Washington University School of Medicine bulletin, 1965

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David M. Kipnis, Chairman
A. Duncan Chiquoine
David E. Kennell
Richard M. Krause

**PROMOTIONS**
Willard M. Allen, Chairman
Carl F. Cori
Robert E. Shank
Oliver H. Lowry

**LIBRARY**
Sol Sherry, Chairman
Estelle Brodman
Paul E. Lacy
Sarah A. Luse
Lauren V. Ackerman

**LECTURESHIPS**
Carl Harford, Chairman
Estelle Brodman, Secretary
Ernst Helmreich
William T. Newton
David Schlessinger
Mildred Trotter

**BEAUMONT—MAY INSTITUTE OF NEUROLOGY**
James L. O’Leary, Chairman
Irwin Levy
Oliver H. Lowry
Sarah A. Luse
Henry G. Schwartz

**THE MEDICAL CENTER**
Barnes Hospital, St Louis Children’s Hospital, St. Louis Maternity Hospital, McMillan Hospital, David P. Wohl, Jr., Memorial Hospital, Renard Hospital, and Barnard Free Skin and Cancer Hospital.

**JOINT MEDICAL ADVISORY COMMITTEE**
Harry E. Panhorst, Chairman
Willard M. Allen
Bernard Becker
Louis T. Byars
Robert B. Dodd
David Goldring
Marshall B. Greenman
Lilly Hockstra
Michael M. Karl
M. Kenton King
Paul E. Lacy
Virgil Loeb, Jr.
Jean Martz
Carl V. Moore
Carl A. Moyer
James L. O’Leary
Eli Robins
Henry G. Schwartz
Robert E. Shank
Theodore E. Walsh
MEDICAL ADVISORY COMMITTEE TO THE CLINICS

M. Kenton King, Chairman
Harry E. Panhorst
Harvey R. Butcher, Jr.
Henry G. Schwartz
Samuel B. Guze
Robert E. Shank
B. V. Jager
Juan M. Taveras
William M. Landau
Ralph B. Woolf

ADMINISTRATIVE OFFICERS

SCHOOL OF MEDICINE

M. Kenton King
Dean
B.A., University of Oklahoma, 1947; M.D., Vanderbilt University, 1951.

John C. Herweg
Associate Dean
B.S., Drury College, 1943; M.D., Washington University, 1945.

Samuel B. Guze
Assistant to the Dean
M.D., Washington University, 1945.

William Bahlmann Parker
Registrar and Secretary to the Executive Faculty
A.B., University of Missouri, 1921.

John L. Midkiff, Jr.
Business Manager
B.S.B.A., Washington University, 1943; C.P.A., Missouri.

OTHER OFFICERS
OF THE SCHOOL OF MEDICINE

Physician in Charge of Student Health Service at the Medical Center
James C. Peden, Jr., M.D.

Administrative Assistant to the Dean
Helen Kaiser

Administrative Secretary to the Dean
Louise Jacoby, A.B.

Assistant Registrar
Dorothy I. Miller

Director of News Bureau
Patricia Brown, B.A.

Librarian
Estelle Brodman, Ph.D.
Edward Mallinckrodt Institute of Radiology

St. Louis Children's Hospital
HISTORY

OF THE MEDICAL CENTER

Washington University School of Medicine was formed in 1899 by the union of the first two medical schools established west of the Mississippi River, the Missouri Medical College and the St. Louis Medical College, popularly known as McDowell's College and Pope's College because of the close identification of the two schools with their respective Deans, McDowell of the Missouri Medical College and Pope of the St. Louis Medical College.

These pioneer colleges set high standards for medical education during the heyday of the medical diploma mills, when there were four times as many medical schools operating in the city of St. Louis as there now are in the entire state of Missouri. From their beginnings each school sought university affiliation. The St. Louis Medical College was established as the Medical Department of St. Louis University, became independent in 1855, and affiliated with Washington University in 1891, although it retained its name until the union with the Missouri Medical College in 1899. The Missouri Medical College was established as the Medical Department of Kemper College, was later the medical department of the University of Missouri; it finally became independent in 1857. In 1899, the Missouri Medical College affiliated with the St. Louis Medical College, and thus formed the Medical Department of Washington University.

Both colleges were particularly fortunate in attracting men of energy, integrity, and skill. Members of their faculties were well known at home and abroad. Charles A. Pope at thirty-six became the youngest president in the first hundred years of the American Medical Association, and his successor as professor of surgery at the St. Louis Medical College, E. H. Gregory, was elected president in 1886. John T. Hodgen, a graduate of the Missouri Medical College and later dean and professor of surgical anatomy at the St. Louis Medical College, was president of the American Medical Association in 1880. Hodgen originated the splint for hip fractures. The Hodgen splint is still used today.

Both colleges continued to raise their requirements, so that at the time they became associated in 1899, each required its students to complete satisfactorily a four-year graded course for the M.D. degree.

In 1909 Abraham Flexner began a survey of 155 medical schools in the United States and Canada for the Carnegie Foundation for the Advancement of Teaching. A similar survey by the American Medical Association and Flexner's survey, the famous Bulletin Number Four on the state of medical education in the United States and Canada, created a national sensation. Some schools collapsed, others pooled their resources, while still others reorganized.

The Medical School of Washington University did not escape criticism. In the report Flexner made to Dr. Pritchett, president of the Carnegie Foundation for the Advancement of Teaching and former professor of astronomy at Washington University, he said that one of two courses must be adopted: "the department must be either abolished or reorganized."

Dr. Pritchett mailed the report to Robert S. Brookings, a St. Louis merchant who
was president of the Board of Directors of Washington University. Mr. Brookings was shocked and immediately went to New York to see Flexner, demanding proof that the conditions were as bad as described. Abraham Flexner returned to St. Louis with Mr. Brookings, and the two men went through the School. In less than two hours Mr. Brookings was convinced that drastic action was necessary if the School were to be of highest caliber.

The meeting in 1909 of Robert S. Brookings and Abraham Flexner was of unsurpassed significance in the history of the Washington University School of Medicine, for it led to the complete reorganization of the School and the establishment of the present Medical Center. Abraham Flexner inspired the dream of a model medical school. Robert S. Brookings accepted the challenge, and with the energy and vision which characterized all his enterprises, made the dream a reality.

No time was lost in making changes. The Bulletin of the Medical School for July, 1910, makes the following general statement: “The Corporation of the University, becoming convinced that in no other direction could greater service be rendered than through a great, modern medical school, determined to reorganize the School and to place it in the front rank of American medical institutions. It has called to the heads of a number of the leading departments the ablest men it could secure, who shall give their time to teaching and research, providing each with a staff of permanent assistants, who likewise shall give their time to instruction and research, and has associated with this staff groups of the strongest men in the medical profession in St. Louis.”

When Robert A. Barnes died in 1892, he left a will which directed that the trustees of his estate should use $800,000 for the erection and equipment of a hospital “for sick and injured persons, without distinction of creed, under the auspices of the Methodist Episcopal Church, South.” Investigation by the trustees into the cost of building a modern hospital convinced them that the sum was not large enough to build an efficient, fireproof building, and they therefore invested the trust. By 1912 the value had increased to two million dollars, a sum which permitted the building of a hospital and left an endowment greater than the original fund. The trustees were studying hospital construction at the time Mr. Brookings was studying medical schools.

It was apparent to everyone concerned that the two projects, the building of a medical school and the construction of a modern hospital, were so interrelated that the purpose of each would be more successfully fulfilled by an affiliation. A medical school would provide a highly trained staff and would assure the most modern methods and superior laboratory facilities for the hospital. A teaching hospital would give the patient superior care and provide the essential clinical experience consistent with modern medical teaching methods.

During the spring of 1912 construction was begun on the medical school and hospital buildings which form the nucleus of the present center. The laboratories were moved from their old quarters in downtown St. Louis into the new buildings on Euclid and Kingshighway during the summer of 1914, and late in the fall of the same year the activities of the Washington University Hospital were transferred to the Barnes
AIMS

Hospital. Concomitantly, the St. Louis Children’s Hospital, then located on Jefferson Avenue, became affiliated with the School of Medicine and moved to its new quarters in the medical center.

On April 28, 29, and 30, 1915, exercises were held to celebrate the completion of this group of buildings designed to promote the practice, the teaching, and the progress of medicine. The dedication ceremonies marked what Dr. William H. Welch of the Johns Hopkins University called “one of the most significant events in the history of medical education in America.” Robert S. Brookings, the one man most responsible for the reorganization, voiced the hope that “our efforts will contribute, in some measure, to raising the standard of medical education in the West, and that we will add, through research activities, our fair quota to the sum of the world’s knowledge of medicine.”

These prophetic words of Mr. Brookings have been realized. Local, national, and international recognition has come to the School and to members of the faculty. Three members of the faculty have been given the St. Louis Award, and research done at the School has resulted in five Nobel Prizes. Two of the Nobel Laureates are still on the faculty.

In the ensuing years the medical center has continued to grow, and now its facilities are unexcelled. With the increase in the physical plant there has also occurred a great increase in the size of the faculty; the expansion has been made without compromise in the standards which marked the early development of the medical center. As a result, significant achievements in both research and clinical areas have been recorded steadily.

AIMS AND GENERAL PLAN OF INSTRUCTION

The efforts of the School are directed toward providing able students with a stimulating and challenging milieu in which they may pursue the study of medicine. Because Washington University is a private institution, its School of Medicine is not bound by any arbitrary restrictions in its admissions policy; indeed, the School seeks the most able applicants without reference to geographic, racial, or religious origin. A large scholarship program, which continues to grow, helps to make it possible for the School to lend support to able students whose personal resources might otherwise prevent them from obtaining a medical education. At any given time the student body includes representatives from most of the fifty states and from the territories and foreign countries as well.

The educational policies are such as to offer the student not only a factual background, but more importantly, the opportunity to acquire a long-term approach to medicine. In a field which is developing as rapidly as is medicine, education only begins in medical school and must be considered a continuing project. It is hoped that
McMillan Hospital and
Oscar Johnson Institute
for Medical Research

Renard Hospital
this important concept will be inculcated in each student during his four years in the Medical School.

The educational exposure available makes it possible for students to develop the foundation for a career in medical practice or in medical education and research. The student research program enables any student interested to become acquainted with original laboratory investigation; a significant group avails itself of this opportunity, and a number of original contributions results from student research each year.

The course of study for candidates for the degree of Doctor of Medicine in all medical schools is designed as a basic preparation for the practice of medicine. As interpreted in this School, the basic preparation for a career in any field of medicine must include first of all an introduction to the principles of the medical sciences. There are reasons for strong emphasis on this point of view.

The phenomenal advances that characterize modern medicine and promise its continued progress for human betterment are the outgrowth of systematic experiments rather than merely of individual observation, experience, and skill. A fusion of accumulated systematic knowledge, the medical sciences, with the arts of medical practice constitutes medicine of today and tomorrow. Orderly information in terms of the scientific principles involved, acquired by those having an inclination to apply them to practical problems, furnishes an attitude of mind as well as a factual background that are essential to the study of clinical medicine.

The technical knowledge that has created modern medicine will surely continue to grow. Medical students must, therefore, form the habit of keeping up with new developments, of preparing themselves for the continued study of the medical sciences; without that habit and preparation, the subsequent progress of medicine will bring obsolescence to the individual. These ideas pervade the spirit of the medical science courses given during the first and second years.

Before entering upon the examination and study of patients who exhibit and illustrate the phenomena of health and disease treated by the medical sciences, the student must become acquainted with and acquire practice in techniques of clinical examination. This beginning experience is gained mainly from the conjoint courses given by teachers from several clinical departments during the second year.

With this preparation the student is ready, when he enters the third-year class, to begin the observation and study—first hand—of a variety of manifestations of health and disease as seen and cared for in clinics and hospitals. This clinical instruction occupies the third and fourth years. It consists mainly of a series of clerkships in wards and hospitals and outpatient services, supplemented by systematic courses of lectures and clinical conferences.

It is this planned sequence of scientific and practical training, combined with individual experience of student with patients, under guidance of clinical teachers who are also physicians and surgeons, that characterizes the basic professional course in medicine.

Because every medical student, irrespective of the field or specialty of medicine in
HOSPITALS AND LABORATORIES

which he may desire or expect to practice, must become first a broadly trained doctor of medicine, nearly all courses of the undergraduate medical curriculum are obligatory. At the same time all students are encouraged to cultivate their individual interests and talents by special study of subjects or topics of their own selection. For this purpose several half days are left free in the class schedules, during which able students may do additional work in subjects of their greatest interest. A large number of student research fellowships are awarded each year to qualified applicants for summer work. Certain junior clerkships are offered during the summer so that students who elect to do so may satisfy course requirements in these subjects during the summer and may then devote an equal amount of time to research or other elective activities in the school year. In the second and fourth years six weeks are set aside for elective courses or for research. Some students who wish to arrange for eighteen weeks of uninterrupted free time for research may do so. The opportunity for special study is afforded in every department of the School.

The academic year is thirty-six weeks in length, except for seniors. The first year is divided into semesters, the second and third years into three twelve-week terms. The senior year consists of four twelve-week terms. The program is an intensive one and demands the full time and best efforts of students. They are discouraged from attempting outside work or employment during the sessions, especially the first two years.

MEDICAL SCHOOL BUILDINGS

The School is located along the eastern edge of Forest Park in the center of the city and is served by convenient public transportation; its site thus combines the advantages of pleasant surroundings and easy accessibility.

The laboratories and lecture rooms of the preclinical departments are housed in two wings of the main building of the School and in the West Building. The North Building contains the offices of the Vice Chancellor and the Dean, the Medical School library, an auditorium, and the facilities of the Department of Anatomy. The Cancer Research Wing houses other administrative offices, the bookstore, and numerous research laboratories. In the South Building are the Departments of Biochemistry, Physiology, and Pharmacology. The Departments of Microbiology, Pathology, and Preventive Medicine each occupy a floor in the West Building. The Student Health Service is also located in this building. The Biomedical Computer Center and the Department of Physical Therapy are situated in the McKinley Avenue Building.
THE HOSPITALS AND LABORATORIES

Adjacent to the Medical School building proper are the following hospital facilities:

The Barnes Hospital. This unit, which constituted the first hospital structure in the center, has grown from 150 beds to its present total of 520. Included are the medical and surgical wards, representing about half of the total number of beds, as well as the floors on which are available beds for semiprivate and private patients. In the extensive operating suite, all of the general surgical procedures as well as those relating to neurosurgery, thoracic surgery, urologic surgery, plastic surgery, orthopedic surgery, and gynecologic surgery are performed. The new Queeny Tower has three floors of beds. A large central diagnostic laboratory, under the direction of the Medical School staff, provides diagnostic service to all of the medical center. In the Barnes Hospital there is also a large cafeteria for the professional staff and the medical students.

The McMillan Hospital, including the Oscar Johnson Institute for Medical Research. This building is owned by the School of Medicine, but like all the hospitals within the medical center proper with the exception of St. Louis Children's Hospital, it is operated by the Director of Barnes Hospital. In it are 164 beds for the treatment of patients whose diseases fall in the fields of ophthalmology or otolaryngology. A small number of general medical patients are also admitted to the McMillan Hospital. The operating rooms and outpatient clinics of both the Departments of Ophthalmology and Otolaryngology are situated in the McMillan Hospital. The Oscar Johnson Institute, occupying the top five floors of the building, provides unexcelled research facilities for the above two departments, and for the Division of Neurology as well.

The St. Louis Maternity Hospital. Now owned by the University, this hospital became affiliated with the University in 1923, and moved to its present quarters in the medical center in 1927. Its 114 beds are devoted to ward, semiprivate, and private obstetrical and gynecologic patients, and there are corresponding facilities for newborns, including a unit for premature infants. The building also houses the research facilities of the Department of Obstetrics and Gynecology.

The St. Louis Children's Hospital. With the newly completed facilities there are now 163 beds for the care of infants and children. Also available are new outpatient facilities and extensive clinical and research laboratories for the Department of Pediatrics.

Edward Mallinckrodt Institute of Radiology. This unit, one of the largest and best equipped in the world, houses the diagnostic, therapeutic, and research activities of the Department of Radiology. The Institute, which is University owned, is connected on most of its floors with the adjoining Barnes and Barnard Hospitals, and through them with the other hospitals of the center, thus providing easy access for all inpatients. Many important advances, including the development of cholecystography by the late Dr. Evarts A. Graham and his associates, have been made at the Mallinckrodt Institute.
David P. Wohl, Jr., Memorial Hospital. The Wohl Hospital contains 81 beds for the care of medical and surgical patients, and also provides excellent new laboratories and offices for the Departments of Medicine and Surgery. Within the building are located a large amphitheatre, several small classrooms, and a student lounge.

Barnard Free Skin and Cancer Hospital. This building provides 34 beds for the treatment of indigent patients suffering from skin diseases and tumors. The Barnard Hospital has had a long and notable history, and its recent affiliation with the University medical center constitutes an important step in the development of both institutions.

Renard Hospital. The Renard Hospital, opened in 1955, provides 106 beds for patients with psychiatric diseases and also affords new laboratories and offices for the Department of Psychiatry and Neurology.

The Irene Walter Johnson Institute of Rehabilitation provides training for personnel in rehabilitation procedures, facilities for treatment of disabled persons in the St. Louis metropolitan area, and an active research program relating to Chronic Diseases.

The David P. Wohl, Jr. Memorial—Washington University Clinics building was opened in May, 1961. Five floors of the building are used for Washington University Clinics and five floors are devoted to facilities for research. In addition a 225-seat amphitheatre is located on the ground floor.

In addition to the above named facilities which make up the Washington University Medical Center proper, patients are available for teaching purposes in the following hospitals:

The various hospitals operated by the City of St. Louis, including two general hospitals: the St. Louis City Hospital with 909 beds, Homer G. Phillips Hospital with 511 beds; and Koch Hospital for tuberculosis.

Cochran Veterans Administration Hospital with 513 beds.

The Jewish Hospital of St. Louis with 509 beds.

All members of the staffs of the various hospitals in the Washington University Medical Center hold University appointments, and the Medical School nominates members of its faculty to the staffs of the various municipal hospitals.
STUDENT ACTIVITIES

Although the demands of the medical curriculum impose a greater load on students than they usually face in undergraduate colleges, there are opportunities for extracurricular activities, among which the following are of interest:

(a) **Student Representative Council.** This body is the official student government organization and is composed of the officers of the four classes. The Council works closely with the Associate Dean and has responsibility for such matters as the examination honor system, the student curriculum report (an annual compilation which presents student opinion regarding course material, teaching methods, etc.), and other matters of interest or concern to the students.

(b) **Washington University Medical Society.** This society, whose membership includes the faculty and all students, holds five meetings yearly, at which members present investigative work being carried on at the Medical School. In addition, in the Spring of each year, the Student Research Assembly is held for the purpose of enabling seniors to report on original research completed at any time during their four years in the School.

(c) **Athletic Facilities.** Excellent facilities for indoor and outdoor sports are available on the main University Campus. Students are furnished tickets free of charge for the many intercollegiate athletic events which take place throughout the year. The gymnasium in the Spencer T. Olin Residence Hall is available for the use of medical students.

(d) **Social Fraternities.** Two national fraternities are represented by chapters at the School. Each year distinguished scientists are invited to present the two guest lectureships sponsored by these organizations.

(e) Within the University community, excellent concerts, lectures, and other cultural activities are open to students in the School of Medicine. The city of St. Louis abounds in cultural and recreational facilities, among which are the City Art Museum, the Missouri Botanical Garden, the Museum of the Missouri Historical Society, and the Planetarium. The St. Louis Symphony Orchestra offers a series of twenty concerts during the season, and tickets at special student rates are available through the Medical School.

(f) In 1963 a gift from Mr. and Mrs. Evarts Graham, Jr., enabled the Medical School to establish the Graham Colloquium, a series of informal discussions led by outstanding scholars from fields other than medicine and the biological sciences. Mr. Graham’s purpose was concordant with that of the School: to encourage opportunities for students to expand their views on social, philosophical, artistic, and political topics. Discussions with the invited guests, selected by the students, are held at night in the Olin Hall lounge on the second Tuesday of each month. In keeping with the intention of having an informal and lively exchange of views, refreshments are served and participation by wives and faculty is invited.
GRADUATE TRAINING

Although not required by all states for licensure, an internship in an approved hospital is considered essential preparation for the practice of medicine, and most graduates seek additional experience by serving as residents and later as fellows for periods up to five years.

In order to aid students in obtaining desirable intern appointments, an active counseling program is maintained by the Associate Dean. Thus, in their junior year, students are provided with general background information regarding the type of organization of the internships available. Since many more openings exist than there are candidates in any given year, students are able to exert a considerable measure of selection.

An open file is maintained in the Associate Dean's Office wherein are kept brochures and other descriptive data regarding internships throughout the country; included are evaluations of their own appointments, obtained from recent graduates.

The School participates in the National Internship Matching Programs. It represents a valuable advance in this area and offers distinct advantages to applicants.

The School maintains an active interest in its graduates and is pleased to support them in subsequent years as they seek more advanced training or staff appointments in the communities in which they settle.
The air-conditioned library occupies the entire North Building except the part devoted to the Department of Anatomy. It is entered from the second floor, where the main Reading Room, Circulation and Information Desks, and staff offices are located. Four floors of stacks house about 90,000 volumes, including about 1,000 rare books; the William Beaumont manuscript collection; the Archives of the Medical School; and the scientific papers of Doctors Joseph Erlanger, Leo Loeb, and Evarts Graham. The Library receives regularly about 1,400 journals and most of the indexes and abstracts pertaining to medicine and allied fields, and adds about 3,000 volumes each year. A small collection of medical portraits is preserved, and exhibits on the literature and history of medicine are presented regularly. In addition to the main reading room, space for readers is provided by carrels throughout the stacks and by a reference reading room in the basement. The Library publishes *Library Notes* eight times a year.

The Library is open to all members of Washington University for consultation. Those not connected with the Medical Center may not, however, borrow material for home use. Photocopying service is provided, and a guide to the library may be obtained without charge. Computer based lists of journals (PHILSOM and PHILSOMS) and some books are available.

Members of the staff include Estelle Brodman, Librarian, Isabelle Anderson, Miwa Ohta, and Evelyn A. Moore, among others.

Library hours are 8:30 a.m. to 12 p.m. on week days; 8:30 a.m. to 6:00 p.m. on Saturdays, and 1:00 to 10:00 p.m. on Sundays.

*A view of the main floor of the Library.*
<table>
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<th>YEAR</th>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
<th>APRIL</th>
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CALENDAR

1965-66

Registration for all new students, Wednesday, September 8, 1965.
Registration for all former students, Friday, September 10, 1965.
Academic year begins Monday, September 13, 1965.
First Trimester ends Saturday, December 4, 1965.
Christmas Recess, Saturday, December 18, 1965, at 1:00 p.m. to Monday, January 3, 1966, at 8:00 a.m.
Registration for second half-year, Monday, January 31, 1966.
Third Trimester begins Monday, March 14, 1966; ends Saturday, June 4, 1966.
Holidays, Good Friday, April 8, 1966, and Saturday, April 9, 1966.
Commencement, Monday, June 6, 1966.

1966-67

Summer term for seniors begins June 20, 1966; ends September 10, 1966.
Registration for all new students, Wednesday, September 7, 1966.
Registration for all former students, Friday, September 9, 1966.
First Trimester begins Monday, September 12; ends Saturday, December 3, 1966.
Second Trimester begins Monday, December 5, 1966; ends Saturday, March 11, 1967.
Christmas Recess, Saturday, December 17, 1966, at 1:00 p.m. to Monday, January 2, 1967, at 8:00 a.m.
Commencement, Monday, June 5, 1967.
The Rand-Johnson Surgical Pavilion, one of the major units of Barnes Hospital
ENTRANCE REQUIREMENTS

Entrance requirements to the School of Medicine are:

(1) Character, attitude, and interest suitable to carrying out the duties of a physician.

(2) Intellectual ability and achievement, indicated by satisfactory scholastic work prior to entering medical school.

(3) Completion of at least three years of college courses in an approved college or university, with minimum subject requirements as follows:

- English: 6 semester hours
- Chemistry: 15 semester hours, including experience in the techniques of quantitative analysis and a minimum of 4 hours of organic
- Physics: 8 semester hours
- Biology: 8 semester hours, at least 4 hours of which must be in zoology

(4) Applicants are expected to have taken the Medical College Admissions Test of the Association of American Medical Colleges.

Because of the great importance of chemistry in all areas of the medical sciences, applicants are urged to pay special attention to their training in this subject. The requirement of 15 semester hours should be regarded as a bare minimum. Extra work in chemistry, especially physical chemistry, would be very profitable.

Although a background in biological subjects is valuable, the student is urged to emphasize courses which will not be repeated in medical school. For example, an undergraduate course in physiology, biochemistry, or bacteriology, if it duplicates material to be given later, would be less valuable than a solid course in zoology or genetics.

It is believed that students pursuing the course in medicine should have a well-rounded general education in addition to the specific requirements indicated above; thus the Committee on Admissions suggests that applicants obtain as much exposure to courses in other fields of knowledge as possible. Students who have majored in nonscientific fields are considered as acceptable as science majors as long as they have acquitted themselves well in the premedical courses.

The rest of the college work should be chosen with the object of developing the intellectual talents of the individual, rather than as required preprofessional preparation. The college work should include courses in language and literature, history, and the social sciences, or other subjects which may afford the foundation for cultural development. Unless that foundation is laid early, there is the danger that later demands of technical and professional training may lead to its neglect.

The interest and earnestness with which any study is done—more than the subject matter itself—may determine its lasting value. The spirit of a course may be more important than its content if it stimulates interest and cultivates an inquiring and thoughtful attitude. Development of an inclination to study and the habit of reasoning is more valuable than an obligatory course taken merely to satisfy entrance requirements.
Applications should be filed as soon as possible after September 1 of the year preceding that in which admission is sought. Blanks will be furnished upon request, and instructions concerning fees and transcripts will be sent also.

ADMISSION TO ADVANCED STANDING

Applicants who have satisfactorily completed one or two years of study at another approved medical school may be accepted for admission to the second- or third-year class (when vacancies exist), provided:

1) That they comply with the requirements above stated for admission to the first-year class.

2) That courses equivalent in general content and duration to those in this School in the years for which credit is asked have been satisfactorily completed.

3) That at the discretion of the Committee on Admissions, examinations may be required in any subjects already covered.

An applicant for admission to the upper classes must have studied as a matriculated medical student in an acceptable medical school for a period at least equal to that already spent by the class to which admission is sought.

ADMISSION OF GRADUATES IN MEDICINE

Applicants who hold the M.D. degree are not accepted as candidates for that degree except under unusual circumstances.

STANDING AND PROMOTION

The following procedure for action on promotion and graduation has been adopted:

1) After the completion of a major course each department reports to the dean’s office a numerical grade for each student in the class for that course, designating in each case “honors,” “pass,” or “fail.” The grade and designation may be based upon attitude and performance as well as upon examination grades. Final examinations are held at the close of each academic year.

2) For each class there is a Promotions Committee which periodically reviews the records of all students in that class and acts in accordance with the following rules:

(a) A student having recorded failures in two major subjects (see list below) will be required to withdraw from the class.

Major Subjects:

First Year: Gross Anatomy, Microscopic Anatomy, Biochemistry, Physiology.
Second Year: Microbiology, Pathology, Pharmacology, Medicine, Surgery (½).
Third Year: Medicine, Psychiatry (½), Neurology (½), Obstetrics and Gynecology (½), Surgery (½), Pediatrics (½).
Fourth Year: Medicine (1/2), Obstetrics and Gynecology (1/4), Surgery, Ophthalmology (1/2), Otolaryngology (1/2), Child and Adult Outpatient Clinics.

(b) Students who at the end of any year have recorded only one failure in a major department will be required to remove this failure as directed by the department concerned. When, and if, the failure is removed, the subcommittee will consider the student’s entire record. A student who has recorded a second failure in the attempt to remove a first failure will be required to withdraw from his class.

(c) No student shall be promoted to the third year until there is satisfactory credit for all required subjects of the first and second year.

(d) Under exceptional circumstances the promotions committees may suggest to the Dean and to the Committee on Admissions and Scholarships that a student be allowed to repeat certain courses as a special student or to repeat the work of the entire year as a member of the next class.

The registration of a student may be canceled at any time if in the opinion of the faculty his further attendance is deemed undesirable. A prorata refund of the tuition will be made in such cases.

REQUIREMENTS FOR DEGREES

DOCTOR OF MEDICINE

Candidates must be more than twenty-one years of age and of good moral character. They must have attended not less than four courses of instruction as matriculated medical students, the last of which has been in this School. They must have passed all required courses, or their equivalent, and have received satisfactory grades in the work of the entire four classes. They must have discharged all current indebtedness to the University.

At the end of the fourth academic term, students who have fulfilled these requirements will be recommended for the degree of Doctor of Medicine. Candidates must be present when the degrees are conferred.

BACHELOR OF ARTS (COMBINED PROGRAM)

A student who enters the School of Medicine with three years of work in the College of Liberal Arts of Washington University may become a candidate for the Bachelor of Arts degree at the end of the first year in the School of Medicine. Under this
combined program he must fulfill the premedical requirements and also the following additional requirements:

1. He must have completed at least 90 academic units in liberal arts courses, with a minimum grade-point average of 1.0, and 4 units in physical training.

2. He must have completed all of the general requirements and at least 15 additional units in advanced courses\(^1\) in not more than 3 departments. These units will satisfy a part of the A.B. requirements relative to advanced courses.

3. In addition to completing at least 90 units of work in the College of Liberal Arts, a student in the combined program must also satisfactorily complete the first year in the Washington University School of Medicine; this work will complete the departmental requirements for the A.B. degree.

4. A transfer student, to be eligible for the degree of Bachelor of Arts under the combined plan, must complete at least the last 30 units of A.B. work in full-time residence in the College of Liberal Arts of Washington University. He must also fulfill all other conditions.

5. A candidate for the A.B. degree under the combined program must be recommended by the Dean of the School of Medicine to the Dean of the College of Liberal Arts.

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**FEES AND OTHER EXPENSES**

The University reserves the right to change the fees herein stated at any time without notice. Whenever a change is made, it will become effective with the next installment due.

All fees and charges are payable in advance at the Office of the Registrar of the School of Medicine.

Checks should be made payable to Washington University.

**Tuition Fee.** For undergraduate students the present tuition fee is $1,200, payable in two equal installments, at the beginning of the first and second semesters. Starting in July, 1966, the tuition charge will be $1,600, and in July, 1967, the fee will be $1,800 a year.

**Health Service Fee.** A health service fee of $37.50 per semester is charged to all students. Beginning in 1966, the cost of this service will be $45.00 each semester. The fee covers complete medical examination on entering the School and continued medical care including all necessary hospital costs, drugs, and limited dental service during the regular school year. Those students who remain at school during the summer may make

\(^1\) A course on the 300 or 400 level may not be counted as advanced unless it is passed with a grade of C or higher. Courses numbered 301-302 and 401-402 in Air or Military Science may not be counted as advanced courses.
arrangements for continuation of health service. The services of one or more physicians are available at designated times for consultation at the Student Health Clinic. A physician is available for emergency care either in the clinic or the student’s room when necessary. Hospital care is provided in the services of the Barnes Hospital. It is the aim of the staff to watch and safeguard the health of each student in the School. The responsibility of the Health Service automatically ceases when the student for any reason discontinues his enrollment. A partial refund of the Health Service fee will be made to such individuals.

PARKING Fee. Students who park automobiles on the Medical School lots are required to pay a parking fee.

MICROSCOPE AND DIAGNOSTIC INSTRUMENTS
Each student entering the freshman class is required to possess a standard microscope. The requirements for a microscope are relatively simple and any of a wide variety of makes and models is equally satisfactory. In addition to obtaining a microscope that possesses good quality lenses and is in good working order, it is necessary that it be equipped with a substage condenser, three objectives (approximately 10X, 40X, and oil immersion 90X), and fine as well as coarse focusing. A mechanical stage is useful, and so is a very low power objective, either as a separate lens or as a portion of the 10X lens. There is no necessity to buy a binocular microscope; monocular models magnify just as well. Microscopes do not wear out rapidly, and a used microscope in good condition is just as useful as a new one and very much less expensive. From these considerations it should be clear that it is not necessary to go heavily in debt to buy a microscope.

All students are required to provide themselves with stethoscopes, ophthalmoscopes, otoscopes, hemocytometers, percussion hammers, tape measures, flashlights, head mirrors, and skin pencils as the need for them arises.

Supplies and books may be purchased at the bookstore located in the Medical School.

ESTIMATE OF EXPENSES (1966-67)
An estimate of the average annual expenses of a student in the School of Medicine, excluding the cost of clothes, laundry, microscope, and incidentals, is given below. The amounts will vary considerably, according to the individual.

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<td>Books and Instruments</td>
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<td>Room, Board, and Incidentals</td>
<td>1,700 to 2,200</td>
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<td><strong>Total</strong></td>
<td><strong>$3,540</strong></td>
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REGISTRATION

Registration for the first half-year of 1965-66 is scheduled for Wednesday, September 8 (new students) and Friday, September 10 (former students); for the second half-year, Monday, January 31, 1966.

Previously matriculated students who fail to register on any of the days set aside for that purpose will be charged a fee of $5.00.

