1957

Washington University School of Medicine bulletin, 1957

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ACADEMIC DIVISIONS
OF WASHINGTON UNIVERSITY

ETHAN ALLEN HITCHCOCK SHEPLEY, A.B., LL.B., LL.D.,
Chancellor of the University

All schools except Medicine, Dentistry, and Nursing, are located on the Main Campus, at Lindell and
Skinker Boulevards, St. Louis 6, Mo.

THE COLLEGE OF LIBERAL ARTS
Thomas S. Hall, Ph.D., Dean

Courses in the humanities, the social studies, and
the natural sciences, leading to a Bachelor of
Arts degree; curricula for prospective teachers;
work leading to the Bachelor of Music degree; pre-
professional studies for students who plan to enter
the professional schools of Business and Public
Administration, Law, Medicine, Dentistry, Social
Work, the Graduate School of Arts and Sciences,
the School of Botany, and advanced work at this
and other universities and colleges.

THE SCHOOL OF ENGINEERING
Don A. Fischer, B.S., LL.B., Dean

The Seven Institute of Technology

Gustav Meisner, Ph.D., Director

Four-year prescribed course of study leading to
the degree of Bachelor of Science in each of the
following branches: Architectural Engineering,
Chemical Engineering, Civil Engineering, Electrical
Engineering, Engineering Physics, Geological Engi-
neering, Industrial Engineering, and Mechanical
Engineering. Provision is also made for alumni to
qualify for the professional degree of Engineer in
each of these branches. Through the Seven Institute
of Technology, graduate instruction leading to the
degrees of Master of Science in Engineering, Master
of Engineering Administration, and Doctor of
Science in Engineering.

THE SCHOOL OF ARCHITECTURE
Joseph Russell Passonneau, B.Arch., M.S.C.E.,
Dean

Five-year program leading to the degree of
Bachelor of Architecture.

THE SCHOOL OF BUSINESS AND
PUBLIC ADMINISTRATION
Ross M. Trump, Ph.D., Dean

1. Two-year program at the junior and senior
level, leading to the degree of Bachelor of Science
in the field of Business Administration, Public
Administration, or Foreign Service. 2. Four-year
program, open to freshmen, which leads to the
degree of Bachelor of Science in Retailing. 3.
Graduate work leading to the degrees of Master
of Business Administration, Master of Public
Administration, and Master of Science in Retailing,
Accounting, Finance, or Marketing.

THE GEORGE WARREN BROWN SCHOOL
OF SOCIAL WORK
Benjamin K. Youngahl, A.M., LL.D., Dean

Two-year graduate professional curriculum lead-
ing to the degree of Master of Social Work; an
additional professional two-year program leading
to the degree of Doctor of Social Work.

THE HENRY SHAW SCHOOL OF BOTANY
Henry N. Andrews, Jr., Ph.D., Dean

Affiliated with the Missouri Botanical Garden.
Graduate work in Botany leading to the degrees of
Master of Arts and Doctor of Philosophy adminis-
tered by the Graduate School of Arts and Sciences.

THE SCHOOL OF LAW
Milton D. Green, J.D., Jur.S.C., Dean

Three-year curriculum leading to the degree of
Bachelor of Laws.

THE SCHOOL OF MEDICINE
Oliver H. Lowry, Ph.D., M.D., Dean

Four-year curriculum leading to the degree of
Doctor of Medicine; postgraduate courses. Through
the Division of Auxiliary Medical Services, instruc-
tion leading to the degrees of Master of Hospital
Administration, Bachelor of Science in Occupa-
tional 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 Distri-
tions, and Nurse Anesthetists leading to certificates.

THE SCHOOL OF DENTISTRY
Leroy R. Boling, Ph.D., Dean

Four-year curriculum leading to the degree of
Doctor of Dental Surgery, and courses for graduate
students who may or may not be candidates for
the degree of Master of Science in one of the
dental specialties.

THE SCHOOL OF NURSING
Louise Knapp, R.N., B.S., A.M., Director

Advanced programs for graduate nurses leading
to the degrees of Bachelor of Science and Master of
Science in Nursing.

THE SCHOOL OF FINE ARTS
Kenneth E. Hudson, B.F.A., Dean

Specialized four-year programs leading to the
Certificate of Attainment or the degree of Bachel-
er of Fine Arts in Painting, Sculpture, Illustra-
tion, Advertising Design, Fashion Illustration,
Dress Design, the Crafts, and Art Teacher Educa-
tion.

UNIVERSITY COLLEGE
Earnest Brandenburg, Ph.D., Dean

An adult education and evening division offer-
ing a wide range of classes for students who are
unable to attend during the day, including courses
which lead to the degrees of Bachelor of Science
and Bachelor of Science in Education.

THE SUMMER SCHOOL
Stephen C. Gribble, Ph.D., Director

Courses from almost every division of the Uni-
versity, under the regular teaching staff, as well
as special classes given by instructors who are
invited to the campus for this purpose.

THE GRADUATE SCHOOL
OF ARTS AND SCIENCES
Lewis E. Hahn, Ph.D., Dean

Graduate Institute of Education

Robert J. Schaefer, Ph.D., Director

Work leading to the degrees of Master of Arts
and Doctor of Philosophy; graduate professional
degrees of Master of Science in Health and Physical
Education, Master of Science in Speech and Hear-
ing, Master of Science in Counseling and Personal,
and Master of Music. Through the Graduate Instit-
tute of Education, the graduate professional degrees
of Master of Arts in Education and Doctor of Educa-
tion; and the Advanced Certificate in Education.
THE CORPORATION
OF WASHINGTON UNIVERSITY

THE BOARD OF DIRECTORS

WILLIAM MARKHAM AKIN
CHARLES WALTER BRYAN, JR.
DAVID RANDOLPH CALHOUN, JR.
DANIEL KAYSER CATLIN
EDWIN M. CLARK
JAMES MARSH DOUGLAS
ADRIAN WOODS FRAZIER
ROLAND MILTON HOERR
MEREDITH CABELL JONES
WEBB LOUIS KAMMERER
JOHN STARK LEHMANN
JOHN MERRILL OLIN
SPENCER TRUMAN OLIN
ALEXANDER WESSEL SHAPLEIGH
CHARLES ALLEN THOMAS
DAVID PHILIP WOHL
HOWARD ISAAC YOUNG

Alumni Directors

RALPH FREDERICK D'OENCH
EUGENE RANDALL KROPP
NORMAN CECIL PARKER
WENDELL GARRISON SCOTT
EARL EMANUEL SHEPARD
WILLIAM VICTOR WEIR

Liberal Arts
Business
Law
Medicine
Dentistry
Engineering

Honorary Directors

LEMUEL RAY CARTER
EDWARD MALLINCKRODT, JR.

BEN MOREELL

Officers of the Board of Directors

JAMES MARSH DOUGLAS
DANIEL KAYSER CATLIN
ALEXANDER WESSEL SHAPLEIGH
JOHN HENRY ERNEST
JAMES JOHNSTONE RITTERSKAMP, JR.
THOMAS EDWARD BLACKWELL

Chairman
First Vice Chairman
Second Vice Chairman
Treasurer
Secretary
Consultant

OFFICERS OF THE UNIVERSITY ADMINISTRATION

Ethan Allen Hitchcock Shepley
Carl Tolman
James Johnstone Ritterskamp, Jr.
Everett Harold Hopkins
John Henry Ernest
John Cleveland Talbot

Bridge Chancellor
Vice Chancellor, Dean of Faculties
Vice Chancellor, Business Affairs
Vice Chancellor, University Development
Comptroller
Special Assistant to the Chancellor
OFFICERS AND COMMITTEES
OF THE FACULTY
OF THE SCHOOL OF MEDICINE

EXECUTIVE FACULTY
Ethan A. H. Shepley  Bridge Chancellor
Carl Tolman  Vice Chancellor, Dean of Faculties
Oliver H. Lowry  Dean
Carl F. Cori  Robert E. Shank  Bernard Becker
Alexis F. Hartmann  Hugh M. Wilson  W. Stanley Hartroft
Willard M. Allen  Edward W. Dempsey  Carl V. Moore
Theodore E. Walsh  Carl A. Moyer  Frank R. Bradley
Edwin F. Gildea  Arthur Kornberg  Thomas H. Burford
Harvey L. White  F. Edmund Hunter, Jr.

GENERAL FACULTY
The General Faculty is composed of members of the staff holding appointment as Professor, Associate Professor, or Assistant Professor.

STANDING COMMITTEES

MEDICAL EDUCATION
Carl V. Moore (Chairman)  Carl F. Cori  Carl A. Moyer
Willard M. Allen  Edward W. Dempsey

ADMISSIONS AND SCHOLARSHIPS
Hugh Chaplin  Sam L. Clark, Jr.  W. B. Parker
F. Edmund Hunter

FELLOWSHIPS AND AWARDS
Edward W. Dempsey (Chairman)  W. Stanley Hartroft  Carl Harford

PROMOTIONS
Alexis F. Hartmann (Chairman)  Robert E. Shank  Arthur Kornberg
Carl F. Cori

1 The Dean is ex officio a member of all standing committees.
2 For the academic year 1956-57.
## ADMINISTRATIVE OFFICERS
### SCHOOL OF MEDICINE

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oliver Howe Lowry</td>
<td>Dean</td>
</tr>
<tr>
<td>B.S., Northwestern University, 1932; Ph.D., University of Chicago, 1937; M.D., 1937.</td>
<td></td>
</tr>
<tr>
<td>Edward W. Dempsey</td>
<td>Assistant to the Dean</td>
</tr>
<tr>
<td>A.B., Marietta College, 1932; Sc.M., Brown University, 1934; Ph.D., 1937; M.A. (hon.), Harvard University, 1946.</td>
<td></td>
</tr>
<tr>
<td>John Courtright Herweg</td>
<td>Assistant Dean</td>
</tr>
<tr>
<td>B.S., Drury College, 1943; M.D., Washington University, 1945.</td>
<td></td>
</tr>
<tr>
<td>William Bahlmann Parker</td>
<td>Registrar and Secretary to the Executive Faculty</td>
</tr>
<tr>
<td>A.B., University of Missouri, 1921.</td>
<td></td>
</tr>
</tbody>
</table>

### OTHER OFFICERS
#### OF THE SCHOOL OF MEDICINE

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
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</thead>
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<tr>
<td>Physician in Charge of Student Health Service at the Medical Center</td>
<td>Hugh Chaplin, Jr., A.B., M.D.</td>
</tr>
<tr>
<td>Administrative Assistant to the Dean</td>
<td>Helen Kaiser</td>
</tr>
<tr>
<td>Administrative Secretary to the Dean</td>
<td>Louise Jacoby, A.B.</td>
</tr>
<tr>
<td>Assistant Registrar</td>
<td>Dorothy I. Miller</td>
</tr>
<tr>
<td>Director of News Bureau</td>
<td>Faye-Ellen Forbis, B.J.</td>
</tr>
<tr>
<td>Acting Librarian</td>
<td>Elaine Harvey, A.B.</td>
</tr>
</tbody>
</table>

### 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 BOARD

<table>
<thead>
<tr>
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<tr>
<td>Frank R. Bradley</td>
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</tr>
<tr>
<td>Willard M. Allen</td>
<td>Stanley Harrison</td>
</tr>
<tr>
<td>Bernard Becker</td>
<td>Alexis F. Hartmann</td>
</tr>
<tr>
<td>Ann Campbell</td>
<td>W. Stanley Hartroft</td>
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<tr>
<td>Robert Dodd</td>
<td>Lilly Hoekstra</td>
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<tr>
<td>Edwin F. Gildea</td>
<td>Oliver H. Lowry</td>
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<tr>
<td>Samuel B. Grant</td>
<td>Carl V. Moore</td>
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<td>Carl A. Moyer</td>
<td>Harry E. Panhorst</td>
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<td>Harry E. Panhorst</td>
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<td>Robert E. Shank</td>
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<td>Hugh M. Wilson</td>
<td>George J. L. Wulff</td>
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<td>George J. L. Wulff</td>
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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 $100,000 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
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 four Nobel Prizes. Three of the Nobel Laureates are still on the faculty, thus making the Washington University School of Medicine unique among medical schools the world over.

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 forty-eight 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 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
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 and senior 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 senior year six weeks are set aside for elective courses or for research, and 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 term of thirty-six weeks for each of the four courses is divided into three trimesters of twelve weeks. 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 during 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 building which also provides the facilities for the Washington University Clinics. The so-called North Building contains the new Medical School library, an auditorium, and the facilities of the Department of Anatomy. The Cancer Research Wing, added in 1950, houses the administrative offices, a student lounge, 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 Washington University Clinic Building, where are also located the Student Health Service and the outpatient departments of the affiliated hospitals.

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 444. 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. 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 156 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 100 beds are devoted to ward, semiprivate, and private obstetrical patients, and there are corresponding facilities for newborns, including a unit for premature infants. There are, in addition, 37 beds for gynecologic patients. 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 200 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 Dr. Evarts A. Graham and his associates, have been made at the Mallinckrodt Institute.

David P. Wohl, Jr., Memorial Hospital. Opened by the University in 1954, the Wohl Hospital contains 71 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 new building, opened in 1954, provides 40 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 newest University building in the medical center, opened in 1955, the Renard Hospital provides 100 beds for patients with psychiatric diseases and also affords new laboratories and offices for the Department of Psychiatry and Neurology.

In addition to the above named facilities which comprise the Washington University Medical Center proper, there are available for teaching purposes patients in the various hospitals operated by the city of St. Louis; included are two general hospitals, the St. Louis City Hospital with 1,037 beds, the Homer G. Phillips Hospital with 680 beds, and the Koch Hospital for tuberculosis.

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 extra-curricular 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.

(d) **Social Fraternities.** Several national fraternities are represented by chapters at the School. Each year distinguished scientists are invited to present the two guest lecturerships sponsored by these organizations.
Within the University community, many excellent concerts, lectures, and other cultural activities take place and are open to students in the School of Medicine. In the city of St. Louis, likewise, are accessible the City Art Museum, the Missouri Botanical Garden, the Museum of the Missouri Historical Society, and others. The St. Louis Symphony Orchestra offers a series of twenty concerts during the season, and tickets at special student rates are available through the University.

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 Program, which is now in its fourth year of operation. It has represented a valuable advance in this area and offers distinct advantages to applicants.

The class of 1957, as did its predecessors, obtained excellent appointments; more than 60% were placed in leading University Hospitals in the United States, and the remainder accepted positions in other fine civilian and military hospitals.

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.
### 1957

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CALENDAR

1957 - 58

Registration for all new students, Wednesday, September 11, 1957.
Registration for all former students, Friday, September 13, 1957.
Examinations for Advanced Standing and Removal of Conditions, Wednesday, September 11, and Thursday, September 12, 1957.
Academic year begins Monday, September 16, 1957.
First Trimester ends Saturday, December 7, 1957.
Holiday, Thanksgiving Day, Thursday, November 28, 1957.
Registration for second half-year, Monday, February 3, 1958.
Third Trimester begins Monday, March 17, 1958; ends Saturday, June 7, 1958.
Holidays, Good Friday, April 4, 1958, and Saturday, April 5, 1958.
Senior Research Program, Friday, April 25, 1958.
Final Examinations for first, second, and third classes begin Monday, June 9, 1958.
Commencement, Wednesday, June 11, 1958.

1958 - 59

Registration for all new students, Wednesday, September 10, 1958.
Registration for all former students, Friday, September 12, 1958.
First Trimester begins Monday, September 15, 1958; ends Saturday, December 6, 1958.
Second Trimester begins Monday, December 8, 1958; ends Saturday, March 14, 1959.
Third Trimester begins Monday, March 16, 1959; ends Saturday, June 6, 1959.
Commencement, Wednesday, June 10, 1959.
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 quantitative analysis and 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, and extra work in 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 August 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.

A program of courses for postgraduate students may be secured from the Director of the Division of Postgraduate Studies.

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 the order-rank of each student in the class for that course, designating in each case “honors,” “pass,” or “fail.” The rank 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 and Neurology, Obstetrics and Gynecology, Surgery, Pediatrics.
Fourth Year: Medicine, Obstetrics and Gynecology, Pediatrics, Surgery, Ophthalmology ($\frac{1}{4}$), Otolaryngology ($\frac{1}{2}$), Outpatient Clinics.

(b) All students will be promoted to the next class who rank in the upper four-fifths of the class in at least 60% of the scheduled clock hours, provided there are no failures.

(c) 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 under rules (b) and (c) above. A student who has recorded a second failure in the attempt to remove a first failure will be required to withdraw from his class.

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

(e) Under exceptional circumstances the promotion 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. A graduation fee of $5.00 must be paid before Commencement.

Honors are awarded on the basis of: (1) a written thesis submitted at any time prior to April 1 of the senior year; and (2) the candidate’s over-all record at the time of graduation.

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, with a minimum grade-point average of 1.0, and 4 units in Air Science, Military Science and Tactics, Band, or Physical Education.

2. He must have completed all of the specific requirements of the Common Studies Program and at least 15 additional units in advanced courses in not more than 3 departments. These units will satisfy a part of the A.B. requirements relative to advanced courses.

3. To be eligible for the degree of Bachelor of Arts under the combined plan, a student transferring to Washington University must complete at least the last 30 units of A.B. work in the College of Liberal Arts at Washington University and must complete all specific requirements for the A.B. degree, with the exception noted in item 2 above.

4. In addition to completing at least 90 units of work in the College, 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 A.B. requirements for an area of concentration.

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.
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 FEES. For undergraduate students the tuition fee is $864.00, payable in two equal installments, at the beginning of the first and second semesters.

HEALTH SERVICE FEES. A health service fee of $21.00 per semester is charged to all students. This 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 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.

DIPLOMA FEE. The diploma fee for the degree of Doctor of Medicine is $5.00. This fee is payable before Commencement.

MICROSCOPE AND DIAGNOSTIC INSTRUMENTS

Each student entering the freshman class is required to possess a standard microscope equipped with a substage light. 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

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>Health Service Fee</td>
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<td>Books and Instruments</td>
<td>$75.00 to 150.00</td>
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<td>Room and Board (from $20.00 to $25.00 a week)</td>
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$1701.00 to $1956.00
REGISTRATION

Registration for the first half-year, 1957-58, is scheduled for Wednesday, September 11 (new students) and Friday, September 13 (former students); for the second half-year, Monday, February 3, 1958.

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.

MEN’S DORMITORY

A dormitory housing about fifty students is in close proximity to the School of Medicine. Each occupant must furnish his own sheets, pillow cases, and blankets; otherwise the rooms are furnished.

Room rent is $110.00 per semester, payable in advance, at registration. Reservations are accepted only for the full academic year. Application for reservation should be made to the Registrar and must be accompanied by a reservation fee of $10.00. This fee will be returned should a room not be assigned. If a room is assigned, the fee will be held by the University as a bond against possible damage to room and furniture. Subject to such claim, it will be refunded at the end of the school year.

The residents of the dormitory each year elect four of their fellows to the Dormitory Council, which is the responsible administrative body for the entire group; the Council works closely with the Associate Dean in charge of students in handling all matters pertaining to the dormitory.

VETERANS ADMINISTRATION

The School of Medicine is approved by the Veterans’ Administration for full training under Public Laws 346, 16, 550, and 894.
The Library reading room, air-conditioned and lighted by recessed fluorescent ceiling lights, is located on the second floor of the north building of the Medical School. Two conference rooms are provided for the use of the students. Three levels of stacks, which are open to students and faculty alike, are situated below the reading room. The Library contains (April 1, 1957) 81,500 bound periodicals and monographs, and receives currently 935 medical periodicals.

The Library has acquired by gifts and by purchase a number of private collections, among them the manuscripts, letters, and other valuable material of the pioneer American physiologist, William Beaumont.

Library hours are 8:30 a. m. to 11:00 p. m. on week days, 8:30 a. m. to 5:00 p. m. on Saturdays, and 1:00 p. m. to 5:00 p. m. on Sundays.

A view of the main floor of the new library. At the far end is one of several conference rooms available for use by small groups of students.
FELLOWSHIPS AND SCHOLARSHIPS

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:

- **South Central**
  - Alabama
  - Arkansas
  - Kentucky
  - Louisiana
  - Mississippi
  - Oklahoma
  - Tennessee
  - Texas
  - Canal Zone

- **Southeastern**
  - Delaware
  - Florida
  - Georgia
  - Maryland
  - North Carolina
  - South Carolina
  - Virginia
  - West Virginia
  - Washington, D. C.
  - Puerto Rico
  - Virgin Islands

- **New England**
  - Connecticut
  - Maine
  - Massachusetts
  - New Hampshire
  - Rhode Island
  - Vermont

- **Western**
  - California
  - Nevada
  - Oregon
  - Washington
  - Alaska
  - Pacific Islands

- **Rocky Mountains**
  - Arizona
  - Colorado
  - Idaho
  - Montana
  - New Mexico
  - Utah
  - Wyoming

- **Northeastern**
  - Indiana
  - Michigan
  - New Jersey
  - New York
  - Ohio
  - Pennsylvania

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, whatever their financial need, the stipends will vary with the financial resources of the students. In those cases in which 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-round 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 at the present time is comprised 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.

A **FELLOWSHIP IN NEUROLOGICAL SURGERY** with a stipend of $1,200 a year is awarded on recommendation of the Department of Surgery. Candidates must be graduates in medicine who will have completed an internship.

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

**The Alumni Scholarship Award** of $100 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 Eliza McMillan Student Aid Fund**. The annual income from a bequest of Eliza McMillan provides a scholarship of about $200 for a deserving woman student in the School of Medicine.

**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 Joseph H. Roblee Scholarships**. Provided through the gift of Mrs. Roblee, the income from the Joseph H. Roblee Scholarship Endowment Fund of $12,000 maintains two scholarships. They are awarded by the Chancellor to qualified, worthy, and deserving students in any division of the University.

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

**Andrew Rankin Fleming and Susie Fleming Fund**. Through the bequest of Susie Fleming, $150 from the income of this fund is available annually for scholarships for worthy and needy students 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 loans are granted by the Chancellor on the recommendation of the Dean.

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, preferably to a deserving young man who shows promise in the field of pediatrics. The award is made by the Chancellor on the recommendation of the Dean and the Professor of Pediatrics.

W. K. Kellogg Foundation Scholarship and 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 scholarships and 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 AUGUST F. HENKE FUND. Through the bequest of August F. Henke, $200 is available for aid to medical students. The scholarships or loans are granted 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 $2,418.72 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.

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.

STUDENT ASSISTANTSHIPS are available in a number of departments in the School. Information concerning these 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.

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 twenty-five dollars 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 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 be eligible for this prize who has not been a bonafide 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 bonafide 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 NU SIGMA NU AWARDS of twenty-five dollars each are awarded to the outstanding member of the first- and second-year classes.

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.
LECTURESHIPS

The Mu Chapter of the Phi Beta Pi fraternity established an annual lectureship in honor of Dr. Leo Loeb, Professor Emeritus of Pathology.

The Alumni of the School have established a Robert J. Terry Lectureship Fund "for the purpose of fostering greater appreciation of the study of human anatomy in relation to the teaching and practice of medicine" in honor of Dr. Robert J. Terry, Professor Emeritus of Anatomy.

Friends of the late Dr. Major G. Seelig and Mrs. Seelig have established an annual lectureship or fellowship in their honor.

A new lectureship in honor of Dr. George H. Bishop has been established by his friends.

A corner of the current reading room of the library where the most recent numbers of the 935 journals received are readily available.
# CLASS SCHEDULE • FIRST YEAR

## FIRST TRIMESTER—September 16 through December 7, 1957

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## SECOND TRIMESTER—(1st half, 6 weeks)—December 9-21, 1957, and January 6 through February 1, 1958

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## 2nd half (6 weeks)—February 3, 1958, through March 15, 1958

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33
### THIRD TRIMESTER—March 17, 1958, through June 7, 1958

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CLASS SCHEDULE • SECOND YEAR

FIRST TRIMESTER—September 16 through December 7, 1957

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SECOND TRIMESTER (6 weeks)—December 9-21, 1957, and January 6 through February 1, 1958

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SECOND TRIMESTER, 2nd half (6 weeks)—February 3, through March 15, 1958

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### THIRD TRIMESTER—March 17 through June 7, 1958

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### MEDICINE SERVICE (Including Neurology and Psychiatry) 6 weeks at Barnes Hospital and 6 weeks at City Hospital

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<td>Section II—Barnes Hospital</td>
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<td>Pediatrics*</td>
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* Pediatrics Lectures for the entire class during the first trimester.
† Surgery Clinic for the entire class during the second and third trimesters.

### SURGERY SERVICE—8 weeks at Barnes Hospital and 4 weeks at St. Louis City Hospital

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<td>10 to 11</td>
<td>Group A—Second Trimester Dec. 9-21 &amp; Jan. 6 through March 15, 1958</td>
<td>Radiology</td>
<td>8:30 to 10</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11 to 12</td>
<td>Group C—Third Trimester March 17 through June 7, 1958</td>
<td></td>
<td></td>
<td>C P C</td>
<td>Pediatrics*</td>
<td>Medicine Clinic</td>
</tr>
<tr>
<td>12 to 1</td>
<td>Sect. I and II—Barnes III—City 1st 4 wks</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2 to 3</td>
<td>Sect. I and III—Barnes II—City 2nd 4 wks</td>
<td></td>
<td></td>
<td>Pediatrics*</td>
<td>Surgery Cl.$</td>
<td></td>
</tr>
<tr>
<td>3 to 4</td>
<td>Sect. II and III—Barnes I—City 3rd 4 wks</td>
<td></td>
<td></td>
<td>Surgical Pathology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 to 5</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

* Pediatrics for the entire class during the first trimester.
† Surgery Clinic for the entire class during the second and third trimesters.
## CLASS SCHEDULE—THIRD YEAR

### PEDIATRIC SERVICE (6 weeks) and 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>9 to 10</td>
<td>Group C—First Trimester, September 16 through December 7, 1957</td>
<td>Group B—Second Trimester, December 9-21 and January 6, through March 15, 1958</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 to 11</td>
<td>Group A—Third Trimester, March 17 through June 7, 1958.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 to 12</td>
<td>Section I—Pediatrics</td>
<td>Section II—Ob. &amp; Gyn.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 to 1</td>
<td>Sections change at end of 6-week period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 2</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2 to 3</td>
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<tr>
<td>3 to 4</td>
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<td>4 to 5</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* Pediatrics Lecture for the entire class during the first trimester.
† Surgery Clinic for the entire class during the second and third trimesters.
### MEDICINE SERVICE, BARNES HOSPITAL WARDS (6 weeks) and ELECTIVES (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>
</table>
| 9 to 10 | Group A—First Trimester, September 16 through December 7, 1957  
Group C—Second Trimester, December 9-21 and January 6 through March 15, 1958  
Group B—Third Trimester, March 17 through June 7, 1958  
Section I—Medicine  
Section II—Electives | | | | | | |
| 10 to 11 | 11 to 12 | 12 to 1 | Surgery Cl. | Pediatrics | C P C | Ob. & Gyn. Neurology* | Medicine Clinic |
| 2 to 3 | 3 to 4 | Sections exchange services at end of 6-week period | | | | |
| 4 to 5 | | | | | | |

* Obstetrics and Neurology alternate Lectures.  
Lectures in Medical Jurisprudence are given during the third trimester on Wednesdays from 5 to 6 p.m. This course is required of all senior students.

### SURGERY SERVICE (6 weeks) — OBSTETRICS (3 weeks) — PEDIATRICS (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>
</tr>
</thead>
</table>
| 9 to 10 | Group B—First Trimester, September 16 through December 7, 1957  
Group A—Second Trimester, December 9-21 and January 6 through March 15, 1958  
Group C—Third Trimester, March 17 through June 7, 1958 | | | | | |
| 10 to 11 | 10 to 11 | 12 to 1 | Tumor Conf. | Surgery Cl. | Pediatrics | C P C | Ob. & Gyn. Neurology* | Medicine Clinic |
| 2 to 3 | 3 to 4 | Section I—Group (a), Urological Surgery (Groups change at end of 3 weeks)  
Group (b), Neurosurgery | | | | | |
| 4 to 5 | Sections exchange services at end of 6-week period | | | | | | |

* Obstetrics and Neurology alternate Lectures.  
Lectures in Medical Jurisprudence are given during the third trimester on Wednesdays from 5 to 6 p.m. This course is required of all senior students,
Co-ordinated Outpatient Clinic Clerkship
Group C—First Trimester, September 16 through December 7, 1957
Group B—Second Trimester, December 9-21 and January 6 through March 15, 1958
One-third of class is divided into 4 groups of 6 to 8 students for this clerkship

<table>
<thead>
<tr>
<th>Group</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 9 a.m. to noon</td>
<td>Medicine A</td>
<td>Ob. &amp; Gyn.</td>
<td>Medicine A</td>
<td>Surgery</td>
<td>Medicine A* Neurology*</td>
<td>Psychiatry</td>
</tr>
<tr>
<td>2</td>
<td>Medicine B</td>
<td>Surgery</td>
<td>Medicine B</td>
<td>Psychiatry</td>
<td>Medicine B* Neurology*</td>
<td>Ob. &amp; Gyn.</td>
</tr>
<tr>
<td>3</td>
<td>Psychiatry</td>
<td>Medicine A* Neurology*</td>
<td>Ob. &amp; Gyn.</td>
<td>Medicine A</td>
<td>Surgery</td>
<td>Medicine A</td>
</tr>
<tr>
<td>4</td>
<td>Surgery</td>
<td>Medicine B* Neurology*</td>
<td>Psychiatry</td>
<td>Medicine B</td>
<td>Ob. &amp; Gyn.</td>
<td>Medicine B</td>
</tr>
<tr>
<td>2 to 5 p.m.</td>
<td>Surgery†</td>
<td>Ophthalmol.†</td>
<td>——</td>
<td>Prev. Med.</td>
<td>Ob. &amp; Gyn.† Dermatology†</td>
<td>——</td>
</tr>
<tr>
<td>1</td>
<td>Psychiatry†</td>
<td>Otolaryn.†</td>
<td>——</td>
<td>——</td>
<td>——</td>
<td>——</td>
</tr>
<tr>
<td>2</td>
<td>Ob. &amp; Gyn.‡ Dermatology‡</td>
<td>Surgery‡</td>
<td>Ophthalmol.‡ Otolaryn.‡</td>
<td>Prev. Med.</td>
<td>——</td>
<td>——</td>
</tr>
<tr>
<td>3</td>
<td>Prev. Med.</td>
<td>Ob. &amp; Gyn.‡ Dermatology‡</td>
<td>Surgery‡ Psychiatry‡</td>
<td>Ophthalmol.‡ Otolaryn.‡</td>
<td>——</td>
<td>——</td>
</tr>
<tr>
<td>4</td>
<td>Prev. Med.</td>
<td>——</td>
<td>Ob. &amp; Gyn.‡ Dermatology‡ Psychiatry‡</td>
<td>Ophthalmol.‡ Otolaryn.‡</td>
<td>——</td>
<td>——</td>
</tr>
</tbody>
</table>

* One-half of group alternates clinics each week.
‡ One-half of group takes each clinic for a six-week period.
Lectures in Medical Jurisprudence are given during the third trimester on Wednesdays from 5 to 6 p.m. This course is required of all senior students.
### TABLE OF REQUIRED HOURS — 1957-1958

<table>
<thead>
<tr>
<th>First Year</th>
<th>Clock Hours</th>
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</thead>
<tbody>
<tr>
<td>Gross Anatomy</td>
<td>336</td>
</tr>
<tr>
<td>Microscopic Anatomy</td>
<td>282</td>
</tr>
<tr>
<td>Biological Chemistry</td>
<td>312</td>
</tr>
<tr>
<td>Physiology</td>
<td>306</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>24</td>
</tr>
<tr>
<td>Preventive Medicine</td>
<td>12</td>
</tr>
<tr>
<td>Medical Psychology</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td><strong>1284 Total Hours</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Clock Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacology</td>
<td>216</td>
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<tr>
<td>Microbiology</td>
<td>264</td>
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<tr>
<td>Pathology</td>
<td>336</td>
</tr>
<tr>
<td>Conjoint Medicine</td>
<td></td>
</tr>
<tr>
<td>Clinical Diagnosis</td>
<td>144</td>
</tr>
<tr>
<td>Laboratory Methods of Diagnosis</td>
<td>144</td>
</tr>
<tr>
<td>Pathologic Physiology</td>
<td>24</td>
</tr>
<tr>
<td>Introduction to Surgery</td>
<td>24</td>
</tr>
<tr>
<td>Pathology of Behavior</td>
<td>60</td>
</tr>
<tr>
<td>Natural History of Disease</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td><strong>1224 Total Hours</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Clock Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery Clerkship</td>
<td>384</td>
</tr>
<tr>
<td>Radiology Lectures</td>
<td>18</td>
</tr>
<tr>
<td>Otolaryngology Lectures</td>
<td>12</td>
</tr>
<tr>
<td>Ophthalmology Lectures</td>
<td>12</td>
</tr>
<tr>
<td>Surgery Lectures</td>
<td>24</td>
</tr>
<tr>
<td>Surgical Pathology</td>
<td>72</td>
</tr>
<tr>
<td>Clinical Pathological Conference</td>
<td>36</td>
</tr>
<tr>
<td>Medicine Clerkship (including Neurology and Psychiatry)</td>
<td>408</td>
</tr>
<tr>
<td>Medicine Lectures</td>
<td>36</td>
</tr>
<tr>
<td>Pediatrics Clerkship</td>
<td>180</td>
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<tr>
<td>Pediatrics Lectures</td>
<td>12</td>
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<tr>
<td>Obstetrics and Gynecology</td>
<td>180</td>
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<td>Gynecological Pathology</td>
<td>36</td>
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<tr>
<td></td>
<td><strong>1410 Total Hours</strong></td>
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</tbody>
</table>
# TABLE OF REQUIRED HOURS

## Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Surgery Clerkship</td>
<td>198</td>
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<tr>
<td>Surgery Lectures</td>
<td>36</td>
</tr>
<tr>
<td>Tumor Conference</td>
<td>12</td>
</tr>
<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>12</td>
</tr>
<tr>
<td>Medicine Lectures</td>
<td>36</td>
</tr>
<tr>
<td>Pediatrics Clerkship</td>
<td>99</td>
</tr>
<tr>
<td>Pediatrics Lectures</td>
<td>36</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>99</td>
</tr>
<tr>
<td>Obstetrics Lectures</td>
<td>18</td>
</tr>
<tr>
<td>Neurology Lectures</td>
<td>18</td>
</tr>
<tr>
<td>Elective hours</td>
<td>198</td>
</tr>
<tr>
<td>Out-Patient Clinics</td>
<td>360</td>
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**Total Hours:** 1356

## Clinic Hours

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<tr>
<th>Specialty</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Medicine</td>
<td>90</td>
</tr>
<tr>
<td>Obstetrics and Gynecology</td>
<td>54</td>
</tr>
<tr>
<td>Surgery</td>
<td>54</td>
</tr>
<tr>
<td>Neurology</td>
<td>18</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>54</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>18</td>
</tr>
<tr>
<td>Otolaryngology</td>
<td>18</td>
</tr>
<tr>
<td>Preventive Medicine</td>
<td>36</td>
</tr>
<tr>
<td>Dermatology</td>
<td>18</td>
</tr>
</tbody>
</table>

**Total:** 360

Total for four years 5274 clock hours
DEPARTMENTS OF
THE SCHOOL OF MEDICINE

ANATOMY

BIOLOGICAL CHEMISTRY

INTERNAL MEDICINE - DERMATOLOGY

MICROBIOLOGY

OBSTETRICS-GYNECOLOGY

OPHTHALMOLOGY

OTOLARYNGOLOGY

PATHOLOGY

PEDIATRICS

PHARMACOLOGY

PHYSIOLOGY

PREVENTIVE MEDICINE - PUBLIC HEALTH

PSYCHIATRY AND NEUROLOGY

RADIOLOGY

SURGERY
A panoramic view of the Washington University Medical Center showing the buildings of the school and the affiliated hospitals. The view is from adjacent Forest Park.
Dr. Edward W. Dempsey, Professor of Anatomy, preparing to demonstrate a tissue specimen, as viewed through the electron microscope, to three members of the first year class.

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
Mildred Trotter (Gross Anatomy), A.B., Mt. Holyoke College, 1920; M.S., Washington University, 1921; Ph.D., 1924; Sc.D. (Hon.), Western College, 1956. (See Department of Radiology.)

Professors Emeriti
Edmund Vincent Cowdry, A.B., University of Toronto, 1909; Ph.D., University of Chicago, 1912. (Also holds title of Lecturer.)
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.)
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.)
Jack Davies (Markle Scholar), B.Sc., Leeds University Medical School, 1941; M.B.Ch.B., 1944; M.D., 1948; M.D., University of Iowa, 1943; M.A. (Hon.), