321.) Fourth year. Discussion of the analysis of data arising from laboratory experimentation in the biological and medical sciences. Emphasis is placed on general biological models and inference based on analysis-of-variance techniques. Experimental design and concepts involved in the efficient planning of experiments in biological research are included. Three hours per week. FALL. *Dr. Federspiel and Mr. Bridgforth.*

524. CLINICAL TRIALS. Fourth year. Design, execution and analysis of clinical trials, and interpretation of results. Distinction of observational surveys from experimental trials. Examination and critique of relevant literature. Two hours per week. SPRING. *Mr. Bridgforth and Dr. Federspiel.*

542. FAMILY CLINIC. Fourth year. Emphasis is on comprehensive continuing care for entire families. Families selected for the student to follow will illustrate the importance of host factors (genetic, past illness and intercurrent diseases, nutritional status, etc.) and environmental factors (home and more broadly the community, including family relationships) economic factors and knowledge and use of available medical facilities in prevention, treatment and rehabilitation from disease. Families with a multiplicity of disease problems in several members will be especially chosen for Family Clinic follow-up. This clinic may also be elected for the student's all-year Long-Term Care Clinic. Three hours per week; six week units. *Drs. Quinn, Chung, and Johnson.*

543. VENEREAL DISEASE CLINIC. Fourth year. Students will attend the Medical L. Clinic where the main emphasis will be on the clinical aspects of syphilis and other venereal diseases, and the Venereal Disease Clinic of the Metropolitan Health Department where the main emphasis will be on epidemiology, contact investigation, and control. (See Medicine 543.) Three hours per week; six week units. *Drs. Quinn, Kampmeier, and Goldsberry.*

561. REHABILITATION CLERKSHIP. Fourth year. This clerkship is an integral part of the rehabilitation teaching program directed by Dr. Kampmeier. Participation in programs providing long-term multidisciplinary medical care for inpatients and outpatients. Includes attendance at Birth Defects Clinic, Amputee Clinic, Cerebral Palsy Clinic, Arthritis Clinic, field trips to the Bill Wilkerson Hearing and Speech Center and the State Vocational Rehabilitation Service, plus weekly seminars on practical aspects of rehabilitation. The medical conditions which require team-type care are demonstrated. In addition, the effective functioning of medical and paramedical participants will be in evidence. (Same as Orthopedic Surgery 562.) Twelve hours per week; six week units. *Drs. Hillman, Quinn, Brooks, Kampmeier, Saunders, and Alper.*

599. BIOASSAY SEMINAR. Fourth year. Statistical techniques employed in assessing the potency of biologic compounds through the use of living organisms. One hour per week. SPRING. *Dr. Federspiel.*

## Psychiatry

WILLIAM F. ORR, M.D., *Professor of Psychiatry and Chairman of the Department*  
FRANK H. LUTON, M.D., *Professor of Psychiatry, Emeritus*  
JAMES W. WARD, Ph.D., M.D., *Associate Professor of Anatomy in Psychiatry*

JOSEPH J. BAKER, M.D., *Associate Clinical Professor of Psychiatry*  
 OTTO BILLIG, M.D., *Associate Clinical Professor of Psychiatry*  
 VIRGINIA KIRK, Ph.D., *Associate Clinical Professor of Clinical Psychology,*  
*Emeritus*  
 ROBERT W. ADAMS, JR., M.D., *Assistant Professor of Psychiatry*  
 BASIL T. BENNETT, M.D., *Assistant Professor of Psychiatry*  
 CHARLES CORBIN, JR., M.D., *Assistant Professor of Psychiatry*  
 JAMES C. GAMMILL, M.D., *Assistant Professor of Psychiatry*  
 RICHARD F. MARTIN, Ph.D., *Assistant Professor of Clinical Psychology*  
 MIRIAM MCHANEY, *Assistant Professor of Psychiatric Social Work*  
 ROBERT REED, M.D., *Assistant Professor of Psychiatry*  
 SARAH H. SELL, M.D., *Assistant Professor of Pediatrics in Psychiatry*  
 WARREN W. WEBB, Ph.D., *Assistant Professor of Clinical Psychology*  
 LAVERGNE WILLIAMS, M.S.S.W., *Assistant Professor of Psychiatric Social*  
*Work*  
 HENRY B. BRACKIN, JR., M.D., *Assistant Clinical Professor of Psychiatry*  
 H. JAMES CRECRAFT, M.D., *Assistant Clinical Professor of Psychiatry*  
 LLOYD C. ELAM, M.D., *Assistant Clinical Professor of Psychiatry*  
 ALEXANDER E. HARVEY, M.D., *Assistant Clinical Professor of Psychiatry*  
 ALBERT R. LAWSON, M.D., *Assistant Clinical Professor of Psychiatry*  
 CHARLES B. SMITH, M.D., *Assistant Clinical Professor of Psychiatry*  
 FRANK W. STEVENS, M.D., *Assistant Clinical Professor of Psychiatry*  
 HELEN MARGARET BROWNING, M.S.S.W., *Instructor in Psychiatric Social*  
*Work*  
 DOROTHY HUNTER, M.S.S.W., *Instructor in Psychiatric Social Work*  
 ABNER R. OVERDEER, Ph.D., *Instructor in Clinical Psychology*  
 MARILYN RACKARD, B.S.N., *Instructor in Nursing in Psychiatry*  
 JANICE ELAINE RICKETSON, M.S.S.W., *Instructor in Psychiatric Social Work*  
 GEORGE E. SPAIN, M.S.W., *Instructor in Psychiatric Social Work*  
 OUIDA TUCKER, *Instructor in Nursing in Child Psychiatry*  
 BETTY YANCEY, *Instructor in Nursing in Child Psychiatry*  
 ERIC BELL, JR., M.D., *Clinical Instructor in Psychiatry*  
 ROWLAND D. HAWKINS, M.D., *Clinical Instructor in Psychiatry*  
 MAURICE HYMAN, M.D., *Clinical Instructor in Psychiatry*  
 LOUIS SAMPSON, M.D., *Clinical Instructor in Psychiatry*  
 A. LAWRENCE WHITE, M.D., *Clinical Instructor in Psychiatry*  
 JOHN M. WILSON, M.D., *Clinical Instructor in Psychiatry*  
 MARGARET G. EVANS, Ph.D., *Lecturer in Psychoanalysis*

## HUMAN BEHAVIOR

STEPHEN C. CAPPANNARI, Ph.D., *Associate Professor of Human Behavior and*  
*Chairman of the Division*  
 JOHN PATE, Ed.D., *Assistant Professor of Human Behavior*  
 EUGENE A. WEINSTEIN, Ph.D., *Assistant Professor of Human Behavior*  
 KENNETH R. MITCHELL, B.D., *Assistant Professor of Pastoral Counseling*

501. PSYCHIATRY. This course acquaints the second year student with the inner forces at the disposal of each person in his adjustment to past as well as

present experience. With this as a basis, the various clinical psychiatric syndromes are presented, their treatment and prevention outlined. FALL & SPRING. *Dr. Orr and Staff.*

502. PSYCHIATRY AND MEDICINE. A component part of the third year Medical Clerkship. Small group meetings are held in which the personality problems of patients with demonstrable disease are discussed. (See Medicine 502.) *Drs. Orr and Brittingham.*

503. PSYCHIATRY CLERKSHIP. A four-week block of time in which adults and children with various psychiatric problems are studied in an inpatient and outpatient setting by fourth year students. Patient care, ward rounds, conferences and seminars in psychiatry, psychology, social work and rehabilitation. *Dr. Orr and Staff.*

521. ROLE THEORY AND THE DOCTOR-PATIENT RELATIONSHIP. First and Second years. An analysis of patient-physician relationship in situational contexts. Among the problems to be considered are determinants of the actors' definitions of the situation, types of interpersonal strategies, the construction and elaboration of "fronts" (representations or misrepresentations of self), empathy, role taking, and the imputation of motives. One hour per week. FALL. *Dr. Weinstein.*

522. HUMAN DEVELOPMENT, EMBRYOLOGY OF PERSONALITY. First year. This course demonstrates the means by which man is molded by socio-cultural devices into a communicative human being. Demonstrations of animal behavior, newborn, infant and school child will be used as subject material. Two hours per week. SPRING. *Dr. Orr.*

523. PERSONALITY EVALUATION AND MEASUREMENT. Fourth year. Introduction to historical background and theoretical rationale of personality measurement. Methods used in the construction and standardization of widely used test procedures (intelligence, personality, CNS functioning). Intensive experience in the administration, scoring, and interpretation of selected test procedures. Three hours per week. FALL. *Drs. Webb and Cromwell.*

524. PSYCHOANALYTIC TECHNIQUES IN CLINICAL PSYCHIATRY. Fourth year. Discussion and interpretation of phenomena observed in clinical psychiatry and their application to treatment. Two hours per week; six week units. FALL & SPRING. *Dr. Gammill.*

525. UNSOLVED PROBLEMS OF MEDICINE AND SOCIETY. Fourth year. Concerns the relationship of the physician to the legal and social regulatory processes. Also an inquiry into the extent of physicians' present and possible involvement in treatment and prevention of narcotics addiction, delinquency, criminality, alcoholism. Lecturers from School of Law, Departments of Sociology, Preventive Medicine, Psychiatry. One hour per week; first twelve weeks. SPRING. *Dr. Orr.*

526. ANTHROPOLOGY AND MEDICINE. Fourth year. An examination and analysis of medical problems in the light of recent biological and cultural studies. One hour per week; first twelve weeks. FALL. *Dr. Cappannari.*

527. MAN AND HIS WORKS. Fourth year. This course is open to selected fourth year students interested in the effects of culture, past and present, upon man, and the forces and stresses that have produced the culture. Two hours per week. SPRING. *Dr. Orr.*

528. GROUP PSYCHOTHERAPY. Fourth year. This is an inpatient group conference at Central State Hospital, meeting in ninety minute sessions. The remaining one and one-half hours will be used in seminars and discussion of theory, technique and role-playing in group situations. Three hours per week; twelve week units. FALL & SPRING. *Dr. Reed.*

561. CLERKSHIP IN ADULT PSYCHIATRY. Fourth year. This clerkship complements the experiences the student has had at Central State Hospital and in the Outpatient Clinic. Here students have an opportunity to study carefully a few patients to gain understanding of the dynamics of the patient's illness. Full time; six week units. *Dr. Reed.*

562. PSYCHOLOGICAL CORRELATES OF BEHAVIOR. Fourth year. Parallel observations of behavior of a hospitalized patient in interview, group therapy, occupational and recreational therapy, and intensive batteries of psychological tests designed to explain observed phenomena. Six hours per week; six week units. *Dr. Martin.*

563. CHILD PSYCHIATRY. Fourth year. Observation and participation in all aspects of the psychiatric evaluation of a child, survey of diagnostic groups and special social problems (e.g., the foster child, the delinquent child), methods of treatment, including work with parents, consultation with schools and social agencies, observation of the therapeutic milieu in an inpatient setting. Six hours per week; six week units. *Drs. Gammill and Crecraft.*

581. FOUNDATIONS OF BEHAVIORAL RESEARCH. First, Second and Fourth years. An introduction to the basic areas of research on human behavior. Initial experience in design and completion of psychiatry research projects. This course will be a prerequisite for students who wish to take a semester in Psychiatric Research 582. Four hours per week. FALL. *Dr. Cromwell.*

582. METHODS IN PSYCHIATRIC RESEARCH. First, Second, and Fourth years. Introductory experience in the use of controlled research methodology and statistical analysis as applied to psychiatric and behavioral research. Prerequisite: Foundations of Behavioral Research 581. Four hours per week. SPRING. *Drs. Cromwell and Webb.*

# Radiology

EUGENE C. KLATTE, M.D., *Professor of Radiology and Chairman of the Department*  
C. C. McCLURE, M.D., *Professor of Radiology, Emeritus*  
A. BERTRAND BRILL, M.D., *Associate Professor of Radiology*  
HENRY BURKO, M.D., *Associate Professor of Radiology*  
GRANVILLE W. HUDSON, M.D., *Associate Clinical Professor of Radiology*  
JOSEPH H. ALLEN, JR., M.D., *Assistant Professor of Radiology*  
BURTON P. GRANT, M.D., *Assistant Professor of Radiology*  
DAVID E. SHERMAN, M.D., *Assistant Professor of Radiology*  
JOHN BEVERIDGE, M.D., *Assistant Clinical Professor of Radiology*  
MINYARD D. INGRAM, M.D., *Assistant Clinical Professor of Radiology*  
JOSEPH M. IVIE, M.D., *Assistant Clinical Professor of Radiology*  
BEN R. MAYES, M.D., *Assistant Clinical Professor of Radiology*  
THOMAS R. DUNCAN, M.D., *Instructor in Radiology*  
WILLIAM H. HILL, M.D., *Instructor in Radiology*  
JANET K. HUTCHESON, M.D., *Instructor in Radiology*  
LEONARD STOANE, M.D., *Instructor in Radiology*  
WILLIAM T. FARRAR, M.D., *Clinical Instructor in Radiology*  
CLIFTON E. GREER, M.D., *Clinical Instructor in Radiology*  
WILLIAM M. HAMILTON, M.D., *Clinical Instructor in Radiology*  
JOHN R. OLSON, M.D., *Clinical Instructor in Radiology*  
RICHARD P. OWNBEY, M.D., *Clinical Instructor in Radiology*  
W. FAXON PAYNE, M.D., *Clinical Instructor in Radiology*  
BURTON SILBERT, M.D., *Clinical Instructor in Radiology*  
JOHN M. TANNER, M.D., *Clinical Instructor in Radiology*

For first-year medical students, roentgen anatomy lectures are presented at the time of dissection of various systems.

501. METHODS IN CLINICAL SCIENCE: INTRODUCTION TO RADIOLOGY. A series of lectures and demonstrations are given to introduce the student to the use of radiographic methods in the study of various organ systems. Methodology in radiology is stressed. The course will also include an introduction to the utilization of radiant energy in the treatment of cancer. One hour per week. SPRING. *Dr. Klatte and Staff.*

502. RADIOLOGY. For third-year students. Lectures and demonstrations with discussions of radiation hazards, radiographic diagnosis, and some therapy clinics. One hour per week for twelve weeks. FALL. *Staff.*

561. CLERKSHIP IN RADIOLOGY. Fourth year. The student will rotate through the various divisions of the department. He will be considered as a Junior Resident, will assist in procedures, and will attend all radiology conferences. Time will be made available for the study of cases in the teaching file library. Full time; six week units. *Dr. Klatte and Staff.*



# Surgery

- H. WILLIAM SCOTT, JR., M.D., *Professor of Surgery and Chairman of the Department*  
BARTON McSWAIN, M.D., *Professor of Surgery*  
ROLLIN A. DANIEL, JR., M.D., *Clinical Professor of Surgery*  
BEVERLY DOUGLAS, M.D., D.Sc., *Clinical Professor of Surgery, Emeritus*  
LEONARD W. EDWARDS, M.D., *Clinical Professor of Surgery, Emeritus*  
HAROLD A. COLLINS, M.D., *Associate Professor of Surgery*  
JOHN H. FOSTER, M.D., *Associate Professor of Surgery*  
WALTER G. GOBBEL, JR., M.D., *Associate Professor of Surgery*  
SAM E. STEPHENSON, JR., M.D., *Associate Professor of Surgery*  
BENJAMIN F. BYRD, JR., M.D., *Associate Clinical Professor of Surgery*  
W. ANDREW DALE, M.D., *Associate Clinical Professor of Surgery*  
WALTER L. DIVELEY, M.D., *Associate Clinical Professor of Surgery*  
JAMES A. KIRTLEY, JR., M.D., *Associate Clinical Professor of Surgery*  
RALPH M. LARSEN, M.D., *Associate Clinical Professor of Surgery (Died May 18, 1964)*  
DOUGLAS H. RIDDELL, M.D., *Associate Clinical Professor of Surgery*  
LOUIS ROSENFELD, M.D., *Associate Clinical Professor of Surgery*  
DAUGH W. SMITH, M.D., *Associate Clinical Professor of Surgery*  
WILLIAM C. ALFORD, M.D., *Assistant Professor of Surgery*  
STANLEY K. BROCKMAN, M.D., *Assistant Professor of Surgery*  
DUNCAN A. KILLEN, M.D., *Assistant Professor of Surgery*  
VERNON H. REYNOLDS, M.D., *Assistant Professor of Surgery; Markle Scholar*  
JOHN L. SAWYERS, M.D., *Assistant Professor of Surgery*  
CHARLES F. ZUKOSKI III, M.D., *Assistant Professor of Surgery*  
EDMUND W. BENZ, M.D., *Assistant Clinical Professor of Surgery*  
CLOYCE F. BRADLEY, M.D., *Assistant Clinical Professor of Surgery*  
WILLIAM H. EDWARDS, M.D., *Assistant Clinical Professor of Surgery*  
PARKER D. ELROD, M.D., *Assistant Clinical Professor of Surgery*  
JOHN L. FARRINGER, JR., M.D., *Assistant Clinical Professor of Surgery*  
JAMES C. GARDNER, M.D., *Assistant Clinical Professor of Surgery*  
SAM Y. GARRETT, M.D., *Assistant Clinical Professor of Surgery*  
CARL N. GESSLER, M.D., *Assistant Clinical Professor of Surgery*  
HERSCHEL A. GRAVES, JR., M.D., *Assistant Clinical Professor of Surgery*  
J. LYNWOOD HERRINGTON, JR., M.D., *Assistant Clinical Professor of Surgery*  
GEORGE W. HOLCOMB, M.D., *Assistant Clinical Professor of Surgery*  
ANDREW MAYER, M.D., *Assistant Clinical Professor of Surgery*  
ROBERT L. McCracken, M.D., *Assistant Clinical Professor of Surgery*  
OSCAR NOEL, M.D., *Assistant Clinical Professor of Surgery*  
DAVID R. PICKENS, JR., M.D., *Assistant Clinical Professor of Surgery*  
GREER RICKETSON, M.D., *Assistant Clinical Professor of Surgery*  
ROBERT N. SADLER, M.D., *Assistant Clinical Professor of Surgery*  
NATHANIEL S. SHOFNER, M.D., *Assistant Clinical Professor of Surgery, Emeritus*  
HARRISON H. SHOULDERS, JR., M.D., *Assistant Clinical Professor of Surgery*  
KIRKLAND W. TODD, JR., M.D., *Assistant Clinical Professor of Surgery*  
CHARLES C. TRABUE, M.D., *Assistant Clinical Professor of Surgery*  
BERNARD M. WEINSTEIN, M.D., *Assistant Clinical Professor of Surgery*

ROBERT B. ADKINS, JR., M.D., *Instructor in Surgery*  
 PHILLIP C. JOLLY, M.D., *Instructor in Surgery*  
 JAMES A. O'NEILL, JR., M.D., *Instructor in Surgery*  
 ROBERT E. RICHIE, M.D., *Instructor in Surgery*  
 RACHEL K. YOUNGER, B.A., *Instructor in Surgical Research*  
 STANLEY BERNARD, M.D., *Clinical Instructor in Surgery*  
 GEORGE BURRUS, M.D., *Clinical Instructor in Surgery*  
 KENNETH L. CLASSEN, M.D., *Clinical Instructor in Surgery*  
 HAROLD C. DENNISON, JR., M.D., *Clinical Instructor in Surgery*  
 GEORGE E. DUNCAN, M.D., *Clinical Instructor in Surgery*  
 ROY G. HAMMONDS, M.D., *Clinical Instructor in Surgery*  
 ROBERT HARDIN, M.D., *Clinical Instructor in Surgery*  
 JACKSON HARRIS, M.D., *Clinical Instructor in Surgery*  
 J. KENNETH JACOBS, M.D., *Clinical Instructor in Surgery*  
 MALCOLM R. LEWIS, M.D., *Clinical Instructor in Surgery*  
 M. CHARLES McMURRAY, M.D., *Clinical Instructor in Surgery*  
 JOE M. MILLER, M.D., *Clinical Instructor in Surgery*  
 I. ARMISTEAD NELSON, M.D., *Clinical Instructor in Surgery*  
 JEFFERSON C. PENNINGTON, M.D., *Clinical Instructor in Surgery*  
 ROY J. RENFRO, M.D., *Clinical Instructor in Surgery*  
 WILLIAL S. STONEY, M.D., *Clinical Instructor in Surgery*

#### DENTAL SURGERY

ROBERT B. BOGLE, JR., D.D.S., *Clinical Professor of Dental Surgery*  
 E. THOMAS CARNEY, D.D.S., *Associate Clinical Professor of Dental Surgery*  
 WILLIAM S. GRAY, D.D.S., *Assistant Clinical Professor of Dental Surgery*  
 FRED H. HALL, D.D.S., *Assistant Clinical Professor of Dental Surgery*  
 ELMORE HILL, D.M.D., *Assistant Clinical Professor of Dental Surgery*  
 EDWARD H. MARTIN, D.M.D., *Assistant Clinical Professor of Dental Surgery*  
 FRED M. MEDWEDEFF, D.D.S., *Assistant Clinical Professor of Dental Surgery*  
 JAMES B. BAYLOR, D.D.S., *Clinical Instructor in Dental Surgery*  
 FRANK H. DEPIERRI, JR., D.M.D., *Clinical Instructor in Dental Surgery*  
 BARNETT J. HALL, D.D.S., *Clinical Instructor in Dental Surgery*  
 WILLIAM KING, D.M.D., *Clinical Instructor in Dental Surgery*  
 CHARLES J. LADD, D.D.S., *Clinical Instructor in Dental Surgery*  
 JACK CARLYLE SCHMITT, D.D.S., *Clinical Instructor in Dental Surgery*

#### NEUROLOGICAL SURGERY

WILLIAM F. MEACHAM, M.D., *Clinical Professor of Neurological Surgery and  
 Head of the Division*  
 CULLY A. COBB, JR., M.D., *Associate Clinical Professor of Neurological Surgery*  
 JOE M. CAPPS, M.D., *Assistant Clinical Professor of Neurological Surgery*  
 ARNOLD MEIROWSKY, M.D., *Assistant Clinical Professor of Neurological  
 Surgery*

C. DAVID SCHEIBERT, M.D., *Assistant Clinical Professor of Neurological Surgery*  
JAMES W. HAYS, M.D., *Instructor in Neurological Surgery*  
W. RAY JOVETT, M.D., *Instructor in Neurological Surgery*  
SIDNEY TOLCHIN, M.D., *Instructor in Neurological Surgery*  
ARTHUR G. BOND, M.D., *Clinical Instructor in Neurological Surgery*

## OTOLARYNGOLOGY

PAUL H. WARD, M.D., *Associate Professor of Otolaryngology and Head of the Division*  
GUY M. MANESS, M.D., *Clinical Professor of Otolaryngology, Emeritus*  
MORRIS ADAIR, M.D., *Assistant Clinical Professor of Otolaryngology*  
CLYDE ALLEY, JR., M.D., *Assistant Clinical Professor of Otolaryngology*  
J. THOMAS BRYAN, M.D., *Assistant Clinical Professor of Otolaryngology*  
HERBERT DUNCAN, M.D., *Assistant Clinical Professor of Otolaryngology*  
W. G. KENNON, JR., M.D., *Assistant Clinical Professor of Otolaryngology*  
WILLIAM E. GREER, M.D., *Instructor in Otolaryngology*

## UROLOGY

ROBERT K. RHAMY, M.D., *Professor of Urology and Head of the Division*  
HARRY S. SHELLEY, M.D., *Associate Professor of Urology*  
EDWARD HAMILTON BARKSDALE, M.D., *Associate Clinical Professor of Urology*  
CHARLES E. HAINES, JR., M.D., *Associate Clinical Professor of Urology*  
ALBERT P. ISENHOUR, M.D., *Assistant Clinical Professor of Urology*  
TOM E. NESBITT, M.D., *Assistant Clinical Professor of Urology*  
PHILLIP P. PORCH, JR., M.D., *Assistant Clinical Professor of Urology*  
JOHN M. TUDOR, M.D., *Assistant Clinical Professor of Urology*  
EDWARD M. LEE, M.D., *Instructor in Urology*  
ROBERT E. McCLELLAN, M.D., *Clinical Instructor in Urology*

501. METHODS IN CLINICAL SCIENCE. An interdepartmental course designed to acquaint the student with the techniques, methods, and basic principles necessary to take careful histories, perform thorough physical examinations, and to understand and utilize basic laboratory procedures employed in clinical medicine. Students are divided into small tutorial groups for intensive work with patients on the wards at Vanderbilt University Hospital, the Veterans Administration Hospital and Nashville General Hospital. Similar tutorial groups are utilized in the laboratory where students learn methods for examining urine, blood, sputum, gastric contents, feces, and body fluids. An introduction to neurologic diagnostic methods is included in the course. Additional training is given in special problems which relate to examination of pediatric, surgical and obstetrical patients. Radiological techniques are correlated with instructional sessions. Correlative sessions are interspersed with the above. In these sessions, methods by which the

history, physical examination and laboratory aids can be used to arrive at diagnosis and decisions regarding further study and treatment are conducted by interdepartmental groups. *Drs. Rogers, Pennington, Hartmann, Wells, Minot, and the faculty of the Department of Medicine; Drs. Christie, Merrill and members of the Department of Pediatrics; Dr. Foster and members of the Department of Surgery; Dr. Noyes and members of the Department of Obstetrics-Gynecology; Dr. Klatte and members of the Department of Radiology; Dr. Shapiro and members of the Department of Pathology; members of the Departments of Anatomy, Pharmacology, and Biochemistry.*

502. CLINICAL CLERKSHIP. For twelve weeks each student in the third year class is assigned to the surgical divisions of the Vanderbilt University Hospital. Under the direction and supervision of the staff, the student takes histories, does physical examinations and assists the staff in the diagnostic evaluation and clinical management of assigned patients. Half of each student's period of clinical work is in general surgery, including thoracic, cardiovascular and pediatric services. The other six weeks of the clinical assignment provides brief but concentrated rotations to services in orthopedics, neurosurgery, urology, ophthalmology and otolaryngology. These rotations provide exposure to a variety of patients with problems in general surgery and in the special fields of surgery. Teaching rounds are held daily by members of the staff. Students go with their patients to the operating rooms where they are observers and assistants to the staff in surgery, the surgical specialties and anesthesiology. Instruction in anesthesiology is given during operating room assignments by the members of that department. An integral part of this clerkship is the weekly three hour assignment in operative surgery and anesthesiology conducted in the S. R. Light Laboratory for Surgical Research by the Department of Surgery in collaboration with the Department of Anesthesiology. *Dr. Scott.*

503. SURVEY OF SURGERY. A series of clinical presentations and lectures are given which are designed to present a broad view of the clinical fields of surgery. Illustrative case presentations are made by third year surgical clerks. These discussions stress the correlation between basic biologic structure and function, pathologic alterations and clinical manifestations. One hour per week for twenty four weeks. FALL & SPRING. *Dr. Scott.*

504. SURGICAL OUTPATIENT SERVICE. Each fourth year student is assigned in rotation for six weeks to the surgical outpatient department of the Vanderbilt University Hospital. Here they serve as assistants in the outpatients clinics of general surgery, orthopedic surgery and the tumor clinic. Various members of the surgical staff are in attendance to instruct the students in their work and discuss with them the diagnosis and treatment of the patients. *Drs. McSwain, Reynolds, and Hillman.*

521. SURGICAL PATHOLOGY. Third year. Each session is initiated by a lecture to be followed by presentation of pertinent microscopic lesions and roentgenograms. In the laboratory, fresh gross specimens and loan collections of slides are studied under supervision of resident and senior staff. The course correlates the clinical manifestations and the gross and

microscopic changes of the common surgical diseases. (Pathology 525.) Three hours per week. *Dr. McSwain and Staff.*

522. PRINCIPLES OF PLASTIC SURGERY. Fourth year. Instruction in the principles underlying the practice of plastic surgery and their application to the correction of deformities, and problems of reconstruction. Patients before and after operation will be used for study of methods and results. Includes a brief review of important research in this specialty. One hour per week. FALL. *Dr. Douglas.*

523. CANCER. Fourth year. This is an inter-departmental course with few didactic presentations. Patients showing success or failure in the treatment of cancer are presented. Taught by members of the faculty of 5 clinical and 2 pre-clinical departments. May be taken both semesters. One hour per week. FALL & SPRING. *Dr. McSwain.*

524. ORAL PATHOLOGY IN CLINICAL MEDICINE. Fourth year. A course of lectures and assigned readings emphasizing the relationship between oral disorders and general systemic diseases. The student will correlate clinical medicine, radiologic, and laboratory procedures in a study of the relationship of oral and systemic diseases. One hour per week. FALL & SPRING. *Dr. Carney.*

525. PEDIATRIC SURGICAL PROBLEMS. Fourth year. A combined course from the Departments of Surgery and Pediatrics utilizing patient demonstrations and didactic lectures. The diagnosis, preoperative preparation, surgery, and postoperative care will be stressed. Course may be elected for units of six weeks to all year. (Pediatrics 525.) One hour per week. FALL & SPRING. *Drs. Stephenson and Little.*

543. SURGICAL SPECIALTY CLINICS. Fourth year. Clinical experience in the following specialities is available to the student:

Neurosurgery, Otolaryngology, Tumor, Tumor Chemotherapy, Vascular, Postoperative care, Plastic Surgery, Minor Surgery, and Urology. Three hours per week; six week units. *Dr. Scott and Staff.*

561. CLERKSHIPS IN SURGERY. Fourth year. Students work under supervision of the surgical staff and resident in the diagnosis and treatment of patients with general and thoracic surgical problems. Will not involve patients studied by members of the third year class. Ward rounds daily. At Veterans Administration Hospital, or Nashville General Hospital. Full time; six week units. *Drs. Gobel and Sawyers.*

562. CLERKSHIP IN NEUROLOGICAL SURGERY. Fourth year. The student works with the resident staff on the neurosurgical service at Vanderbilt University Hospital participating in the diagnosis and management of patients with neurosurgical problems. Daily ward rounds. Full time; six week units. *Dr. Meacham.*

563. CLERKSHIP IN CARDIOVASCULAR SURGERY. Fourth year. Provides experience in the diagnosis of cardiovascular disease, preoperative assessment, operative treatment and postoperative management. Includes participation in research activities as applied to cardiovascular surgery. Full time; six week units. *Dr. Collins.*

564. CLERKSHIP IN UROLOGY. Fourth year. The student works with the resident staff on the urologic service at Veterans Administration Hospital participating in the diagnosis and management of patients with urologic problems. Daily ward rounds. Full time; six week units. *Dr. Shelly.*

565. CLERKSHIP IN OTOLARYNGOLOGY. Fourth year. The student works with the surgical staff and resident on the ENT service at Vanderbilt University Hospital participating in the diagnosis and management of patients with otolaryngologic problems. Ward rounds daily. Full time; six week units. *Dr. Ward.*

566. CLERKSHIP IN PEDIATRIC SURGERY. Fourth year. An opportunity for students to work on the Pediatric-Surgical floor, caring for children in pre-operative, operative, and post-operative periods and attending both pediatric and surgical conferences. Full time; six week units. *Dr. Stephenson.*

567. CLERKSHIP IN CANCER CHEMOTHERAPY. Fourth year. Inpatient, outpatient and laboratory experience with chemotherapy methods and agents at Vanderbilt University Hospital and Nashville General Hospital. Full time; six week units. *Dr. Reynolds.*

568. SURGICAL PATHOLOGY AND NEOPLASTIC DISEASE. Fourth year. Work with the Director of the Surgical-Pathology Laboratory and the fellow in Oncology in the Surgical-Pathology Laboratory and the Tumor Clinics. Fifteen hours per week; six week units. *Dr. McSwain.*

581. LABORATORY RESEARCH IN SURGERY. Fourth year. Principles of surgical research and care are presented with the performance of procedures and conduct of investigative studies in collaboration with the full-time staff of the Department of Surgery. A detailed written report will summarize the investigative studies. At Veterans Administration Hospital or Vanderbilt University Hospital. Full time for six weeks. May be taken in afternoons for twelve weeks. *Drs. Foster and Gobbel.*

# *Audiology & Speech Pathology*

FREEMAN McCONNELL, Ph.D., *Professor of Audiology and Chairman of the Division*

RONALD GOLDMAN, Ph.D., *Assistant Professor of Speech Pathology*

JAY SANDERS, Ph.D., *Assistant Professor of Audiology*

RALPH J. STOUTD, Ph.D., *Assistant Professor of Speech Pathology*

RICHARD STREAM, Ph.D., *Assistant Professor of Audiology*

M. CLAIRE COOPER, M.S., *Instructor in Audiology*

MARY E. DOWNING, M.S.S.W., *Instructor in Medical Social Service*

MACALYNE W. FRISTOE, M.S., *Instructor in Speech Pathology*

M. ANN GANNAWAY, M.S., *Instructor in Speech Pathology*

KATHRYN B. HORTON, M.S., *Instructor in Speech Pathology*

DOROTHY T. HAMILTON, B.S., *Clinical Instructor in Hearing Therapy*

ANN B. SITTON, M.S., *Clinical Instructor in Audiology*

## *ADMISSION TO GRADUATE STUDY IN AUDIOLOGY AND SPEECH PATHOLOGY*

Graduates with Bachelor's degrees from approved institutions may be admitted to the Division for work toward the Master of Science degree. They shall have completed courses of study approximately equivalent to those required at Vanderbilt University for the Bachelor's degree and shall have maintained approximately a B average in their undergraduate work or in the last two years of their undergraduate work. Applicants may be requested in some instances to present evidence of superior ability as attested by scores on the *Miller Analogies Test* and/or the *Graduate Record Examination*. Under certain circumstances a student may be required to complete specific prerequisite requirements before enrolling in the courses of the Division.

Application for admission should be made by writing directly to the Chairman of the Division of Audiology and Speech Pathology requesting the necessary forms.

Graduate students will normally be expected to begin their work in the fall semester. They may be admitted, however, at the beginning of any other term.

## *REQUIREMENTS FOR MASTER'S DEGREE*

A minimum of 18 semester hours in the major field, either audiology or speech pathology according to the student's primary interest, and at least 6 semester hours in a related minor subject area are required. In addition, a written thesis is usually required. The program must include one seminar course and at least one other 300-level course. Clinical practice under supervision will be required also as part of the training program.

For students without sufficient undergraduate preparation in the speech and hearing sciences, the graduate program will often extend beyond the minimum requirements stated here. Completion of the Master's degree program requires a minimum of two semesters and a summer term, and must be achieved within a six-year period. A quality point ratio of 2.0 (course grade average of B) on all courses taken for credit is necessary for graduation.

With the approval of the faculty of the Division up to six semester hours of credit may be transferred from Graduate Schools in accredited institutions.

The grading system in the Division includes letter grades A, B, C, and F. Noncredit courses taken because of deficiencies in background preparation are not counted toward total hours or in calculating the quality point ratio.

All students are subject to the Honor Code and are under the jurisdiction of the Honor Council.

The University reserves the right at any time to suspend or dismiss a student whose conduct or academic standing is in its judgment unsatisfactory.

In addition to the ordinary course examinations, the candidate for the Master's degree may, at the discretion of the Division, be required to take a final comprehensive examination in his field of specialization. Such examination, if given, shall be completed not later than fourteen days before the degree is to be granted.

### TUITION AND FEES

Tuition charges for graduate work in Audiology and Speech Pathology are as follows:

Tuition, normal full load (9-13 hours) per semester, FALL & SPRING . . . \$500.00

Schedules below 9 hours or above 13 hours are charged at the rate of \$50 per hour. Tuition is \$300 for a full summer session program of 6 to 9 hours, and a charge of \$50 is made for each additional hour. For programs of less than 6 hours students are charged \$50 per hour.

The fees give all students the privilege of the health service offered by the University.

Special fees are charged as follows:

Late payment fee . . . . .	\$ 5.00
Late registration fee . . . . .	10.00
Diploma Fee . . . . .	10.00
Thesis binding (five copies) and abstract fee . . . . .	18.00

In addition to the fees payable to the University, students will be charged a nominal laboratory fee by the Bill Wilkerson Hearing and Speech Center to defray a portion of the cost of the clinical materials used in their professional training.



## COURSE OF STUDY

Following the course description is a notation of the term or terms in which the course is offered. The figures in parentheses indicate the number of semester hours per term. Medical students, nurses, teachers, and other qualified students, who are not candidates for the degree of Master of Science, may be admitted to any of the courses by special arrangement with the instructors.

The courses listed below with their related clinical and research activities are taught at the Bill Wilkerson Hearing and Speech Center located adjacent to the Vanderbilt University campus on 19th Avenue South at Edgehill.

The student may elect a program of study with emphasis in either audiology or speech pathology. Certain courses are basic to both areas of study and may be counted for credit in either. These courses are listed below in the first section and are followed by those which can be counted for credit only in the specific area noted in the heading.

### I. AUDIOLOGY & SPEECH PATHOLOGY

220. ANATOMY AND PHYSIOLOGY OF THE CENTRAL NERVOUS SYSTEM. Lectures and demonstrations designed to acquaint the student with the basic structure and function of the central nervous system. Emphasis on integrative activity as related to both normal and deviate oral communication. SPRING. [3] *Mrs. Horton.*

221. ANATOMY AND PHYSIOLOGY OF SPEECH AND HEARING. Lectures, readings, and demonstrations, presenting the structure and function of breathing, phonation, resonance, articulation, and audition. Emphasis on the fundamental physiological principles of speech production and the psychoacoustics of hearing. FALL. [4] *Drs. Goldman and Sanders.*

223. EXPERIMENTAL PHONETICS. Study of research methods, instrumentation, and findings in the field of experimental phonetics. SPRING. [3] *Dr. Goldman.*

225. THE FUNDAMENTALS OF AUDIOLOGY AND SPEECH PATHOLOGY. A study of the normal and abnormal development of speech and language. Classification and analysis of speech and hearing disorders and their social, psychological, and educational implications. FALL. [3] *Drs. Goldman and Sanders.*

227. DIAGNOSTIC PROCEDURES IN AUDIOLOGY AND SPEECH PATHOLOGY. Diagnostic tests and procedures for children and adults with impaired hearing or defective speech. Techniques for screening areas important to normal speech and language development. Case history techniques. Clinical observation and report writing required. Prerequisite: consent of instructor. FALL. [3] *Mrs. Horton.*

228. LANGUAGE DISORDERS OF CHILDREN. A study of the language, behavioral symptomatology, and treatment of language-impaired children.

Consideration of differential diagnostic techniques for aphasia, central auditory disturbances, hearing loss, mental retardation, and emotional disturbances. SPRING. [3] *Mrs. Horton.*

## II. AUDIOLOGY

240. TESTING OF HEARING. A study of the theory and practice of hearing measurement with emphasis on basic pure-tone audiometric techniques. Consideration of causative factors in hearing loss and evaluation of audiometric results. FALL. [3] *Dr. Stream.*

241. SPEECH AND LANGUAGE DEVELOPMENT OF THE ACOUSTICALLY HANDICAPPED. A consideration of the theories and problems encountered in the development of speech and language in acoustically handicapped children. SPRING. [3] *Mrs. Hamilton.*

245. PRINCIPLES OF SPEECHREADING AND AUDITORY TRAINING. An analysis of the various methods for developing speechreading skills with children and adults. Consideration of recent concepts in the utilization of residual hearing. FALL. [4] *Miss Cooper and Dr. McConnell.*

247. PSYCHOLOGY AND EDUCATION OF THE DEAF. History of education of the deaf. Study of the research literature on the effects of hearing impairment on the social, intellectual, and psychological development of the individual. Societal reactions to deafness. SPRING. [3] *Dr. McConnell.*

322. ADVANCED CLINICAL STUDY AND PRACTICE: AUDIOLOGY. Assigned readings and written reports combined with participation in the clinical program in audiology. Course may be repeated for credit. FALL, SPRING, SUMMER. [2] *Staff.*

340. THE SELECTION AND USE OF HEARING AIDS. A study of the research and theory of clinical selection of hearing aids. The principles of speech audiometry in assessing the usefulness of residual hearing. Clinical observation required. Prerequisite: 240. SPRING. [3] *Dr. Stream.*

340. SEMINAR IN AUDIOLOGY. Review of significant literature in the field of audiology. Directed study in assigned subject areas. SUMMER. [2] *Dr. McConnell.*

342. ADVANCED CLINICAL AUDIOLOGY. Special tests and exploratory techniques in audiologic assessment; instrumentation and testing rooms; industrial audiology; and conduct of the audiologic clinic. SPRING. [3] *Dr. Sanders.*

352. SPECIAL PROBLEMS IN AUDIOLOGY. Study of areas and problems not included in other courses in audiology, chosen to fit the students' interests and the needs of their programs. FALL, SPRING, SUMMER. [Variable credit: 1 to 3 each semester] *Staff.*

389. INDEPENDENT STUDY AND READINGS IN AUDIOLOGY. [3] *Staff.*

### III. SPEECH PATHOLOGY

230. **ARTICULATION DISORDERS.** A study of the etiology, evaluation, and management of articulatory defects in children and adults. FALL. [3] *Miss Gannaway.*
231. **STUTTERING.** A review of the significant research in the field of stuttering, with emphasis on etiology and therapy. Consideration of the management of fluency disturbances. SPRING. [3] *Dr. Goldman.*
232. **ORGANIC SPEECH DISORDERS: STRUCTURAL.** A study of the etiology, diagnosis, and management of speech defects associated with structural anomalies and physiological dysfunction. Consideration of cleft palate, post-laryngectomy, and other structurally related speech defects. FALL. [3] *Dr. Stoudt.*
233. **ORGANIC SPEECH DISORDERS: NEUROLOGICAL.** A study of speech and language disturbances related to neurological dysfunction, with major emphasis on cerebral palsy. SPRING. [3] *Dr. Stoudt.*
321. **ADVANCED CLINICAL STUDY AND PRACTICE: SPEECH PATHOLOGY.** Assigned readings and written reports combined with participation in the clinical program in speech pathology. Courses may be repeated for credit. FALL, SPRING, SUMMER. [2] *Staff.*
331. **APHASIA.** A study of the aphasic language disturbances including symptomatology, etiology, differential diagnosis and training. Emphasis on adult problems. Prerequisite: 230 and 240. SPRING. [3] *Dr. Stoudt.*
335. **SEMINAR IN SPEECH PATHOLOGY.** Review of significant literature in the field of speech pathology. Directed study in assigned subject areas. SUMMER. [2] *Dr. Goldman.*
336. **SEMINAR: VOICE DISORDERS.** Study of theories of voice production, with emphasis upon pathology and malfunctions which produce voice defects. Procedures for group and individual management. Prerequisite: 230 and 232. SPRING. [3] *Dr. Goldman.*
351. **SPECIAL PROBLEMS IN SPEECH PATHOLOGY.** Study of areas and problems not included in other courses in speech pathology, chosen to fit the students' interests and the needs of their programs. FALL, SPRING, SUMMER. [Variable credit: 1 to 3 each semester] *Staff.*
388. **INDEPENDENT STUDY AND READINGS IN SPEECH PATHOLOGY.** [3] *Staff.*

NOTE: *In addition, courses are offered in related areas, such as special education, at George Peabody College for Teachers and are available to the graduate student in the Division of Audiology and Speech Pathology in completing a sequence of study in his major or minor area.*

# REGISTER OF STUDENTS

1963-64

## FOURTH-YEAR CLASS

James Ralph Baker (B.S., Kentucky).....	Neon, Kentucky
Keller Skeen Carlock (B.A., Vanderbilt).....	Atlanta, Georgia
Girard Anthony Chapnick (B.A., Columbia).....	Troy, N. Y.
Joseph Allen Cook (B.A., Oklahoma).....	Chickasha, Okla.
Charles King Davis, Jr. (B.S., Kentucky).....	Hickman, Ky.
Robert Dubose Dickins, Jr. (B.A., Vanderbilt).....	Pine Bluff, Ark.
Wallace Bruce Duffin (B.S., Austin Peay State).....	Smithtown, N. Y.
James Thomas Farrar (B.A., Vanderbilt).....	Camden, Tenn.
Theodore Ard Feintuch (B.A., Vanderbilt).....	Chattanooga, Tenn.
Dudley Clark Fort, Jr., (B.S., Univ. of the South).....	Nashville, Tenn.
Abe Roger Fosson, Jr. (B.A., Kentucky).....	Ashland, Ky.
Raymond Morris Fox, Jr. (B.A., Princeton).....	Painesville, Ohio
Milton Frank, III (B.S., Alabama).....	Huntsville, Ala.
Joseph Terry Fuqua (B.A., Vanderbilt).....	Hopkinsville, Ky.
Ralph Clay Gordon (B.S., Kentucky).....	Lexington, Ky.
Stanley Edwin Graber (B.A., Vanderbilt).....	Corning, Ark.
Charles Henry Griffith, Jr. (B.A., Vanderbilt).....	Gadsden, Ala.
Erich Bryan Groos (B.E., Vanderbilt).....	Harlan, Ky.
Jack Douglas Hagewood (B.A., Vanderbilt).....	Tullahoma, Tenn.
Larry Joe Hall (B.A., Louisville).....	Elizabethtown, Ky.
William Carroll Heird (B.S., Maryville; M.S., Vanderbilt).....	Friendsville, Tenn.
Daniel Russell Hightower (B.A., Vanderbilt).....	Florence, Ala.
Floyd Frederick Householder (B.A., Asbury).....	Olney, Ill.
Farhad Ismail-Beigi (B.A., Berea).....	Tehran, Iran.
Thomas McElroy Jarboe (B.A., Kentucky).....	Lebanon, Ky.
John Tolbert Jones (B.A., Stanford).....	Monterey Park, Calif.
Robert Eugene Lawler (B.A., Western Kentucky State).....	Munfordville, Ky.
Alexander Robert Lawton (B.A., Yale).....	Atlanta, Ga.
Lewis Dubard Lipscomb (B.A., Vanderbilt).....	Jackson, Miss.
Robert Wylie Lowe (B.S., Morehead).....	Morehead, Ky.
John Wellington McMahan (B.A., Vanderbilt).....	Gallatin, Tenn.
Robert Joseph Meirus (M.A., Cincinnati).....	Cincinnati, Ohio
Phillip Laurence Parr (B.A., Stetson).....	Jacksonville, Fla.
David M. Port (B.A., Pennsylvania).....	Brooklyn, N. Y.
Alan Stephen Rosenthal (B.A., Vanderbilt).....	Tucson, Ariz.
John Robert Schweikert (B.S., Purdue).....	Cincinnati, Ohio
Nancie Rae Schweikert (B.A., Vanderbilt).....	Nashville, Tenn.
Elliott Gerald Segal (B.A., Brandeis).....	Plymouth, Mass.
Robert Covington Springs (B.A., King).....	Banner Elk, N. C.
Kenneth Shannon Tilley (B.A., Vanderbilt).....	Lebanon, Tenn.
Charles Richard Treadway (B.A., Vanderbilt).....	Nashville, Tenn.
Nicholas Carmen Trotta (B.A., Upasla).....	Hillsdale, N. J.
William LeWayne Underwood (B.A., Kentucky).....	Frankfort, Ky.

## THIRD-YEAR CLASS

Harvey Asher (B.S., Alabama).....	Passaic, N. J.
James Bernard Back (B.A., Kentucky).....	Lexington, Ky.
Herman Verdain Barnes (B.A., McMurray; B.D., Yale).....	Phillips, Texas
Walter Frederick Barnes (B.A., Grinnell).....	Westport, Mass.
Lynn Frederick Baumgartner (B.A., Colorado).....	Alamogordo, N.M.
Frank Henry Boehm (B.A., Vanderbilt).....	Nashville, Tenn.

John Cunningham Brothers (B.S., Tulane)	Nashville, Tenn.
Robert Munson Carey (B.S., Kentucky)	Lexington, Ky.
Charles Morgan Carr (B.A., Pennsylvania)	Monterey, Tenn.
Dan Paschall Chisholm, Jr. (B.A., Vanderbilt)	Little Rock, Ark.
Claude Wesley Cooper III (B.A., Vanderbilt)	Thayer, Mo.
George Tams Curlin (B.A., Centre)	Nashville, Tenn.
Joe Harris Davis (B.A., Vanderbilt)	Chesterfield, Tenn.
Kioomars Dayani (B.S., Drury)	Teheran, Iran.
Jesse Emmett Dozier, Jr. (B.A., Vanderbilt)	Nashville, Tenn.
William Carl Dyer, Jr. (B.A., Vanderbilt)	Chattanooga, Tenn.
William Sliman Elias (B.A., Vanderbilt)	Osceola, Ark.
John Wilson Frost, Jr. (B.A., Vanderbilt)	Murray, Ky.
Charles Edgar Ganote (B.S., Cincinnati)	Cincinnati, Ohio
Louise Green (B.A., Duke)	Columbus, Ohio
Richard Martin Helman (Senior in Absentia, Clemson)	Columbia, S. C.
Redmond Prindiville Hogan III (B.A., Northwestern, M.S., Illinois)	Evanston, Ill.
Patrick Lee Jasper (B.A., Union)	Science Hill, Ky.
Robert Larry Jetton (B.S., Murray State, M.A., Vanderbilt)	Murray, Ky.
Richard Bernard Kates (B.A., Southern California)	Playa del Rey, Calif.
Stephen Saul Kutner (B.M.E., New York)	Far Rockaway, N. Y.
Harold Lasker (B.S., Queens)	Queens, N. Y.
James Steele Lipe (B.S., San Diego State)	LaJolla, Calif.
Charles Eugene Mayes (B. S., Austin Peay State)	Greenbrier, Tenn.
Alfred Wayne Meikle (B.S., Utah State)	Smithfield, Utah
Gordon Lynn Miles (B.S., Millsaps)	Memphis, Tenn.
Robert Charles Nevins, Jr. (B.A., Vanderbilt)	Little Rock, N. Y.
Panagiotis Takis Patikas (B.S., Adrian)	Athens, Greece
Roy Howard Petric (B.S., Western Kentucky State)	Clifty, Ky.
Lee Jacob Silver (B.A., Stanford)	Nashville, Tenn.
Walter Smithwick III (B.A., Vanderbilt)	Lebanon, Tenn.
Charles Elmer Terry (B.A., Kentucky)	Jackson, Ky.
Barry Hammond Thompson (B.A., University of the South)	Jackson, Tenn.
Robert Harvey Thompson, Jr. (B.A., Vanderbilt)	Jackson, Miss.
William Louis Traxel (B.A., Northwestern)	Maysville, Ky.
Jens Vinding (B.A., Vanderbilt)	Nashville, Tenn.
Lawrence Thomas Wagers (B.S., Kentucky)	Hazard, Ky.
James Caleb Wallwork (B.A., Vanderbilt)	Nashville, Tenn.
Robert Henry White, Jr. (B.S., Kentucky)	Fulton, Ky.
Herbert Ezra Wollowick (B.S., Florida)	Sarasota, Fla.

#### SECOND-YEAR CLASS

Myron John Adams, Jr. (B.A., Harvard)	Kingsport, Tenn.
William Joseph Boyd, Jr. (B.A., St. Ambrose)	Brentwood, Tenn.
John Boyers Breinig (B.E., Vanderbilt)	Nashville, Tenn.
Kenneth Larry Brigham (B.A., David Lipscomb)	Nashville, Tenn.
Raymond Riggan Crowe, Jr. (B.A., Vanderbilt)	Nashville, Tenn.
Charles Andrew Daniels (B.S., Kentucky)	Ashland, Ky.
Philip Hunter Davis (B.A., Milligan)	Los Angeles, Calif.
Gerald Domesick (B.A., Millikin)	Auburn, Ill.
John Joel Donaldson (B.A., Vanderbilt)	Jackson, Miss.
Gary William Duncan (B.A., Vanderbilt)	Nashville, Tenn.
Richard Kent Farris (B.A., Vanderbilt)	Mt. Juliet, Tenn.
Jimmy Garrett Finley (B.S., Southwestern at Memphis)	Adams, Tenn.
Gordon Perry Flake (B.A., Johns Hopkins)	Little Rock, Ark.
<sup>1</sup> Howard Herbert Frankel (B.S., Roosevelt; M.S., Ph.D., Southern California)	Los Angeles, Calif.
Robert Harold Franklin (B.S., Western Kentucky State)	Lewisburg, Ky.
Jerry Lee Gibbs (B.S., Western Kentucky State)	Fountain Run, Ky.
<sup>2</sup> Antonio Marion Gotto, Jr. (B.A., Vanderbilt; Ph.D., Oxford)	Nashville, Tenn.

<sup>1</sup>Special Student

<sup>2</sup>Special Student

Frederic Leonard Hamburg (B.A., Vanderbilt).....	Evansville, Ind.
Elwood Jean Headley (B.A., Vanderbilt).....	Madison, Tenn.
David Russell Hendrick (B.A., Stanford).....	San Mateo, Calif.
Antoinette Foote Hood (B.A., Stanford).....	Fairfax, Va.
Charles Edward Hood (B.A., Vanderbilt).....	Scottsboro, Ala.
Felix Austin Hughes III (B.A., Johns Hopkins).....	Memphis, Tenn.
Richard Marvin Hutson (B.S., Murray State).....	Murray, Ky.
Dennis Mark Jackson (B.A., Vanderbilt).....	Pike Road, Ala.
Ernest Owen Jackson, Jr. (B.A., Vanderbilt).....	Lebanon, Tenn.
Robert Kirkland Johnston (B.S., Maryville).....	Mercedes, Texas
Albert Louis Kerns (B.S., Notre Dame).....	Memphis, Tenn.
Verne Clifton Lanier, Jr. (B.A., Catawba).....	Welcome, N. C.
Louis Ira Levy (B.A., Vanderbilt).....	Augusta, Ga.
Gerald Paul Martin (B.A., Californai-Los Angeles).....	Los Angeles, Calif.
Richard Harrison Mathews (B.S., Abilene Christian).....	Austin, Texas
Olen Dale Maxwell (B.A., Tulsa).....	Tulsa, Okla.
Henry Brooks Morgan (B.A., Transylvania).....	Corbin, Ky.
John Ronald Morgan (B.A., David Lipscomb).....	LaFayette, Ga.
Alvin Ira Mushlin (B.A., Vanderbilt).....	Meridian, Miss.
John Bruce Neeld, Jr. (B.A., Vanderbilt).....	Columbia, Tenn.
Trellou Joseph Pond, Jr. (B.A., Vanderbilt).....	Memphis, Tenn.
David Allen Rand (B.A., Southern California).....	Monterey Park, Calif.
Thomas Michael Schwink (B.S., Rutgers; M.S., Ph.D., Iowa State).....	Laramie, Wyo.
Sylvia Ruth Seamands (B.A., Asbury).....	Wilmore, Ky.
Jere Palmer Segrest (B.A., Vanderbilt).....	Jackson, Miss.
John Stanley Sergeant (B.A., Vanderbilt).....	Frankfort, Ky.
William Johnson Shasteen (B.A., University of the South).....	Clarksville, Tenn.
William Rue Steffey (B.A., Austin).....	Sherman, Texas
James Walker Thompson (B.A., King).....	Lubbock, Texa.
William Earl Thornton (B.A., Western Michigan).....	Battle Creek, Mich.
Joseph Nimrod Triplett, Jr. (B.S., Mississippi College).....	Newton, Miss.
Walker Marshall Turner, Jr. (A.B., Kentucky).....	Paducah, Ky.
James Stickney Warson (B.A., Tulane).....	Sarasota, Fla.
Paul Wiley Welch (B.A., Vanderbilt).....	Cincinnati, Ohio
Robert Farrington Wiley, Jr. (B.A., Asbury).....	Wilmore, Ky.
Fremont Philip Wirth, Jr. (B.A., Williams).....	Nashville, Tenn.
George Wallace Wood (B.A., Vanderbilt).....	Louisville, Ky.
William Ho Tie Yen (B.A., Vanderbilt).....	Hong Kong
Edmond Paul Zimsky, Jr. (B.S., The Citadel).....	Signal Mountain, Tenn.

#### FIRST-YEAR CLASS

Diane Annette Andrews (B.A., Berry).....	Rome, Ga.
Oren Wyatt Babb (B.S., Univ. of Alabama).....	Birmingham, Ala.
George Carter Bell (B.A., Virginia).....	Norwalk, Calif.
Frank Dugger Black (B.A., David Lipscomb).....	Columbia, Tenn.
John Edward Bossert (B.A., Vanderbilt).....	Cincinnati, Ohio
Thomas Campbell Butler (A.B., Johns Hopkins).....	Chapel Hill, N. C.
Robert Hanen Carnighan (A.B., Kenyon; Ph.D., Illinois).....	Louisville, Ky.
Henry Austin Carr (B.A., Vanderbilt).....	Tulahoma, Tenn.
William Jennings Chestnut, III (B.S., Georgetown).....	London, Ky.
John Lars Christensen (A. B. Harvard).....	Columbus, Ohio
Lee Coulter Chumbley (B.A., Harvard).....	Nashville, Tenn.
Murrell Oliver Clark (B.A., Vanderbilt).....	Chattanooga, Tenn.
Brevator Joseph Creech (B.A., Westminster).....	Troy, Mo.
John Herman Dixon, Jr. (B.S., Georgia Tech).....	Murfreesboro, Tenn.
John Wesley Dorman (B.A., Texas).....	Ennis, Texas
Arthur Merrimon Freeman, III (A.B., Harvard).....	Birmingham, Ala.
Alan Hartman Fruin (Sr. in Absentia, Vanderbilt).....	Normal, Ill.
Thomas Edward Fulghum, Jr. (B.A., Vanderbilt).....	Atlanta, Ga.
David Wilson Gregory (B.A., Vanderbilt).....	Parsons, Tenn.
Henry Lytle Harrell, Jr. (Sr. in Absentia, Vanderbilt).....	Ocala, Fla.

Samuel Pinckney Hawes, III (B.S., Davidson).....	Conway, S. C.
Inpow Hong (B.A., Southern California).....	Seoul, Korea
David Lee Hudson (A.B., Asbury).....	Findlay, Ohio
William David Johnston (Sr. in Absentia, Vanderbilt).....	Jackson, Tenn.
William Sailor Jordan (B.A., Vanderbilt).....	Fairhope, Ala.
Allen Bernard Kaiser (Sr. in Absentia, Vanderbilt).....	Memphis, Tenn.
John Arthur Kiely (B.S., Washington & Lee).....	Vicksburg, Miss.
Robert Henry Kremers (B.S., Michigan).....	Goldsboro, N. C.
John Martin Leonard (B.A., Florida State).....	Sarasota, Fla.
Henry Roby Lesesne (B.A., Vanderbilt).....	Atlanta, Ga.
Selden Longley III (B.A., Vanderbilt).....	Nashville, Tenn.
Gideon Harris Lowe III (B.S., Tennessee Tech).....	Cookeville, Tenn.
Lawrence Edward Mallette (B.A., Vanderbilt).....	Memphis, Tenn.
Michael Searle Matteson (B.A., Washington).....	Woolley, Wash.
Fayette M. McElhannon, Jr. (B.S., Georgia).....	Athens, Ga.
Jerry Ray Mitchell (B.A., Kentucky).....	Providence, Ky.
Harry Charles Nortebart, Jr. (B.A., Vanderbilt; LL.B., Harvard).....	Nashville, Tenn.
Tommy Jack Poirier (B.A., New Hampshire).....	Dover, N. H.
John Marion Rainey (B.A., Vanderbilt).....	Pensacola, Fla.
William Bennett Ralph, Jr. (B.A., Vanderbilt).....	Goodlettsville, Tenn.
Ted Alan Ramsey (B.A., Kentucky).....	Somerset, Ky.
John Michael Reinhart (A.B., St. Joseph's ).....	Louisville, Ky.
Robert Eugene Scott (B.A., Vanderbilt).....	Terre Haute, Ind.
Michael Brent Seagle (Sr. in Absentia, Vanderbilt).....	Lynchburg, Va.
Charles Sidney Settle (B.A., Murray State).....	Princeton, Ky.
David Ralph Shollenbarger (B.S., Kenyon).....	Hamilton, Ohio
Herman David Sorensen (B.E., Vanderbilt).....	Newport, Ky.
David Lee Vanden Berg, (Sr. in Absentia, Calvin).....	Muskegon, Mich.
Patricia Ann Wall (B.A., Vanderbilt).....	Jeffersonville, Ind.
William Ralph Welborn, Jr. (Sr. in Absentia, Vanderbilt).....	Sheffield, Ala.
Robert Emerson Wood (B.S., Stetson).....	Gainesville, Fla.
Thomas Allen Woodward (A.B., Transylvania).....	Aberdeen, Ohio

#### DIVISION OF AUDIOLOGY AND SPEECH PATHOLOGY

1963-64

Fred Henry Bess (B.A., Carthage).....	Freeport, Ill.
Marie Louise Carney (B.A., Sweet Briar).....	Nashville, Tenn.
Anne M. Harrison (B.M., Our Lady of the Lake).....	Memphis, Tenn.
Elizabeth Wade Johnson (B.S., Longwood).....	Crews, Va.
Nancy Jean Jordan (B.S., Tennessee).....	Nashville, Tenn.
Marilyn Audrey Kennedy (B.A., Vanderbilt).....	Nashville, Tenn.
Lois Chapman Knight (B.S., Memphis State).....	Littleton, Mass.
Margaret Ann Lindsey (B.S., Tennessee).....	Nashville, Tenn.
Mary Elizabeth Lynch (B.S., Middle Tennessee State).....	Watertown, Tenn.
George Matthews Marshall, IV (B.A., Mississippi).....	Natchez, Miss.
James Bowden Miller (B.A., Vanderbilt; M.D., Tennessee).....	Nashville, Tenn.
Sara Lynn Northcutt (B.A., Vanderbilt).....	Memphis, Tenn.
Robert Grover Paul (B.A., Vanderbilt).....	Atlanta, Ga.
Priscilla Jean Rush (B.A., Lake Forest).....	Memphis, Tenn.
Susan Trish Sheridan (B.A., Peabody).....	Detroit, Mich.
Anne Eve Tirrill (B.A., Vanderbilt).....	Nashville, Tenn.
Judith Gray Walton (B.A., Vanderbilt).....	Nashville, Tenn.
Robert Clarence Warner (A.B., Wichita).....	Junction City, Kan.

## INTERNSHIPS

*Class of May 1964*

James Ralph Baker.....	Pathology
Vanderbilt University Hospital, Nashville, Tennessee	
Keller Skeen Carlock.....	Pediatrics
Vanderbilt University Hospital, Nashville, Tennessee	
Girard Anthony Chapnick.....	Surgery
Grace-New Haven Community Hospital, New Haven, Connecticut	
Joseph Allen Cook.....	Medicine & Pediatrics
North Carolina Memorial Hospital, Chapel Hill, North Carolina	
Charles King Davis, Jr.....	Surgery
Vanderbilt University Hospital, Nashville, Tennessee	
Robert Dubose Dickins, Jr.....	Surgery
Vanderbilt University Hospital, Nashville, Tennessee	
Wallace Bruce Duffin.....	Rotating
Butterworth Hospital, Grand Rapids, Michigan	
James Thomas Farrar.....	Pediatrics
Vanderbilt University Hospital, Nashville, Tennessee	
Theodore Ard Feintuch.....	Medicine
Kings County Hospital, Brooklyn, New York	
Dudley Clark Fort, Jr.....	Surgery
Cincinnati General Hospital, Cincinnati, Ohio	
Abe R. Fosson, Jr.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
Raymond Morris Fox, Jr.....	Obstetrics & Gynecology
Vanderbilt University Hospital, Nashville, Tennessee	
Milton Frank, III.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
Joseph Terry Fuqua.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
Ralph Clay Gordon.....	Medicine & Pediatrics
North Carolina Baptist Hospital, Winston-Salem, North Carolina	
Stanley Edwin Graber.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
Charles Henry Griffith, Jr.....	Pediatrics
Vanderbilt University Hospital, Nashville, Tennessee	
Erich B. Groos.....	Surgery
Vanderbilt University Hospital, Nashville, Tennessee	
Jack Douglas Hagewood.....	Surgery
Vanderbilt University Hospital, Nashville, Tennessee	
Larry Joe Hall.....	Rotating
Butterworth Hospital, Grand Rapids, Michigan	
William Carroll Heird.....	Pediatrics
Vanderbilt University Hospital, Nashville, Tennessee	
Daniel Russell Hightower.....	Surgery
Vanderbilt University Hospital, Nashville, Tennessee	
Floyd Frederick Householder.....	Rotating
Toledo Hospital, Toledo, Ohio	



Farhad Ismail-Beigi.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
Thomas McElroy Jarboe.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
John Tolbert Jones.....	Medicine
The New York Hospital, New York, New York	
Robert Eugene Lawler.....	Rotating
Butterworth Hospital, Grand Rapids, Michigan	
Alexander Robert Lawston III.....	Pediatrics
Vanderbilt University Hospital, Nashville, Tennessee	
Lewis Dubard Lipscomb.....	Rotating
University Hospital, Jackson, Mississippi	
Robert Wylie Lowe.....	Surgery
Vanderbilt University Hospital, Nashville, Tennessee	
John Wellington McMahan.....	Medicine & Pediatrics
St. Thomas Hospital, Nashville, Tennessee	
Robert Joseph Meitus.....	Medicine
Jackson Memorial Hospital, Miami, Florida	
Phillip Laurence Parr.....	Surgery
University of Florida Teaching Hospital, Gainesville, Florida	
David M. Port.....	Pediatrics & Medicine
Montefiore Hospital, New York, New York	
Alan Stephen Rosenthal.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
John Robert Schweikert.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
Nancie Rae Schweikert.....	Pediatrics
Vanderbilt University Hospital, Nashville, Tennessee	
Elliott Gerald Segal.....	Internal Medicine
Montefiore Hospital, Pittsburgh, Pennsylvania	
Robert Covington Springs.....	Rotating
U. S. Public Health Service Hospital, Boston, Massachusetts	
Kenneth Shannon Tilley.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
Charles Richard Treadway.....	Medicine
Vanderbilt University Hospital, Nashville, Tennessee	
Nicholas Carmen Trotta.....	Rotating
Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania	
William LeWayne Underwood.....	Pediatrics
Vanderbilt University Hospital, Nashville, Tennessee	

## MEDALS, PRIZES, AND SCHOLARSHIPS

For the Year 1963-1964

FOUNDER'S MEDAL FOR SCHOLARSHIP. Endowed by Commodore Cornelius Vanderbilt and given ever since to the graduate standing first in his class.

ROBERT ALEXANDER LAWTON, III.....Atlanta, Ga.

BEAUCHAMP SCHOLARSHIP. Endowed, and awarded in the School of Medicine to the Department of Psychiatry.

DAVID M. PORT.....Brooklyn, N. Y.

BORDEN UNDERGRADUATE RESEARCH AWARD IN MEDICINE. Awarded for the most meritorious undergraduate research in the medical field.

ALAN STEPHEN ROSENTHAL.....Tucson, Ariz.

THE MERRELL AWARD IN PATHOLOGY. Awarded annually for outstanding research papers by Vanderbilt University medical students in the field of Pathology.

CHARLES EDGAR GANOTE.....Cincinnati, Ohio

CHARLES EUGENE MAYES.....Greenbrier, Tenn.

## ALPHA OMEGA ALPHA

### *Scholarship Society in Medicine*

#### FOURTH-YEAR CLASS

Joseph Allen Cook.....Chickasha, Okla.  
Joseph Terry Fuqua.....Hopkinsville, Ky.  
Stanley Edwin Graber.....Corning, Ark.  
Farhad Ismail-Beigi.....Tehran, Iran  
John Tolbert Jones.....Monterey Park, Calif.  
Alexander Robert Lawton III\*.....Atlanta, Ga.  
Alan Stephen Rosenthal.....Tucson, Ariz.  
John Robert Schweikert\*.....Cincinnati, Ohio  
Nicholas Carmen Trotta.....Hillsdale, N. J.

\*Elected in Third year

#### THIRD-YEAR CLASS

James Bernard Back.....Lexington, Ky.  
Charles Edgar Ganote.....Cincinnati, Ohio  
Walter Smithwick III.....Lebanon, Tenn.

# VANDERBILT UNIVERSITY HOSPITAL



RICHARD O. CANNON, M.D., *Director*  
JOE S. GREATHOUSE, JR., M.S., *Associate Director*  
D. ANDREW GRIMES, M.S., *Assistant Director*  
ROBERT G. WILSON, M.H.A., *Assistant Director*  
D. GENE CLARK, M.H.A., *Assistant Director*  
HEWITT ROGERS, *Assistant Director*  
FRANK R. BLOOD, Ph.D., *Director, Clinical Laboratories*  
ERMA HOLTZHAUSEN, R.N., *Director of Nursing*  
WARREN H. KENNEDY, B.B.A., *Director of Finance, Medical Units*  
WILLIAM R. COOK, B.S., *Director of Personnel, Medical Units*  
KENNETH R. MITCHELL, B.A., B.D., *Chaplain*

## DIRECTORS OF HOSPITAL SERVICES

C. J. CURRAN, *Central Supply Services*  
DOROTHY FREDRICKSON, M.S., *Physical and Occupational Therapy*  
MADOLYN B. GLOVER, *Volunteer Services*  
AILEEN GRAVES, B.S., *Dietetic Service*  
THOMAS M. HUTCHISON, *Housekeeping Service*  
RUTH G. LAND, B.S., *Medical Records*  
GROVER C. LYLES, *Laundry Manager*  
RUTH SPRUANCE, M.S., *Social Service*  
RALPH STONE, B.S., *Pharmacy*



## HOSPITAL MEDICAL BOARD

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AMOS CHRISTIE	G. GORDON PEERMAN	FRED A. ROWE
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J. WILLIAM HILLMAN	EUGENE M. REGEN, SR.	JOHN L. SHAPIRO

## STANDING COMMITTEES

(The Director is ex officio a member of all standing and special committees.)

### CREDENTIALS

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AMOS CHRISTIE	ROBERT W. NOYES	H. WILLIAM SCOTT, JR.
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	CHARLES B. PITTINGER	

### CLINICAL RADIOISOTOPE

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WALTER A. BONNEY	STANLEY R. GLASSER	GUILFORD G. RUDOLPH
A. BERTRAND BRILL	ROBERT C. HARTMANN	H. WILLIAM SCOTT, JR.

### DISASTER PLANNING

ARTHUR L. BROOKS, *Chairman*

SWAN B. BURRUS	ROBERT E. MERRILL	LEONARD STOANE
JUSTINA FRANKLIN	LOYD H. RAMSEY	ROBERT G. WILSON
	VERNON H. REYNOLDS	

### INFECTIONS

SARAH H. SELL, *Chairman*

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WILLIAM J. CHEATHAM	M. GLENN KOENIG	MILDRED STAHLMAN
HAROLD A. COLLINS	HAZEL LITTLE	CHARLES B. THORNE
C. J. CURRAN	SARA LOUTHAN	ROBERT G. WILSON
	VERNON REYNOLDS	

### LABORATORY SERVICE

FRANK R. BLOOD, *Chairman*

WALTER A. BOONEY	DAVID H. LAW	FRED W. RYDEN
JOHN M. FLEXNER	GRANT W. LIDDLE	BRUCE SINCLAIR-SMITH
ROBERT M. HEYSSEL	SARAH LOUTHAN	JOHN B. THOMISON
M. GLENN KOENIG	GUILFORD G. RUDOLPH	JAMES W. WARD

### MEDICAL RECORDS

BRUCE SINCLAIR-SMITH, *Chairman*

WALTER A. BONNEY	JOHN H. FOSTER	JOSEPH A. LITTLE
JEAN CAUM	D. ANDREW GRIMES	MARJORIE MATHIAS
CHARLES F. FEDERSPIEL	WILLIAM HILL	BARTON McSWAIN
	RUTH G. LAND	

## OUTPATIENT SERVICE

DAVID H. LAW, *Chairman*

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JOSEPH H. ALLEN, JR.  
MAUDIE L. BOOKER  
STANLEY K. BROCKMAN  
E. THOMAS CARNEY

ABRAHAM P. CHEIJ  
D. GENE CLARK  
WILLIAM FLEET  
JUSTINA FRANKLIN  
BARTON McSWAIN

ROBERT W. NOYES  
ROBERT QUINN  
LOUISE TILL SMITH  
RUTH SPRUANCE  
PAUL H. WARD

## PHARMACY

JOHN A. OATES, *Chairman*

ALLAN D. BASS  
SWAN B. BURRUS  
JOHN H. FOSTER

ROBERT C. FRANKS  
JOHN H. GRISCOM  
MARJORIE MATHIAS

RALPH STONE  
ROBERT G. WILSON

## REHABILITATION SERVICES

J. WILLIAM HILLMAN, *Chairman*

WALTER A. BONNEY  
EDITH VAUGHN FLY  
DOROTHY FREDRICKSON  
FRED GOLDNER, JR.

BURTON GRANT  
RUDOLPH H. KAMPMEIER  
FREEMAN McCONNELL  
ROBERT E. MERRILL

ROBERT M. REED  
HEWITT ROGERS  
ELWYN A. SAUNDERS  
RUTH SPRUANCE

## SURGICAL OPERATING AND DELIVERY SUITE

H. WILLIAM SCOTT, JR., *Chairman*

WALTER A. BONNEY  
JOE S. GREATHOUSE, JR.  
KAY GRIFFITH

J. WILLIAM HILLMAN  
WILLIAM F. MEACHAM

CHARLES B. PITTINGER  
PAUL H. WARD  
ALYCE E. YOUNG

## TISSUE

JOHN L. SHAPIRO, *Chairman*

J. WILLIAM HILLMAN  
BARTON McSWAIN

ROBERT W. NOYES  
H. WILLIAM SCOTT, JR.

## TUMOR

BARTON McSWAIN, *Chairman*

ARTHUR L. BROOKS  
WALTER L. DIVELEY  
BURTON GRANT

CHARLES E. HAINES  
ROBERT C. HARTMANN

G. SYDNEY McCLELLAN  
WILLIAM F. MEACHAM  
JOHN B. THOMISON

# Hospital Staff

(The resident staff listed is for the period July 1, 1964 through June 30, 1965)

## ANESTHESIOLOGY

CHARLES B. PITTINGER, *Anesthesiologist-in-Chief*

### *Visiting Staff*

GEOFFREY BERRY  
IAN COBHAM

PAULA F. CONAWAY  
YILMAZ ERYASA

JOANNE L. LINN  
RUPERTO E. PEREZ, JR.

### RESIDENT ANESTHESIOLOGISTS

REYNALDA FLORES CANDELARIO    FATIN ONAT    CORAZON DEGUZMAN

### ASSISTANT RESIDENT ANESTHESIOLOGISTS

GISELA SCHULLER

## MEDICINE

DAVID F. ROGERS, *Physician-in-Chief*

### PHYSICIANS TO THE HOSPITAL

#### *Emeritus Staff*

O. N. BRYAN  
WILLIAM R. CATE  
HOLLIS E. JOHNSON

RUDOLPH H. KAMPMEIER  
HOWARD KING

JACK WITHERSPOON  
JOHN B. YOUMANS  
THOMAS B. ZERFOSS

#### *Visiting Staff*

CRAWFORD W. ADAMS  
BENJAMIN J. ALPER  
WILLIAM L. ALSOBROOK  
ARTHUR R. ANDERSON  
EDWIN B. ANDERSON  
H. R. ANDERSON  
JACK M. BATSON  
F. TREMAINE BILLINGS  
THOMAS E.  
BRITTINGHAM  
JAMES J. CALLAWAY  
WILLIAM J. CARD  
WILLIAM S. COPPAGE  
O. A. COUCH, JR.

FREDERIC E. COWDEN  
WILLIAM J. DARBY  
IRWIN B. ESKIND  
E. WILLIAM EWERS  
ROBERT M. FINKS  
JOHN M. FLEXNER  
HOWARD R. FOREMAN  
THOMAS F. FRIST  
FRED GOLDNER, JR.  
JOHN H. GRISCOM  
LAURENCE A. GROSSMAN  
MILTON GROSSMAN  
DAVID W. HAILEY  
THOMAS B. HALTOM

ROBERT C. HARTMANN  
AUBREY B. HARWELL  
ROBERT M. HEYSSEL  
JOSIAH B. HIBBITTS, JR.  
JOSEPH E. HURT  
IRA T. JOHNSON  
HERMAN J. KAPLAN  
ALVIN E. KELLER  
J. ALLEN KENNEDY  
O. MORSE KOCHTITZKY  
M. GLENN KOENIG  
WILLIAM W. LACY  
DAVID H. LAW  
GRANT W. LIDDLE

RALPH W. MASSIE  
CULLEN R. MERRITT  
WALTER E. NANCE  
ELLIOT V. NEWMAN  
JOHN A. OATES  
FRED D. OWNBY  
THOMAS F. PAINE, JR.  
EDNA S. PENNINGTON  
THOMAS G.  
PENNINGTON  
ROBERT W. QUINN

LLOYD H. RAMSEY  
SAMUEL S. RIVEN  
MARVIN J. ROSENBLUM  
SOL A. ROSENBLUM  
ROBERT M. ROY  
HERBERT J. SCHULMAN  
ADDISON B. SCOVILLE  
ABRAM C. SHMERLING  
HARRISON J. SHULL  
BRUCE SINCLAIR-SMITH  
LUTHER E. SMITH  
W. ANDERSON SPICKARD

W. DAVID STRAYHORN  
EDWARD L. TAPLEY  
CLARENCE S. THOMAS  
JAMES N. THOMASSON  
CHARLES B. THORNE  
RUSSELL D. WARD  
CHARLES E. WELLS  
W. CARTER WILLIAMS,  
JR.  
C. C. WOODCOCK, JR.  
J. LANIER WYATT

### DERMATOLOGY

ROBERT N. BUCHANAN, *Dermatologist-in-Chief*

#### *Visiting Staff*

JAMES R. HAMILTON

BERNARD J. PASS

FRANK G. WITHERSPOON

### HEMATOLOGY

ROBERT C. HARTMANN, *Hematologist-in-Chief*

#### *Visiting Staff*

JOHN M. FLEXNER

ROBERT M. HEYSSEL

DAVID E. JENKINS, JR.

### NEUROLOGY

CHARLES E. WELLS, *Neurologist-in-Chief*

#### *Visiting Staff*

ERIC BELL, JR.

WILLIAM M. CLARK

BERTRAM E. SPROFKIN

ASSISTANT RESIDENT NEUROLOGIST

PETER S. NEW

#### *Resident Staff*

RESIDENT PHYSICIANS

HAROLD H. SANDSTEAD, Hugh J. Morgan Resident  
ROBERT C. RIGGINS, Senior Resident (V.A. Hospital)  
WILLIAM J. STONE, 1st Assistant Resident (V.A. Hospital)  
RICHARD L. DOYLE, Research Resident

ASSISTANT RESIDENT PHYSICIANS

DAVID W. BENTLEY	EDGAR G. GIVHAN	CARL E. MITCHELL
ALAN L. BISNO	JAY S. GOODMAN	CHARLES O'DONOVAN,
WINSTON P. CAINE, JR.	WILLIAM H. HALL, JR.	III
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