WITHDRAWALS AND REFUNDS

A student who withdraws within the first two weeks of classes is charged 20% of the tuition fee; a student who withdraws during the third week is held for 40% of the charges; a student who withdraws during the fourth week is held for 60% of the charges; a student who withdraws during the fifth week is held for 80% of the charges. There is no refund of any portion of the tuition fee after the fifth week. No special fees are refundable after the second week of the term.

THE SPENCER T. OLIN RESIDENCE HALL

The Spencer T. Olin Residence Hall was made possible by generous gifts from Spencer T. Olin, alumni of the School of Medicine, and friends of the School.

This residence, located at 4550 Scott Avenue in the Medical Center, has accommodations for 295 single men and women students. No University housing for married students is available at the present time. The interior arrangement is much like a modern hotel. The main floor has a mail room, letter boxes, and a large lounge. The ground floor has a snack bar, music rooms, a laundry, and meeting rooms. A two-story gymnasium is available for use of the residents.

A nondenominational chapel, the gift of the Danforth Foundation, a lounge on the second floor for women students, the gift of William S. Bedal in memory of his mother, Dr. Adelheid C. Bedal, and a nonmedical library, a gift from the estate of Mary G. Reber, are available for use by the students.

Each of the upper floors has fifteen single bedrooms, seven double bedrooms, and two two-room suites. The second and third floors accommodate women students exclusively. A penthouse on the roof has a large room for dances and other social activities.

Rooms are assigned for the academic year, and no resident is permitted to transfer the assignment of his room or to allow occupancy by any other person.

Each occupant is required to pay a $25 Damage Deposit Fee in addition to the room rental fee. This fee will be held by the University until termination of residence to cover losses resulting from possible damage to the room or to the furniture. Any portion not so used will be refunded.
The Spencer T. Olin Residence Hall for medical students.
The rates for rooms are as follows:

**School year: September to June (9 months)**
- $525 per student in 2-room suite (2 students per suite)
- 475 for student in single room
- 400 per student in double room

**Daily Rates for Visitors**
- $6.00 per person in 2-room suite
- 5.00 per person in single room
- 4.00 per person if undergraduate student, prospective student, or graduate student

**Summer: For Three Months**
- $175 per student in 2-room suite
- 160 per student in single room
- 125 per student in double room

**Summer: Weekly Rates**
- $14.75 per student in 2-room suite
- 13.50 per student in single room
- 10.50 per student in double room

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**STUDENT RESEARCH FELLOWSHIPS**

A considerable number of research fellowships are awarded each year to students who undertake to do research projects under the direction of a faculty member. These fellowships, the number of which varies from year to year, are supported by funds provided by the United States Public Health Service, the Lederle Laboratories, the Tobacco Industry Research Committee, and others. In addition, the John and Mary Markle Foundation has provided funds for several of the preclinical departments to support additional staff members whose functions are to advise and consult with students interested in special research opportunities. Each year, at the Senior Research Assembly, the results of student research are presented before the Faculty and student body. Each year, also, a number of articles are published in which student research is presented to the scientific public. The Student Research Fellowships carry a stipend of $750, and are awarded for a minimum period of two months. They may be undertaken by any student after admission to the Medical School and during any vacation period. Application should be made to the Committee on Special Awards which supervises this program. The members of the Committee are:

Dr. David Kipnis (Chairman), Dr. A. Duncan Chiquoine (Secretary), Dr. David E. Kennell, and Dr. Richard M. Krause.
THE JACKSON JOHNSON FUND. Under the will of Jackson Johnson, the sum of $250,000 was given to the University, the income to be used "to aid worthy and desirable students in acquiring and completing their medical education." During recent years, the income from this fund has been devoted to Honor Scholarships named for the donor as well as to fellowships for needy students.

These Honor Scholarships are awarded on a regional basis with one or more scholarships being awarded annually to students from each of the following areas:

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<td>Maine</td>
<td>Nevada</td>
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<td>Virginia</td>
<td>Massachusetts</td>
<td>New Mexico</td>
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<td>West Virginia</td>
<td>New Hampshire</td>
<td>Oregon</td>
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<tr>
<td>Washington, D. C.</td>
<td>New York</td>
<td>Utah</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>Rhode Island</td>
<td>Washington</td>
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<tr>
<td>Virgin Islands</td>
<td>Vermont</td>
<td>Pacific Islands</td>
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</table>

The Jackson Johnson Regional Scholarships have been established to enable young men and women with superior qualifications and promise for a career in medicine to come to Washington University, without regard to their financial circumstances.

Eligibility. Jackson Johnson Regional Scholarships are open to those who plan to enter the freshman class at Washington University School of Medicine or to transfer from a two-year medical school to the third-year class at Washington University. The
candidate must have resided for three years before application in one of the specified Regions, and have completed premedical work or the first two years of medicine in the same Region.

Stipend. Since the Jackson Johnson Regional Scholarships are regarded as prizes to be competed for by all students, the stipends will vary with the financial resources of the students. If there is no financial need, a scholarship without stipend will be awarded. The maximum stipend will be $1,200 a year.

Selection. The awards will be made by the Committee on Admissions and Scholarships with the approval of the Chancellor on the basis of the academic record in college or medical school, the score on the medical aptitude and other tests, the recommendations of professors and others concerning ability, character, qualities of leadership, and general all-around development, and the extracurricular activities both in and outside of the School.

Renewals. Awards may be renewed with the same or different stipends for the succeeding years of the medical course, provided the achievements of the scholar justify the continuance of the award. The School may withdraw a Jackson Johnson Regional Scholarship if at any time the student's record or his actions in the School or outside prove him unworthy of it.

Application. All students accepted for admission are considered for the Jackson Johnson Regional Scholarships, making it unnecessary to file a special application.

JACKSON JOHNSON FELLOWSHIPS. In order to provide opportunities for able and promising young men and women, three Jackson Johnson Fellowships in the Preclinical Sciences will be offered annually.

Eligibility. All applicants must be graduates of a recognized school of medicine, and acceptable for admission to the Graduate School of Arts and Sciences of Washington University as candidates for a doctoral degree. Preference will be given to those who expect to pursue an academic career in one of the preclinical sciences.

Stipend. The stipend will vary with the needs and ability of the individual to a maximum of $2000 a year for the first year.

Renewal. Awards may be renewed with the same or different stipends for not to exceed, in all, three years, provided the achievements of the fellow justify continued study.

Application. All applications should be completed by March 1 for the period beginning the following July or September. Awards will be announced about April 1.

THE DANFORTH MEDICAL FUND. The Danforth Foundation, Inc., and the late William H. Danforth have given the sum of $400,000 to further and promote the acquisition and dissemination of the knowledge of medical science and to support research and new discoveries in basic and clinical medicine and surgery. The principal and income of the Fund shall be used to furnish scholarships, fellowships, outright grants, or other financial assistance to talented and promising young men and women engaged or preparing to engage in such fields of study and endeavor. Mr. Danforth
established a Danforth Medical Fund Committee which consists of Dr. Glover H. Copher, Chairman, Dr. Samuel B. Grant and Dr. James Barrett Brown.

The persons to or for whom funds shall be made available shall be proposed by the Committee on Scholarships and Loans of the School of Medicine and shall be finally selected and determined with the advice and consent of the Danforth Medical Fund Committee. The awards are made by the Chancellor.

The George F. Gill Scholarship, instituted in memory of a former Clinical Professor of Pediatrics, entitles the holder to tuition remission of $100.

The Alumni Scholarship Award of $200 to be applied on the payment of the tuition fee is given for excellence in work during the preceding scholastic year on the recommendation of the Committee on Loans and Scholarships and the President of the Medical Alumni Association.

The Dr. John B. Shapleigh Scholarship. From a bequest of Dr. John B. Shapleigh, supplemented by contributions by Mrs. Shapleigh and Miss Margaret Shapleigh, a fund has been established, the income of which is used to pay the tuition of students in need of assistance.

The T. Griswold Comstock Scholarships. Through the bequest of Marilla E. Comstock, the annual income from $12,000 is used for two scholarships for students who otherwise would be unable to obtain a medical education and who desire and intend to follow the practice of medicine and surgery.

The Robert Allen Roblee Scholarships. Through the gift of Mrs. Joseph H. Roblee, the income from this endowment fund of $15,000 provides one or more scholarships for qualified, worthy, and deserving students.

The Alexander Baldridge Shaw Scholarships. Through the bequest of Roy A. Shaw, the annual income from $10,975 has been given in memory of his father, Dr. Alexander Baldridge Shaw, for scholarships in the School of Medicine.

The Aline Rixman Loan Fund. Provided through the gift of William Rixman, the fund is used to alleviate unexpected financial emergencies that arise among medical students during the academic year. The fund is available to any student who, in the judgment of the Dean, gives promise of becoming a competent physician. It is expected that loans will be repaid within a reasonable time after the student has finished his training.

The W. McKim Marriott Scholarship Award, instituted in memory of Dr. W. McKim Marriott, Dean and Professor of Pediatrics, by Dr. C. V. Mosby for the C. V. Mosby Co., entitles the holder to an award of $500, which provides partial tuition for the recipient in the School of Medicine. The scholarship is awarded annually by the Chancellor on the recommendation of the Dean and the Professor of Pediatrics, preferably to a deserving young man who shows promise in the field of pediatrics.

Beulah B. Strickling Scholarship. Through the bequest of the late Mrs. Beulah B. Strickling, $5000 has been given to the School of Medicine for scholarships,
W. K. Kellogg Foundation Loan Fund. A generous gift has been made to this and other universities by the W. K. Kellogg Foundation to provide financial assistance to well-qualified medical students in need of such aid. A limited number of loans are available from this fund.

The G. H. Reinhardt Memorial Scholarship Fund. Through the bequest of G. H. Reinhardt, an amount of not more than $400 each year is available to deserving students during their second year. No more than $100 shall be loaned to any one student. The loans are granted by the Chancellor on the recommendation of the Dean.

The Teamsters Labor-Management Charitable Foundation Scholarship Fund of $1,500 is available for scholarships in the School of Medicine. The scholarships are awarded by the Chancellor on the recommendation of the Dean.

Joseph H. Scharf Scholarship. Through the bequest of Dr. Joseph H. Scharf, the annual income from $2,418 is available for scholarships for worthy and needy students in the School of Medicine. The scholarships are awarded by the Chancellor on the recommendation of the Dean.

A corner of the current reading room of the Library where the most recent numbers of the medical journals received are readily available.
GRACE STRONG COBURN SCHOLARSHIP. Through the bequest of Mrs. Grace Strong Coburn, the income from an endowment fund of approximately $67,000 is to be used by the School of Medicine for the purpose of providing scholarships to aid worthy individuals engaged in the study of medicine or in improving their knowledge of medicine.

ROY B. MILLER SCHOLARSHIP FUND. Through the bequest of Mr. Roy B. Miller, the income from approximately $60,000 is available for scholarships for medical students and for postgraduate study and research for such students as seem to be especially capable of performing through their study and work things that would definitely benefit mankind.

AVALON FOUNDATION SCHOLARSHIPS. The Avalon Foundation has made grants to the School of Medicine for scholarships for medical students which are granted on a combined basis of financial need and scholastic attainment.

THE THOMAS W. AND ELIZABETH J. RUCKER SCHOLARSHIPS. Through the bequest of Eugenia I. Rucker, the income from the Thomas W. and Elizabeth J. Rucker Scholarship Endowment of $81,234 provides scholarships for students in the School of Medicine.

THE ISABEL VALLE BROOKINGS SCHOLARSHIP AND LOAN FUND. Through the gift of Isabel Valle Brookings (Mrs. Robert S.), the income from this fund of $25,500 is available for scholarships and loans in the School of Medicine.

EDWARD H. AND VIRGINIA M. TERRILL SCHOLARSHIP FUND. Through the bequest of Dr. Edwin H. Terrill, the income from $40,000 is available for scholarships for medical students.

MR. AND MRS. WILLIAM GREENBERG SCHOLARSHIP FUND. Through the gift of Mr. and Mrs. William Greenberg, a scholarship has been made available for a medical student.

THE ALEXANDER AND GERTRUDE BERG FELLOWSHIP. Through the bequest of the late Mrs. Gertrude Berg, $40,000 has been given to the School of Medicine to establish an endowment fund for a fellowship in the Department of Microbiology.

THE BERTHA REINHARDT GREEN MEMORIAL FUND. Through the bequest of the late Mrs. Bertha Reinhardt Green, $5000 has been given to the School of Medicine for a loan fund in Occupational and Recreational Therapy.

THE GEORGE W. MERCK MEMORIAL LOAN FUND. Through the gift of the Merck Company Foundation, $20,000 is available as a loan fund to encourage deserving interns and residents to seek the best possible postgraduate training.

STUDENT ASSISTANTSHIPS are available in a number of departments in the School. Information may be obtained from the heads of the departments concerned.

Applications for all fellowships, scholarships, and assistantships may be made to the Dean. The awards are made by the Chancellor on the recommendation of the Dean.
GEORGE F. GILL PRIZES:
1. One prize of fifty dollars is awarded at the end of the first year to the member of the class who has demonstrated superior scholarship in anatomical work.
2. One prize of fifty dollars is awarded to a member of the graduating class, of high general standing, who has shown especially good scholarship in the Department of Pediatrics.

THE KEHAR S. CHOUKÉ PRIZE of fifty dollars is awarded at the end of the first year to a medical student who has demonstrated superior scholarship in anatomical work.

ALPHA OMEGA ALPHA FRATERNITY PRIZE is awarded at the end of the fourth year to the member of that class who has made the highest average for the entire medical course.

ALPHA OMEGA ALPHA FRATERNITY PRIZE FOR STUDENT RESEARCH amounting to $25 is awarded to the student who submits the best thesis on a research problem.

THE ALEXANDER BERG PRIZE of one hundred dollars is awarded to a student of high general standing who presents the best results in research in bacteriology.

THE BIOCHEMISTRY PRIZE is awarded at the end of the first year to the member of the class who has demonstrated superior scholarship in biochemical work.

THE JAMES HENRY YALEM PRIZE IN DERMATOLOGY, established through the generosity of Mr. Charles Yalem, is awarded annually to a member of the senior class for outstanding work in dermatology.

THE BAKER LABORATORIES, INC., NUTRITIONAL AWARD of $100 is given annually to the student who has done the most outstanding work in nutrition, preferably but not necessarily in the field of pediatrics.

THE DR. RICHARD S. BROOKINGS AND DR. ROBERT CARTER MEDICAL SCHOOL PRIZES. Through a bequest from Robert S. Brookings, an endowment fund has been established, the income of which is to be used for annual prizes or rewards for medical students. At the present time these prizes are awarded annually for meritorious research or other performance carried on by students enrolled in the School of Medicine.

THE JACQUES J. BRONFENBRENNER PRIZE of $50, given by his students in memory of his inspiring accomplishment as a teacher and scientist, is awarded to the member of the graduating class who, in the judgment of the Chairman of the Department of Medicine, has done the most outstanding work in his class in the field of infectious diseases or related fields.

THE PRIZE FUND OF THE MEDICAL FUND SOCIETY:
1. One prize of one hundred dollars is awarded annually to the student of the senior class who shall in the opinion of the faculty have excelled in the study of internal medicine, provided, however, that no student shall he eligible for this prize who has not been a bona fide student of medicine in the School of Medicine of Washington University for the full junior and senior years.
2. One prize of one hundred dollars is awarded annually to that student of the senior class who shall in the opinion of the faculty have excelled in the study of surgery, provided, however, that no student shall be eligible for this prize who has not been a bona fide student of medicine in the School of Medicine of Washington University for the full junior and senior years.

It is stipulated that no individual shall be eligible for both prizes.

The Howard A. McCordock Book Prize is awarded at the end of the second year to a member of that class for general excellence in pathology.

The Sidney I. Schwab Book Prizes are awarded at the end of the fourth year to members of that class for general excellence in neurology and psychiatry.

The Borden Undergraduate Research Award of five hundred dollars is awarded to that member of the graduating class who, during any year while enrolled in the School, has carried out the most meritorious undergraduate research.

The Missouri State Medical Association Award of a scroll and a $100 U.S. Savings Bond is presented annually to an honor graduate of the senior class.

The Roche Award of a scroll and a gold wrist watch is presented at the end of the second year to the student who best exemplifies the ideals of the modern American physician.

The C. V. Mosby Company Book Awards are made to five members of the graduating class for high general scholastic standing and research achievement.

LECTURESHPES

Leo Loeb Lecture. Provided by the Mu Chapter of the Phi Beta Pi Fraternity.

Robert J. Terry Lecture. Established by alumni “for the purpose of fostering greater appreciation of the study of human anatomy.”

Major G. Seelig Lecture. Established by friends in the field of surgery in honor of Dr. and Mrs. Seelig.

George H. Bishop Lecture. Supported by funds made available by friends interested in the advancement of neurology.

Philip A. Shaffer Lecture. Founded by friends of Dr. Shaffer in recognition of his accomplishments in biochemistry.

Samuel B. Grant Visiting Professorship. Established to provide annually a visiting professorship in the Department of Medicine.

Harry Alexander Visiting Professorship. An annual visiting professorship in the Department of Medicine has been established by former house officers and friends of Harry Alexander.

Alexis F. Hartmann, Sr., Lecture. Established by friends interested in pediatrics to provide an annual lecture in Dr. Hartmann’s honor.
# CLASS SCHEDULE • FIRST YEAR

## FIRST SEMESTER—September 13, 1965, through January 29, 1966

<table>
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<tr>
<th>Hours</th>
<th>Monday</th>
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<td>9 to 10</td>
<td>Anatomy</td>
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<td>4 to 5</td>
<td>Biostatistics*</td>
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* Biostatistics for last 6 weeks of first semester.

Anatomy for first 12 weeks of first semester.

** Health and Health Maintenance for first 12 weeks of first semester from 1:30 to 2:30.

Anatomy for last 6 weeks of first semester.

## SECOND SEMESTER—January 31 through June 4, 1966

<table>
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<th>Hours</th>
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<th>Wednesday</th>
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* Biostatistics for first 6 weeks of second semester.

Physiology for last 12 weeks of second semester.
# CLASS SCHEDULE • SECOND YEAR

## FIRST TRIMESTER—September 13 through December 4, 1965

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<th>Hours</th>
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## SECOND TRIMESTER, 1st half (6 weeks)—December 6-18, 1965, and January 3-29, 1966

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<tr>
<td>9 to 10</td>
<td>Pathology</td>
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<td>Pathologic Physiopathology</td>
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<td>2 to 3</td>
<td>Physical Diagnosis</td>
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## SECOND TRIMESTER, 2nd half (6 weeks)—January 31 through March 12, 1966

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<td>Path. of Behavior</td>
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<td>Physical Diagnosis</td>
<td>Lab. Med.</td>
<td>Parasitology</td>
<td>Prev. &amp; Control of Dis.</td>
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39
THIRD TRIMESTER—March 14 through April 23, 1966 (6 weeks)

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<td>Pathology</td>
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<td>Path. of Behavior</td>
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<td>Surgery</td>
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<td>Path. Physiology</td>
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THIRD TRIMESTER—April 25 through June 4, 1966 (6 weeks) ELECTIVES
## MEDICINE SERVICE

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<tr>
<td>12 to 1</td>
<td><strong>Lectures 12 to 1:30</strong></td>
<td><strong>C P C</strong></td>
<td><strong>Ob. &amp; Gyn.</strong></td>
<td>Medicine Clinic</td>
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<tr>
<td>1 to 2</td>
<td><strong>Section I</strong>—City Hospital or Veterans Administration Hospital.</td>
<td><strong>Section I</strong>—City Hospital or Veterans Administration Hospital.</td>
<td><strong>Section I</strong>—City Hospital or Veterans Administration Hospital.</td>
<td><strong>Section I</strong>—City Hospital or Veterans Administration Hospital.</td>
<td><strong>Section I</strong>—City Hospital or Veterans Administration Hospital.</td>
<td><strong>Section I</strong>—City Hospital or Veterans Administration Hospital.</td>
</tr>
<tr>
<td>2 to 3</td>
<td><strong>Section II</strong>—Barnes Hospital or Jewish Hospital.</td>
<td><strong>Section II</strong>—Barnes Hospital or Jewish Hospital.</td>
<td><strong>Section II</strong>—Barnes Hospital or Jewish Hospital.</td>
<td><strong>Section II</strong>—Barnes Hospital or Jewish Hospital.</td>
<td><strong>Section II</strong>—Barnes Hospital or Jewish Hospital.</td>
<td><strong>Section II</strong>—Barnes Hospital or Jewish Hospital.</td>
</tr>
<tr>
<td>3 to 4</td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
</tr>
<tr>
<td>4 to 5</td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
<td><strong>Sections change at end of 6-week period.</strong></td>
</tr>
</tbody>
</table>

## SURGERY SERVICE, 6 weeks; NEUROLOGY SERVICE, 3 weeks; PSYCHIATRY SERVICE, 3 weeks

<table>
<thead>
<tr>
<th>Hours</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
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</thead>
<tbody>
<tr>
<td>12 to 1</td>
<td><strong>Lectures 12 to 1:30</strong></td>
<td><strong>C P C</strong></td>
<td><strong>Ob. &amp; Gyn.</strong></td>
<td>Medicine Clinic</td>
<td></td>
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</tr>
<tr>
<td>1 to 2</td>
<td><strong>Section I</strong>—Surgery</td>
<td><strong>Section I</strong>—Surgery</td>
<td><strong>Section I</strong>—Surgery</td>
<td><strong>Section I</strong>—Surgery</td>
<td><strong>Section I</strong>—Surgery</td>
<td><strong>Section I</strong>—Surgery</td>
</tr>
<tr>
<td>2 to 3</td>
<td><strong>Section II</strong>—Group a. Psychiatry</td>
<td><strong>Section II</strong>—Group a. Psychiatry</td>
<td><strong>Section II</strong>—Group a. Psychiatry</td>
<td><strong>Section II</strong>—Group a. Psychiatry</td>
<td><strong>Section II</strong>—Group a. Psychiatry</td>
<td><strong>Section II</strong>—Group a. Psychiatry</td>
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<tr>
<td>3 to 4</td>
<td><strong>Section II</strong>—Group a. Psychiatry</td>
<td><strong>Section II</strong>—Group a. Psychiatry</td>
<td><strong>Section II</strong>—Group b. Neurology</td>
<td><strong>Section II</strong>—Group b. Neurology</td>
<td><strong>Section II</strong>—Group b. Neurology</td>
<td><strong>Section II</strong>—Group b. Neurology</td>
</tr>
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<td>4 to 5</td>
<td><strong>Sections change at the end of 6-week period.</strong></td>
<td><strong>Sections change at the end of 6-week period.</strong></td>
<td><strong>Sections change at the end of 6-week period.</strong></td>
<td><strong>Sections change at the end of 6-week period.</strong></td>
<td><strong>Sections change at the end of 6-week period.</strong></td>
<td><strong>Sections change at the end of 6-week period.</strong></td>
</tr>
</tbody>
</table>

* Surgery first two trimesters.
Ophthalmology first seven weeks of third trimester.
Otolaryngology last five weeks of third trimester.
Regular attendance at these noon sessions is encouraged and students will be held responsible for the material covered. However, it is recognized that conflicting responsibilities on the clinical clerkships may prevent attendance at every session.

41
## CLASS SCHEDULE—THIRD YEAR

### PEDIATRIC SERVICE, 6 weeks; OBSTETRICS AND GYNECOLOGY SERVICE, 6 weeks

<table>
<thead>
<tr>
<th>Hours</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 to 11</td>
<td></td>
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<tr>
<td>11 to 12</td>
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<td>12 to 1</td>
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<tr>
<td>1 to 2</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2 to 3</td>
<td>Section I—Pediatrics  Section II—Obstetrics and Gynecology</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>3 to 4</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4 to 5</td>
<td>Sections change at end of 6-week period.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

* Lectures 12 to 1:30*

| C P C | Ob. & Gyn. | Medicine Clinic |

* Surgery first two trimesters.  
Ophthalmology first seven weeks of third trimester.  
Otolaryngology last five weeks of third trimester.
### CLASS SCHEDULE • FOURTH YEAR

**MEDICINE SERVICE**, 6 weeks; **OBSTETRICS AND GYNECOLOGY**, 3 weeks; **OPHTHALMOLOGY**, 1 week; **OTOLARYNGOLOGY**, 2 weeks

<table>
<thead>
<tr>
<th>Hours</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 to 10</td>
<td>Group A—Summer Term, June 21 through September 11, 1965.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Group D—First Trimester, September 13 through December 4, 1965.</td>
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<tr>
<td>11 to 12</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 to 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C P C</td>
</tr>
<tr>
<td>2 to 3</td>
<td>Section I—Medicine (Barnes Hospital Wards), 6 weeks.</td>
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<td></td>
<td></td>
<td></td>
<td>Pediatrics*</td>
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<tr>
<td></td>
<td>Section II—Group a. Obstetrics and Gynecology, 3 weeks</td>
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<td></td>
<td>Medicine Clinic</td>
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<tr>
<td></td>
<td>Group b. Ophthalmology, 1 week. (Groups change at end of 3 weeks)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3 to 4</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4 to 5</td>
<td>Sections change at end of 6-week period.</td>
<td></td>
<td></td>
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</tbody>
</table>

* Pediatrics lectures for first 27 weeks of year.

* Lectures in Medical Jurisprudence are given during the last 9 weeks of the third trimester from 12 to 1. This course is required of all senior students.
**CLASS SCHEDULE—FOURTH YEAR**

**SURGERY SERVICE, 12 weeks**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 to 11</td>
<td>Group B—First Trimester, September 13 through December 4, 1965.</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11 to 12</td>
<td>Group C—Summer Term, June 21 through September 11, 1965.</td>
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<tr>
<td>12 to 1</td>
<td>Group D—Third Trimester, March 14 through June 4, 1966.</td>
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<tr>
<td>2 to 3</td>
<td>CPC</td>
<td>Pediatrics*</td>
<td>Medicine Clinic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 to 4</td>
<td>Surgery Clerkship (General Surgery, the Specialties, and Anesthesiology)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 to 5</td>
<td></td>
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<td></td>
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</tbody>
</table>

* Pediatrics lectures for first 27 weeks of the year.
* Lectures in Medical Jurisprudence are given during the last 9 weeks of the third trimester from 12 to 1. This course is required of all senior students.
CHILD AND ADULT OUTPATIENT CLINIC CLERKSHIP, 12 weeks

Group C—First trimester, September 13 through December 4, 1965.
One-fourth of class is divided into 4 groups of 5 to 6 students for this clerkship. The schedule allows for one-half day a week of free time for each student.

<table>
<thead>
<tr>
<th>9 a.m.-noon</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups 1</td>
<td>Medicine 1-10</td>
<td>Medicine 11-20</td>
<td>Medicine 1-5</td>
<td>Medicine 11-15</td>
<td>Medicine 6-10</td>
<td>Medicine 16-20</td>
</tr>
<tr>
<td>3</td>
<td>Psychiatry 16-20</td>
<td>Psychiatry 6-10</td>
<td>Psychiatry 6-10</td>
<td>Psychiatry 16-20</td>
<td>Psychiatry 1-5</td>
<td>Psychiatry 11-15</td>
</tr>
<tr>
<td>4</td>
<td>Ob. &amp; Gyn. 16-20</td>
<td>Ob. &amp; Gyn. 6-10</td>
<td>Ob. &amp; Gyn. 6-10</td>
<td>Ob. &amp; Gyn. 16-20</td>
<td>Ob. &amp; Gyn. 6-10</td>
<td>Ob. &amp; Gyn. 6-10</td>
</tr>
<tr>
<td>Noon Clinics</td>
<td>CPC</td>
<td>Pediatrics*</td>
<td>Medicine Clinics</td>
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<td></td>
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</tr>
<tr>
<td>2 to 5 p.m.</td>
<td>Pediatrics 1-5</td>
<td>Pediatrics 11-15</td>
<td>Pediatrics 1-5</td>
<td>Pediatrics 11-15</td>
<td>Pediatrics 1-5</td>
<td>Pediatrics 11-15</td>
</tr>
<tr>
<td>2</td>
<td>Dermatology 6-10</td>
<td>Dermatology 1-5</td>
<td>Dermatology 16-20</td>
<td>Dermatology 11-15</td>
<td>Dermatology 6-10</td>
<td>Dermatology 11-15</td>
</tr>
<tr>
<td>3</td>
<td>Neurology 16-20</td>
<td>Prev. Med. 1-10</td>
<td>Neurology 6-10</td>
<td>Neurology 16-20</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>Prev. Med. 11-20</td>
<td>Amputee 6-10</td>
<td>Hypertension 16-20</td>
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<td></td>
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</tr>
</tbody>
</table>

* Pediatrics lectures for first 27 weeks of the year.
* Lectures in Medical Jurisprudence are given during the last 9 weeks of the third trimester on Fridays from 12 to 1. This course is required of all senior students.
## CLASS SCHEDULE—FOURTH YEAR

<table>
<thead>
<tr>
<th>9 a.m.-noon</th>
<th>Second Six Weeks</th>
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<tbody>
<tr>
<td>1</td>
<td>Medicine 1-10</td>
</tr>
<tr>
<td>3</td>
<td>Psychiatry 11:15</td>
</tr>
<tr>
<td>4</td>
<td>Psychiatry 11:15</td>
</tr>
<tr>
<td>Noon Clinics</td>
<td>CPC</td>
</tr>
<tr>
<td>2:5 p.m.</td>
<td>Pediatrics 6-10</td>
</tr>
<tr>
<td>3</td>
<td>Dermatology 1:5</td>
</tr>
<tr>
<td>4</td>
<td>Prev. Med. 11:20</td>
</tr>
</tbody>
</table>

* Pediatrics lectures for first 27 weeks of the year.

* Lectures in Medical Jurisprudence are given during the last 9 weeks of the third trimester on Fridays from 12 to 1. This course is required of all senior students.

### ELECTIVE OR FREE TIME, 12 weeks

- **Group A**—First trimester, September 13 through December 4, 1965.
- **Group B**—Summer term, June 21 through September 11, 1965.
- **Group C**—Third trimester. March 14 through June 4, 1966.
- **Group D**—Second trimester, December 6-18, 1965, and January 3 through March 12, 1966.
### First Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Anatomy</td>
<td>618</td>
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<tr>
<td>Biological Chemistry</td>
<td>306</td>
</tr>
<tr>
<td>Physiology</td>
<td>270</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>24</td>
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<tr>
<td>Medical Psychology</td>
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</table>

**Total Hours:** 1,236

### Second Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Pharmacology</td>
<td>216</td>
</tr>
<tr>
<td>Microbiology</td>
<td>216</td>
</tr>
<tr>
<td>Pathology</td>
<td>288</td>
</tr>
<tr>
<td>Conjoint Medicine</td>
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</tr>
<tr>
<td>Physical Diagnosis</td>
<td>72</td>
</tr>
<tr>
<td>Clinical Diagnosis</td>
<td>24</td>
</tr>
<tr>
<td>Laboratory Methods of Diagnosis</td>
<td>120</td>
</tr>
<tr>
<td>Pathologic Physiology</td>
<td>36</td>
</tr>
<tr>
<td>Introduction to Surgery</td>
<td>12</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>12</td>
</tr>
<tr>
<td>Pathology of Behavior</td>
<td>48</td>
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<tr>
<td>Parasitology</td>
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<tr>
<td>Prevention and Control of Disease</td>
<td>12</td>
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<tr>
<td>History of Medicine</td>
<td>6</td>
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<tr>
<td>Elective</td>
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**Total Hours:** 1,314

### Third Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Surgery Clerkship</td>
<td>198</td>
</tr>
<tr>
<td>Psychiatry Clerkship</td>
<td>96</td>
</tr>
<tr>
<td>Neurology Clerkship</td>
<td>96</td>
</tr>
<tr>
<td>Otolaryngology Lectures</td>
<td>10</td>
</tr>
<tr>
<td>Ophthalmology Lectures</td>
<td>7</td>
</tr>
<tr>
<td>Surgery Lectures</td>
<td>36</td>
</tr>
<tr>
<td>Clinical Pathological Conference</td>
<td>36</td>
</tr>
<tr>
<td>Medicine Clerkship</td>
<td>384</td>
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<tr>
<td>Medicine Lectures</td>
<td>36</td>
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<tr>
<td>Pediatrics Clerkship</td>
<td>198</td>
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<tr>
<td>Obstetrics and Gynecology</td>
<td>198</td>
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**Total Hours:** 1,295
#### Fourth Year

<table>
<thead>
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<tbody>
<tr>
<td>Surgery Clerkship</td>
<td>396</td>
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<tr>
<td>Clinical Pathological Conference</td>
<td>36</td>
</tr>
<tr>
<td>Medicine Clerkship</td>
<td>198</td>
</tr>
<tr>
<td>Medical Jurisprudence</td>
<td>9</td>
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<tr>
<td>Medicine Lectures</td>
<td>36</td>
</tr>
<tr>
<td>Pediatric Lectures</td>
<td>27</td>
</tr>
<tr>
<td>Obstetrics and Gynecology Clerkship</td>
<td>96</td>
</tr>
<tr>
<td>Out-Patient Clinics</td>
<td>360</td>
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<tr>
<td>Otolaryngology Clerkship</td>
<td>64</td>
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<tr>
<td>Ophthalmology Clerkship</td>
<td>32</td>
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**1,254 Total Hours**

#### Clinic Hours

<table>
<thead>
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<th>Clerkship</th>
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<tr>
<td>Medicine</td>
<td>72</td>
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<tr>
<td>Obstetrics and Gynecology</td>
<td>36</td>
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<tr>
<td>Neurology</td>
<td>18</td>
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<td>Psychiatry</td>
<td>54</td>
</tr>
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<td>Preventive Medicine</td>
<td>36</td>
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<td>Dermatology</td>
<td>36</td>
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<tr>
<td>Pediatrics</td>
<td>90</td>
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<tr>
<td>Rehabilitation</td>
<td>18</td>
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</tbody>
</table>

**360 Total for 4 years**

**Total for four years 5,099 clock hours**
DEPARTMENTS OF
THE SCHOOL OF MEDICINE

Anatomy
Biological Chemistry
Internal Medicine – Dermatology
Microbiology
Neurology
Obstetrics–Gynecology

Ophthalmology
Otolaryngology
Pathology
Pediatrics
Pharmacology

Physiology
Preventive Medicine—Public Health
Psychiatry
Radiology
Surgery
DEPARTMENT OF ANATOMY

The anatomical sciences are presented in two required courses (gross anatomy, microscopic anatomy). These are supplemented by clinical demonstrations supervised by members of other departments. Emphasis is placed upon the biological relationships of morphology to other disciplines of medical science. Lectures, demonstrations, and laboratory teaching are all used to call attention to the results of recent investigations and to acquaint students with the current literature. There are facilities for special work in gross anatomy, physical anthropology, embryology, neuroanatomy, cytology, histochemistry, and electron microscopy.

Professor and Head of Department
Professor and Acting Head of Department
Sarah A. Luse, A.B., Rockford College, 1940; M.D., Western Reserve University, 1949. (See Department of Pathology)

Professors
Estelle Brodman (Medical History in Anatomy), A.B., Cornell University, 1935; B.S., Columbia University, 1936; M.S., 1943; Ph.D., 1953.
Walter Page Covell, B.S., Oregon State College, 1922; M.S., 1923; Ph.D., University of Minnesota, 1926; M.D., University of Chicago, 1933. (See Department of Otolaryngology)
Mildred Trotter, A.B., Mount Holyoke College, 1920; Sc.M., Washington University, 1921; Ph.D., 1924; Sc.D. (hon.), Western College, 1956; Sc.D. (hon.), Mount Holyoke College, 1960. (See Department of Radiology)

Professors Emeriti
Edmund Vincent Cowdry, A.B., University of Toronto, 1909; Ph.D., University of Chicago, 1912.
Robert James Terry, M.D., Missouri Medical College, 1895; A.B., Washington University, 1901; LL.D. (hon.), 1956.

Associate Professors
Cecil Marvin Charles, A.B., University of Kentucky, 1926; M.S., 1927; Ph.D., Washington University, 1929; M.D., 1933. (See Department of Medicine)
Sam L. Clark, Jr., M.D., Harvard University, 1949.
W. Maxwell Cowan, B.Sc. (hon.) Witwatersrand University, 1952; Ph.D., Oxford University, 1956; M.B.B.Ch., 1958.
Roy Reed Peterson, A.B., University of Kansas, 1948; Ph.D., 1952.

Associate Professor Emeritus
Valentina Suntzeff, M.D., Women’s Medical Institute (Petrograd, Russia), 1917. (Cancer Research) (Also holds title of Lecturer)

Assistant Professors
A. Duncan Chiquoine, A.B., Swarthmore College, 1947; Ph.D., Cornell University, 1952.
Lorraine Lake, B.S., Washington University, 1950; M.A., 1954; Ph.D., 1962. (See Departments of Physical Therapy and Preventive Medicine and Institute of Rehabilitation)

Research Assistant Professor
Adolph Irvin Cohen, B.S., City College of New York, 1948; M.A., Columbia University, 1950; Ph.D., 1954. (See Department of Ophthalmology)

Instructors
Kenneth R. Smith, Jr., M.D., Washington University, 1957. (See Department of Surgery) (On leave of absence July 1 to December 31, 1965)

Research Instructor

Visiting Research Instructor
Ruth Ludatscher, M.D., University of Cluj (Rumania), 1950.

Consultant
Hugh Monroe Wilson (Radiology), B.A., Illinois College, 1924; M.D., Washington University, 1927; M.A. (hon.), Yale University, 1945. (See Department of Radiology)

Research Assistants
Oliver H. Duggins, B.S., Northwestern University, 1934; M.S., 1936; Ph.D., Washington University, 1933.
Lydia E. Thomas, B.S. (Nursing), Simmons College, 1957.

First Year
10 (501). Gross Anatomy. Each student shares a cadaver with one partner and so dissects one-half of the human body. An extensive collection of dissected specimens is housed in the dissection rooms so that students may easily compare their
dissections with museum specimens. X-ray equipment and films are used to complement the current dissections; cine-radiographs are presented regularly; and a collection of radiographs is loaned to each student. Fresh organs are provided for demonstration and dissection at approximate times. Special attention is given to surface anatomy. Students examine each other and are encouraged to learn as much as possible from the living subjects. Occasional attendance at autopsies is recommended. Frequent discussions are held with small groups of students. 336 hours.

(Drs. Trotter, Charles, Chiquoine, Peterson, Smith)

11 (506 and 507). Microscopic Anatomy. Each student is required to have his own microscope, and is loaned a collection of prepared slides which he can study either at home or in the laboratory. He is also loaned a collection of electron micrographs which supplements the histological preparations. Fresh tissues are frequently used in the laboratory, and are especially valuable for determining some of the histochemical reactions of cells. Demonstrations are regularly presented, in which material involving complex techniques can be made available. Frequent and extemporaneous conferences are made possible by the use of laboratories seating about twenty students.

The latter part of the course is devoted to a study of the central nervous system. The principal tracts and nuclei are discussed in lectures, studied in the laboratory by means of dissections, prepared slides, and photographs, and related to the functions of the nervous system by lectures, discussions, and demonstrations. As in histology, morphological structure is related to growth, development, chemical composition, and physiological functions. 282 hours. (Drs. Clark, Luse, Cowan, Cohen, Enders, Laatsch)

ELECTIVE COURSES

50. Topographical Anatomy. Laboratory study of topographical anatomy may be undertaken at any time during the year. Sections, museum preparations, and models are used as material. Hours to be arranged.

51. Dissection. Opportunities are offered at any time except August and September for students and physicians desiring to review the subject. Any of the following parts may be elected for study: head and neck, thorax and upper limb, abdomen and pelvis, lower limb. A fee will be charged, except for medical students who elect this for credit.

52. Advanced Work in Gross Anatomy, Histology, Cytology, Embryology, Neurology and Physical Anthropology. A study of the literature on certain selected problems accompanied by individual laboratory work. Hours to be arranged.

53. Research. Properly qualified individuals are encouraged to carry on research in the anatomical sciences. (See Bulletin of the Graduate School of Arts and Sciences.)

Note—The numbers in parentheses indicate that the course carries credit in the Graduate School of Arts and Sciences and may be found under that number in the Bulletin of that School.
The department offers a first-year course in biological chemistry for students of medicine and for students in the Graduate School of Arts and Sciences. Students of medicine, as well as graduate students, are afforded the opportunity to pursue research work under the direction of the staff. Facilities are provided for research on the preparation and properties of enzymes, the mechanism of their action, and on the metabolism of carbohydrates and proteins. Some summer research fellowships are offered to students of medicine.
Distinguished Service
Professor and Head of Department
Carl F. Cori, M.D., University of Prague, 1920; Sc.D., Yale University, 1946; Sc.D., Western Reserve University, 1946; Sc.D., Boston University, 1948; Sc.D., Cambridge University (England), 1949.

Professor
David H. Brown, B.S., California Institute of Technology, 1942; Ph.D., 1948.

Associate Professors
George R. Drysdale, B.S., Birmingham-Southern College, 1948; M.S., University of Wisconsin, 1950; Ph.D., 1952.
Carl Frieden, B.A., Carleton College, 1951; Ph.D., University of Wisconsin, 1955.
Luis Glaser, B.A., University of Toronto, 1953; Ph.D., Washington University, 1956.
Ernst Helmreich, M.B., University of Munich, 1945; M.D., University of Erlangen, 1949.

Philipp Strittmatter, B.S., Juniata College, 1949; Ph.D., Harvard University, 1954.

Research Associate Professor
Barbara Illingworth Brown, B.A., Smith College, 1946; Ph.D., Yale University, 1950. (Henry Elliot Research Scholar)

Lecturer
Walter Gibson Wiest, A.B., Brigham Young University, 1948; Ph.D., University of Wisconsin, 1952. (See Department of Obstetrics and Gynecology)

Instructors
Max M. Burger, M.D., University of Zurich, 1959. (Helen Hay Whitney Foundation Postdoctoral Fellow July 1 to August 31, 1965.)

Research Assistant
Carmelita Lowry, B.S., University of Illinois, 1944.

FIRST YEAR

10 (503). Biological Chemistry. Lectures, conferences and laboratory work covering those portions of the subject which are of especial importance to the student of medicine. First year; second semester. 306 hours. Graduate student credit: 10 units; lectures only: 4 units.

ELECTIVE COURSES

50 (504). Advanced Work. For graduate students. Hours and credit to be arranged.
51 (515). Research. For graduate students. Hours and credit to be arranged.
52 (506). Special Topics in Biochemistry. Prerequisite, 503 or equivalent. For graduate students. Hours and credit to be arranged.

Note—The numbers in parentheses indicate that the courses carries credit in the Graduate School of Arts and Sciences and may be found under that number in the Bulletin of that School.
Dr. Sol Sherry, Professor of Medicine, demonstrates significant physical findings on a patient who is being presented to a clinical conference attended by junior and senior medical students, house staff and members of the medical faculty.

THE JOHN MILLIKEN DEPARTMENT OF MEDICINE
(Includes Internal Medicine and Dermatology)

For the purposes of both teaching and research, the Department of Medicine is divided into specialty divisions under the following directors:

- Arthritic Disease: Dr. Osterland
- Cardiovascular Disease: Dr. J. Smith, Dr. Brent Parker
- Dermatology: Dr. Demis, Dr. Lane
- Gastroenterology: Dr. M. Peterson
- Hematology: Dr. E. B. Brown, Jr.
- Hypertension: Dr. H. M. Perry
- Immunology: Dr. Charles Parker
- Infectious Diseases: Dr. Harford
- Malignant Disease: Dr. Reinhard
- Medical Genetics: Dr. Sly
- Metabolic Disease: Dr. Daughaday, Dr. Kipnis
Instruction in Medicine commences with the second trimester of the second year and continues throughout the third and fourth years of the curriculum. The teaching of the second year has two main objectives: first, the correlation of the basic sciences with the clinical aspects of disease, and second, training in the technical methods of physical examination and laboratory diagnosis. By the beginning of the third year the student is prepared for supervised clinical study of individual patients in the wards. The emphasis in the junior year is placed upon clinical diagnosis. In the final year each student acts for six weeks as clinical clerk in the wards of Barnes Hospital and also participates for twelve weeks in the co-ordinated outpatient clerkship under the supervision of the Department of Preventive Medicine. During his senior clinical clerkship he receives formal instruction in medical therapeutics.

Summer clerkships for which students may receive full credit are offered to juniors. Students electing these summer clerkships may complete in advance their required work in Medicine and thus gain additional elective or vacation time during the regular academic year.

*Buseh Professor and Head of the Department*


*Professor and Co-Head of the Department*

Sol Sherry, A.B., New York University, 1935; M.D., 1939.

*Professors*

Neal S. Bricker, A.B., University of Colorado, 1945; M.D., 1949.
Hugh Chaplin, Jr., A.B., Princeton University, 1943; M.D., Columbia University, 1947. (See Departments of Preventive Medicine and Institute of Rehabilitation)
William Hamilton Daughaday, A.B., Harvard University, 1940; M.D., 1943.
Carl Gayler Harford, A.B., Amherst College, 1928; M.D., Washington University, 1933.
David M. Kipnis, A.B., Johns Hopkins University, 1945; M.A., 1949; M.D., University of Maryland, 1951.
John Esben Kirk, M.D., University of Copenhagen, 1929. (See Gerontology)

Richard M. Krause, A.B., Marietta College, 1947; M.D., Western Reserve University, 1952 (See Department of Preventive Medicine and Public Health)
Gerald T. Perkoff, M.D., Washington University, 1948. (City Hospital)
Edward Humphrey Reinhard, A.B., Washington University, 1935; M.D., 1939. (See Department of Radiology)
Robert Ely Shank, A.B., Westminster College, 1935; M.D., Washington University, 1939. (See Department of Preventive Medicine)
Stanford Wessler, B.A., Harvard University, 1938; M.D., New York University, 1942. (Jewish Hospital)

*Professor (Clinical)*

Clinton Welsh Lane (Dermatology), A.B., St. Mary's College (Kansas), 1916; M.D., St. Louis University, 1921.

*Professor Emeritus (Clinical)*

Harry Louis Alexander, A.B., Williams College, 1910; M.D., Columbia University, 1914.
Associate Professors
Elmer B. Brown, Jr., A.B., Oberlin College, 1946; M.D., Washington University, 1950.
William H. Danforth, A.B., Princeton University, 1947; M.D., Harvard University, 1951.
(Established Investigator of the American Heart Association)
D. Joseph Demis (Dermatology), B.S., Union College, 1950; Ph.D., University of Rochester, 1953; M.D., Yale University, 1957.
Albert B. Eisenstein, A.B., University of Missouri, 1941; M.D., Washington University, 1944. (See Department of Preventive Medicine) (Jewish Hospital)
Anthony P. Fletcher, B.M., University of London, 1943; B.S., 1943; M.D., 1949.
Samuel B. Guze, M.D., Washington University, 1945. (See Department of Psychiatry)
B. V. Jager, A.B., Harvard University, 1934; M.D., 1938. (See Department of Preventive Medicine and Public Health)
M. Kenton King, B.A., University of Oklahoma, 1947; M.D., Vanderbilt University, 1951. (See Department of Preventive Medicine and Public Health)
Horace Mitchell Perry, M.D., Washington University, 1946. (Cochran Veterans Administration Hospital)
Lillian Recant, A.B., Hunter College, 1941; M.D., Columbia University, 1946. (See Department of Preventive Medicine)

Assistant Professors
France Alexander, A.B., Indiana University, 1950; M.D., 1953. (See Departments of Obstetrics and Gynecology and Preventive Medicine and Public Health)
Ferdinand Wolfgang Bachmann, M.D., University of Zurich, 1953. (City Hospital)
Charles M. Baugh (Pharmacology, Dermatology), B.S., University of Chicago, 1953; Ph. D., Tulane University, 1962. (See Department of Pharmacology)
William F. Bridgers (United Health Foundations Fellow), B.A., University of the South, 1954; M.D., Washington University, 1959. (See Department of Preventive Medicine and Public Health)
James C. Peden, Jr., A.B., Haverford College, 1951; M.D., Washington University, 1955. (See Department of Preventive Medicine and Public Health)
Irwin Schultz, B.A., New York University, 1949; M.D., 1954. (City Hospital)
William S. Sly, M.D., St. Louis University, 1957.
Eng M. Tan, A.B., Johns Hopkins University, 1952; M.D., 1954. (See Department of Preventive Medicine and Public Health)
John D. Vavra, B.A., University of Colorado, 1950; M.D., Washington University, 1954. (See Department of Preventive Medicine and Public Health)

Research Assistant Professors
Ann Reinhenia Dubach, A.B., Bryn Mawr College, 1919; M.S., University of Colorado, 1935; Ph.D., 1938. (On leave of absence)
Norma A. Fletcher, M.S. (Chemical Engineering), The Technical University, Copenhagen, Denmark, 1949.
Virginia Minnich, B.S., Ohio State University, 1937; M.S., Iowa State College, 1938.
Mary L. Parker, B.S., Florida State University, 1946; M.S., 1949; M.D., Washington University, 1953. (See Department of Pediatrics).

Assistant Professors (Clinical)
Grace E. Bergner, A.B., Washington University, 1939; M.D., 1943.
John W. Berry, B.S., University of Toledo, 1943; M.D., St. Louis University, 1946.
Truman Guthred Drake, A.B., Washington University, 1929; M.D., 1933.
Charles W. Duden, M.D., Washington University, 1926.
Joseph C. Edwards, A.B., University of Oklahoma, 1930; M.D., Harvard University, 1934.
Bernard Friedman, A.B., University of Wisconsin, 1931; M.D., 1934.
Ralph V. Gieselman, M.D., Washington University, 1947.
Melvin Leonard Goldman, A.B., Washington University, 1939; M.D., 1943.
Paul O. Hagemann, A.B., Washington University, 1930; M.D., 1934.
Lawrence K. Halpern (Dermatology), M.D., University of Colorado, 1937.
Stanley Forrest Hampton, A.B., Washington and Lee University, 1930; M.D., Washington University, 1934.
James Herbert Hutchinson, Jr., B.S. Arkansas A. and M. College, 1942; M.D., University of Arkansas, 1945.
Michael M. Karl, B.S., University of Wisconsin, 1936; M.D., University of Louisville, 1938.
Robert C. Kingsland, A.B., Washington University, 1933; M.D., 1937.
Norman P. Knowlton, Jr., B.S., Harvard University, 1942; M.D., 1945.
Virgil Loeb, Jr., M.D., Washington University, 1944. (See Department of Pathology)
Morris D. Marcus (Dermatology), M.D., Washington University, 1934.
Morris Moore (Mycology) (Dermatology), S.B., Boston University, 1928; A.M., Harvard University, 1929; Ph.D., Washington University, 1933.
J. Roger Nelson, A.B., Washington University, 1949; M.D., 1953. (See Department of Otolaryngology)
James F. Nickel, A.B., University of Oklahoma, 1944; M.D., Washington University, 1948.
Joseph W. Noah, A.B., University of Missouri, 1938; B.S. in Medicine, 1939; M.D., Washington University, 1941.
Robert Paine, M.D., Harvard University, 1944.
William David Perry, A.B., Northwest Missouri State College, 1943; B.S. in Medicine, University of Missouri, 1945; M.D., Washington University, 1947.
Harold K. Roberts, B.A., Ohio State University, 1935; M.D., 1939.
Ernest T. Rouse, B.S., Alabama Polytechnic Institute, 1939; M.D., Washington University, 1943.
Llewellyn Sale, Jr., A.B., Yale University, 1936; M.D., Washington University, 1940.
Harold Scheff, M.D., University of Toronto, 1931.
James C. Sisk (Dermatology), A.B., Washington University, 1943; M.D., 1946.
INTERNAL MEDICINE

Barrett L. Taussig, A.B., Harvard University, 1928; M.D., Washington University, 1932.

Thomas Joseph Walsh, B.S., University of Richmond, 1946; M.D., Washington University, 1949.

Ray David Williams, A.B., Hampden-Sydney College, 1930; M.S., Emory University, 1931; M.D., Washington University, 1937.

Keith Singleton Wilson, A.B., Williams College, 1930; M.D., Washington University, 1934.

Assistant Professors Emeriti (Clinical)


Harold Aten Bulger, B.S., Ohio State University, 1916; M.D., Harvard University, 1920.

Charles H. Eyermann, M.D., St. Louis University, 1911.

Samuel B. Grant, B.S., Washington University, 1918; M.D., 1920.

Arthur E. Strauss, B.S., Harvard University, 1912; M.D., 1917.

Lawrence D. Thompson, B.S., Rutgers University, 1917; M.D., Cornell University, 1922.

Instructors


Jacques Bourgoignie, M.D., Catholic University of Louvain (Belgium), 1958. (Cochran Veterans Administration Hospital)

Greta Camel, A.B., University of Wisconsin, 1946; M.D., 1949.

Francis Joseph Carey, B.S., St. Bonaventure College, 1951; M.D., St. Louis University, 1959.

Thomas Randolph Cate, B.A., Vanderbilt University, 1956; M.D., 1959.


Lester S. Garfinkel, A.B., Washington University, 1955; M.D., 1959. (Also Fellow in Hematology)

John O. Holloszy, M.D., Washington University, 1957. (See Department of Preventive Medicine)

Saulo Klahr, M.D., Universidad Nacional de Colombia, 1959. (On leave of absence)

George Kobayashi (Dermatology), B.S., University of California, 1952; Ph.D., Tulane University, 1963. (See Department of Microbiology)

Herbert Lubowitz, A.B., Clark University, 1954; M.D., Washington University, 1958.

Dominic Moore-Jones, M.D., National University of Ireland, 1957. (Cochran Veterans Administration Hospital)

Michael W. Moesness, B.S., Brooklyn College, 1955; M.D., State University of New York (Downstate), 1959. (also NIAMD Trainee in Enzymology)

Reginald P. Pugh, B.A., University of Michigan, 1953; M.D., 1955.

Samuel D. Spivack, A.B., Washington University, 1958; M.D., 1962. (Jewish Hospital)

Franz U. Steinberg (Physical Medicine and Rehabilitation), M.D., University of Berne, 1938. (See Department of Preventive Medicine and Public Health) (Jewish Hospital)


R. Dean Wochner, A.B., Arizona State College, 1956; M.D., Washington University, 1960. (City Hospital)

Research Instructor

Benjamin M. Sahagian (Biochemistry), Ph. D., McGill University, 1963. (Cochran Veterans Administration Hospital)

Instructors (Clinical)


Harry Agress, B.S., Washington University, 1932; M.D., 1932.

Louis F. Atken, B.S., University of Illinois, 1923; M.D., Washington University, 1927.

Morris Alex, B.S., University of Missouri, 1942; M.D., Washington University, 1943.

James W. Bagby (Dermatology), A.B., University of Missouri, 1930; B.S. in Medicine, 1931; M.D., Washington University, 1933.

Jack Barrow, M.D., Washington University, 1946.

Walter M. Baumgarten, Jr., A.B., Washington University, 1935; M.D., 1939.

Sim F. Beam, A.B., University of Missouri, 1928; M.D., Washington University, 1932.
William G. Becke, M.D., Washington University, 1923.
Morton A. Binder, B.S., Yale University, 1948; M.D., Columbia University, 1951.
Aaron Birenbaum, M.D., Washington University, 1948.
Benjamin A. Borowsky, M.D., Washington University, 1958.
Edward W. Cannady, A.B., Washington University, 1927; M.D., 1931.
John M. Cary, A.B., Central College, 1954; M.D., St. Louis University, 1958.
Cecil Marvin Charles, A.B., University of Kentucky, 1926; A.M., 1927; Ph.D., Washington University, 1929; M.D., 1933. (See Department of Anatomy)
Margaret Chiefli, M.D., University of New Zealand, 1937.
Phillip Comens, B.S. in Medicine, University of Missouri, 1949; M.D., Washington University, 1951.
Adolph H. Conrad, Jr. (Dermatology), A.B., Washington University, 1934; M.D., 1938.
Ralph Copp, Jr., A.B., Washington University, 1948; M.D., 1952.
Duane E. Cozart, Ph.B., University of Chicago, 1947; A.B., Washington University, 1949; M.D., Medical College of Virginia, 1959.
Arnold Dankner, M.D., Washington University, 1947.
John D. Davidson, A.B., Washington University, 1948; M.D., 1952.
Calvin C. Ellis (Dermatology), A.B., Washington University, 1937; M.D., 1941.
Julius Elson, M.D., Washington University, 1928.
Martin F. Engman, Jr. (Dermatology), M.D., Washington University, 1928.
Mauri Feldaker (Dermatology), A.B., Washington University, 1949; M.D., 1950.
Alfred Fleishman, B.S., Washington University, 1935; M.D., 1935.
Bruce Todd Forsyth, M.D., Washington University, 1947.
Arthur H. Gale, B.S., Washington University, 1955; M.D., University of Missouri, 1959.
Bertrand Y. Glassberg, B.S., Washington University, 1923; M.D., 1925.
John M. Grant, A.B., Princeton University, 1950; M.D., Washington University, 1954.
Neville Grant, A.B., Yale University, 1950; M.D., Columbia University, 1954.
Axel R. Gronau, M.D., University of Naples, 1935.
William K. Hall (Dermatology), B.S., Yale University, 1939; M.D., Harvard University, 1942.
Lee B. Harrison, A.B., University of Utah, 1925; M.D., Washington University, 1927.
Charles Hogancamp, B.S., Murray State College, 1949; M.D., Washington University, 1953.
Richard F. Huck, B.S., Notre Dame University, 1947; M.D., Washington University, 1948.
Bernard Hulbert, B.A., University of Wisconsin, 1938; M.D., 1941.
Warren Z. Jacobsohn, M.D., St. Louis University, 1959.
J. Ted Jean, A.B., Indiana University, 1924; M.D., Washington University, 1928.
David N. Kerr, A.B., University of Colorado, 1936; M.D., Washington University, 1941.
Charles Kilo, M.D., Washington University,
Melvin B. Kirstein, B.S., Indiana University, 1930; M.D., 1933.
Robert E. Koch, A.B., Washington University, 1936; M.D., 1940.
Daniel K. Lane (Dermatology), B.A., Princeton University, 1955; M.D., Washington University, 1959.
Marvin Levin, A.B., Washington University, 1947; M.D., 1951. (See Department of Preventive Medicine and Public Health)
David M. Lieberman, M.D., Vanderbilt University, 1949.
Warren M. Lonergan, A.B., Westminster College, 1956; M.D., Vanderbilt University, 1940.
Richard W. Maxwell, A.B., Greenville College, 1932; M.D., University of Chicago, 1937.
Oliver A. McKee (Dermatology), L.R.C.P., Royal College of Physicians and Surgeons (Dublin), 1949; S.M., 1949.
Austin F. Montgomery, M.D., University of Pittsburgh, 1954.
Lamar H. Ochs, A.B., Washington University, 1941; M.D., 1944.
Kenneth C. Price, M.D., University of Washington, 1951.
Samuel E. Schechter, M.D., Washington University, 1941.
John Wickham Seddon, Ph.B., Yale University, 1931; M.D., Washington University, 1935.
John Blasdell Shapleigh II, M.D., Washington University, 1946.
Burton A. Shatz, A.B., Washington University, 1940; M.D., 1943.
David Miller Skilling, Jr., B.S., Washington and Jefferson College, 1923; M.D., Washington University, 1928.
John Spalding Skinner, M.D., Washington University, 1940.
Milton Smith, B.S., Washington University, 1928; M.D., 1930.
Ross B. Sommer, A.B., Miami University, 1949; M.D., Cornell University, 1949.
Martin F. Stein, M.D., St. Louis University, 1959.
Stanley M. Wald, M.D., Washington University, 1946.
Hugh R. Waters, B.S., Northwestern University, 1942; M.D., Washington University, 1945.
Eugene P. Weber (Dermatology), M.D., Northwestern University, 1940.
Alvin S. Wenneker, A.B., Washington University, 1949; M.D., 1953.
Herbert C. Wiegand, A.B., Washington University, 1940; M.D., 1943.
Herbert B. Zimmerman, M.D., Washington University, 1951.

Instructors Emeriti (Clinical)
William G. Coleman (Dermatology), B.S., Washington University, 1917; M.D., 1919.
Anthony B. Day, B.S., Harvard University, 1913; M.D., Washington University, 1919.
Harry W. Wiese, B.S., Washington University, 1920; M.D., 1922.
INTERNAL MEDICINE

Research Assistants
Mary Howard Anderson,
Mary Chapman Johnson, A.B., Washington University, 1938.
Ida Kozak Mariz, A.B., Washington University, 1940.
Bruce M. McAllister (Dermatology), B.S., University of Oregon, 1959; M.S., 1962.
Betty F. Perry, A.B., Washington University, 1945. (Cochran Veterans Administration Hospital)
Doris Thompson, B.S., Mississippi State University, 1942.

Aniece A. Yunice, B.A., American University of Beirut, 1948; M.S., Wayne State University, 1958. (Cochran Veterans Administration Hospital)

Assistants (Clinical)
Julio Manrique (Dermatology), B.A., Colegio Santa Librada, 1953; M.D., Javeriana University, 1959 (Colombia)
John E. Mullins, M.D., Washington University, 1958.

SECOND YEAR
CONJOINT MEDICINE

The several courses given by the clinical departments during the sophomore year have been placed under the supervision of a Committee on Conjoint Medicine in order that teaching might be co-ordinated effectively. Even though individual courses are listed in the catalogue under departmental headings, representatives of several departments participate in the presentation of material. For instance, clinical diagnosis (see under Medicine) is taught jointly by the Departments of Medicine, Psychiatry and Neurology, Obstetrics and Gynecology, Ophthalmology, Otolaryngology, Pediatrics, and Surgery. The number of hours allotted to each department in the conjoint courses is included in the listing of courses under the respective departmental headings. The following courses are included in this arrangement:

Medicine: Clinical Diagnosis
   Applied Pathologic Physiology
   Laboratory Methods of Diagnosis
Psychiatry and Neurology: Introductory Course on the Patient-Physician Relationship; Neurological Examination in Clinical Diagnosis
Obstetrics and Gynecology: Introduction to Obstetrics
Ophthalmology: Introduction to Ophthalmology
Otolaryngology and Clinical Diagnosis
Pediatrics: Introduction to Pediatrics
Surgery: Introduction to Surgery

(a) Pathologic Physiology. Observation and interpretation of the symptoms and signs of disease, with special reference to pathologic physiology. Part of Conjoint Medicine. 30 hours.
   (Dr. Peterson and Staff)
(b) Clinical Diagnosis. Lectures, demonstrations, and practical exercises in the technique of clinical diagnosis. Part of Conjoint Medicine. 144 hours.
   (Drs. Garfinkel, Smith, and Staff)

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(c) Laboratory Methods of Diagnosis. Lectures and laboratory course in microscopic, bacteriological, serological, and chemical methods of diagnosis. Part of Conjoint Medicine. 144 hours.  
(Dr. E. B. Brown and Staff)

(d) Parasitology. Lectures, demonstrations, and laboratory exercises. 36 hours.  
(Dr. H. Tsuchiya)

THIRD YEAR

30. General Medicine. Supervised Study of Patients on the Semi-Private Medical Service of the Barnes Hospital and the Jewish Hospital, and on the Wards of St. Louis City Hospital and the Veterans Administration Hospital. Students are assigned in rotation as clinical clerks to the patients admitted to these services. Teaching exercises include ward rounds, clinics, and afternoon work in the wards and laboratories. Students serve for six weeks on each of the two services. 384 hours.  
(Drs. Reinhard, Perkoff, M. Perry, Wessler, and Staff)

31. Clinical Pathological Conference. 36 hours. (See under Fourth Year—Medicine 42.)

32. Medical Clinics. 36 hours. (See under Fourth Year—Medicine 41.)

FOURTH YEAR

40. Medicine.

(a) Clinical Clerkship in Hospital Wards. For six weeks the entire day is spent in the medical wards at Barnes Hospital. Patients are assigned for complete study and are followed throughout their stay in the hospital. Cases are presented by the students before the attending physician at ward rounds on the General Medical Wards three times a week, and on the Neurology Service once a week. Special therapeutic conferences are held three times a week with the Medical Resident. The students also attend weekly Staff Rounds, X-ray conferences, and Clinicopathological conferences. 198 hours.  
(Drs. Moore, Sherry, and Staff)

(b) Clinical Clerkship in Washington University Clinics. Part of Co-ordinated Clerkship in Outpatient Medicine under supervision of Department of Preventive Medicine. Students act as clinic physicians for twelve weeks under the supervision of consultants from the Department of Medicine in the following outpatient clinics:

General Medical Clinics (Medicine A and B). Three mornings a week for six weeks and two mornings a week for six weeks. 90 hours.  
(Drs. Shank, V. Jager, Vavra, and Staff)

Dermatology Clinic. One afternoon a week for twelve weeks. 36 hours.  
(Drs. Demis, Lane, and Staff)

41. Medical Clinics. Cases which have been studied by students working in the wards of the Barnes Hospital are presented before the third- and fourth-year classes to illustrate medical problems of particular interest. One hour a week throughout the year. 36 hours.  
(Dr. Moore and Staff)
42. Clinical Pathological Conferences. Abstracts of the clinical records of patients upon whom post-mortem examinations have been performed are presented in advance to members of the third- and fourth-year classes and to members of the medical staff. At each conference the diagnosis is discussed in detail by the clinical staff before the anatomical findings are presented by the pathologists. 36 hours.

(Dr. Reinhard and Medical Staff; Pathology Staff)

ELECTIVE COURSES

50. Student Internship, Private Medical Service, Barnes Hospital. One senior student. Six or twelve weeks. Student will serve as substitute intern on Private Medical Service.

(Drs. Reinhard, W. Perry, and Staff)

51. Student Internship, Ward Medical Service, Barnes Hospital. One senior student. Six or twelve weeks. Student will serve as substitute intern on Ward Medical Service.

(Drs. C. Moore, S. Sherry, and Staff)

52. Student Internship, Washington University Service of the St. Louis City Hospital. Two senior students. Six or twelve weeks. Students will serve as interns on the Unit I Medical Service.

(Drs. Perkoff, Hutchinson, and Staff)

53. Student Internship, Medical Service of the Jewish Hospital. Two students. Six or twelve weeks. Students will serve as substitute interns on the Ward Service. Time will be provided for attendance at Medical School conferences.

(Dr. Wessler and Staff)

54. Dermatology. Three students. Afternoons or all day for six or twelve weeks. Work in clinic (afternoons); attendance at ward rounds and conferences. Individual training in clinical and laboratory examinations pertinent to cutaneous disease.

(Drs. Demis, Kobayashi, Gass)

55. Medical Specialty Clinics. Four students. Afternoons, six weeks. Gastrointestinal (Monday), Allergy (Tuesday), Arthritic or Rheumatic (Wednesday), and Endocrine (Thursday).

(Drs. Daughaday, Hagemann, Hampton, E. Brown, Scheff)

Work in other medical specialty clinics, including cardiovascular (cardiac, hypertension, peripheral vascular), chest, endocrine (a.m.), hematology, and liver may be arranged individually with the physician in charge of each clinic.

56. Metabolic Diseases. Two students. All day for six weeks. Rounds with metabolism consultant on the wards of the Barnes Hospital and attendance at Diabetic and Endocrine Clinics in the Washington University Clinics. Training in special diagnostic tests applicable to the study of metabolic and endocrine diseases.

(Drs. Daughaday, Kipnis)

57. Infectious Diseases. Two students. Six or twelve weeks. Study of infectious diseases both from clinical and basic points of view. Participation in rounds, conferences, and seminars.

(Drs. Harford, King)
58. Hematology. One or two senior students may be accepted each trimester for special work in the Hematology Laboratory. Time is divided between study of patients with hematologic dyscrasias and training in special diagnostic procedure.

(Drs. E. Brown, Vavra, E. Reinhard, C. Moore)

59. Cardiology. Seven students. All day for six weeks. The elective course in cardiovascular disease is offered every six weeks of each trimester. The course includes intensive training in the diagnosis and treatment of cardiovascular disorders, demonstrations in cardiovascular physiology, and instruction in electrocardiographic and roentgenographic diagnosis. The clinical instruction is carried out at the Homer G. Phillips Hospital and is supplemented by conferences and round table discussions.

(Drs. J. Smith, B. Parker, and Staff)

60. Senior Elective in Medicine at St. Luke’s Hospital. These externships offer six weeks of intensive clinical experience with the duties and responsibilities of interns working closely with interns and residents. They emphasize bedside experience and are regulated to permit full participation in the hospital curriculum of seminars, discussions, clinical-physiological and clinical-pathological conferences. (Dr. R. Paine)

61. Pulmonary Diseases. One or two senior students may be accepted for special training in technics applied to study of pulmonary function and disease.

(Dr. Danforth and Staff)

62. Research. Interested senior students are encouraged to participate in the clinical and laboratory research programs of the Department of Medicine. Each applicant should arrange his schedule so that he can devote at least twelve consecutive weeks to his research elective. Positions available will include the following:

Cardiovascular Disease—Drs. J. Smith, B. Parker, W. Danforth, H. Fozzard
Clinical Investigation—Drs. S. Sherry, A. Fletcher
Dermatology—Dr. Demis
Diseases of Muscle—Dr. Perkoff
Gastroenterology—Dr. M. Peterson
Hematology—Drs. Brown, Chaplin, C. Moore, Reinhard, Vavra, Kaplan, Peden, Pugh
Hypertension—Dr. H. M. Perry
Immunology—Drs. C. Parker, V. Jager
Infectious Diseases—Drs. Harford, King, F. Carey, I. Schultz
Malignant Disease—Drs. Loeb, Reinhard
Medical Genetics—Dr. Sly
Metabolic Disease—Drs. Daughaday, Recant, Eisenstein, Kipnis, Utiger
Nutrition—Drs. Shank, Eisenstein
Peripheral Vascular Disease—Drs. Wessler, Gaston
Psychosomatic Disease—Dr. Guze
Renal Disease—Dr. Bricker

Arrangements for these research electives should be made directly with the faculty member with whom the student wishes to work.
Dr. Herman N. Eisen, Professor of Microbiology, at work in the department's research laboratories.

DEPARTMENT OF MICROBIOLOGY

Professor and Head of Department
Herman Nathaniel Eisen, A.B., New York University, 1939; M.D., 1943.

Associate Professor Emeritus
Hiromu Tsuchiya (Parasitology), A.B., University of Missouri, 1913; Sc.D., Johns Hopkins University, 1930. (See Department of Medicine)

Assistant Professors
Julian B. Fleischman, B.S., Yale University, 1955; Ph.D., Harvard University, 1960. (See Department of Preventive Medicine)
David Epperson Kennell, A.B., University of California, 1955; Ph.D., 1959.
J. Russell Little, Jr., A.B., Cornell University, 1952; M.D., University of Rochester, 1956. (See Department of Medicine)
Milton Schlesinger, B.S., Yale University, 1951; M.S., University of Rochester, 1953; Ph.D., University of Michigan, 1959.
Sondra Schlesinger, B.S., University of Michigan, 1956; Ph.D., 1960.
MICROBIOLOGY


Alexander C. Sonnenwirth, A.B., University of Nebraska, 1950; M.S., Purdue University, 1953; Ph.D., Washington University, 1960.

Visiting Assistant Professor

Instructor
George Kobayashi, B.S., University of California, 1952; Ph.D., Tulane University, 1963. (See Department of Medicine)

Research Instructors
Angeliki Kotoulas, M.D., Athens Medical School, 1957.
Ernest S. Simms.

Research Assistant
John Courtney, A.B., University of Illinois, 1953.

SECOND YEAR

20 (531). Microbiology. Lectures and laboratory. This course will present the basic principles relating to the metabolism, growth, and reproduction of microorganisms and to the immune responses of the host to pathogenic microorganisms and their metabolic products. The organization of the course is as follows: pure culture methodology, biochemical mechanisms of nutrition and intermediary metabolism, physiology of growth, fundamental genetics (with special emphasis on microbial aspects), immunology. In terms of the above concepts, specific groups of pathogenic organisms and viruses will then be considered. The interaction between host and parasite will be studied by analyzing the biochemical basis for the pathogenicity of the microbe and for the immune reaction of man. The factors which make microorganisms vulnerable or resistant to chemotherapeutic agents will also be examined. 216 hours.
Neurophysiological research using the LINC computer.  
Mr. Castellucci, Dr. Robert Wurtz, and Miss Margaret Clare.

DEPARTMENT OF NEUROLOGY

Neurology concerns itself with the diseases of brain, spinal cord, and peripheral nerves. Instruction is provided in all years, commencing in the first year with a series of case demonstrations designed to acquaint the freshman student with the applicability of anatomical and physiological knowledge of the nervous system to the localization of neurological lesions. In the second year the neurological part of physical diagnosis is covered by lectures and exercises, and lectures in patho-physiology cover major principles of neurology as exemplified in the spheres of motion and of sensation. Third- and fourth-year activities center upon in- and out-patient clerkship studies in clinics and upon the wards. Electroencephalography and clinical clerkships are available as a fourth-year elective, and there are other opportunities for investigation of nervous system functioning in every aspect.
Professor and Head of Department
James Lee O'Leary, B.S., University of Chicago, 1925; Ph.D., 1928; M.D., 1931.

Professor

Professor Emeritus and Lecturer
George Holman Bishop (Neurophysiology), A.B., University of Michigan, 1912; Ph.D., University of Wisconsin, 1920.

Associate Professor
Sven G. Eliasson, Ph.D., University of Lund, 1942; M.D., 1954.

Associate Professor Emeritus
Ethel Ronzoni Bishop (Biochemistry), B.S., Mills College, 1913; A.M., Columbia University, 1914; Ph.D., University of Wisconsin, 1922.

Associate Professors (Clinical)
Irwin Levy, A.B., Cornell University, 1927; M.D., St. Louis University, 1931; D.M.S., Columbia University, 1935.

Associate Professor Emeritus (Clinical)
Andrew B. Jones, M.D., Vanderbilt University, 1916.

Assistant Professors
Lawrence A. Cohen, B.S., Western Reserve University, 1948; M.D., 1954; M.A., Northwestern University, 1951.
William B. Hardin, B.A., Rice University, 1953; M.D., University of Texas, 1957.


Research Assistant Professor
Margaret H. Clare (Neurophysiology), B.S. in Ed., Southeast Missouri State Teachers College, 1940; M.A., Washington University, 1951.

Assistant Professors (Clinical)
Andrew J. Gay, B.S., University of Alabama, 1950; M.A., 1954; M.D., Medical College of Alabama, 1955. (See Department of Ophthalmology)
Joseph J. Gitt, M.D., Washington University, 1930.

Assistant Professor Emeritus (Clinical)
Archie D. Carr, B.S., Washington University, 1918; M.D., 1921.

Instructor

Instructors (Clinical)
Robert J. Mueller, M.D., Washington University, 1936; M.S., University of Michigan, 1942.
Earl R. Schultz, A.B., Southeast Missouri State College, 1952; B.S. in Medicine, University of Missouri, 1953; M.D., Washington University, 1955. (See Department of Psychiatry)
FIRST YEAR

10. **Integrative Neurology** (Given as part of Anatomy 11). A series of four clinics is held in the second semester to acquaint students of neuroanatomy and neurophysiology with the applicability of these subjects in localizing lesions of the central and peripheral nervous system. The series commences with spinal and cranial nerve deficits and proceeds systematically through spinal cord, brain stem, basal ganglia, cerebellum and cerebral cortex, utilizing currently available cases from the neurological and neurosurgical services. (Dr. O'Leary and Staff)

SECOND YEAR

20. **Neurology. Neurological Examination in Clinical Diagnosis.** (Part of Conjoint Medicine. See page 62.) Lectures, demonstrations, and exercises in the neurological examination of the patient. 6 hours. (Dr. Landau in conjunction with Staff)

30. **Neurology.** A full-time, three-week, in-patient clerkship is provided on the ward and private services at Barnes Hospital. Patients are assigned to students, who follow them with the resident staff and discuss them regularly in conference with the senior staff. (Dr. O'Leary and Staff)

FOURTH YEAR

40. **Neurology.** Formal teaching is confined to six half-day assignments in the Out-Patient Clinic, where the student has the opportunity to participate in the diagnosis, study, and treatment of common neurologic conditions in adults and children. (Dr. O'Leary and Staff)

ELECTIVE COURSES

51. **Research in Neurology.** Facilities are available for qualified students to undertake original research in the laboratories of the department or in the clinics or wards. (Drs. O'Leary, Landau, Eliasson, and Staff)

52. **Staff Conferences.** Students are invited to attend the weekly Neurological-Neurosurgical-Neuropathological Conference. This meeting is held on Wednesday afternoons in the Pathology and Clopton Auditoriums, except the fourth Wednesday of the month, at City Hospital.

53. **Externships.** Barnes Hospital private neurology service, City Hospital neurology service, Children's Hospital neurology service, clinics, conferences, and EEG. Full time three to twelve weeks by specific arrangement. (Dr. Landau)
Dr. Willard M. Allen, Professor of Obstetrics and Gynecology, and a member of the staff on daily rounds.

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

The Department of Obstetrics and Gynecology is divided for convenience of administration, teaching, and research into divisions under the following directors:

- Gynecological Cancer .............................................. Dr. Sherman
- Gynecological Endocrinology ................................. Dr. Woolf
- Ob.-Gyn. Service at Max Starkloff Hospital .............. Dr. Esslinger
- Ob.-Gyn. Service at Homer G. Phillips Hospital ........ Dr. Monat

Students are given practical instruction in obstetrics and gynecology in the St. Louis Maternity Hospital, the Barnes Hospital, the Washington University Clinics, and also at the St. Louis City and Homer G. Phillips Hospitals. There are approximately 6,000 confinements annually which are available for the teaching of obstetrics on the ward.
services of the St. Louis Maternity, the St. Louis City, and the Homer G. Phillips Hospitals. Instruction in the care of ambulatory obstetrical and gynecological patients is carried out in the University Clinics, where about 1800 new patients are seen and about 20,000 follow-up visits are made annually. Instruction in gynecology is given in the University Clinics and on the wards of the St. Louis Maternity, the Barnes, and the Barnard Hospitals. There are approximately 2,000 admissions annually to the gynecological service, of which about one-fifth have malignant disease.

Professor and Head of the Department
Willard Myron Allen, B.S., Hobart College, 1926; M.S., University of Rochester, 1929; M.D., 1932; Sc.D. (hon.), 1957; Sc.D. (hon.) Hobart College, 1940.

Professors
Arpad I. Csapo, M.D., University of Szeged (Hungary), 1941.
Alfred I. Sherman, M.D., University of Toronto, 1944. (See Department of Radiology)

Professors (Clinical)
A. Norman Arneson, B.S., Texas Christian University, 1924; M.D., Washington University, 1928. (See Department of Radiology)
John E. Hobbs, A.B., Southwest Missouri State Teachers College, 1923; M.D., Washington University, 1927.
Melvin A. Roblee, B.S., Washington University, 1923; M.D., 1925.
Samuel D. Soule, M.D., Washington University, 1928.

Professor Emeritus (Clinical)
Grandison D. Royston, M.D., Washington University, 1907.

Associate Professors
Walter Gibson Wiest (Biochemistry), A.B., Brigham Young University, 1948; Ph.D., University of Wisconsin, 1952. (See Department of Biological Chemistry)
Ralph B. Woolf, B.S., Massachusetts Institute of Technology, 1935; M.D., University of Rochester, 1939.

Associate Professor (Clinical)
William H. Masters, B.S., Hamilton College, 1938; M.D., University of Rochester, 1943.

Associate Professor Emeritus (Clinical)
F. F. McNalley, B.S., Washington University, 1915; M.D., 1917.

Visiting Research Assistant Professor
Yoshiharu Abe, B.Sc., Kagoshima University, 1956; M.D., Kyushu University, 1964.

Assistant Professors
France Alexander, A.B., Indiana University, 1950; M.D., 1953. (See Departments of Medicine and Preventive Medicine and Public Health)
Girgis Mikhail, M.D., Alexandria University (Egypt), 1955.
Carol F. Williams, B.A., University of Tennessee, 1952; M.D., 1955.

Assistant Professors (Clinical)
H. Marvin Camel, M.D., Creighton University, 1950.
Arthur T. Esslinger, M.D., Washington University, 1940.
Charles R. Gulick, A.B., Central College, 1940; M.D., St. Louis University, 1943.
Herman Hutto, A.B., University of Alabama, 1932; M.D., Washington University, 1935.
Frank B. Long, Jr., M.D., Washington University, 1947.
Lawrence E. Maze, M.D., Washington University, 1948.
Milton H. Meyerhardt, A.B., University of Missouri, 1925; M.D., St. Louis Univ. 1927.
James Pennoyer, B.S., Hobart College, 1933; M.D., University of Rochester, 1939.
Willard C. Scrivner, B.S., Washington University, 1926; M.D., 1930.
William L. Smiley, A.B., Ohio State University, 1933; M.D., 1937.
Helman C. Wasserman, A.B., Johns Hopkins University, 1926; M.D., Washington University, 1932.
Seth E. Wissner, A.B., Washington University, 1942; M.D., 1945.
George J. L. Wulff, Jr., A.B., Washington University, 1929; M.D., 1933.

Assistant Professor Emeritus (Clinical)
Kevin Charles Morrin, M.B., B.Ch., National University of Ireland, 1921.

Instructor
Ernst R. Friedrich, M.D., University of Heidelberg, 1954.

Instructors (Clinical)
Hubert L. Allen, A.B., University of Kansas, 1932; M.D., Tulane University, 1936.
Bryce H. Bondurant, A.B., Northeast Missouri State Teachers College, 1936; D.O., Kirksville College of Osteopathy and Surgery, 1940; M.D., Washington University, 1943.
Leon Foster, M.D., University of Georgia, 1933.
S. Michael Freiman, A.B., Montana State University, 1951; M.D., Washington University, 1955.
Ira Clyde Gall, B.S., University of Cincinnati, 1948; M.D., 1951.
Justin F. Krane, M.D., University of Michigan, 1949.
Paul F. Max, B.S., Washington University, 1932; M.D., 1932.

Frank Andrew Morrison, B.S., University of Nebraska, 1935; M.D., 1936.
John B. O'Neill, B.S., St. Louis University, 1925; M.D., 1927.
Harry E. Raybuck, Jr., A.B., Westminster College, 1949; M.S., St. Louis University, 1951; Ph.D., 1953; M.D., Medical College of Georgia, 1959.
Marvin Rennard, A.B., Washington University, 1947; M.D., 1952; B.S., University of Missouri, 1950; M.S., 1950.
Melvin M. Schwartz, A.B., University of Nebraska, 1945; M.D., 1947.
Frances Helen Stewart, M.D., Washington University, 1927.
Alva C. Trueblood, Jr., A.B., Washington University, 1940; M.D., 1943.
Sol Weisman, A.B., Washington University, 1928; M.D., 1932.
Mitchell Yanow, M.D., Washington University, 1941.

Instructor Emeritus (Clinical)
Grover Bernard Liese, A.B., Real-Gymnasium, Cassel, Germany, 1910; M.D., University of Heidelberg (Germany), 1918.

Assistants (Clinical)
Peter Bartsch, M.D., Johann Wolfgang Goethe University, 1952.
Joe E. Belew, A.B., Central College, 1953; M.D., St. Louis University, 1957.
Phillip Jan Goldstein, A.B., Washington University, 1956; M.D., St. Louis University, 1960.
Gerald Newport, A.B., Washington University, 1948; M.D., 1953.
Third Year

30. Clinical Clerkship. Students spend six weeks on the obstetrical and gynecological wards of the St. Louis Maternity, Barnes, and Barnard Hospitals, where they become an integral part of the organization studying cases in detail and assisting at operations and deliveries. During this period they are also given instruction in abdominal palpation, pelvic examination, and measurement of the pelvis. Numerous informal lectures are given by various members of the attending staff.

Students attend a series of lectures (eight noonday lectures) covering the subject of gynecological cancer. During their clerkship they meet for one hour a week for rounds or discussion of their gynecological cancer patients. Students are expected to attend all surgical procedures performed on their patients.

Fourth Year

40. Co-ordinated Outpatient Clerkship. During this period of twelve weeks students divide their time between various outpatient departments. New obstetrical and gynecological patients in the clinics are examined by the students and the diagnosis and treatment discussed by members of the attending staff. (Dr. Woolf and Staff)

41. Obstetrical Service. One-twelfth of the class spends three weeks on obstetrical call. Some students work at the St. Louis Maternity Hospital and others at the St. Louis City and Homer G. Phillips Hospitals. During this period normal multiparous patients are delivered by the students under the supervision of the house staff.

Elective Courses

50. Gynecological Pathology. Two students at a time may serve as assistants in the laboratory. Six weeks, full time, all trimesters. (Dr. Hobbs)

51. University Clinics. Three students at a time may serve as clinical clerks, all day for six weeks.

52. Obstetrical Services. One or two students may serve as clinical clerks, living in the hospital for six weeks.
53. Maternal Health. All students are urged to attend the Planned Parenthood Clinic, where practical instruction is given in the practical aspects of family planning. This course is given in the evening at the local offices of the Planned Parenthood Association.

54. Senior Elective in Obstetrics at St. Luke's or Jewish Hospital. These externships offer six weeks of intensive clinical experience, with the duties and responsibilities of interns, working closely with interns and residents. While these externships emphasize bedside experience, they are so regulated as to permit full participation in the hospital curriculum of seminars, discussions, clinical-physiological and clinical-pathological conferences.
Measuring intraocular pressure in the Eye Clinic.

DEPARTMENT OF OPHTHALMOLOGY

The instruction in the Department of Ophthalmology begins in the second year with methods of examination of the eye. Emphasis is placed on the use of the ophthalmoscope in the first three-hour session. Three additional two-hour sessions are devoted to other methods of examination. During the junior year a series of seven didactic lectures is given as an introduction to various aspects of ocular disease. During the fourth year students are assigned to an ophthalmology clerkship for one week. This affords opportunity for work with patients under supervision.

Professor and Head of the Department
Bernard Becker, A.B., Princeton University, 1941; M.D., Harvard University, 1944.

Professor Emeritus (Clinical)
Martin Hayward Post, A.B., Amherst College, 1908; M.D., Johns Hopkins University, 1912.

Associate Professors
Marguerite A. Constant (Biochemistry).
B.S., George Washington University, 1947; Ph.D., University of Wisconsin, 1951.

Robert A. Moses, A.B., Johns Hopkins University; M.D., University of Maryland School of Medicine, 1942.

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Research Associate Professors
Adolph I. Cohen, B.S., City College of New York, 1948; M.A., Columbia University, 1950; Ph.D., 1954. (See Department of Anatomy)
Jay M. Enoch, B.S., Columbia University, 1950; Ph.D., Ohio State University, 1956.

Associate Professors (Clinical)
Howard Rommel Hildreth, M.D., Washington University, 1928.
Theodore Eugene Sanders, B.S., University of Nebraska, 1931; M.D., 1933.

Associate Professors Emeriti (Clinical)
Bennett Young Alvis, B.S., St. Louis University, 1916; M.D., 1918.
Frederick Oscar Schwartz, M.D., Washington University, 1910.

Assistant Professors (Clinical)
Edmund B. Alvis, M.D., Washington University, 1934.
Andrew J. Gay, B.S., University of Alabama, 1959; M.A., 1954; M.D., Medical College of Alabama, 1955. (See Department of Neurology)
Adolph Charles Lange, B.S., Washington University, 1926; M.D., 1930.
Benjamin Milder, M.D., Washington University, 1939.
Harry David Rosenbaum, M.D., Washington University, 1934.

Instructors
Allan Kolker (National Institute of Neurological Diseases and Blindness Special Fellow), A.B., Washington University, 1954; M.D., 1957.
W. Ross Morton, B.S., Toronto University, 1953; M.D., Queen’s University, 1959.

Instructors (Clinical)

Daniel Bino, B.A., University of Wisconsin, 1927; M.D., Johns Hopkins University, 1931.
James Howard Bryan, A.B., Washington University, 1932; M.D., 1936.
Samuel A. Canaan, Jr., A.B., State University of Iowa, 1942; M.D., Meharry Medical College, 1954.
Ruth Schreiber Freedman, A.B., Washington University, 1938; M.D., 1942.
David Merrill Freeman, A.B., University of Missouri, 1940; B.S. in Medicine, 1941; M.D., Washington University, 1943.
S. Albert Hanser, B.S., St. Louis University, 1933; M.D., 1937.
Jack Hartstein, B.S., University of Missouri, 1953; M.D., University of Cincinnati, 1955.
Jack Kayes, B.A., Yale University, 1953; M.D., Washington University, 1957.
Edward Okun, M.D., University of Vermont, 1956.
Lawrence T. Post, Jr., M.D., Washington University, 1948.
Maxwell Rachlin, M.D., University of Ontario, 1942.
Philip T. Shahan, A.B., Harvard University, 1938; M.D., Washington University, 1942.
Bernd Silver, B.S., University of Louisville, 1952; M.D., 1956.
Arthur W. Stickle, Jr., M.D., University of Oklahoma, 1943.
Howard P. Venable, B.S., Wayne State University, 1935; M.D., 1940.
Charles E. Windsor, A.B., Carleton College, 1956; M.D., University of Rochester, 1960.

Research Instructors
Walter J. Grodzki, D.D.S., St. Louis University, 1944.
Assistants
William A. Moor, A.B., Washington University, 1934.
J. Louis Stevenson.

Research Assistant
(Also NINDB Fellow)

SECOND YEAR
20. Ophthalmology. Lectures and demonstrations are given as a part of the course in Conjoint Medicine as well as additional lectures.
(Drs. Moses, Drews, Oglesby, Smith, and Resident Staff)

THIRD YEAR
30. Ophthalmology. Seven didactic lectures are given in the third trimester to the entire class.
(Drs. Moses, Gay, Smith, Okun, and Resident Staff)

FOURTH YEAR
40. Clinical Ophthalmology. Practical instruction in diagnosis and treatment of eye diseases is given to small sections of the class. One week.
(Drs. Becker, Sanders, Post, Drews, Okun, Kolker, and Resident Staff)
Dr. Theodore E. Walsh, Professor of Otolaryngology, reviews a student's dissection of the inner ear.

DEPARTMENT OF OTOLARYNGOLOGY

Otolaryngology is presented to the students during the sophomore, junior, and senior years. In the sophomore year the importance of careful examination of the ear, nose, and throat is emphasized, and the students are taught the use of instruments peculiar to the specialty. In the junior year lectures are given which are intended to supplement the information obtainable in textbooks. In the senior year the student examines patients in the outpatient clinics. Those students who have a particular interest in the specialty are accepted for an elective period during their senior year.

Professor and Head of Department

Professors
Walter Page Covell, B.S., Oregon State College, 1921; M.S., 1923; Ph.D., University of Minnesota, 1926; M.D., University of Chicago, 1933. (See Department of Anatomy)
Joseph H. Ogura, A.B., University of California, 1937; M.D., 1941.
Sol Richard Silverman (Audiology), A.B., Cornell University, 1933; M.S., Washington University, 1938; Ph.D., 1942.

Research Professor
Donald H. Eldredge, S.B., Harvard University, 1943; M.D., 1946.

Research Professor Emeritus
Hallowell Davis (Research), A.B., Harvard University, 1918; M.D., 1922. (See Department of Physiology) (Also Lecturer)

Professor Emeritus (Clinical)

Associate Professor

Research Associate Professors
Ira J. Hirsh (Audiology), A.B., New York State College for Teachers (Albany), 1942; M.A., Northwestern University, 1943; M.A., Harvard University, 1947; Ph.D., 1948.
Catherine A. Smith, A.B., Washington University, 1935; M.S., 1948; Ph.D., 1951.

Associate Professor (Clinical)

Assistant Professors
Robert Goldstein (Audiology), B.S., Pennsylvania State University, 1948; Ph.D., Washington University, 1952.
Ruedinger Thalmann (Audiology), University of Graz, 1950; M.D., University of Vienna, 1954.

Research Assistant Professor
Jean G. Swartz, B.S., Madison College, 1951; M.S., Virginia Polytechnic Institute, 1957; Ph.D., University of Colorado, 1963.

Assistant Professors (Clinical)
William T. K. Bryan, A.B., Washington University, 1929; M.D., 1933.
Alfred J. Cone, B.S., State University of Iowa, 1921; M.D., 1923; M.S., 1927.
Harold M. Cutler, A.B., University of Maine, 1930; M.D., Tufts College, 1937.
Morris Davidson, B.S., Indiana University, 1936; M.D., 1938.
L. Wallace Dean, Jr., B.S., Yale University, 1930; M.D., Washington University, 1933.
Guerdan Hardy, M.D., Washington University, 1929.
Daniel D. Klafl, B.S., University of Virginia, 1933; M.D., 1936.
Edward H. Lyman, B.S., Washington University, 1937; M.D., 1937.
Herbert M. Smit, M.D., St. Louis University, 1933.
Robert E. Votaw, B.S., State University of Iowa, 1927; M.D., 1929.

Assistant Professor Emeritus (Clinical)
Harry N. Glick, A.B., Cornell University, 1916; M.D., St. Louis University, 1922.

Lecturer
Oren L. Brown (Voice Therapy), M.A., Boston University, 1946.

Instructor

Research Instructor
Marian Pflügin Bryan, A.B., Washington University, 1931.

Instructors (Clinical)
Benad Adler, B.S., Washington University, 1937; M.D., 1937.
A. Chesterfield Stutsman, B.S., Roanoke College, 1927; M.D., University of Virginia, 1931.
Wayne A. Viers, B.S., Phillips University, 1952; M.D., University of Oklahoma, 1956.
Joseph Warren West, M.D., Duke University, 1944.
SECOND YEAR

20. Otolaryngology and Physical Diagnosis. The class is divided into small groups with individual instructors for a total of six hours for instruction in the methods of otolaryngological diagnosis and use of the instruments peculiar to this field. (Part of Conjoint Medicine. See page 62.)

THIRD YEAR

30. Otolaryngology. Five lectures are given in the third trimester to the entire class.
   (Drs. Stroud, Walsh, Ogura)

FOURTH YEAR

40. Otolaryngology. Practical instruction in diagnosis and treatment is given to one-fourth of the class. Two weeks.
   (Drs. Votaw, West, Cutler, Davidson, Cone, Lyman)

ELECTIVE COURSE

50. Clerkship in Otolaryngology. Two students may serve as externs in the clinics for six weeks. Permission of the Head of the Department is necessary before registration for this elective. Full time.
   (Dr. Walsh and Staff)
Pathology for medical students is given during the second, third, and fourth years. In the second year the course covers General and Special Pathology, and in the third and fourth years the students attend the Clinical and Pathological Conferences conducted in collaboration with the Clinical Departments.

Properly qualified students may register in the School of Medicine or Graduate School of Arts and Sciences for any of the courses. Pathology 501 is a prerequisite for all other courses.

The staff in pathology of several hospitals in and about St. Louis are members of the faculty of the department: Missouri Baptist Hospital, Dr. W. Platt; DePaul Hospital, Dr. J. Bauer; St. Louis City Hospital, Dr. V. Bleisch, Lutheran Hospital, Dr. L. Yuan; Alton Memorial Hospital, Dr. P. Capurro; Jewish Hospital, Drs. J. Hasson, D. Rosen-
stein, H. Silver; St. Luke's Hospital, Drs. R. Ogilvie, F. Kraus; Homer G. Phillips Hospital, Drs. U. Sclafford, M. Menendez, T. Nishi; State Hospital, Dr. K. Palmer.

For the purposes of both teaching and research, the Department of Pathology is divided into specialties under the following directors:

- Diseases of Bone and Joint Drs. M. and R. Silberberg
- Hematopoietic Pathology Dr. Sorenson
- Clinical Pathology Dr. V. Loeb, Jr.
- Dentistry Dr. Rowe
- Hepatic Pathology Dr. Grisham
- Infectious Diseases Dr. M. G. Smith
- Pathology of Thyroid Dr. W. Bauer
- Dermatopathology Dr. McGavran
- Neuropathology Dr. Luse
- Pathological Microchemistry Dr. J. Kissane
- Pathology of the Endocrines Dr. Lacy
- Surgical Pathology Dr. Ackerman
- Diseases of Lymphoid Tissue Drs. Dorfman and Kempson
- Lipid Chemistry Dr. Williamson

Edward Mallinckrodt Professor and Head of Department
Paul E. Lacy, B.A., Ohio State University, 1945; M.D., 1948; M.Sc., 1948; Ph.D., University of Minnesota, 1955.

Professors
Lauren V. Ackerman (Pathology and Surgical Pathology), A.B., Hamilton College, 1927; M.D., University of Rochester, 1932.
Sarah A. Luse, A.B., Rockford College, 1940; M.D., Western Reserve University, 1949.
(See Department of Anatomy)

Professor Emeritus and Lecturer
Margaret Gladys Smith, A.B., Mount Holyoke College, 1918; M.D., Johns Hopkins University, 1922.

Associate Professor Emeritus
Martin Silberberg, M.D., University of Breslau, 1929.

Assistant Professors
John D. Bauer, B.Sc., University of Innsbruck (Austria), 1938; L.R.C.P. & S., University of Glasgow (Scotland), 1944; M.D., Marquette University, 1947.
Walter C. Bauer, B.S., Ohio State University, 1946; M.D., Washington University, 1954.
Virgil R. Bleisch, M.D., Washington University, 1948. (St. Louis City Hospital)
Peter Capurro, M.D., University of Genoa, 1951.
Ronald F. Dorfman, M.B.B.Ch., University of Witwatersrand Medical School, 1948.
Joe W. Grisham (Markle Scholar), A.B., Vanderbilt University, 1953; M.D., 1957.
Jack Hasson, B.S., City College of New York, 1947; M.D., State University of New York, 1951.
Virgil Loeb, Jr., M.D., Washington University, 1944. (See Department of Medicine)
William R. Platt, B.S., University of Maryland, 1936; M.D., 1940.
George D. Sorenson, B.S., Pennsylvania State University, 1950; M.D., Jefferson Medical College, 1954.

Instructors
Richard L. Kempson, B.S., Tulane University, 1952; M.D., 1955.
Nadya Konikov, B.S., Boston University, 1946; M.D., 1950.
Frederick T. Kraus, B.A., College of William and Mary, 1951; M.D., Washington University, 1955.
Charles Kuhn, A.B., Harvard University, 1955; M.D., Washington University, 1959.
Robert Ogilvie, B.A., University of Utah, 1943; M.D., 1946.
Kalman M. Palmer, M.D., Pazmany Peter Tudomany Egyetam (Hungary), 1948.

Cardos Perez-Mesa, M.D., University of Havana, 1950.
Ursula Schafford, B.S., Howard University, 1912; M.D., 1945.
Gordon Shaw, A.B., Washington University, 1915; M.A., University of Toronto, 1948; M.D., 1953.
Gregorio Sierra, B.S., Institute of Manzanillo (Cuba), 1945; M.D., Havana University, 1954.
Herbert Silver, B.A., Adelphi College, 1953; M.D., University of Buffalo, 1957.
Louis S. K. Yuan, M.D., Aurora University (China), 1938.

Research Instructor
Olive S. Pettengill, A.B., Temple University, 1915; M.S., Brown University, 1948; Ph.D., Boston University, 1960.

Assistants
Manuel F. Menendez, B.S., University of Havana, 1949; M.D., 1956. (See Department of Medicine)
Toshio Nishi, M.D., Manchuria Medical College, 1938.
Jose Valdez, A.B., University of St. Tomas 1948; M.D., 1953.

Second Year
20 (501). Pathology. General and special pathology are covered by lectures, gross and microscopic demonstrations, and laboratory work. In general pathology, degenerations, inflammations, infectious diseases, and tumors are considered. The diseases of each organ system are studied during the time devoted to special pathology. Small groups are given instruction in post-mortem technique, and in gross pathology. 288 hours.
(Drs. Lacy, Ackerman, Luse, R. and M. Silberberg, Kissane, Sorenson, Grisham, J. Williamson, and Staff)
THIRD YEAR

30. Clinical and Pathological Conference. The clinical history and treatment of patients who have died are discussed before the class by the physicians and surgeons of the departments concerned. These conferences afford the students an opportunity to interpret the clinical observations in the light of the post-mortem findings. One hour a week during the third year.

(Drs. Lacy, Luse, Kissane, Sorenson, Grisham, Williamson, and Staff)

FOURTH YEAR

40. Clinical and Pathological Conference. The clinical history and treatment of patients who have died are discussed before the class by the physicians and surgeons of the departments concerned. These conferences afford the students an opportunity to interpret the clinical observations in the light of the post-mortem findings. One hour a week during the fourth year.

(Drs. Lacy, Luse, Kissane, Sorenson, Grisham, Williamson, and Staff)

41. Tumor Conference. One hour each week for twelve weeks during the surgery and obstetrics and gynecology trimester. Problem cases are presented for illustration and discussion of all aspects of neoplastic disease. 12 hours. (Dr. Ackerman and Staff)

ELECTIVE COURSES

50 (502). Major Research. The laboratory offers facilities for research in pathology. Specialists and students with adequate training who desire to extend their knowledge of pathology will be admitted.

(Drs. Lacy, Ackerman, M. Smith, Luse, M. and R. Silberberg, Kissane, Sorenson, Grisham, McGavran, W. Bauer, Williamson, Dorfman and Kempson)

51 (595). Journal Club. The current journals concerned with morphological and experimental pathology and oncology are reviewed by the members of the staff. Properly prepared students may attend or participate.

52 (596). Seminar in Gross Pathology. The autopsies for the affiliated hospitals are performed by the junior members of the staff. The entire Department meets, and the cases are evaluated by the senior staff at this conference. Two hours once a week throughout the year.

53 (597). Seminar in Microscopic Pathology. The microscopic sections from each autopsy are presented by the prosector at a conference.

54. Surgical Pathology. Two students full time for six weeks, all trimesters. The elective will consist of a correlation of the clinical records of hospital patients with the pathological findings. Time will be devoted to current surgical journals as related to surgical pathology, as well as a brief review of pathological techniques.

(Dr. Ackerman)
55 (598). *Autopsy Pathology*. Two students, full time for six weeks, all trimesters. The elective will consist of correlation of the clinical records of hospital patients with the pathologic findings at autopsy. Time will also be devoted to participation in the routine conferences of the department.

56. *Clerkship in Pathology at Washington University*. Students may serve as clerks in the Department of Pathology. The students will assist at autopsies and prepare reports for presentation at a seminar once a week. Six half-days a week, or full time throughout the year.

57. *Research*. Those students who during a preceding summer or school year have initiated a research problem in Pathology may continue the work during the elective trimester of the fourth year. Full time for six weeks. All trimesters.

The Department offers facilities for fulfilling requirements for the degree of Ph.D. in Pathology.
THE EDWARD MALLINCKRODT DEPARTMENT OF PEDIATRICS

In its undergraduate teaching program, the primary aim of the Department of Pediatrics is to enable the graduate to practice a good brand of pediatrics as a general practitioner. The training of the pediatric specialist is through the residency program at the St. Louis Children’s Hospital. It is also expected that as a result of the combined undergraduate and postgraduate programs, a liberal number of top-ranking students will be encouraged to embark upon an academic pediatric career.

The major clinical facilities are in the St. Louis Children’s Hospital and the St. Louis Maternity Hospital. The former has a bed capacity of 165, and accepts all types of problems in children under 15 years of age, averaging about 6,000 yearly admittances. The pediatric outpatient department is conducted in the hospital and averages about 50,000 yearly visits. In the St. Louis Maternity Hospital the yearly number of newborn infants averages more than 4,000.
Professor and Acting Head of the Department
David Goldring, A.B., Washington University, 1936; M.D., 1940.

Professor Emeritus (Clinical)
Borden Smith Veedor, M.D., University of Pennsylvania, 1907; Sc.D., Colgate University, 1929.

Associate Professors
M. Remsen Behrer, A.B., Williams College, 1942; M.D., Long Island College of Medicine, 1945.
John C. Herweg, B.S., Drury College, 1943; M.D., Washington University, 1945.
J. Neal Middelkamp, B.S., University of Missouri, 1946; M.D., Washington University, 1948.
Donald Lionell Thurston, B.S., Vanderbilt University, 1934; M.D., 1937.
Jean Holowach Thurston, B.A., University of Alberta, 1937; M.D., 1941. (On leave of absence from Department of Pediatrics to September 30, 1965)
Teresa J. Vietti, B.S., Rice University, 1949; M.D., Baylor University, 1953.

Assistant Professors
Alexis F. Hartmann, Jr., B.S., Washington University, 1951; M.D., 1951.
Dorothy Jeannette Jones, A.B., Oberlin College, 1930; M.D., Washington University, 1934.
Ferris N. Pitts, Jr., A.B., Washington University, 1952; M.D., 1955. (See Department of Psychiatry)
Mark A. Stewart, B.A., M.A., Cambridge University, 1953; M.R.C.S., L.R., C.P., 1956. (See Department of Psychiatry)
Hulda J. Wohltmann, B.S., College of Charleston, 1944; M.D., Medical College of South Carolina, 1949.

Research Assistant Professors
Mary L. Parker, B.S., Florida State University, 1946; M.S., 1949; M.D., Washington University, 1953. (See Department of Medicine)
Helen Knott Thornton (Microbiology), B.S., University of Washington, 1937; M.S., 1938; Ph.D., Ohio State University, 1944.

Assistant Professors (Clinical)
Max Deutch, M.D., Washington University, 1926.
Frederick August Jacobs, B.S., Washington University, 1927; M.D., 1928.
Joseph C. Jaudon, A.B., Washington University, 1926; M.D., 1933.
Lawrence I. Kahn, A.B., University of Alabama, 1941; M.D., Louisiana State University, 1945.
Paul H. Painter, M.D., St. Louis University, 1947. (See Department of Psychiatry)
Alfred S. Schwartz, A.B., Amherst College, 1932; M.D., Johns Hopkins University, 1936.

Assistant Professor Emeritus
Ruth E. Martin (Dentistry), D.D.S., Washington University, 1923.

Assistant Professor Emeritus (Clinical)
Park J. White, A.B., Harvard University, 1913; M.D., Columbia University, 1917. (Also Lecturer)

Instructors
Natalie Aronson, A.B., Hunter College, 1942; M.D., New York University College of Medicine, 1947.
John Gilster (Dentistry), D.D.S., Washington University, 1944.
Antonio Hernandez, Jr. (Research Fellow), M.D., Manila Central University, 1954.
Mabel L. Purkerson, A.B., Erskine College, 1951; M.D., Medical College of South Carolina, 1956. (See Department of Medicine)
Argyrios A. Tsifutis (Research Fellow), M. D., University of Salonica, Greece, 1954.

Instructors (Clinical)
Helen M. Aff, B.S., Washington University, 1934; M.D., 1934.
Edward T. Barker, A.B., Princeton University, 1953; M.D., Washington University, 1957.
Joseph A. Bauer, M.D., Washington University, 1926.
Benjamin B. Berman, M.D., Washington University, 1939.
Clifford Read Boles, A.B., Washington University, 1940; M.D., 1943.
Martin Calodney, B.S., College of the City of New York, 1930; M.D., New York University, 1936.
Robert H. Friedman, M.D., Washington University, 1948.
Samuel Gollub, B.S., Washington University, 1941; M.D., 1941.
Gene Graham, B.S., St. Louis College of Pharmacy, 1937; M.D., Washington University, 1942.
Roman E. Hammes, B.A., University of Iowa, 1950; M.D., 1954.
Norman Hankin, A.B., University of Wisconsin, 1940; M.D., 1943.
Stanley Leonard Harrison, B.S., Washington University, 1928; M.D., 1930. (On leave of absence)
Maurice J. Keller, A.B., Yale University, 1936; M.D., Columbia University, 1940.
Sheldon Kessler, M.D., St. Louis University, 1951.
Henry L. Knack, A.B., Johns Hopkins University, 1949; M.D., 1952.
Kenneth Albert Koerner, A.B., Washington University, 1935; M.D., 1941.
Marian Kuttner, M.D., Johann Wolfgang Goethe University (Frankfurt am Main), 1931.
Sol Londe, B.S., Washington University, 1925; M.D., 1927.
Richard Margolis, B.S., College of William and Mary, 1947; M.D., Western Reserve University, 1951.
John C. Martz, A.B., University of Missouri, 1938; M.D., Washington University, 1942.
David McClure, M.D., University of Tennessee, 1940.
Helen Nash, A.B., Spelman College, 1942; M.D., Meharry Medical College, 1945.

Homer Nash, M.D., Meharry Medical College, 1951.
W. Neal Newton (Dentistry).
Frederick D. Peterson, A.B., Knox College, 1953; M.D., Washington University, 1957.
Eugenia M. Pierce, M.D., St. Louis University, 1958.
Herman W. Reas, B.S., St. Joseph's College, 1948; M.D., St. Louis University, 1952. (On leave of absence)
Edith C. Robinson, A.B., Randolph-Macon College, 1927; M.S., University of South Carolina, 1928; M.D., Johns Hopkins University, 1932. (See Department of Psychiatry)
George Sato, M.D., Washington University, 1947.
Bernard Schwartzman, A.B., Washington University, 1931; M.D., 1935.
Donald B. Strominger, B.A., Yale University, 1949; M.D., Washington University, 1953.
Barbara Nancy Voege, B.S., University of Illinois, 1950; M.D., Washington University, 1957.
Kathleen Winters, B.S., Winthrop College, 1946; M.D., Medical College of South Carolina, 1955.
Frank S. Wissmath, A.B., Washington University, 1939; M.D., 1943.
H. Benjamin Zwirn, M.D., University of Basel (Switzerland), 1954.

Instructors Emeriti (Clinical)
Paul Edward Kubitschek, B.S., Creighton University, 1918; M.D., 1922; D.Sc., University of Pennsylvania, 1928. (See Department of Psychiatry)
Maurice J. Lonsway, B.S., Valparaiso University, 1910; M.D., St. Louis University, 1914.
Edwin H. Rohlfing, M.D., Washington University, 1919.

Assistants (Clinical)
Gerald J. Duling, B.S., Xavier University, 1955; M.D., St. Louis University, 1959.
Frederick Sargent, A.B., Yale University, 1939; M.D., Cornell University, 1943.
Seymour M. Schlansky, M.D., Chicago Medical School, 1950.
Otis Smith, A.B., Morehouse College, 1947; M.D., Meharry Medical College, 1954.
Mary A. T. Tillman, M.D., Howard University, 1960.

Research Assistants
Charles Crawford, Jr., B.S., Washington University, 1956.
Mary Elizabeth Wesley, A.B., Washington University, 1942; M.A., University of Kansas, 1959.

SECOND YEAR
20. In the course in Applied Pathologic Physiology the student is introduced to pediatrics and the full-time staff through the medium of twelve lectures designed to acquaint him with the nature of human growth and development, and the relationship of age to reaction to injury and disease. In the course of Conjoint Medicine the student is taken to the wards and given instruction in physical diagnosis. (See page 00.)
(Entire full-time staff)

THIRD YEAR
One-eighth of the class works for six weeks, one-half day five times a week, in the following: (1) Assignment to intern or resident with joint responsibility of caring for in-patients; (2) daily ward rounds and bedside conferences with house staff and supervising physician; (3) weekly conference on infectious diseases; (4) weekly clinical conference; (5) rounds in metabolic, cardiac, allergic, and hematologic diseases; (6) course in newborn physiology and newborn nutrition.

FOURTH YEAR
One-eighth of the class works for six weeks, one-half day five times a week, in the pediatric out-patient department. The students examine new patients, follow them throughout the six-week period and have the opportunity to deal with common as well as unusual pediatric problems. Conferences with pediatricians in private practice and with pediatric psychiatrists are directed toward practical aspects of management of childhood illness.

Each student is assigned to one of the specialty clinics for one-half day each week.
All students rotate through the emergency room during the evening. Here they deal with emergencies and acutely ill patients under the direction of the residents.

ELECTIVE COURSE
Elective time in a student’s over-all free time period may be spent according to the individual desires of the student as an intern substitute, in the research laboratory, or by combining clinical and laboratory work.
Dr. Oliver H. Lowry, Professor of Pharmacology, observes two students as they carry out an experiment as part of their research project in the Pharmacology course in the second year.

THE EDWARD MALLINCKRODT DEPARTMENT OF PHARMACOLOGY

The number of useful drugs is steadily increasing. It is the purpose of the pharmacology course, through discussions of existing drugs, to develop general principles which will be applicable as well to drugs of the future. Pharmacology draws heavily on biochemistry, physiology, and bacteriology for an understanding of drug action. It looks toward pathology, medicine, and surgery for its uses. For this reason the course is constructed as a part of the continuum of medicine rather than a separate discipline. Since many drugs are harmful in excessive amounts, toxicology is included in the course as a logical part of pharmacology.

The laboratory portion of the course is divided roughly in half. The first part consists of selected animal experiments designed to illustrate and give reality to the action of drugs; the second part of the laboratory period is devoted either to a small research project for each group of four students or to a seminar series concentrating on one
particular area of pharmacology. When research projects are scheduled, the problems are of student choice and the results are reported to the class. When seminar courses are scheduled, the groups consist of twenty students and two or three faculty members.

Professor and Head of the Department
Oliver Howe Lowry, B.S., Northwestern University, 1932; Ph.D., University of Chicago, 1937; M.D., 1937.

Professor
Francis Edmund Hunter, Jr., B.S., Mount Union College, 1938; Ph.D., University of Rochester, 1941.

Professor Emeritus
Helen Tredway Graham, B.A., Bryn Mawr College, 1911; M.A., 1912; Ph.D., University of Chicago, 1915.

Associate Professors
Helen B. Burch, B.S., Texas State College for Women, 1926; M.S., Iowa State College, 1928; Ph.D., 1935.
Robert M. Burton, B.S., University of Maryland, 1950; M.S., Georgetown University, 1952; Ph.D., The Johns Hopkins University, 1955.
Stephen C. Kinsky, A.B., University of Chicago, 1951; Ph.D., Johns Hopkins University, 1957.
David B. McDougal, Jr., A.B., Princeton University, 1945; M.D., University of Chicago, 1947.

Assistant Professors
Charles M. Raugh, B.S., University of Chicago, 1958; Ph.D., Tulane University, 1962. (See Department of Medicine)
Bruce Breckenridge, B.S., Iowa State College, 1948; Ph.D., University of Rochester, 1952; M.D., 1956.
David M. Geller, B.A., Amherst College, 1952; Ph.D., Harvard University, 1957.
Janet V. Passonneau, B.A., University of Minnesota, 1945; M.A., Radcliffe College, 1946; Ph.D., Harvard University, 1949.

SECOND YEAR
20 (501 and 502). (a) Lectures, conferences, panel discussions. 70 hours.
(b) Laboratory course. 146 hours. (Drs. Lowry, Hunter, Burch, McDougal, Burton, Breckenridge, Geller, Kinsky, Passonneau)

ELECTIVE COURSE
51 (590). Research. The facilities of the laboratory are available to those who wish to carry on original investigation on problems of their own or on those the department is prepared to suggest.
The Department occupies one-half floor of the South Building and one-half floor of
the Cancer Research Building. The student laboratories are shared with the Department
of Pharmacology, whose student laboratory work is done in the first trimester of the
second year. The course is given in the second semester of the first year. Three blocks
of seven full-day experiments are performed, one block in each of the six-week periods
of the second semester. The principal research interests of the department at present are
the peripheral and central nervous systems, circulation, smooth and striated muscle,
respiration, kidney, exchanges through cell membranes, and protein structure.

Professor and Head of the Department

Professors
Gordon Marcus Schoepfle, A.B., DePauw University, 1937; A.M., Princeton University,
1939; Ph.D., 1941.
William Sleator, Jr. (Biophysics), A.B., University of Michigan, 1938; M.S., 1939;
Ph.D., 1946.

Michel M. Ter-Pogossian (Radiation Physics), B.A., University of Paris, 1942; M.S.,
Washington University, 1948; Ph.D., 1950. (See Department of Radiology)

Professors Emeriti
Hallowell Davis, A.B., Harvard University, 1918; M.D., 1922; Sc.D. (hon.), Colby College,
1954. (See Department of Otolaryngology)
Joseph Erlanger, B.S., University of California, 1895; M.D., Johns Hopkins University,
1899; LL.D., University of California, 1932;
FIRST YEAR

The lectures cover systematically the field of human physiology. The laboratory experiments are selected with the twofold objective of (a) supplying a basis for the understanding of the more important physical methods employed in physiology and in clinical medicine, and (b) elucidating certain fundamental physiological principles essential to the intelligent practice of medicine as well as to the further pursuit of physiology. The student serves as the subject in many of the experiments. The course is designed primarily to meet the needs of medical students.

Small groups of students meet with instructors in scheduled conferences to discuss principles concerned with laboratory experiments, results of and conclusions drawn from experiments, and correlations of laboratory with lecture material.

Open to students who have completed or have begun the study of anatomy and biological chemistry.

10 (502). Lectures in second semester of first year. 104 hours. (Staff)

11 (503). Laboratory and conferences. Second semester of first year. Laboratory 126 hours, conferences 40 hours. (Staff)

ELECTIVE

50 (590). Research. The facilities of the laboratory are offered to qualified students for the investigation of their own problems or of those which the department is prepared to suggest. The most appropriate time for student research is the summer months or free time in the senior year.
Doctors Lillian Recant, Albert Eisenstein, Robert Shank, and fourth-year medical students assigned to the co-ordinated out-patient clerkship participating in a seminar of problems of medical care.

DEPARTMENT OF PREVENTIVE MEDICINE AND PUBLIC HEALTH

Instruction in preventive medicine and public health is given in the first, second, and fourth years of the undergraduate medical curriculum. In the first semester of the first year the staff of the Student Health Service, which is a part of the department organization, presents a course in health and health management applied most specifically to health problems peculiar to the medical student and physician. Throughout the four years the Health Service attempts to teach by precept as students appear for health counsel or treatment of illness. Later in the first year, a course in statistical methods in medicine is given and is introductory to the later use of statistical procedures in courses of other departments. The principles of epidemiology and the concepts of the natural history of disease are presented in a second-year course. From these are deduced the opportunities for individual and community action in the prevention and control of disease. The teaching of the department in the fourth year is included in the Co-ordinated Outpatient Clerkship. At this time emphasis is placed upon the opportunities for health promotion and disease prevention in the contacts of physician with patients in office practice. In addition, as suitable opportunities present, the student visits certain patients at home and contacts community agencies for assistance for the patient and family.
Danforth Professor and Head of the Department
Robert Ely Shank, A.B., Westminster College, 1935; M.D., Washington University, 1939. (See Department of Medicine)

Professors
Hugh Chaplin, Jr., A.B., Princeton University, 1943; M.D., Columbia University, 1947. (See Department of Medicine and Institute of Rehabilitation)
C. Howe Eller (Public Health), A.B., Stanford University, 1927; M.D., University of Colorado, 1930; Ph.D., Johns Hopkins University, 1934.
Richard M. Krause (Epidemiology), A.B., Marietta College, 1947; M.D., Western Reserve University, 1952. (See Department of Medicine)

Associate Professors
Albert Eisenstein, A.B., University of Missouri, 1941; M.D., Washington University, 1944. (Jewish Hospital) (See Department of Medicine)
B. V. Jager, A.B., Harvard University, 1934; M.D., 1938. (See Department of Medicine)
M. Kenton King, B.A., University of Oklahoma, 1947; M.D., Vanderbilt University, 1951. (See Department of Medicine)
Lillian Recant, A.B., Hunter College, 1941; M.D., Columbia University, 1946. (See Department of Medicine)

Assistant Professors
France Alexander, A.B., Indiana University, 1950; M.D., 1953. (See Departments of Medicine and Obstetrics and Gynecology)
William F. Bridgers (United Health Foundation Fellow), B.A., University of the South, 1954; M.D., Washington University, 1959. (See Department of Medicine)
Julian B. Fleischman (American Heart Association Established Investigator), B.S., Yale University, 1955; Ph.D., Harvard University, 1960. (See Department of Microbiology)
John Hollozy, M.D., Washington University, 1957. (See Department of Medicine)
George R. Morrison (Markle Scholar), B.N.S., Holy Cross College, 1946; A.B., University of Rochester, 1948; M.D., 1954. (See Department of Medicine)
C. Kirk Osterland, M.D., University of Manitoba, 1956. (See Department of Medicine)
James C. Peden, Jr., A.B., Haverford College, 1951; M.D., Washington University, 1955. (See Department of Medicine)
Eng M. Tan, A.B., Johns Hopkins University, 1952; M.D., 1956. (See Department of Medicine)
John D. Vavra, B.A., University of Colorado, 1950; M.D., Washington University, 1954. (See Department of Medicine)
M. Frances Watson (Social and Environmental Studies), B.S., Northeast Missouri State Teachers College, 1932; M.S.W., Washington University, 1949.

Instructors
Kenneth Cole (Physical Medicine and Rehabilitation), B.S., Georgia Institute of Technology, 1944; M.D., Johns Hopkins University, 1951; LL.B., University of Texas, 1960.
Mildred Hendricks (Social Work), B.S., Converse College, 1948; M.S.W., Washington University, 1962.
Junalyn M. Mueller (Occupational Therapy and Rehabilitation), B.S., Washington University, 1959.
Shirley Sahrmann (Physical Therapy and Rehabilitation), B.S., Washington University, 1958.
Anne Brown Short (Physical Therapy and Rehabilitation), B.S., Washington University, 1951.
Franz U. Steinberg (Physical Medicine and Rehabilitation), M.D., University of Berne, 1938. (See Departments of Medicine and Physical Therapy)
Research Instructors

Chuan Huan Cheng, B.S., National Central University (China), 1944; M.S., Cornell University, 1950; Ph.D., Michigan State University, 1955.

Irene E. Karl, B.S., University of Wisconsin, 1937; M.S., 1938; Ph.D., 1940.

Charles Kilo, M.D., Washington University, 1959. (See Department of Medicine)

Marvin Levin, A.B., Washington University, 1947; M.D., 1951. (See Department of Medicine)

Lecturers

Harry L. Acker (Physical Medicine and Rehabilitation), B.S., Clemson College, 1940; M.D., Medical College of South Carolina, 1950. (See Department of Physical Therapy)

Barbara Hixon (Biostatistics), B.S., University of Illinois, 1941.

Richard A. Sutter (Industrial Medicine and Rehabilitation), A.B., Washington University, 1931; M.D., 1935.

First Year

10. Health and Health Maintenance. The purpose of this course of twelve lectures is to introduce considerations of health and health planning, relating these particularly to the medical student and physician in practice. The environment and conditions in which the student is to spend the next four years are considered in detail. How the student may plan to adapt his habits of living, work, and recreation so that a state of health may be most readily assured and disease prevented is discussed. In addition students are introduced to the services available through the Health Service. First semester, 1 hour a week, 12 hours.

11. Statistical Methods in Medicine. Twelve two-hour periods are devoted to an introduction to statistical methods important in the study of medicine. Lectures and exercises are concerned with collection of data, descriptive statistics, common theoretical distributions, tests of significance, correlation, and regression. A knowledge of these is presented as essential in the design of experiments and in the interpretation of data recorded in the medical literature. The material in the course affords background material for later use of statistics in courses of the Departments of Pharmacology, Physiology, and Preventive Medicine. First and second semesters, 2 hours a week, 24 hours.

Second Year

20. Prevention and Control of Disease. This series of lectures emphasizes the principles of epidemiology which describe the patterns and behavior of diseases in populations and the natural history of diseases. The course emphasizes the relative significance of the specific cause of disease within the framework of multiple etiological factors. Attention is directed to the fact that an epidemiological description of a disease is a valuable approach to the definition of disease mechanisms. Epidemiology, in defining significant parameters of the natural history of disease, assists in the diagnosis, prognosis, and prevention of that disease. During the second and third trimester, 1 hour a week for 12 weeks.
FOURTH YEAR

40. Co-ordinated Outpatient Clerkship. The purpose of this clerkship is to afford experience in dealing with the problems of ambulatory patients. Each student is assigned for the period of one trimester. He cares for patients in the following clinics: Medicine, Surgery, Obstetrics and Gynecology, Psychiatry, Neurology, Ophthalmology, Otolaryngology, and Dermatology. The student becomes the physician for the patient, and his instructors are his consultants. Patients who are seen on initial visits in the Medicine Clinic by the student but who require examination in other specialty clinics are given appointments in the second clinic at times corresponding to the periods in which the student is also assigned to that clinic. The opportunity is available for the student to observe and follow each patient for as long as desirable in each of the participating clinics. In addition, the student is responsible for maintaining contact with patients during periods of hospitalization and for visiting certain patients in the home.

The clerkship is under the general direction of the Department of Preventive Medicine. The teaching of the department is directed at opportunities for institution of preventive measures and for health management in the office practice of medicine. In addition, the student is taught to evaluate the social and environmental factors which pertain in the individual case and to take account of these in planning programs of therapy. He is given information about and encouraged to utilize the facilities of a variety of health and welfare agencies in dealing with his patients' problems. The teaching of the department is carried out through weekly seminars, student interviews with assigned instructors, and socio-medical case studies. By assignment, 30 hours a week, 360 hours.

ELECTIVE

50. Public Health Elective. Junior or senior students are afforded an opportunity to participate in epidemiologic and public health programs for a period of six weeks in the St. Louis County Health Department. The activities to be undertaken are determined after consultation with the staff but will ordinarily include participation in selected public health programs and special projects which relate to the particular interests of the student. Full time, six weeks.

(Dr. Eller)

51. Epidemiology. Two students. All day for six or twelve weeks. Epidemiological studies with emphasis on streptococcal infections, rheumatic fever, and acute glomerulonephritis. Laboratory investigation on the biology of hemolytic streptococci, pathogenesis of rheumatic fever, and other connective tissue diseases. Conferences and seminars.

(Dr. Krause)
Instruction in psychiatry is given in all four years of the medical course. In the last half of the first year a course is given which is basic to the understanding of human behavior. Major emphasis is given to a presentation of psychological research in the field of early development, learning, emotion, and similar topics.

In the second year, the student is introduced to psychiatric interviewing, to the evaluation of emotional and behavioral symptoms, to clinical psychiatric disorders— their diagnosis and natural history, and to the conceptual problems involved in psychiatry and psychology. These subjects are taken up in lectures, demonstration interviews, and discussion. The emphasis is upon critical thinking, the evaluation of data, and the methodologic problems arising in the study of behavioral, emotional, and thinking disturbances.
In the third year, supervised clinical study of patients admitted to the Renard Hospital is emphasized. An introduction is given to various therapeutic procedures in psychiatry.

In the fourth year, psychiatric teaching is carried out in the concurrent outpatient clerkship. Neurological clinics are presented in alternate weeks. Students may select electives of special interest from a variety of opportunities. In the psychiatric teaching, whether regular course or elective, major emphasis is upon interviewing techniques, diagnosis, and psychotherapy.

Professor and Head of Department
Eli Robins, A.B., Rice University, 1940; M.D., Harvard University, 1943.

Wallace Renard Professor of Psychiatry
Edwin Francis Gildea, A.B., Colorado College, 1920; M.D., Harvard University, 1924.

Professors
Samuel B. Guze, M.D., Washington University, 1945. (See Department of Medicine)
Saul Rosenzweig (Medical Psychology), A.B., Harvard University, 1929; M.A., 1930; Ph.D., 1932. (Also Department of Psychology)
John A. Stern (Medical Psychology), A.B., Hunter College, 1949; M.S., University of Illinois, 1951; Ph.D., 1953.

Blanche Ittleson Professor of Child Psychiatry

Research Professor
Maximilian Fink, B.A., New York University, 1942; M.D., 1945.

Associate Professors
Patricia L. O'Neal, A.B., Washington University, 1944; M.D., 1948.
Kathleen Smith, B.S., University of Arkansas, 1944; M.D., Washington University, 1949.

George Winokur, A.B., Johns Hopkins University, 1944; M.D., University of Maryland, 1947.

Research Associate Professors
David J. Pittman (Sociology), A.B., University of North Carolina, 1949; M.A., 1950; Ph.D., University of Chicago, 1956. (Also Social Science Institute)
Lee N. Robins (Sociology), A.B., Radcliffe College, 1942; M.A., 1943; Ph.D., 1951.

Associate Professor (Clinical)
Margaret C.-L. Gildea, B.S., University of Chicago, 1923; M.D., Yale University, 1936.

Assistant Professors
Thomas C. Brugger (Child Psychiatry), B.S., University of Wisconsin, 1950; M.D., 1953.
Loretta Cass (Medical Psychology), B.A., Colorado College, 1934; M.A., 1942; Ph.D., Ohio State University, 1950.
Laurent Gratton (Child Psychiatry), B.A., Loyola College, 1944; M.D., University of Montreal, 1952. (Jewish Hospital)
Lucile Healy (Social Work), A.B., College of St. Catherine, 1922; M.A., University of Minnesota, 1927; M.S.W., Washington University, 1949.
Marie Mower, A.B., Southern Illinois University, 1947; B.S., University of Illinois, 1949; M.D., 1951.
George E. Murphy, B.S., Oregon State College, 1949; M.D., Washington University, 1952.
Ferris N. Pitts, Jr., A.B., Washington University, 1952; M.D., 1955. (See Department of Pediatrics)
Mark A. Stewart, B.A., M.A., Cambridge University, 1953; M.R.C.S., L.R.C.P., Cambridge and St. Thomas’ Hospital, 1956. (See Department of Pediatrics)

**Research Assistant Professors**

Norman L. Corah (Medical Psychology), B.A., University of Buffalo, 1955; Ph.D., 1960.
John C. Ghidey (Medical Psychology), A.B., University of Chicago, 1949; Ph.D., 1953.
Blake W. Moore (Biochemistry), B.S., University of Akron, 1948; Ph.D., Northwestern University, 1952.
Hans Schmidt (Medical Psychology), B.A., University of Chicago, 1947; B.S., Northwestern University, 1949; M.A., North Carolina University, 1951; Ph.D., University of Illinois, 1954.
William R. Sherman (Biochemistry), A.B., Columbia University, 1951; Ph.D., University of Illinois, 1955.

**Assistant Professors (Clinical)**

Nathan Blackman, B.S., University of Rhode Island, 1929; M.D., University of Paris, 1936.
Anthony K. Busch, M.D., St. Louis University, 1937.
Paul Dewald, A.B., Swarthmore College, 1942; M.D., University of Rochester, 1945.
Hyman H. Fingert, B.A., State University of Iowa, 1951; M.D., 1934.
Leopold Hofstatter, M.D., University of Vienna, 1926.
Alex H. Kaplan, B.S., College of City of New York, 1952; M.D., St. Louis University, 1936.
Roy M. Mendelsohn (Child Psychiatry), B.S., University of Illinois, 1950; M.D., 1952.
Paul H. Painter (Child Psychiatry), M.D., St. Louis University, 1947. (See Department of Pediatrics)
Val B. Satterfield, B.S., Washington University, 1922; M.D., 1924.
Conrad Sommer, B.S., University of Illinois, 1929; M.S., 1931; M.D., 1932.

**Instructors**

John M. Anderson, B.S., Colorado State University, 1938; M.D., Meharry Medical College, 1958. (Bliss Hospital)
Louetta Berger (Social Work), B.S., University of Wichita, 1941; M.S.W., Washington University, 1946.
Anna K. Bradley (Social Work), B.S., University of Missouri, 1956; M.S.W., Washington University, 1958.
Lincoln B. Calvin, B.Ed., Illinois State Normal University, 1942; M.D., Meharry Medical College, 1951. (Bliss Hospital)
Marguerite Cannon (Social Work), B.S., St. Louis University, 1936; M.S.W., Washington University, 1948.
Gabrielle Caebier (Speech Correction), B.S., University of Illinois, 1942; M.A., 1942; Ph.D., University of Wisconsin, 1959.
Stanton P. Fjeld (Medical Psychology), B.A., University of Minnesota, 1950; M.A., University of Missouri, 1954; Ph.D., 1961.
Richard W. Hudgens, M.D., Washington University, 1956.
Alan G. Johnson, A.B., Oberlin College, 1952; M.D., Washinton University, 1956. (Bliss Hospital)
John B. Lauge (Medical Psychology), B.S., Northwestern University, 1949; M.S.W., Washington University, 1952.
James F. Lonson (Medical Psychology), M.S., University of Wisconsin, 1954; Ph.D., University of Illinois, 1961.
Benjamin Morris (Social Work), B.A., Northwestern College, 1944; M.S.W., Washington University, 1952.
Dorothy M. Morrison (Social Work), B.A., State University of Iowa, 1947; M.S.W., Washington University, 1950.
Francis G. Place (Psychiatric Social Work), A.B., Washington University, 1924; M.S.W., 1948.
Adolfo E. Rizzo (Child Psychiatry) M.D., Buenos Aires University, 1955. (St. Louis State Hospital)
Luis H. Schwarz, M.D., Universidad Nacional Autonoma de Mexico, 1955. (Bliss Hospital)
Kathryn Skinner (Medical Psychology), B.A., University of Texas, 1949; Ph.D., 1959.
Robert H. Vanderpearl, A.B., Washington University, 1951; M.D., 1956. (Bliss Hospital)
Marilyn Voerg (Medical Psychology), B.A., University of Florida, 1950.

Research Instructors
Robert Goldstein (Medical Psychology), B.A., City College of New York, 1954; Ph.D., University of Illinois, 1962.

Instructors (Clinical)
Libby G. Bass (Medical Psychology), B.A., University of Illinois, 1928; M.A., Northwestern University, 1929.
Robert M. Bell, M.D., St. Louis University, 1928.
Mary McFadden Bishop, A.B., Washington University, 1936; M.D., 1940.
Robert D. Brookes, A.B., DePauw University, 1934; M.D., Washington University, 1938.
Joseph D. Callahan (Child Psychiatry), M.D., St. Louis University, 1957.
William Cone, B.A., Yale University, 1949; M.D., 1954.
Edmund V. Cowdry, Jr., A.B., Princeton University, 1942; M.D., Washington University, 1945.
Mary E. Cox, A.B., Washington University, 1941; M.D., 1944.
Herbert J. Erwin, A.B., Lincoln University, 1933; M.D., Meharry Medical College, 1937.
Alvin R. Frank, B.S., Purdue University, 1949; M.D., University of Illinois, 1963.
Walter H. Gearhart, B.S., Butler University, 1949; M.D., Hahnemann Medical College, 1950.
Janet Golden (Social Work), A.B., Washington University, 1924.
Arthurd S. Greditzer, M.D., Washington University, 1948.

James N. Haddock, A.B., University of Missouri, 1940; M.A., 1942; M.D., Washington University, 1943.
Robert S. Hicks, A.B., Hendrix College, 1951; M.D., University of Arkansas, 1958.
Lilli Hofstatter, M.D., University of Vienna, 1949.
Joseph B. Kendis (Clinical Medicine), M.D., Washington University, 1933.
John H. McManus, A.B., Southeast Missouri State Teachers College, 1939; M.D., St. Louis University, 1943.
Jay Meyer, A.B., Washington University, 1956; M.D., St. Louis University, 1960.
Kenneth D. Michael, M.D., St. Louis University, 1947.
Saul Niedorf (Child Psychiatry), B.A., University of California, 1952; C.S.W., 1953; M.D., University of Geneva, 1959.
Stephen L. Post, A.B., Princeton University, 1950; M.D., Columbia University, 1957.
Reese H. Potter, A.B., University of Kansas, 1931; B.S., University of Missouri, 1933; M.D., Washington University, 1935.
Edith C. Robinson (Child Psychiatry), A.B., Randolph-Macon College, 1927; M.S., University of South Carolina, 1928; M.D., Johns Hopkins University, 1932. (See Department of Pediatrics)
Earl R. Schultz, A.B., Southeast Missouri State College, 1952; B.S., University of Missouri, 1953; M.D., Washington University, 1955. (See Department of Neurology)
Frank O. Shobe, A.B., Washington University, 1938; M.D., 1942.
FIRST YEAR


Determinants of Behavior. Through lectures, discussion, and patient presentations, a framework for understanding human behavior (both in illness and in health) is presented. Four hours are given to the discussion of childhood behavior and development, which discussion is augmented by observing four children at different age levels. Such subjects as ethology, depression, anxiety, learning, hostility, and sexuality are presented to the class. These determinants are illustrated by the interviewing of adult patients from the hospital. The last 5 hours of the program are devoted to social factors in disease and personality development. 18 hours. (Dr. McClure and Associates)
SECOND YEAR

20. Psychiatry.

*The Pathology of Behavior.* (Part of Conjoint Medicine. See page 62.) Emphasis is upon (a) effective interviewing in preparation for medical history taking; (b) evaluation of behavioral and emotional factors in patients with various kinds of illnesses; (c) the diagnosis and natural history of the major psychiatric disorders; (d) critical evaluation of conceptual and methodologic problems in psychiatry and psychology. Lectures, demonstration interviews, discussions. 48 hours.

(Drs. Murphy, Guze, Painter, Eli Robins, Winokur)

THIRD YEAR

30. Psychiatry.

Students in groups of seven spend 3 weeks full time on the inpatient service of Renard Hospital. Each new admission is studied by an individual student. This study includes a history from the relatives and from the patient, physical and neurological examinations, and a mental status examination. The progress of the patient is also followed by the student. Psychiatric emergencies are also seen when the student is on emergency call with a member of the house staff. Teaching exercises include ward rounds three times weekly on the students' patients; a seminar in which original articles from the literature are read and discussed; an introduction to psychotherapy, drug therapy, and the various shock therapies; and clinical conferences with the resident house staff. 96 hours. (Drs. Eli Robins, O'Neal, Murphy, and Associates)

FOURTH YEAR

40. Psychiatry.

(a) Senior students obtain experience in the recognition, diagnosis, and management of outpatient psychiatric disorders in that part of the co-ordinated outpatient clerkship conducted by the staff of the Psychiatry Clinic. The emphasis in this part of the clerkship is on the development of interviewing and psychotherapeutic skills. 54 hours. (Dr. Guze and Staff)

(b) Psychiatric Aspects of Clinical Medicine. (See Medicine—Dr. Guze)

(c) Pediatric Psychiatry. The staff of the Child Guidance Clinic participates in consultation and informal instruction when the students are in their clerkship in Pediatrics. (Dr. Painter)
ELECTIVE COURSES

51. *Psychiatry*. Work may be elected for six weeks. Student's preference as to type of experience desired will be met so far as possible. Students may work in Renard Hospital, the Bliss Institute, the St. Louis State Hospital, the Barnes Hospital, or the University Clinics. Each student must make his wishes known to Dr. E. Robins and must then obtain the approval of the staff member who will supervise the work. 

(Drs. E. Robins, Guze, Winokur)

52. *Research in Psychology and Psychiatry*. Facilities are available for qualified students to undertake original research in the laboratories of the department or in the clinics or wards. 

(Dr. E. Robins)

53. *Staff Conferences*. Students are invited to attend certain of the psychiatric staff conferences held weekly at Bliss Institute.

54. *Psychoanalysis*. Introduction to psychoanalysis is presented at weekly seminars lasting one trimester. Some didactic material is given, but most of the session is devoted to discussion. 

(Drs. Cruvant, Dewald, Fingert, Kaplan, Sommer)
Dr. Juan Taveras, Professor of Radiology, and three members of his staff review a cerebral angiogram.

DEPARTMENT OF RADIOLOGY

The Department of Radiology of Washington University is housed in the Edward Mallinckrodt Institute of Radiology and connects by corridor or tunnel with all of the hospitals and clinics constituting the Medical Center. The Department provides both diagnostic and therapeutic radiological services for the patients of Barnes, St. Louis Children's, St. Louis Maternity, McMillan, Wohl, Barnard, and Renard Hospitals, and the Washington University Clinics. In addition, laboratory facilities for research in radiation physics, radiation biology, and radiation therapy are housed in the Institute.

Four floors of the Institute building are devoted to diagnostic roentgenographic facilities. The first floor houses administrative and business offices, book and journal library, film library, and consultation viewing room. The radiation therapy section is
located on the ground floor of the Institute and Barnard Hospital. Its facilities include low and high voltage X-ray, cobalt, and a 24 Mev. betatron in addition to radium and other radioactive isotope therapy. Two floors of the Institute provide research laboratories for the staff and experimental diagnostic and therapeutic service for other departments of the School.

The undergraduate teaching program is designed to present both diagnostic and therapeutic radiology to students as part of their clinical clerkship experience. Every effort is made to provide an opportunity to correlate roentgen and clinical findings through interdepartmental conferences, consultations, and group discussions.

Professor and Head of the Department and Director of the Mallinckrodt Institute of Radiology.
Juan M. Taveras, B.S., Normal School of Santiago, Dominican Republic, 1937; M.D., University of Santo Domingo, 1943; M.D., University of Pennsylvania, 1949.

Professors
Michel M. Ter-Pogossian (Radiation Physics), B.A., University of Paris, 1942; M.S., Washington University, 1948; Ph.D., 1950. (See Department of Physiology)
Leonard J. Tolmach (Radiation Biology), B.S., University of Michigan, 1943; Ph.D., University of Chicago, 1951.
Hugh Monroe Wilson, A.B., Illinois College, 1924; M.D., Washington University, 1927; M.A. (hon.) Yale University, 1945. (See Department of Anatomy)

Professor (Clinical)

Consultants
Arthur L. Hughes (Physics), B.Sc., Liverpool University, 1906; M.Sc., 1908; D.Sc., 1912; B.A., Cambridge University, 1910.
Raul Mercado, Jr. (Radiation Therapy), A.B., Polytechnic Institute of Puerto Rico, 1947; M.D., St. Louis University, 1951. (Ellis Fischel State Cancer Hospital)

Edward H. Reinhard (Hematology and Oncology), A.B., Washington University, 1935; M.D., 1939. (See Department of Medicine)
G. R. Ridings (Radiation Therapy), M.D., Vanderbilt University, 1950. (University of Missouri Medical School)
John Sala (Radiation Therapy), B.S., Colegio Nacional (Argentina), 1936; M.D., Universidad del Litoral (Argentina), 1944. (Midwest Radiation Center)
Alfred I. Sherman (Gynecology), M.D., University of Toronto, 1944. (See Department of Obstetrics and Gynecology)
Mildred Trotter (Anatomy), A.B., Mount Holyoke College, 1920; Sc.M., Washington University, 1921; Ph.D., 1924; Sc.D. (hon.), Western College, 1956; Sc.D. (hon.), Mount Holyoke College, 1960. (See Department of Anatomy)

Associate Professors
William H. McAlister, B.S., Wayne State University, 1950; M.D., 1954.
William E. Powers, B.S., University of Illinois, 1949; M.D., 1951. (See Department of Surgery)

Associate Professor (Clinical)
A. Norman Arneson, B.S., Texas Christian University, 1924; M.D., Washington University, 1928. (See Department of Obstetrics and Gynecology)

Assistant Professors
Ray A. Brinker, B.A., State University of Iowa, 1954; M.D., 1957.
Fred J. Hodges III, B.A., University of Wisconsin, 1944; M.D., 1946.
THIRD AND FOURTH YEARS

ELECTIVE COURSES

50. Clerkships in Radiology. Electives may be chosen in any section of the Department. Students will serve as externs, working under the supervision of the residents and senior staff in that section. Limited to one student per section. Six weeks, full time. Choices include:

a. Roentgenology of the Chest  Dr. Wilson
b. Cardiac and Peripheral Vascular Roentgenology  Dr. Staple
c. Gastrointestinal Roentgenology

d. Neuroradiology  Dr. Hodges
e. Pediatric Roentgenology  Dr. McAlister
f. Therapeutic Radiology  Dr. Powers

51. Rotating Diagnostic Roentgenologic Clerkships. Students will serve as externs on chest, gastrointestinal, neurological, orthopedic, pediatric, therapeutic, and urological services. Eight students. Six weeks, full time.

52. Research Electives. Opportunity is available to carry out research in the laboratories under the guidance of the staff in the fields of diagnostic radiology, therapeutic radiology, radiation physics, or radiation biology.
THE IRENE WALTER JOHNSON INSTITUTE OF REHABILITATION

The teaching of rehabilitation is conducted for fourth-year medical students by the Department of Preventive Medicine in collaboration with various specialty services. The Irene Walter Johnson Institute of Rehabilitation is a modern, two-story facility that is air-conditioned and well equipped for the care of disabled patients. Students of medicine, house officers, and students of paramedical services have an opportunity to affiliate with the Institute.

**Director**
Hugh Chaplin, Jr., A.B., Princeton University, 1943; M.D., Columbia University, 1947.  
(See Departments of Medicine and Preventive Medicine and Public Health)

**Assistant Director**
(See Department of Anatomy and Department of Physical Therapy)

**Elective**
Externships in Physical Disability and Rehabilitation of two or three months' duration are offered during the interval between the end of the spring semester and beginning of the fall semester for two students who have completed the first year of the Medical School curriculum. Specific instruction will be given by means of informal lectures, demonstrations, and seminars.
A professor performs an operation in Barnes Hospital assisted by members of the resident staff and fourth-year students.

THE MARY CULVER DEPARTMENT OF SURGERY

(The Department of Surgery includes General Surgery, Plastic and Reconstructive Surgery, Orthopedic Surgery, Neurological Surgery, Genitourinary Surgery, Thoracic Surgery and Anesthesiology.)

The instruction in the Department of Surgery begins with an introduction to surgical principles at the end of the second year. These surgical principles for the most part are derived from fundamental concepts in the preclinical sciences which have been occupying the student since the beginning of the freshman year. Although in this course a few patients are used for the demonstration of lesions which illustrate the principles of surgery, it is in the junior year that the first personal contact with patients occurs. Each student is then assigned to a clinical clerkship in the hospital wards and in that way is given an opportunity to study the more common and important kinds of surgical diseases.
The junior clerkship lasts for six weeks, and is performed on the general and plastic surgical services of the hospitals in the Medical Center. During the clerkship the student attends resident rounds in the morning and scheduled staff rounds in the afternoon. Students are given the opportunity of attending and assisting at all operations on patients assigned to them. Instruction in the examination of the patient and in special diagnostic and various therapeutic techniques is given by the resident house officers during morning rounds, and by members of the senior staff during staff rounds and the student general surgery conference held at 11 a.m. on Saturdays. Pre- and post-operative care is emphasized, especially as it relates to pathology, physiology, biochemistry, and bacteriology.

During the junior year all students attend a weekly surgical clinic of one and one-half hours. During the third trimester these clinics are conducted by the Departments of Ophthalmology and Otolaryngology, and during the first and second trimesters by the Department of Surgery.

In the senior year the students spend one trimester on a surgical clerkship, dividing the time between the surgical specialties and an emergency service.

Professor and Acting Head of the Department
Henry Gerard Schwartz (Neurological Surgery), A.B., Princeton University, 1923; M.D., Johns Hopkins University, 1932.

Bixby Professor
Carl Alfred Moyer, A.B., Northern State Teachers College, 1930; M.S., University of Michigan, 1934; M.D., 1937.

Henry E. Mallinckrodt Professor of Anesthesiology and Chief of the Division of Anesthesiology
Robert B. Dodd, M.D., University of Nebraska, 1945.

Professors
Harvey R. Butcher, A.B., Central College, 1941; M.D., Harvard University, 1944.
Justin J. Cordonnier (Urology), B.S., Washington University, 1926; M.D., 1928.
Morton Donald Parreira, A.B., Washington University, 1933; M.D., 1937. (Jewish Hospital)
Fred C. Reynolds (Orthopedic Surgery), A.B., Washington University, 1931; M.D., 1934.

Research Professor
Albert Roos (Anesthesiology), M.D., University of Groningen (Holland), 1940. (See Department of Physiology)

Professors (Clinical)
James Barrett Brown, M.D., Washington University, 1923.
Thomas H. Burford (Thoracic Surgery), A.B., University of Missouri, 1931; B.S. in Medicine, 1933; M.D., Yale University, 1936.

Professors Emeriti (Clinical)
Glover H. Copher, A.B., University of Missouri, 1916; M.D., Washington University, 1918.
Peter Heinboecker, B.A., McGill University, 1918; M.D., 1921.

Lecturer
Henry W. Crouch (Clinical Anesthesiology), B.S., Military College of South Carolina, 1922; M.D., Medical College of South Carolina, 1927.

Associate Professors
Harvey R. Bernard, M.D., Washington University, 1947.
William R. Cole, A.B., University of Missouri, 1948; M.D., Washington University, 1952; D.Sc., University of Cincinnati, 1959. (City Hospital)

William S. Coxe (Neurological Surgery), B.S., Hampton-Sydney College, 1945; M.D., Washington University, 1948.

Paul R. Hackett (Anesthesiology), B.A., Denison University, 1945; M.D., Western Reserve University, 1949.

William T. Newton, B.S., Yale University, 1947; M.D., 1950. (Cochran Veterans Administration Hospital)

William E. Powers (Radiation Therapy), B.S., University of Illinois, 1949; M.D., 1951. (See Department of Radiology)

John S. Spratt, Jr., M.D., Southwestern Medical School of the University of Texas, 1952.

Warren G. Stamp (Orthopedic Surgery), B.S., Westminster College, 1949; M.D., State University of Iowa, 1952. (U.S.P.H.S. Special Fellow in Orthopedic Surgery)

Jessie L. Ternberg, A.B., Grinnell College, 1946; Ph.D., University of Texas, 1950; M.D., Washington University, 1953.

Theodore E. Weichselbaum (Experimental Surgery) (Biochemistry), B.S., Emory University, 1930; Ph.D., University of Edinburgh (Scotland), 1935.

Associate Professors (Clinical)

Robert Wilson Bartlett, B.S., University of Michigan, 1926; M.D., 1930.

Eugene Myron Bricker, M.D., Washington University, 1934.

Louis T. Byars, B.S., University of Arkansas, 1928; M.D., Washington University, 1932.

Rogers Deakin (G.U. Surgery), M.D., Washington University, 1922.


Minot P. Fryer, A.B., Brown University, 1936; M.D., Johns Hopkins University, 1940.

Leonard Thompson Furlow (Neurological Surgery), B.S., Emory University, 1923; M.D., 1925.

H. Relton McCarroll (Orthopedic Surgery), A.B., Ouachita College, 1927; M.D., Washington University, 1931.

Frank McDowell, A.B., Drury College, 1932; M.D., Washington University, 1936.


James M. Stokes, M.D., Washington University, 1948.


Associate Professors Emeriti (Clinical)

Clarence Harrison Grego, Jr. (Orthopedic Surgery), B.S., Union University, 1921; M.D., University of Michigan, 1923.

I. G. Proelstein, M.D., Loyola University, 1917.

Assistant Professors

William T. Bowles (Urology), M.D., Stanford University, 1955.

Donald J. Dickler (Anesthesiology), B.A., New York University, 1942; M.D., New York University College of Medicine, 1945. (Jewish Hospital)

Bela I. Hatfalvi (Anesthesiology), M.D., M. Kir. Tisza Istvan Tudomanyegyetem (Hungary), 1938.

Kenneth D. Serkes, B.S., Yale University, 1950; M.D., Washington University, 1951. (Jewish Hospital)

Andrew D. Spencer, A.B., Indiana University, 1951; M.D., 1954. (Homer G. Phillips Hospital)

Lewis J. Thomas (Anesthesiology), S.B., Haverford College, 1953; M.D., Washington University, 1957. (On leave of absence)

Glenn R. Weygandt (Anesthesiology), M.D., Washington University, 1947.

Assistant Professors (Clinical)

Morris Abrams (G.U. Surgery), B.S., University of Illinois, 1934; M.D., 1937.

Cyril J. Costello, B.S., University of Texas, 1935; M.D., 1939.

Heinz Haffner, B.S., University of Arizona, 1931; M.D., Washington University, 1935.

Oscar Perry Hampton, Jr. (Orthopedic Surgery), M.D., University of Tennessee, 1928.
Carl J. Heifetz, B.S., Washington University, 1927; M.D., 1929.
Carl Edward Lischer, A.B., University of California, 1933; M.D., Washington University, 1937.
James Otto Lottes (Orthopedic Surgery), Ph.B., St. Louis College of Pharmacy, 1926; Ph.C., 1928; A.B., University of Missouri, 1934; B.S., 1935; M.D., University of Louisville, 1937.
C. Alan McAfee, B.S., Washington State College, 1938; M.D., Washington University, 1942.
Harry C. Morgan (Orthopedic Surgery), A.B., University of Missouri, 1949; B.S., 1951; M.D., Harvard University, 1953.
Robert Killian Royce (G.U. Surgery), B.S., University of Mississippi, 1939; M.D., Washington University, 1942.
Leo Aaron Sachar, A.B., Washington University, 1936; M.D., 1940.
Carl A. Wattenberg (G.U. Surgery), A.B., University of Kansas, 1934; M.D., 1937.

Consultant
Leroy W. Peterson (Oral Surgery), D.D.S., University of Michigan, 1940.

Instructors
Sedat Mehmet Ayata (Anesthesiology), B.S., Istanbul Lyceum, 1949; M.D., University of Istanbul, 1955. (Jewish Hospital)
Galen B. Cook, A.B., Washington University, 1951; M.D., 1955. (Ellis Fischel State Cancer Hospital)
Burl M. Dillard, M.D., University of Texas, Southwestern Medical School, 1938. (City Hospital)
Robert C. Donaldson, A.B., University of Missouri, 1941; M.D., Washington University, 1944. (Cochran Veterans Administration Hospital)
William L. Donegan, B.A., Yale University, 1955; M.D., Yale University, 1959. (Ellis Fischel State Cancer Hospital)
Paul L. Friedman (Anesthesiology), A.B., Washington University, 1953; M.D., 1957. (Jewish Hospital)
Marcy Allen Goldstein, M.D., Washington University, 1951. (Jewish Hospital)
A. Basil Harris (Neurological Surgery), A.B., Birmingham-Southern College, 1950; M.D., Medical College of Alabama, 1954. (See Department of Neurology)
Robert B. Holloway (Anesthesiology), B.S., LeMoyne College, 1952; M.D., Meharry Medical College, 1956 (Cochran Veterans Administration Hospital)
Hugh F. S. Keisler (Anesthesiology), A.B., Washington University, 1955; M.D., 1959. (Jewish Hospital)
Raymond W. Kelmer (Division of General Medical Sciences Trainee), B.S., Drury College, 1950; M.D., Washington University, 1957.
Robert T. Long, B.S., Auburn University, 1951; M.D., Medical College of Alabama, 1955. (Ellis Fischel State Cancer Hospital)
(On leave of absence)
William W. Monafo (National Institute of General Medical Sciences Trainee), B.A., Harvard University, 1953; M.D., Tufts University, 1957.
Dan B. Moore, A.B., Knox College, 1951; M.D., Washington University, 1955. (Jewish Hospital)
William Shieber, M.D., Washington University, 1953. (Jewish Hospital)
Kenneth R. Smith, Jr. (NINDB Special Fellow) (Neurological Surgery), M.D., Washington University, 1957. (See Department of Anatomy)
William T. Snodgrass (Urology), B.A., University of Texas, 1951; M.D., University of Texas, Medical Branch, 1955.
Irvin C. Susman (Anesthesiology), M.D., University of Illinois, 1949. (Jewish Hospital)
Granville J. Womack, B.S., Oklahoma City University, 1949; M.D., University of Oklahoma, 1952. (McDonnell Aircraft Company)

Instructors (Clinical)
Robert Anschuetz, M.D., Washington University, 1940.
J. Byron Beare (G.U. Surgery), B.S., St. Louis University, 1935; M.D., 1939; M.S., University of Minnesota, 1947.

Virgay P. Blair, Jr. (Orthopedic Surgery), M.D., Washington University, 1939.


Arthur R. Dalton, B.S., University of Missouri, 1938; B.S., Med., Northwestern University, 1940; M.D., 1941.

Francis G. Duffy (Anesthesiology), M.B., B.Ch., B.A.O., University College of Dublin, 1951.

Clarence Eckert, M.D., St. Louis University, 1927.

Virgil Otto Fish, M.D., Washington University, 1930.

Lee T. Ford, Jr. (Orthopedic Surgery), M.D., University of Tennessee, 1940.

George L. Havkins, Jr. (Neurological Surgery), B.A., University of Missouri, 1937; M.D., Columbia University, 1941.


Edward C. Holscher (Orthopedic Surgery), A.B., University of Missouri, 1931; B.S., 1933; M.D., Harvard University, 1935.

Earl P. Holt, Jr. (Orthopedic Surgery), A.B., Duke University, 1942; M.D., 1945.

Saul Klein (Genitourinary Surgery), M.D., Syracuse University Medical Center, 1959.


Stanley M. Leydig (Orthopedic Surgery), B.A., Montana State University, 1930; M.D., Washington University, 1934.

Howard S. Liang (Anesthesiology), M.D., National Sun Yat-sen University College of Medicine (Canton, China), 1960.

Marvin Mishkin (Orthopedic Surgery), M.D., University of Illinois, 1955.


Joseph C. Peden, Jr., B.S., Washington University, 1941; M.D., 1943.

Mathew Pfeifferberger, Jr., A.B., Yale University, 1941; M.D., Harvard University, 1944.

Daniel W. Platt (Anesthesiology), M.D., Chicago Medical College, 1949.

Frank O. Richards, A.B., Talladega College, 1914; M.D., Howard University, 1947.

George Scheer (Orthopedic Surgery), A.B., Municipal University of Wichita, 1940; M.D., Washington University, 1943.

Sam F. Schneider, A.B., Washington University, 1932; M.D., 1936.


Richard G. Sisson, A.B., Harvard University, 1943; M.D., Yale University, 1946.


James M. Whittico, M.D., Meharry Medical College, 1940.


**Assistants**

V. Gordon Benson, M.D., Marquette University, 1944; Ph.M., University of California, 1960. (National Aeronautics and Space Administration)

D. Owen Coons, M.D., University of Toronto, 1948; Ph.M., Harvard, 1956. (National Aeronautics and Space Administration)

G. Fred Kelly, M.D., Louisiana State University, 1951. (National Aeronautics and Space Administration)

John L. Moore, B.S., Bates College, 1952; M.D., Columbia University, 1956. (National Aeronautics and Space Administration)

F. Eugene Tubbs, M.D., Emory University, 1961. (National Aeronautics and Space Administration)
George C. Wee, M.D., University of Louisville, 1931. (Jefferson Barracks Veterans Administration Hospital)

Assistants (Clinical)

Donald T. Behrens, M.D., Washington University, 1948.
Gerald Behrens, A.B., Washington University, 1950; M.D., 1954.
Clarence M. Benage, M.D., Washington University, 1958.
Leslie F. Bond, A.B., University of Illinois, 1948; M.D., Meharry Medical College, 1952.
Richard V. Bradley, M.D., Washington University, 1952.
James T. Chamness, M.D., University of Pennsylvania, 1944.
Katherine Jean Crawford, B.S., Michigan State College, 1942; M.D., Woman's Medical College of Pennsylvania, 1946.
James R. Cricione, B.S., Youngstown University, 1943; M.D., St. Louis University, 1951.
Gerhard E. Gruenfeld, M.D., Friedrich-Wilhelms University (Germany), 1923.
Fleming B. Harper, M.D., Medical College of Virginia, 1950.

Frederick W. Klinge, A.B., University of Missouri, 1938; M.D., Washington University, 1942. (See Department of Physiology)
Allen F. Klippel, A.B., Amherst College, 1944; M.D., St. Louis University, 1946.
Jules H. Kopp (G.U. Surgery), M.D., University of Arkansas, 1931.
Samuel Lugo, B.S., St. Louis University, 1954; M.D., 1958.
Rhodal S. Mason (Orthopedic Surgery), A.B., Lincoln University, 1948; M.D., Meharry Medical College, 1953.
Lester J. Nathan, B.A., University of Omaha, 1949; M.D., University of Nebraska, 1952.
George A. Oliver, A.B., Washington University, 1948; M.D., 1952.
Lawrence W. O'Neal, M.D., Washington University, 1946.
George B. Rader, M.D., Washington University, 1951.
Robert Rainey, B.S., Yale University, 1944; M.D., Washington University, 1947.
George Tucker, A.B., Columbia University, 1952; M.D., Harvard University, 1956.

SECOND YEAR

Introduction to Surgery. A lecture course which presents certain fundamental principles of physiology, biochemistry, and pathology as applied to surgery. Recitations, demonstrations, and clinics to amplify the lectures are included. One hour weekly for twelve weeks during the second and third trimesters of the second year. (Part of Conjoint Medicine.)

(Dr. Moyer)

THIRD YEAR

Surgical Clinic. A weekly exercise throughout two trimesters. These clinics serve as a general introduction to the surgical specialties and to anesthesiology.

(Surgery Staff)
Surgical Wards. For six weeks the student serves as a clerk in general surgery, working on the wards of the hospitals of the Medical Center. The students take the case histories and make the physical examinations and the usual laboratory examinations on the patients assigned to them. They assist at the operations and do some of the surgical dressings. Surgical pathological material is followed as an integral part of the case study. At regular intervals the students meet with residents and assistant residents in informal conferences, when questions which have arisen during the day are discussed and various aspects of the care of the patient considered. They follow their patients after discharge in the postoperative and out-patient clinic. Particular effort is made to see that the student has some experience with the more frequent and important surgical lesions, and that the cases assigned to him are sufficiently diversified to afford him an accurate perspective of surgery. The student is encouraged to consult the library frequently in the solution of problems concerning his patient. One afternoon a week the student participates in the tumor clinic and attends a tumor conference held jointly by the Departments of Surgery, Surgical Pathology, and Radiology. Students may attend the general surgery staff conferences held on Tuesdays at 4:00 p.m. (Staff)

Fourth Year

Surgical Clerkship. Twelve weeks. Two weeks in each of the following: Neurological Surgery, Genitourinary Surgery, Thoracic Surgery, Orthopedic Surgery, Emergency Room Service, and Anesthesiology. During this trimester all students attend the general staff rounds, Tuesday at 4:00 p.m.

Genitourinary Surgery

Complete history, physical examination, and urologic work-up on all ward and semi-private patients, including assisting in cystoscopic study and surgery. Patients are assigned in rotation. Case presentations, three hours weekly, Dr. Cordonnier and House Staff. Grand rounds, two hours weekly, Dr. Cordonnier and Staff. Pyelogram conference, five hours weekly, Drs. Cordonnier, Bowles, and Zink. Didactic study of special urologic subjects, two hours weekly, Drs. Cordonnier and Bowles. Surgical pathology conference, one hour every other week. Three hours weekly are spent in the outpatient clinic.

Neurological Surgery

1. Admission history and physical examination of all new patients (ward and private) in rotation.
2. Progress notes on all patients (except infants ward, Children’s Hospital).
3. All clinical microscopy and laboratory work on ward patients (except infants ward, Children’s Hospital).
4. Perform minor diagnostic procedures on ward patients (lumbar punctures, visual fields, etc.) with supervision.
5. Attend neurosurgery clinics (Monday and Thursday afternoons and Saturday mornings) and work up all patients.

6. Attend morning rounds, 8:00 to 9:30 a.m., five days a week. *

7. Attend lectures and clinical demonstrations, Tuesday, 9:00 to 10:00 a.m. *

8. Attend neuropathology and neurology-neurosurgery conferences, Wednesday afternoon, 2:00 to 5:00 p.m.

9. Attend (optional) grand rounds, Fridays, 3:15 to 5:30 p.m.

10. At the end of each period a written or oral quiz is given and the results reviewed with the students. One rare occasions (three times) the quiz has not been given, when the students’ performance as a group, during the clerkship, has been outstanding.

Anesthesiology

Clerks will make pre-operative rounds on patients who have been assigned to them and assess the risk pertaining to anesthesia and surgery. All types of commonly used anesthetic agents and techniques will be used under supervision. A postoperative summary will be submitted on all patients whom the clerk attends. Clerks will also assist in the intensive care of comatose patients and patients with respiratory and circulatory problems. Attendance at all regularly scheduled anesthesia conferences and surgical grand rounds is mandatory unless specifically excused for clinical duties.

Thoracic Surgery

During the clinical clerkship on thoracic and cardiovascular surgery each student has an opportunity to examine and evaluate a number of patients and to compare his finding with the actual pathology, both at endoscopy and at surgery, and finally to study the pathological material.

The following is representative of the student participation and didactic instruction on the Chest Service:

1. 6:30 a.m. Ward rounds with the resident staff.

2. 7:30 a.m. Attend endoscopy.
   A. Bronchoscopy, esophagoscopy, and minor diagnostic procedures.
   B. Assist the resident staff on the wards in thoracenteses, dressing changes, etc.
   C. Observe in the operating room on their cases.

3. 8:30 a.m. Morning seminars held with the Fellows in Thoracic Surgery, with student case presentation and discussion of interesting thoracic and cardiac problems.

* Students present their own cases.
4. 2:30 p.m. Daily X-ray conference in association with the Department of Radiology, with review of postoperative cases and evaluation of diagnostic thoracic and cardiovascular problems.

5. 3:30 p.m. Afternoon ward rounds with the resident staff. Emphasis is placed on bedside teaching and interesting cases are discussed by the Fellows in Thoracic Surgery.

In addition the students are required to attend the weekly cardiac catheterization and angiography conference held in conjunction with the Radiology Department and the Department of Medicine (Cardiology), and a monthly Pathology conference, where operative deaths and interesting cases are reviewed. The morbid and microscopic anatomy is presented by the Department of Pathology.

There is ample opportunity for interested students to participate in current research projects of members of the Department.

Orthopedic Surgery—Emergency Room Service

During the junior year the students receive a series of basic lectures regarding the principles of orthopedic surgery. A four-week period is scheduled during the senior year that includes emergency room service, a daily X-ray conference, a weekly staff conference, and a weekly visit to the Shriners Hospital for Crippled Children and the St. Louis Children's Hospital. Students attend the Orthopedic Out-patient Department and are assigned private and ward patients.

Elective Courses

50. Washington University Clinics. General surgery, six weeks for four students, mornings. Students will serve as clerks to out-patients, the time being spent in the study and care of the patients, with special attention to minor surgical procedures.

51. Research in Surgery. Six weeks, full time. For those students who carried on surgical research in their spare time during the previous year and who wish to devote their entire time toward the completion of their problems. (Dr. Moyer)

52. State Cancer Hospital. Four students to serve as clinical clerks at the State Cancer Hospital, Columbia, Missouri, full time for six weeks. The duties assigned will be the routine duties required of any clinical clerk, consisting of both in- and outpatient work, particularly related to malignant diseases.

53. Speciality or General Surgery Clerkships. Clerkships for six weeks may be individually arranged by the students.

54. Senior Elective in Surgery at St. Luke's Hospital. These externships offer six weeks of intensive clinical experience, with the duties and responsibilities of interns, working closely with interns and residents. While these externships emphasize bedside experience, they are so regulated as to permit full participation in the hospital curriculum of seminars, discussions, clinical-physiological and clinical-pathological conferences. (Dr. Robert Paine)
MEDICAL JURISPRUDENCE

Medical Jurisprudence. A course given in the fourth year embracing medical evidence and testimony, expert testimony; dying declarations; rights of medical witnesses; establishing identity from living and dead bodies, sudden death from natural causes and by violence; criminal acts determined by medical knowledge; the legal relation of physician to patients and the public; insanity; and malpractice. 9 hours.

(Mr. Orville Richardson)
DIVISION OF GERONTOLOGY

The Division of Gerontology is located at the St. Louis Chronic Hospital, 5600 Arsenal Street. The Division conducts a research laboratory at the Hospital.

Through a bequest from the late Mrs. Ina Champ Urbauer, a fund has been established for research in gerontology and allied fields.

Director of Research

John Esben Kirk, M.D., University of Copenhagen, 1929. (See Department of Medicine)

Research Assistants

Teofil Kheim, M.D., University of Budapest, 1934.

Eberhard Ritz, M.D., University of Heidelberg, 1963.

INSTITUTE OF NEUROLOGY

The Beaumont-May Institute of Neurology was established in 1955 by gifts from the Louis D. Beaumont Foundation, Mr. Morton I. May, and the late Mrs. Charles M. Rice. It is the purpose of the Institute to foster basic and clinical research in Neurology with special reference to defects in the structuring of the nerve cell which occasion important neurological disorders having a high incidence of prolonged disability.

DIVISION OF TUMOR SERVICES

Cancer Co-ordinator and Director of Division of Tumor Services

Harvey R. Butcher, A.B., Central College, 1941; M.D., Harvard University, 1944

The Division of Tumor Services was organized as a co-ordinating committee for the Cancer Teaching Program. Inasmuch as cancer, as other subjects in the medical curriculum, is given in a departmental manner, the Tumor Clinic is the principal site on which this Service functions. An attempt is made in this center to give a supplementary picture of the cancer problem as it exists today. In the senior year, time is allotted from the period on gynecology and surgery for work in this clinic. The Tumor Conference, which is held for one-third of the senior class, postgraduate students, and visitors each week, serves the purpose of demonstrating some of the more complex problems in diagnosis and therapy which arise in patients with malignant disease.
EXECUTIVE COMMITTEE

Edward Reinhard.......................................................Internal Medicine
A. Norman Arneson.....................................................Obstetrics and Gynecology
Theodore Sanders......................................................Ophthalmology
Joseph H. Ogura.......................................................Otolaryngology
Lauren V. Ackerman..................................................Pathology
Teresa Vietti.............................................................Pediatrics
William Powers.........................................................Radiology
Harvey Butcher, Chairman.........................................Surgery

WILLIAM GREENLEAF ELIOT DIVISION OF CHILD PSYCHIATRY

Director and Blanche F. Ittleson
Professor

Director of the Child Psychiatry Clinics and Assistant Professor of Child Psychiatry
Thomas C. Brugger, B.S., University of Wisconsin, 1950; M.D., 1953.

Assistant Professors
Loretta Cass (Medical Psychology), B.A., Colorado College, 1934; M.A., 1942; Ph.D., Ohio State University, 1950. (See Department of Psychiatry)
Paul H. Painter (Child Psychiatry), M.D., St. Louis University, 1947. (See Department of Pediatrics)

Research Assistant Professor
Norman L. Corah (Medical Psychology), B.A., University of Buffalo, 1955; Ph.D., 1960.

Consultant
Eleanor T. Kenney (Medical Psychology), A.B., Bryn Mawr College, 1937; Ph.D., Washington University, 1964.

Assistant Professor (Clinical)
Roy M. Mendelsohn (Child Psychiatry), B.S., University of Illinois, 1950; M.D., 1952.

Instructors
Louetta Berger (Psychiatric Social Work), B.S., University of Wichita, 1941; M.S.W., Washington University, 1946.
Gabrielle Casebier (Speech Correction), B.S., University of Illinois, 1942; M.A., 1942; Ph.D., University of Wisconsin, 1961.
John B. Lewis (Medical Psychology), B.S., Northwestern University, 1949; M.S.W., Washington University, 1952.
Beulah Morris (Psychiatric Social Work), B.S., Southwest College, 1946; M.S.W., Washington University, 1952.
Frances G. Place (Psychiatric Social Work), A.B., Washington University, 1924; M.S.W., 1948.
Marylyn Voerg (Medical Psychiatry), B.A., University of Florida, 1950; Ph.D., 1964.

Lecturer
Robert E. Lefton (Medical Psychology), A.B., Washington University, 1953; Ph.D., 1958.
Instructors (Clinical)

Paul Edward Kubitschek (Child Psychiatry), B.S., Creighton University, 1918; M.D., 1922; D.Sc., University of Pennsylvania, 1928. (See Department of Pediatrics)
Sophia P. McCay (Child Psychiatry), B.S., University of Denver, 1949; M.D., University of Colorado, 1959.
Saul Niedorf (Child Psychiatry), B.A., University of California at Los Angeles, 1952; C.S.W., 1953; M.D., University of Geneva, 1959.
Edith C. Robinson (Child Psychiatry), A.B., Randolph-Macon College, 1927; M.S., University of South Carolina, 1928; M.D., Johns Hopkins University, 1932.

Assistants

Anne M. Gordon (Social Work), B.A., University of Pittsburgh, 1962; M.S.W., 1964.
Jane E. Landsbaum (Medical Psychology), A.B., Washington University, 1961.

Research Assistant

A. Marie Kaplan (Child Psychiatry) A.B., Washington University, 1935.

The Division of Child Psychiatry offers a varied teaching program for residents in Psychiatry and Fellows in Child Psychiatry through its Child Psychiatry Clinics and school for emotionally disturbed children at 369 North Taylor Avenue, the Steinberg In-patient Division of Child Psychiatry at the Jewish Hospital, the St. Louis County Division of Mental Diseases, and the Youth Center for adolescents at the St. Louis State Hospital. Trainees are assigned to these various units where they participate in complete diagnostic evaluations and see patients in psychotherapy under the supervision of the unit director and the Professor of Child Psychiatry. Seminars in individual and group psychotherapy, psychology, social work, and research are held weekly at the Division building on Taylor Avenue, and opportunity is provided for observation through a one-way screen of psychological testing and group and individual psychotherapy. Fellows are encouraged to participate in small research projects.
DIVISION OF AUXILIARY MEDICAL SERVICES

The Division of Auxiliary Medical Services of the School of Medicine provides instruction and training in professions associated with medicine and necessary to the physician in providing modern health care.

As with the educational program of the medical student, the Division of Auxiliary Medical Services is a joint enterprise of the School of Medicine and the affiliated hospitals—Barnes, Children's, McMillan, and Maternity Hospitals. As a matter of convenience some departments are administered by the School and others by the Barnes Hospital.

Departments conducted by the School of Medicine include Hospital Administration, Occupational Therapy, and Physical Therapy. Schools operated by the Barnes Hospital include Laboratory Technology, Medical Dietetics, and Anesthesiology. All of the courses are approved by the American Medical Association or other certifying agencies and graduates are admitted to examinations. For further information write the Director of the Department or School, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, Missouri 63110.

DEPARTMENT OF HOSPITAL ADMINISTRATION

Professor
Frank R. Bradley, M.D., Washington University, 1928; LL.D., Central College, 1945.

Associate Professor and Director

Assistant Professors
Donald J. Horsh (Hospital Jurisprudence), B.S., University of Nebraska, 1941; M.H.A., Washington University, 1951; LL.B., St. Louis University, 1953.

Lecturers
Gerald Aldridge (Financial Control), B.A., University of Denver, 1949; M.H.A., Washington University, 1951.
Hollis Allen (Medical Specialities), B.S., St. Louis University, 1924; M.D., 1926.
William H. Bedell (Personnel Health Facilities), A.B., Princeton University; M.A., New York University.

Louis Belinson (Mental Diseases), M.D., Rush Medical College, 1935.
Albert Boulenger, B.S., Bowling Green State University, 1951; M.H.A., Washington University, 1953.
Ted Bowen, B.S., Austin State Teachers College, 1941; M.H.A., Washington University, 1948.
George Allen Bowles (Hospital Chaplaincy), A.B., Southern Methodist University, 1927; B.D., 1930; D.D., Central College, 1952.
Clyde Caldwell (Hospital Laundries).
James Claywell (Maintenance Engineering), B.S.M.E., Washington University, 1959.
Richmond C. Coburn (Hospital Trustships), A.B., University of Missouri, 1924; LL.B., 1925.
Doris Cook (Hospital Dietetics), B.S., University of Illinois, 1934.
F. G. Dickey, A.B., Johns Hopkins University, 1931; M.D., University of Maryland, 1935.
Adalbert Diecks (Women's Auxiliary), A.B., Ohio State University, 1937; B.S., 1951; M.B.A., 1952; M.H.A., Washington University, 1954.

Robert Frank, B.S., St. Louis University, 1950; M.H.A., 1962.


Frank S. Groner, A.B., Baylor University, 1934; LL.D., Baptist College, 1946.


Henry Hardwicke (Public Health and Allied Fields), M.D., University of Rochester, 1943.

James Harvey, B.A., University of South Dakota, 1950; M.H.A., University of Minnesota, 1952.

William Henry (Radiology Equipment), B.A., University of Kansas City, 1938.

James Hepner, B.A., University of Iowa, 1955; M.H.A., Washington University, 1959; Ph.D., Iowa University, 1964.

Lilly Hoekstra, R.N., Washington University, 1933; B.S., 1947.

Joseph Holland (Hospital Press Relationship)


Robert S. Hoyt (Hospital Purchasing).


Cornelia S. Knowles, R.N., Washington University, 1925.

Ted Lloyd (State Hospital Association Activities).

Curtis H. Lohr, B.S., Washington University, 1920; M.D., 1922.

Eugene J. Mackey (Hospital Architecture), Bachelor of Architecture, Carnegie Institute of Technology, 1936; Master of Architecture, Massachusetts Institute of Technology, 1939.

Gerald Malloy, Ph.B., Marquette University, 1950; LL.B., 1953; M.H.A., St. Louis University, 1955.

Josephine McConnell (Nursing Department), B.S., Avilla College, 1958; M.S., St. Louis University, 1960.

Elizabeth McIntosh (Nursing Department), A.B., Searritt College, 1930; B.S., University of Pennsylvania, 1942; M.S., Western Reserve University, 1947.

Florence Mueller (Hospital Pharmacy), B.S., Fontbonne College; Ph.G., St. Louis College of Pharmacy, 1931.


Paul I. Robinson, B.S., Washington University, 1926; M.D., 1928.

J. Earl Smith (Public Health), M.D., St. Louis University, 1926.

Albert Spradling, Jr. (Government Relations), LL.B., University of Missouri, 1942.

Crofford O. Vermillion, A.B., DePauw University, 1939; M.D., Washington University, 1947.

Hugh Vickerstaff, B.S., University of Iowa, 1940; M.H.A., Washington University, 1951.

John Warmbrodt (Hospital Accounting), B.S., St. Louis University.

John Warner, B.S., St. Louis University, 1948; M.H.A., 1954.


A two-year course leading to a certificate or the degree of Master of Hospital Administration. The first year is given on the main campus of the University and at the School of Medicine, and includes courses in accounting and statistics, social work, public health, and hospital administration. The second year is spent in field work in an approved hospital. A degree is conferred on completion of a satisfactory thesis.
Applicants must hold a bachelor's degree or be graduates of an approved school of medicine.

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**DEPARTMENT OF OCCUPATIONAL THERAPY**

*Assistant Professor and Elias Michael Director of the Department*

Martha E. Matthews, A.B., Winthrop College, 1933.

*Assistant Professor and Associate Director of the Department in Charge of Clinical Training*

Elizabeth Withers, B.S., Memphis State University, 1957; M.A., 1939.

*Lecturer Emeritus*


*Instructors*

Margaret S. Nelson, B.S., Ohio State University, 1956.

Garth D. Tubbs, B.S., Wisconsin State College, 1953.

*Instructor Emeritus*

Ada Wells Ford.

The degree of Bachelor of Science in Occupational Therapy is conferred upon the completion of three academic semesters at the School of Medicine and nine months of supervised clinical application. During the academic and clinical programs, emphasis is placed on the patient’s physical and psychological problems resulting from disease and trauma. Basic understanding of the techniques of creative, manual, and prevocational media and how these are correlated therapeutically to provide desired treatment are stressed.

The role of occupational therapy as it functions with various medical and social resources within the broad concepts of patient rehabilitation is an important part of the course.

The curriculum includes: sciences such as anatomy, physiology, psychology, and neurology; clinical subjects such as general medicine, orthopedics, and psychiatry; interpretation of principles and practices of occupational therapy; technical instruction in manual, creative, and prevocational activities. The period of supervised clinical application is spent in approved affiliation centers.
Applicants must present sixty semester hours of college credit, including a specified number of units in English, biology, physical science, psychology, and sociology.

**Candidates for B.S. degree**

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**DEPARTMENT OF PHYSICAL THERAPY**

**Assistant Professor and Director of the Department**


**Assistant Professor**

Lorraine F. Lake, B.S., Washington University, 1950; M.A., 1954; Ph.D., 1962. (See Departments of Anatomy and Preventive Medicine and Institute of Rehabilitation)

**Instructor and Assistant Director**

D. LaVonne Jaeger, B.S., University of Minnesota, 1951.

**Instructors**

Ruth Lee, B.S., University of Missouri, 1934; M.S., St. Louis University, 1956.

Anne Brown Short, B.S., Washington University, 1951.

Franz U. Steinberg, M.D., University of Berne, 1938. (See Department of Preventive Medicine)

**Lecturers**

Harry L. Acker, B.S., Clemson College, 1940; M.D., Medical College of South Carolina, 1950. (See Department of Preventive Medicine)

Sharon M. Doerre, B.S., Washington University, 1956.

Elvera Guebert, R.N., B.S., Washington University, 1951.

Robert Hickock, B.S., Washington University, 1953.

The program of instruction in physical therapy in the School of Medicine consists of the junior and senior years of a four-year college curriculum leading to the degree of Bachelor of Science in Physical Therapy.

Students entering this program must have satisfactorily completed sixty semester hours in an accredited college or university. Required are courses in English composition, literature, psychology, and the physical, biological, and social sciences.

The program in the School of Medicine includes courses in the basic medical sciences, medical and surgical lectures as applied to the practice of physical therapy, theory and application of physical therapy procedures, and a minimum of 800 hours of clinical experience.
The aim of the program is the development of competent physical therapists whose broad cultural background and thorough professional training prepare them to accept the appropriate responsibilities in the comprehensive care program of modern medicine.

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SCHOOL OF X-RAY TECHNOLOGY

A course for X-ray technicians is offered by the Edward Mallinckrodt Institute of Radiology. The course will cover by lectures and group discussions the following subjects: Anatomy and Physiology; Radiographic Technic; Radiation Physics; Darkroom Processing Procedures; Nursing Procedures; Administration; Radiation Therapy; Professional Ethics.

The course is two years in length. On satisfactory completion of the first year's work, the student will be assigned to tours of duty in the various sections of diagnostic and therapeutic disciplines for practical experience, and during the second year will be paid a monthly stipend of $50.00. A certificate is given at the end of the second year.

Candidates for admission must present evidence of successful completion of four years' education in an accredited high school. Special consideration will be given to graduates of Schools of Nursing which are recognized by the State Board of Nurse Examiners and to students who have passed college entrance examinations for admission to an accredited college or university. The fees for the course are as follows:

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SCHOOL OF DIETETICS

Doris Cook, B.S.................................................................Director
Helen Starch, B.S.............................................................Educational Director

A twelve-month course for the training of dietitians leading to a certificate, and eligibility for membership in The American Dietetic Association.

The course includes theoretical and practical training in food service and personnel administration, food service cost and control, diet therapy, teaching nutrition, outpatient instruction, and affiliation with the St. Louis Children's Hospital.

A bachelor’s degree from an accredited college or university is required for admission. Certain courses in chemistry, biology, social science, education, food, nutrition and dietetics, and institutional management are essential.

There is no tuition fee, but a matriculation fee of $10.00 must be deposited as soon as an application is accepted. Maintenance is provided. A monthly stipend of $50.00 is paid.

BARNES HOSPITAL SCHOOL OF MEDICAL TECHNOLOGY

Virgil Loeb, Jr., M.D...............................Director of Laboratories and of the School of Medical Technology, Barnes Hospital

A twelve-month course for the training of medical technologists leading to a certificate given by Barnes Hospital. Graduates are eligible to take the examination given by the American Society of Clinical Pathologists in order to become certified as Registered Medical Technologists. The course includes theoretical and practical training in blood banking, clinical microscopy, tissue pathology, parasitology, bacteriology and serology, clinical chemistry, electrocardiography, and basal metabolism. The tuition is $100.00 for the entire course.

Applicants must present at least three years of college work (the successful completion of at least 90 semester hours), including required courses in Chemistry, 4 semesters: One full year of general college chemistry, which may include qualitative analysis, is required. The remaining courses may be in qualitative, quantitative, organic, or physical chemistry, or biochemistry. Biologic Sciences, 4 semesters: One full year lecture and laboratory course in general biology and/or zoology is required. The remaining biology courses may be in bacteriology, comparative anatomy, physiology, parasitology, histology, histologic technique, or genetics. Mathematics, 3 semester hours of college mathematics.
SCHOOL OF ANESTHESIA FOR NURSE ANESTHETISTS

Mrs. Dean E. Hayden, R.N.................................................................Director
Miss Louise Grove, R.N.................................................................Educational Director

A twenty-four-month course for special training in the practical administration of anesthetics by approved medical techniques, and the theory underlying their skilled administration. Upon satisfactory completion of the course, a certificate is awarded.

The theoretical aspect of the subject is covered by specific periods of organized instruction. Instruction in the practical administration of anesthetics takes place in the operating rooms, where at first the student observes, then administers anesthetics under an instructor's supervision, and eventually conducts complete anesthesias upon her own responsibility.

The course is open to graduates of accredited schools of nursing. The tuition is $200.00. Full maintenance is provided. A stipend of $50.00 per month is paid after six months, $150.00 per month after twelve months, and $400.00 per month without maintenance after eighteen months.
The Alumni Association, whose membership is made up of all graduates of the School of Medicine and all members of the faculty, is active in its support of the School and of the student body. Each year the President of the Association participates in the exercises welcoming the incoming class, and prior to commencement, the Association sponsors the annual Alumni dinner, at which the graduating seniors are guests. On the day of the dinner, a reunion is held. Feature events of the reunion include a scientific program presented by graduates and faculty members, and a buffet luncheon at which members of the alumni and senior students are guests of the School of Medicine and its faculty.

Each year the Medical Alumni Association sponsors a luncheon for the local high school students who are especially talented in science and who have indicated a desire to attend medical school.

The Association maintains a loan fund for students and, through the contribution to the Class Endowment Fund made by the class celebrating its twenty-fifth reunion each year, provides a source of important financial aid for the School.

The Board of Directors of the University includes one representative elected by the Medical Alumni Association.

In 1964-65 the officers of the Washington University Medical Alumni Association were Heinz E. Haffner, '35, president; Ray D. Williams, '37, president-elect; H. Rommel Hildreth, '28, vice president; and Richard V. Bradley, '32, secretary-treasurer.
PRIZES AWARDED 1963-1964

Gill Prizes in Anatomy
Michael Bernard Jacobs, A.B.
Paul Stephen Simons, B.A.

Chouké Prizes in Anatomy
Michael Bernard Jacobs, A.B.
Paul Stephen Simons, B.A.

St. Louis Pediatrics Society Senior Prize
Nona Dale Fulton, B.A.

Sidney I. Schwab Book Prizes
Neurology—Judith Higgins Donegan
Psychiatry—Richard Saul Epstein, B.S.

Borden Undergraduate Research Award
Charles Hendy Wallas, A.B.

Alpha Omega Alpha Book Prize
Ronald Gene Evens, A.B.

Prize of the Medical Fund Society in Medicine
Ronald Gene Evens, A.B.

Prize of the Medical Fund Society in Surgery
John Leigh Ey

McCordock Book Prize
Louis Powell Dehner, A.B.

Roche Award
William Gerald Wood, B.S.

Medical Alumni Fund Scholarship
Glenn Leland Melson II, B.A.

Missouri State Medical Association Annual Award
James Curtis Ellsasser

Bronfenbrenner Memorial Award
Charles Henry Wallas, A.B.

Dr. Richard S. Brookings Medical School Prizes
Evan Eisenberg, A.B.
Peter Larry Schwartz, B.S.
William Gerald Wood, B.S.
Robert John Clark, B.S.
PRIZES AWARDED 1963-64

Dr. Robert Carter Medical School Prizes

Ernest Mitchell Singleton, B.A.
Richard Stanton Myers, B.A.
William Stephen Corrie, B.A.
Michael Bernard Jacobs, A.B.

C. V. Mosby Company Book Awards

John Franklin Bigger, Jr., A.B.
Donald Martin Eiler, A.B.
Wylie Casto Hembree II, B.A.
Hugh Hanna Tilson, B.A.
Morris Flarsheim Wise, B.A.

SCHOLARSHIPS, 1964-65

Jackson Johnson Regional Scholarships

Kirby Lawrence Allen, B.A.
Margaret Strom Ansari, B.A.
Kenneth Jerome Arnold, A.B.
Hudson Bradley Binnington, Jr., A.B.
Robert J. Clark, B.S.
Neil Allen Crane, B.S.E.E.
Jere Davies Cravens, B.S.
Barton Collins Grooms, B.S.
Harvey Michael Jones
David Gordon Kaufman
Ira Kodner, A.B.

Robert B. McLean, B.A.
Charles H. Merideth, Jr., A.B.
John Patrick Murray, A.B.
Richard Stanton Myers, B.A.
Seymour Packman, A.B.
Anne Kathryn Pelizzoni, B.A.
Morris Wade Pulliam
Charles Lynn Robertson, B.S.
Peter Larry Schwartz, B.S.
Robert Dennis Shay
Emily Louise Smith
David Lee Stabenow, B.S.
Left: The David P. Wohl, Jr., Memorial—Washington University Clinics building, five floors of which are used for Clinics and five floors for research.

Right: The David P. Wohl, Jr., Memorial Hospital, which houses the administrative offices and laboratories for the Departments of Internal Medicine and Surgery, and provides three floors for the care of patients.
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<tr>
<th>Name</th>
<th>Hospital/Institution</th>
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<td>Ansari, Margaret</td>
<td>St. Louis Children's Hospital</td>
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<td>Atkins, Frances</td>
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<td>Philadelphia, Pennsylvania</td>
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<tr>
<td>Hoyt, Harvey</td>
<td>U.S. Air Force Hospital</td>
<td>Washington, D.C.</td>
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</table>
REGISTER OF STUDENTS

Hubbard, Donald Dale, B.A., Montana State Univ., '61—King County Hospital, Seattle, Washington

Johnson, Ernest Wiley, Jr., B.A., Univ. of the South, '61—Barnes Hospital, St. Louis, Missouri

Kanagawa, Harold K., B.A., Westminster Coll., '61—Jewish Hospital, St. Louis, Missouri

Kardinal, Carl Gustav—U.S. Naval Hospital, Philadelphia, Pennsylvania

Kimzie, Jeannie Jones, B.S., Montana State Coll., '61—Barnes Hospital, St. Louis, Missouri


Koplik, Lewis Henry, A.B., Brandeis Univ., '61—Mount Sinai Hospital, Cleveland, Ohio

Krause, Albert Henry, Jr., B.S., Oklahoma State Univ., '63—Barnes Hospital, St. Louis Missouri

Kusama, Haruo, A.B., Washington Univ., '60—St. Luke's Hospital, St. Louis, Missouri

Louve, James Sam—Johns Hopkins University Hospital, Baltimore, Maryland

Lynch, Lawrence Jaynes, Jr., A.B., Drury Coll., '61—Parkland Memorial Hospital, Dallas, Texas

Manis, Thomas, A.B., Columbia Univ., '61—Kings County Hospital, New York, New York

Marks, James Edwin, A.B., Knox Coll., '61—Jewish Hospital, St. Louis, Missouri

Massin, Edward Krauss, B.A., Rice Univ., '61—Barnes Hospital, St. Louis, Missouri

McCullough, Nancy Jane, A.B., Knox Coll., '61—Cambridge City Hospital, Cambridge, Massachusetts

Mell, Roger Lee, B.S.E.E., Univ. of Missouri, '56—Barnes Hospital, St. Louis, Missouri

Melson, Glenn Leland II, B.A., Ottawa Univ., '61—Peter Bent Brigham Hospital, Boston Massachusetts

Merideth, Charles Howard, Jr., A.B., DePauw Univ., '60—Michael Reese Hospital, Chicago Illinois

Morris, Stephen Neal, A.B., Washington Univ., '61—Indiana University Medical Center, Indianapolis, Indiana

Morrison, James Roy, B.A., Reed Coll., '63—St. Luke's Hospital, St. Louis, Missouri

Musgrave, James Emerson, B.A., Westminster Coll., '61—University of Oregon Hospitals, Portland, Oregon

Myers, Richard Stanton, B.A., Vanderbilt Univ., '61—Massachusetts General Hospital, Boston, Massachusetts

O'Dell, Alice Marie, B.A., Central Coll., '61—University of Virginia Hospital, Charlottesville, Virginia

Ott, Fletcher Thomas, B.A., Southern Methodist Univ., '63—King County Hospital, Seattle, Washington

Periman, Phillip O'Keefe, B.A., Yale Univ., '61—Bellevue Hospital, New York, New York

Permutt, Marshall Alan, B.A., Johns Hopkins Univ., '61—Grace New Haven Community Hospital, New Haven, Connecticut

Pribble, Allan Haley—Duke University Hospital, Durham, North Carolina

Reming, James Arthur, A.B., Fresno State Coll., '61—University of Utah Hospital, Salt Lake City, Utah

Reynolds, James Alan, A.B., Taylor Univ., '61—Philadelphia General Hospital, Philadelphia, Pennsylvania

Rogers, Harry Moore, B.A., Univ. of Texas, '63—Barnes Hospital, St. Louis, Missouri

Rogers, Hunter Bryan, B.S., Georgetown Univ., '61—Cleveland Metropolitan Hospital, Cleveland, Ohio

Schonder, Adolph Albert, A.B., Washington Univ., '61—Parkland Memorial Hospital, Dallas, Texas

Schwartz, Peter Larry, B.S., Univ. of Wisconsin, '62—Medical Research

Shaw, John Colton, B.A., Drake Univ., '61—State University of Iowa Hospitals, Iowa City, Iowa

Sher, Paul Phillip, B.S., Hobart Coll., '61—Columbia-Presbyterian Hospital, New York, New York

Sherrill, James Wenn, Jr., A.B., Stanford Univ., '58—Good Samaritan Hospital, Los Angeles, California

Snow, Jerry Allison, B.A., Univ. of the South, '61—Boston City Hospital, Boston, Massachusetts

Teller, Margaret Clare, A.B., Stanford Univ., '61—Michael Reese Hospital, Chicago, Illinois

Teller, Robert Baldwin, B.S., Massachusetts Institute of Technology, '61—Barnes Hospital, St. Louis, Missouri

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TYSON, Robert Neville, B.S., Univ. of Idaho, '64–King County Hospital, Seattle, Washington
Valdes, Neville, B.S., Greenville Coll., '61–St. Luke's Hospital, St. Louis Missouri
Watanabe, Carl Kohsuke, A.B., Univ. of California, '54–Highland-Alameda County Hospital, Oakland, California
Weisbart, Richard Harry, B.A., Reed College, '63–Harbor General Hospital, Torrance, California
Weistart, Frank David–Good Samaritan Hospital, Phoenix, Arizona
Wolff, Allan Paul, B.S., Univ. of Illinois, '62–Jewish Hospital, St. Louis, Missouri
Wong, Eugene Gee Chu–St. Luke's Hospital, St. Louis, Missouri
Woodruff, Sharon Lynn, B.S., Southern Methodist Univ., '61–Jewish Hospital, St. Louis, Missouri

THIRD-YEAR CLASS (1964-65)
Abelson, Herbert Traub, A.B., Univ. of Illinois, '62–St. Louis, Missouri
Allen, Amelia Massman, A.B., Washington Univ., '62–St. Louis, Missouri
Allen, Kirby Lawrence, B.A., Williams Coll., '62–Kirkwood, Missouri
Allen, Robert Holt, A.B., Amherst Coll., '60–St. Louis, Missouri
Baker, Max Alden, B.S., St. Louis Coll. of Pharmacy, '61–Greenfield, Missouri
Biano, David Charles, A.B., Harvard Univ., '62–St. Louis, Missouri
Boatright, James Richard, B.A., Univ. of Texas, '64–Midland, Texas
Boy, Aubrey Everett, III, B.A., Vanderbilt Univ., '62–Paducah, Kentucky
Bray, David Alan, B.A., Lawrence Coll., '62–Sheboygan, Wisconsin
Brown, Terrance Allen–Pinedale, Wyoming
Carspecken, Harold Hutson, Jr., A.B., Princeton Univ., '62–Ferguson, Missouri
Cibis, Andrea Brigitte, A.B., Washington Univ., '62–Creve Coeur, Missouri
Cooley, David Allen, A.B., Univ. of Kansas, '62–Mission, Kansas
Corrie, William Stephen, B.A., Reed Coll., '62–Des Moines, Iowa
Crowell, Edwin Ambrose III, B.A., State Univ. of Iowa, '63–Galesburg, Illinois
Davis, Annette L., B.A., Univ. of Kansas, '56–Kansas City, Missouri
Desmarais, Susan Lynn, B.A., Univ. of Texas, '62–Fort Worth, Texas
Dodge, David Lowell, B.S., Univ. of Wisconsin, '62–Minneapolis, Minnesota
Eisen, Seth Adam–Rego Park, New York
Emerson, James David, B.A., West Virginia Univ., '62–Morgantown, West Virginia
Fischer, Markham Jerome, A.B., Univ. of Minnesota, '61; B.S.Med, State Univ. of South Dakota, '64–Owatonna, Minnesota
Frist, John Chester–Nashville, Tennessee
Gates, George Gregory, B.A., Dartmouth Coll., '63; B.M.S., Dartmouth Medical School, '64–South Bend, Indiana
Gelber, Robert Heller–Calver City, California
George, Phillipp Gerald, B.A., Univ. of the South, '62–Meridian, Mississippi
Gilbert, Jeffrey Morton, B.A., Reed Coll., '62–Portland Oregon
Gorden, Gilbert Julius, A.B., Princeton Univ., '62–Columbia, Tennessee
Grady, Ronald Kenney, B.S.C.E., Purdue Univ., '59; M.S., '57–St. Louis, Missouri
Hammond, James Mahoney, B.A., Rice Univ., '62–Temple, Texas
Harley, John Duncan, B.A., Coll. of Wooster, '62–Dearborn, Michigan
Heisinger, Dale Helton, B.A., San Jose State Coll., '62–Stockton, California
Holman, Bruce Leonard, B.S., Univ. of Wisconsin, '63–Sheboygan, Wisconsin
Holzer, Michael Edward–Chula Vista, California

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Jones, Harvey Michael—Winters, Texas
*Jones, William Augustin—St. Louis, Missouri
Kaplan, Jerome Howard, B.S., Univ. of Dayton, '62—Dayton, Ohio
Kistler, Walter David, Jr., B.S., Univ. of North Dakota, '62; B.S.Med., '64—Grand Forks, North Dakota
Lanier, James Frederick, B.S., North Dakota State Univ., '62; B.S.Med., Univ. of North Dakota, '64—Fargo, North Dakota
Leary, Daniel Joseph, Jr., B.S., St. Louis Univ., '62—Joplin, Missouri
Lewis, Stephen Barnett, A.B., Univ. of California '62—Berkeley, California
Liss, Jay Lawrence, A.B., Washington Univ., '63—St. Louis, Missouri
Lockhart, Charles Hurd—Decatur, Illinois
Lowry, George McClellan, B.A., Pomona Coll., '62—Fullerton, California
Maley, Edward David—Lancaster, Pennsylvania
Marcus, Neal Wilson, B.A., Rice Univ., '62—Tampa, Florida
Matof, Harvey Jay, A.B., Washington Univ., '63—St. Louis, Missouri
Mayes, Ben Richardson, Jr., B.A., Vanderbilt Univ., '62—Nashville, Tennessee
Meyers, Jerry Richard, B.A., Univ. of Texas, '62—Austin, Texas
Murray, John Patrick, A.B., Vanderbilt Univ., '62—Oak Ridge, Tennessee
Nelson, Norman Dorr, A.B., DePauw Univ., '62—Indianapolis, Indiana
Palmer, Elliott Prather, Jr., A.B., Dartmouth Coll., '62—Cincinnati, Ohio
Pelizzi, Anne Kathryn, B.A., Lawrence Coll., '62—Tulsa, Oklahoma
Phillips, Alfred Jon, B.A., Rice Univ., '62—Dallas, Texas
Polage, David Louis, B.S., Univ. of Idaho '64—American Falls, Idaho
Porteous, John Ritchie, Jr.—Fresno, California
Pulliam, Morris Wade—Beaverton, Oregon
Ramsey, Constance Kate, A.B., Oberlin Coll., '57—St. Louis, Missouri
Recant, Wendy Marsha, A.B., Univ. of California, '60—Hampton, Virginia
Rice, Alfred Carl, A.B., San Diego State Coll., '62—LaMesa, California
Ritter, Carl Frederick, A.B., Washington Univ., '62—Cape Girardeau, Missouri
Robertson, Charles Lynn, B.S., Univ. of Idaho, '64—Mountain Home, Idaho
Rogge, Leland Edgar, B.A., Univ. of Washington, '62; B.M.S., Dartmouth Medical School, '64—Seattle, Washington
Rosenbaum, Arthur Louis, A.B., Univ. of Michigan, '62—St. Louis, Missouri
Runelt, Michael Barry, B.S., Lamar State Coll., '62—Beaumont, Texas
Ruwitch, Joseph Froehlich, Jr.—St. Louis, Missouri
Schaber, Kevin Bradley, A.B., Princeton Univ., '62—St. Louis, Missouri
Schafer, Larry August, B.S., Univ. of Illinois, '62—Rushville, Illinois
Schiller, Harvey Stuart—Milwaukee, Wisconsin
Schultz, Clifford Steven—Oakland, California
Sewell, Dan Ardrey, B.S., Colorado State Univ., '63—Denver, Colorado
*Shay, Robert Dennis—Lafayette, California
Silberman, Lynn E., A.B., Washington Univ., '62—Des Moines, Iowa
Torgerson, Leslie Al, A.B., Concordia Coll., '62—Hennings, Minnesota
Trahms, George David, B.A., St. Olaf College, '62—B.S.Med., State Univ. of South Dakota, '64—Janesville, Minnesota
Truwworthy, Robert Charles, A.B., Washington Univ., '62—Henderson, Virginia
Ulvia, John Matt, B.A., Montana State Univ., '62—Red Lodge, Montana
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<td>'62</td>
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<td>St. Louis, Missouri</td>
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<td>Campbell, Allan</td>
<td>B.S.</td>
<td>Univ. of Illinois</td>
<td>'65</td>
<td>Champaign, Illinois</td>
</tr>
<tr>
<td>Clark, Robert</td>
<td>B.S.</td>
<td>Univ. of Illinois</td>
<td>'62</td>
<td>Chicago, Illinois</td>
</tr>
<tr>
<td>Counts, Richard</td>
<td>A.B.</td>
<td>Washington Univ.</td>
<td>'63</td>
<td>Tulsa, Oklahoma</td>
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<tr>
<td>Crouch, John</td>
<td></td>
<td>Raymond–Norris City, Illinois</td>
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<td>Douglas, John</td>
<td>B.A.</td>
<td>Univ. of the South</td>
<td>'63</td>
<td>North Augusta, South Carolina</td>
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<tr>
<td>Eikman, Edward</td>
<td>A.B.</td>
<td>Florida State Univ.</td>
<td>'62</td>
<td>Tallahassee, Florida</td>
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<td>Frederiksen, Rand</td>
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<td>Terrell–Lubbock, Texas</td>
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<td>Friedrich, Eric</td>
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<td>William–St. Louis, Missouri</td>
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<td>Goldstein, Allan</td>
<td>A.B.</td>
<td>Univ. of Pennsylvania</td>
<td>'62</td>
<td>Jamaica, New York</td>
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<tr>
<td>Hazlett, Donald</td>
<td>A.B.</td>
<td>Greenville Coll.</td>
<td>'62</td>
<td>Niagara Falls, New York</td>
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<tr>
<td>Hered, John</td>
<td>B.A.</td>
<td>DePauw Univ.</td>
<td>'63</td>
<td>Gary, Indiana</td>
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<td>Hogan, Sharon</td>
<td>A.B.</td>
<td>Washington Univ.</td>
<td>'63</td>
<td>Lombard, Illinois</td>
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<td>Holle, Larry</td>
<td>A.B.</td>
<td>Valparaiso Univ.</td>
<td>'63</td>
<td>Princeton, Indiana</td>
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<td>Herner, William</td>
<td>Jr.</td>
<td>Knox Coll.</td>
<td>'63</td>
<td>Laurel, Delaware</td>
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<td>Jacobs, Michael</td>
<td>A.B.</td>
<td>Washington Univ.</td>
<td>'65</td>
<td>St. Louis, Missouri</td>
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<td>Johler, Terry</td>
<td>B.A.</td>
<td>Westminster Coll.</td>
<td>'63</td>
<td>East Alton, Illinois</td>
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<tr>
<td>Johnstone, Murray</td>
<td>B.A.</td>
<td>Coll. of Puget Sound</td>
<td>'62</td>
<td>Seattle, Washington</td>
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<tr>
<td>Karm, Sandra</td>
<td>B.S.</td>
<td>Univ. of Texas</td>
<td>'63</td>
<td>San Antonio, Texas</td>
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<tr>
<td>Katz, Arnold</td>
<td>A.B.</td>
<td>Dartmouth Coll.</td>
<td>'63</td>
<td>Marblehead, Massachusetts</td>
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<td>Kemp, David</td>
<td>B.S.</td>
<td>Univ. of Toledo</td>
<td>'62</td>
<td>Perrysburg, Ohio</td>
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<td>Kedner, Ira</td>
<td>A.B.</td>
<td>Washington Univ.</td>
<td>'63</td>
<td>St. Louis, Missouri</td>
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<td>Kwan, Benjamin</td>
<td>B.S.</td>
<td>St. Louis Univ.</td>
<td>'62</td>
<td>Hong Kong</td>
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<td>Kyger, David</td>
<td>A.B.</td>
<td>Louis–Muskogee, Oklahoma</td>
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<td>Lange, Paul</td>
<td>B.A.</td>
<td>Lawrence Coll.</td>
<td>'63</td>
<td>Valparaiso, Indiana</td>
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<td>Letcher, Frank</td>
<td>B.A.</td>
<td>Yale Univ.</td>
<td>'63</td>
<td>Miami, Oklahoma</td>
</tr>
</tbody>
</table>
Lewis, Eugene Leslie, Jr., B.A., Vanderbilt Univ., '63—Little Rock, Arkansas
Lobsenz, Irving Louis, B.A., Univ. of California, '63—Culver City, California
Massie, Henry Norton, A.B., Harvard Coll., '63—St. Louis, Missouri
McDonald, George Bernard, B.S., St. Benedict's Coll., '63—Normandy, Missouri
McLean, Robert Beatty, B.A., Vanderbilt Univ., '63—Jackson, Mississippi
Morris, Len Wayne—Carbondale, Illinois
Oehlert, William Herbert, Jr.—Murphysboro, Illinois
Packman, Seymour, A.B., Columbia Coll., '63—Brooklyn, New York
Porter, Robert Dean, B.A., Ottawa Univ., '63—Wichita, Kansas
Rachelefsky, Gary Stuart, A.B., Columbia Univ., '63—Brooklyn, New York
Ramalho, Lawrence Da Silva, A.B., Fresno State Coll., '63—Fresno, California
Ratkin, Gary Alan, B.A., Rice Univ., '63—McAllen, Texas
Reddick, Max Edward, B.S., Drury Coll., '63—Springfield, Missouri
Reich, Alan Joel—Nashville, Tennessee
Riggs, Thomas Earl, B.S., Univ. of Oklahoma, '64—Tulsa, Oklahoma
Seddon, James Alexander, Jr., A.B., Harvard Coll., '54—St. Louis, Missouri
Simons, Paul Stephen, B.A., Univ. of Texas, '63—Austin, Texas
Slavin, Richard Jay—San Francisco, California
Specter, Michael Joseph—East Chicago, Illinois
Stevens, Jerome David, B.A., Univ. of Oregon, '63—Eugene, Oregon
Stevenson, Edward Kent, B.A., Ottawa Univ., '63—North Platte, Nebraska
Strauss, Melvin, B.A., Univ. of Rochester, '63—Erie, Pennsylvania
Stromberg, Eric Decatur, B.A., Kenyon Coll., '63—Worthington, Ohio
Treister, Michael Roy—Shaker Heights, Ohio
Ullman, Ronald Herman—Ephrata, Washington
Utlej, Joella Faye, B.A., Oklahoma City Univ., '56—Clinton, Oklahoma
Van Meter, Stephen Woehler, A.B., Stanford Univ., '63—Indianapolis, Indiana
Vinico, Frank, B.A., Yale Univ., '63—Norwood, New York
Walchner, Andreas Max, A.B., Earlham Coll., '63—Dayton, Ohio
Wermuth, Albert Frederick, Jr., B.S., Washington State Univ., '63—West Caldwell, New Jersey
Ziporin, Philip, A.B., Cornell Univ., '63—Aurora, Colorado

FIRST-YEAR CLASS (1964-65)
Altman, Jeremy—Philadelphia, Pennsylvania
Arnold, Kenneth Jerome, A.B., Univ. of Notre Dame, '64—Belleville, Illinois
Assis, Stanley Edwin—West Orange, New Jersey
Baker, Gary Edwin, B.S., Univ. of Wyoming, '64—Wheatland, Wyoming
Barber, Letha Foss, B.S., Purdue Univ., '61—Youngstown, Ohio
Betz, William John—La Grange, Illinois
Binnington, Hudson Bradley, Jr., A.B., Washington Univ., '64—St. Louis, Missouri
Boedeker, Edgar Charles, A.B., Harvard Univ., '64—St. Louis, Missouri
Border, Wayne Allen—Bremen, Indiana
Brasfield, Daniel Lynott, A.B., Vanderbilt Univ., '64—Tupelo, Mississippi
Broek, Jack Arthur, B.S., Miami Univ., '63—Hamilton, Ohio
Buerk, Kenneth Melvin, A.B., Princeton Univ., '64—Columbus, Ohio
Buscho, Robert F., A.B., Washington Univ., '64—St. Louis, Missouri
Carlton, Lynn Norman, A.B., Wittenberg Univ., '64—Osceola, Missouri
Coleman, Ralph Edward—Evansville, Indiana
Cravens, Jerry Davies, B.S., Washington and Lee Univ., ’64—Tulsa, Oklahoma
Croley, Thomas Frank—Indianapolis, Indiana
Davidson, Harold James, Jr., A.B., Washington Univ., ’64—Philadelphia, Pennsylvania
Deen, Clark Wheeler, A.B., Amherst Coll., ’64—St. Louis, Missouri
*Deets, Allyn Charles, A.B., Stanford Univ., ’64—Bellingham, Washington
Dennison, Carl Francis, B.A., Univ. of Notre Dame, ’64—Dallas, Texas
Dennison, Joseph Randall, B.S., Univ. of Nebraska, ’64—Lincoln, Nebraska
Dodge, Michael Eldon, B.S., Montana State Coll., ’64—Bozeman, Montana
Ellis, William, B.S., Univ. of California, ’64—San Francisco, California
Elson, Charles Otto, A.B., Univ. of Notre Dame, ’64—Chicago, Illinois
Feldman, Neil Turk, B.S., Univ. of Maryland, ’64—Chevy Chase, Maryland
Fine, Richard Gary, A.B., Univ. of Pennsylvania, ’64—Scranton, Pennsylvania
Flatness, Sonja Gail, B.S., Montana State Coll., ’64—Marmarth, North Dakota
Giron, Louis Tellers, Jr., B.A., Rice Univ., ’64—San Antonio, Texas
Goforth, James Morris—Comfort, Texas
Golden, David, A.B., Grinnell Coll., ’64—Arlington, Virginia
Gregg, Susan Annette, B.S., Univ. of Idaho, ’64—Pullman, Washington
Hagemann, James Michael—Quincy, Illinois
Haller, Penelope Greta, B.S., Univ. of Wisconsin, ’64—Fort Atkinson, Wisconsin
Halperin, Thomas Edgar, A.B., Univ. of Michigan, ’64—Peoria, Illinois
Hanovich, Gary David, B.A., Rice Univ., ’64—Houston, Texas
Heath, Hunter, III, A.B., Texas Technological Coll., ’64—Lubbock, Texas
Hendin, Barry Allen, A.B., Washington Univ., ’64—St. Louis, Missouri
Herberg, Donald Loren—Houston, Texas
Holder, Lawrence Edward, B.A., Vanderbilt Univ., ’64—Birmingham, Alabama
Kash, Stephen Lee—Mt. Sterling, Kentucky
Kaufman, David Gordon—Jersey City, New Jersey
Kirks, Donald Ray, B.A., Rice Univ., ’64—Fort Worth, Texas
Kotner, Lawrence Melvin—St. Louis, Missouri
*Kuhlman, Karen, B.S., Univ. of Illinois, ’64—Red Bud, Illinois
Lander, Jerrold J., A.B., Washington Univ., ’64—St. Louis, Missouri
Larner, Bernard Jerome, B.A., Reed Coll., ’64—St. Louis, Missouri
Lipton, George Myron—Danville, Illinois
Lovegrove, Vernon, B.S., Purdue Univ., ’64—Chicago, Illinois
MacBryde, Bruce, A.B., Washington Univ., ’63—St. Louis, Missouri
McCulley, James Parker—Fort Worth, Texas
Michelin, John Paul—Los Angeles, California
*Newman, Robert Crouch—Ogden, Utah
Nicol, Sheldon Specre, A.B., Illinois Wesleyan Univ., ’64—Maroa, Illinois
Nusca, James Michael, B.S., Univ. of Notre Dame, ’64—St. Louis, Missouri
Orchard, Richard Allen, A.B., Grinnell Coll., ’64—Cedar Rapids, Iowa
Paul, Robert George, A.B., Washington Univ., ’64—St. Louis, Missouri
Pearson, William Edward—Fort Smith, Arkansas
Perez, Rodolfo Nestor, Jr.—Roma, Texas
Prewitt, Maribeth, B.A., Univ. of Arkansas, ’64—Tillar, Arkansas
Raffin, Steven Bennett, A.B., Stanford Univ., ’64—San Francisco, California
Reif, Michael Edward—Oklahoma City, Oklahoma
Robbins, Philip Leonard, Jr., B.A., Univ. of Texas, '64—New Iberia, Louisiana
Rodin, Leonard M., B.S., Univ. of Wisconsin, '64—Sack City, Iowa
Rothschild, James Goodfriend, B.A., Wesleyan Univ., '64—St. Louis, Missouri
Sayre, Blaine Michael—Steubenville, Ohio
Schade, David Sinclair—Washington, D.C.
Schneider, Arthur, A.B., Washington Univ., '64—St. Louis, Missouri
Schuckit, Marc Alan—Milwaukee, Wisconsin
Schwarz, Paul Russell, A.B., Grinnell Coll., '64—St. Louis, Missouri
Shackelford, Gary Dean, A.B., Northwestern Univ., '64—Alton, Illinois
Shillinglaw, John Andrew, B.A., Cornell Coll., '64—Englewood, Colorado
Sims, Kenneth Lee—Lubbock, Texas
Smith, Emily Louise—Belleville, Illinois
Stabenow, David Lee, B.S., Univ. of Georgia, '64—Atlanta, Georgia
Stayton, Conrad Lawrence, Jr., B.S., Southeastern Louisiana Coll., '64—Hammond, Louisiana
Stover, Andrea, B.A., Univ. of Colorado, '64—Denver, Colorado
Strieff, Larry Gene—Livermore, California
*Sweet, Steven Cartun, B.S., Univ. of Wisconsin, '64—Milwaukee, Wisconsin
Taussig, Lynn Max, A.B., Harvard Univ., '64—Milwaukee, Wisconsin
Thach, Bradley Terril, A.B., Princeton Univ., '64—Oklahoma City, Oklahoma
Wells, Ralph Alan, B.A., Univ. of Denver, '64—Pittsburg, Kansas
Williams, David Lawrence, B.A., Lawrence Coll., '64—San Marino, California
Winkelman, Jan Zlatkin, A.B., Univ. of Michigan, '64—Detroit, Michigan
Wisgerhof, Max Vernon, II, B.A., Cornell Coll., '64—Victoria, Illinois
Zweig, Mark Howard, A.B., Washington Univ., '64—Silver Spring, Maryland

SUMMARY OF STUDENTS IN THE SCHOOL OF MEDICINE

Fourth-Year Class ................................................................. 84
Third-Year Class ................................................................. 87
Second Year Class ............................................................... 77
First-Year Class ................................................................. 88

Total ................................................................. 336

* Withdrew from class during the 1964-65 school year.
ASSISTANTS, FELLOWS, AND TRAINEES 1964-65

Harry B. Abramowitz, Assistant in Surgery (on leave of absence)
Hedaiatollah Ahmadieh, Assistant in Pediatrics
Ronald Alexander, Assistant in Pathology
Haluk Alp, Trainee (NIAMD) in Nutrition in Preventive Medicine
Joel William Allgood, Trainee (NIAMD) in Medicine, Hematology
Charles B. Anderson, Assistant in Surgery (on leave of absence)
Mary Howard Anderson, Research Assistant in Medicine
Khursheed A. Ansari, Assistant in Surgery
Norman J. Arends, Assistant in Plastic Surgery
Refugio C. Arevalo, Assistant in Pediatrics
Ravindra S. Arora, Assistant in Medicine
Jennifer Jones Ashby, Assistant in Medicine (Dermatology)
Leon Ashford, Research Assistant in Surgery
Dieter Assor, Assistant in Pathology (Surgical Pathology)
Victor A. Aydt, Assistant in Pathology (City Hospital)
Edward R. Bakos, Assistant in Psychiatry
Wayne Baldwin, Assistant in Pediatrics
John F. Balfour, Assistant in Surgery
Norman Ballin, NINDB Special Fellow in Ophthalmology
Stephen Banko, Assistant in Pediatrics
Milagros R. Banton, Trainee (NHI) in Medicine
Thomas J. Banton, Assistant in Orthopedic Surgery
Letha Foss Barber, Research Fellow and Research Trainee (NIMH) in Medical Psychology
Ramnik G. Barchha, Assistant in Psychiatry
J. A. Bardenheier III, Fellow in Orthopedic Surgery
Waguih H. Abdel Bari, Assistant in Pathology
Ronald Wain Barnet, Fellow in Ophthalmology
Floyd R. Barnhill, Jr., Assistant and Fellow (NINDB) in Otolaryngology
Jerome V. Basinski, Fellow in Otolaryngology
Elizabeth S. Baumann, Research Assistant in Otolaryngology
Harry Andrew Bengley, Research Fellow in Otolaryngology
Paul Beck, Trainee (NIAMD) in Medicine, Metabolism
Marvin C. Bell, Assistant and Fellow (NINDB) in Otolaryngology
Clarence E. Bell, Assistant in Medicine
John E. Bennett, Assistant in Medicine
V. Gordon Benson, Assistant in Surgery
Edward F. Berg, Assistant in Medicine
Aaron M. Berman, Assistant and Fellow (NINDB) in Otolaryngology
Paul Berman, Assistant in Medicine
Bruce H. Berryhill, Assistant in Otolaryngology
Eliot L. Berson, Assistant in Ophthalmology
Quinton J. Bianchine, American Cancer Society Clinical Fellow in Pathology (Surgical Pathology)
Darryl D. Bindschadler, Assistant in Medicine
Clifford Allen Birge, Trainee (NIAMD) in Medicine, Metabolism
Arnold Sheldon Bleiweis, Trainee (NIGMS) in Epidemiology in Preventive Medicine
Chankasem Bodhidatta, Assistant and Fellow (NINDB) in Neurology
Vivien Boninuk, Assistant and Fellow (NINDB) in Ophthalmology
Jacques Bourgeois, Missouri and St. Louis Heart Associations Fellow in Medicine-Hypertension
Thomas E. Bourke, Assistant in Pediatrics
Lorenzo Brentano, W. K. Kellogg Foundation Research Fellow in Surgery

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ASSISTANTS, FELLOWS, AND TRAINEES

George Henry Bresnick, Assistant and Fellow (NINDB) in Ophthalmology
Walter R. Brewer, Assistant in Surgery (on leave of absence)
Frances E. Brock, Research Assistant in Preventive Medicine
Andrew Marion Brown, Assistant in Otolaryngology
Michael W. Brown, Assistant in Radiology
William Jay Brownson, Assistant in Otolaryngology
Alan Burbank, Fellow in Thoracic and Cardiovascular Surgery
Max M. Burger, Helen Hay Whitney Foundation Postdoctoral Fellow in Biological Chemistry
Karen Cecilia Burrill, Assistant in Medicine
Dale F. Burton, Assistant in Surgery
Frank A. Camp, Fellow in Thoracic and Cardiovascular Surgery
George Carder, Assistant in Pediatrics
Peter G. Carnesale, Assistant in Surgery (on leave of absence)
Charles D. Carr, Research Assistant in Otolaryngology
Henry Casson, Assistant in Anesthesiology
Vincent Castellucci, Predoctoral Fellow in Neurology
James R. Cate, Assistant in Otolaryngology
Nelson Ceballos, Assistant in Child Psychiatry
Stephen D. Cederbaum, Assistant in Medicine
Charles B. Chapman, Assistant in Medicine
David Chi-Hoy Char, Assistant in Medicine
Tze Chun Chiang, Assistant in Radiology
Theresa Ning-Hsin Chin, Research Fellow in Biological Chemistry
John P. Christy, Assistant in Surgery
Ivan S. Cliff, Jr., Trainee (NIAMD) in Medicine, Gastroenterology
Jesus L. Climaco, Assistant in Pediatrics
Joan E. Clinch, Research Assistant in Medical Psychology
Allen B. Cohen, Assistant in Medicine
Hillard K. Cohen, Assistant in Medicine
Robert S. Cohen, Assistant in Obstetrics and Gynecology
Leon R. Coker, Assistant in Medicine
Robert W. Coleman, Assistant in Medicine
Roberta F. Colman, U. S. Public Health Service Postdoctoral Fellow in Biological Chemistry
Fritz L. Connor, Jr., Assistant in Radiation and Cancer Biology
D. Owen Coons, Assistant in Surgery
Ian A. Cooper, 1964 University of Sydney Traveling Fellow in Medicine, Hematology
Orozimba A. Costa, Research Fellow in Otolaryngology
Edward Cotlier, Fellow (NINDB) in Ophthalmology and Postdoctoral Fellow in Pharmacology
Ruth Ann Cotter, Research Assistant in Medical Psychology in Child Psychiatry
Margaret J. Coulas, Research Assistant in Pathology
John Courtney, Research Assistant in Microbiology
Aris W. Cox, Assistant in Surgery (on leave of absence)
Alan Gordon Craig, Assistant and Trainee (NIMH) in Child Psychiatry
Sheila Wood Craig, Assistant and Trainee (NIMH) in Child Psychiatry
Charles E. Crawford, Jr., Research Assistant in Pediatrics
Robert Crisera, Assistant in Medical Psychology
Garrett J. Crotty, Assistant in Surgery
John Terrence Cullen, Assistant in Psychiatry
Stephen N. Curtis, Research Fellow in Epidemiology in Preventive Medicine
Sompong Daengsurisri, Assistant in Psychiatry
Bernard S. Davidorf, Fellow in Ophthalmology

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J. Clayton Davie, Assistant in Neurological Surgery
Elaine M. Neill Davis, Assistant in Obstetrics and Gynecology
Gustave L. Davis, Assistant in Pathology
Thomas H. Davis, Assistant and Fellow (NINDB) in Neurology
Hana Gach De Charms, Research Assistant in Medical Psychology
Herbert H. Dedo, U. S. Public Health Service Fellow in Otolaryngology
Taisija De Guhareff, Research Assistant in Physiology
Frank R. Deitz, Research Assistant in Medicine
Alberto De Jesus, Assistant in Anesthesiology
Armando Gomes De Melo, Research Fellow in Biological Chemistry
Bruce C. Denny-Brown, Assistant in Medicine
Gilles M. Desmarais, Assistant and Trainee (NIMH) in Psychiatry
Bertil Diamant, U. S. Public Health Service Postdoctoral Fellow in Pharmacology
William H. Diehl, Jr., Assistant in Otolaryngology
Bozidar Djordjevic, Research Fellow in Radiology
Judith Higgins Donegan, Assistant in Medicine
Alberto Doria, Assistant in Pediatrics
Pierre Doucet, St. Louis Heart Association Fellow in Medicine, Cardiology
Thomas C. Douthitt, Research Fellow in Medical Psychology
Plllemenore A. Drummond, U. S. Public Health Service Predoctoral Fellow in Biological Chemistry
Oliver H. Duggins, Research Assistant in Anatomy
James Edward Dulaney, Research Assistant in Social Work in Psychiatry
Leonard I. Dumonceaux, Assistant and Trainee (NIMH) in Psychiatry
Ray B. Duncan, Assistant in Anesthesiology
George B. Eagleston, Assistant in Pathology
Olen Jon Earnest, Assistant in Medical Psychology
Irvin A. Ebaugh, Jr., Assistant and Trainee (NINIH) in Psychiatry
Dave H. Ely, Assistant in Medicine
Rene A. Echevarria, Assistant in Pathology (Surgical Pathology)
Alan H. Edelman, Assistant in Radiology
Robert Edelman, Assistant in Medicine
James Earl Edwards, Assistant and Trainee (NIMH) in Psychiatry
Saul Eisen, Assistant in Radiology
Max L. Elliott, Assistant in Pathology
James C. Elsasser, Assistant in Surgery
James David Emerson, Predoctoral Fellow and Trainee (NIGMS) in Experimental Pathology
Adolph M. Engebretson, Research Assistant in the Biomedical Computer Laboratory
Ellen Evans, Assistant in Medicine
Ronald G. Evans, Assistant in Medicine
Howard Stephen Farmer, Assistant and Fellow (NINDB) in Otolaryngology
Frederick S. Fehr, Assistant in Medical Psychology, Research Fellow and Research Trainee (NIMH) in Medical Psychology
Richard S. Felkner, Assistant in Otolaryngology
Francis M. Fennegan, Fellow (NINDB) in Neurophysiology and Fellow in Neurological Surgery
Raymond W. Ferrier, Fellow in Thoracic and Cardiovascular Surgery
William Fernandez, Assistant in Education in Child Psychiatry
Manuel A. Figallo, U. S. Public Health Service International Postdoctoral Fellow in Medicine—Hematology
Barbara B. Fineberg, Research Assistant in Child Psychiatry
Louis H. Fingerman, Assistant and Fellow (NINDB) in Ophthalmology
<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Department</th>
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<tbody>
<tr>
<td>Edward H. Finke</td>
<td>Research Assistant in Pathology</td>
</tr>
<tr>
<td>Gary Russell Fogg</td>
<td>Assistant in Ophthalmology</td>
</tr>
<tr>
<td>Hugh M. Foster, Jr.</td>
<td>Fellow in Thoracic and Cardiovascular Surgery</td>
</tr>
<tr>
<td>Ernest W. Franklin</td>
<td>Assistant in Radiology</td>
</tr>
<tr>
<td>Marianne G. Frecking</td>
<td>Predoctoral Fellow and Trainee (NIGNS) in Pharmacology</td>
</tr>
<tr>
<td>Melvin I. Freeman</td>
<td>Assistant and Fellow (NINDB) in Ophthalmology</td>
</tr>
<tr>
<td>Susan Marian Frey</td>
<td>Research Fellow in Medical Psychology</td>
</tr>
<tr>
<td>Harry C. Froede</td>
<td>Predoctoral Fellow and Trainee (NIGNS) in Pharmacology</td>
</tr>
<tr>
<td>Wolfgang H. W. Frollich</td>
<td>Assistant in Medicine</td>
</tr>
<tr>
<td>Vernell E. Fuller</td>
<td>Research Assistant in Sociology in Psychiatry</td>
</tr>
<tr>
<td>Nona Dale Fulton</td>
<td>Assistant in Pediatrics</td>
</tr>
<tr>
<td>Robert L. Fulton</td>
<td>Assistant in Surgery</td>
</tr>
<tr>
<td>Elliot N. Gale</td>
<td>Research Fellow and Research Trainee (NIMH) in Medical Psychology</td>
</tr>
<tr>
<td>Jose A. Garcia-Otero</td>
<td>Trainee (NCI) in Radiation Therapy</td>
</tr>
<tr>
<td>Richard P. Gerhardstein</td>
<td>Assistant and Trainee (NIMH) in Psychiatry</td>
</tr>
<tr>
<td>Vernon W. Gerth, Jr.</td>
<td>Research Assistant in the Biomedical Computer Laboratory</td>
</tr>
<tr>
<td>W. Ray Gibbons</td>
<td>Trainee (NIGMS) in Physiology</td>
</tr>
<tr>
<td>Robert Gibson</td>
<td>Fellow in Otolaryngology</td>
</tr>
<tr>
<td>Walter Bruce Gibson</td>
<td>Research Fellow in Biological Chemistry</td>
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<tr>
<td>James M. Giffin</td>
<td>Assistant in Surgery</td>
</tr>
<tr>
<td>William S. Gilbert</td>
<td>Assistant and Fellow (NINDB) in Ophthalmology</td>
</tr>
<tr>
<td>Duff Green Gillespie</td>
<td>Research Assistant in Sociology in Psychiatry</td>
</tr>
<tr>
<td>Davis C. Gilpin</td>
<td>Assistant and Trainee (NIMH) in Child Psychiatry</td>
</tr>
<tr>
<td>Donald Harold Glaeser</td>
<td>Research Assistant in the Biomedical Computer Laboratory</td>
</tr>
<tr>
<td>Robert S. Goell</td>
<td>Assistant in Obstetrics and Gynecology</td>
</tr>
<tr>
<td>William I. Goettman</td>
<td>Assistant in Surgery</td>
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<tr>
<td>Nelson David Goldberg</td>
<td>Fellow (NINDB) in Pharmacology</td>
</tr>
<tr>
<td>Alan L. Goldman</td>
<td>Assistant in Pediatrics</td>
</tr>
<tr>
<td>Bobby Ray Goodin</td>
<td>Assistant in Medicine</td>
</tr>
<tr>
<td>Floyd C. Goodman</td>
<td>Assistant in Orthopedic Surgery</td>
</tr>
<tr>
<td>Anne M. Gordon</td>
<td>Assistant in Psychiatric Social Work in Child Psychiatry</td>
</tr>
<tr>
<td>Stanley L. Gordon</td>
<td>Assistant in Surgery</td>
</tr>
<tr>
<td>Mario L. Gospodinoff</td>
<td>Assistant and Trainee (NIMH) in Psychiatry</td>
</tr>
<tr>
<td>Douglas R. Gowler</td>
<td>Assistant and Trainee (NIMH) in Child Psychiatry</td>
</tr>
<tr>
<td>Liliana Gradowska</td>
<td>Trainee (NIAMD) in Medicine, Renal Diseases</td>
</tr>
<tr>
<td>Patrick Graham</td>
<td>Fellow in Thoracic and Cardiovascular Surgery</td>
</tr>
<tr>
<td>Peter L. Greenberg</td>
<td>Assistant in Medicine</td>
</tr>
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OF WASHINGTON UNIVERSITY

THE FACULTY OF ARTS AND SCIENCES

COLLEGE OF LIBERAL ARTS
Courses in the humanities, the social studies, and the natural sciences, leading to a Bachelor of Arts degree; curriculum leading to the Bachelor of Music degree; pre-professional studies for students who plan to enter professional schools.

GRADUATE SCHOOL OF ARTS AND SCIENCES
Graduate Institute of Education
Work leading to the degrees of Master of Arts and Doctor of Philosophy; graduate professional degrees of Master of Science in Speech and Hearing, Master of Science in Counseling and Personnel, and Master of Music. Through the Graduate Institute of Education, the graduate professional degrees of Master of Arts in Education and Doctor of Education; and the Advanced Graduate Certificate in Education.

SCHOOL OF ENGINEERING AND APPLIED SCIENCE
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Six-year curriculum leading to the degree of Bachelor of Science at the end of the fourth year and the professional degree of Bachelor of Architecture at the end of the sixth year. One- to two-year curriculum leading to the degree of Master of Architecture and Urban Design.

SCHOOL OF BUSINESS AND PUBLIC ADMINISTRATION
Graduate School of Business Administration.
A two-year program commencing at the junior level, leading to the degree of Bachelor of Science in Business Administration. Graduate work leading to the degrees of Master of Business Administration, Master of Science in Accounting, and Doctor of Business Administration.

SCHOOL OF FINE ARTS
Specialized four-year programs leading to the degree of Bachelor of Fine Arts in Painting, Sculpture, Illustration, Graphic Design, Fashion Design, Crafts, and Art Teacher Education, with teacher certification requiring an additional year of study.

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Two-year graduate professional curriculum leading to the degree of Master of Social Work; an additional professional two-year program leading to the degree of Doctor of Social Work.

SCHOOL OF LAW
Three-year curriculum leading to the degree of Juris Doctor.

SCHOOL OF MEDICINE
(660 South Euclid Avenue, St. Louis, Mo. 63110)
Four-year curriculum leading to the degree of Doctor of Medicine. Through the Division of Auxiliary Medical Services, instruction leading to the degrees of Master of Hospital Administration, Bachelor of Science in Occupational Therapy, and Bachelor of Science in Physical Therapy; a course in X-ray Technology leading to a certificate; in cooperation with Barnes Hospital, courses for Laboratory Technicians, Medical Dietitians, and Nurse Anesthetists leading to certificates.

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SCHOOL OF NURSING
(416 South Kingshighway, St. Louis, Mo. 63110)
Undergraduate program for students beginning a career in nursing and for students who are registered nurses, leading to the degree Bachelor of Science in Nursing. Programs leading to the degree Master of Science in Nursing in adult psychiatric, child psychiatric, medical-surgical and maternal-child nursing.

UNIVERSITY COLLEGE AND SUMMER SCHOOL
An adult education and evening study division offering part-time students a wide range of credit and certificate classes, including courses which lead to the degree of Bachelor of Science. The Summer School presents a variety of courses from most of the divisions of the University, taught by regular and visiting faculty members.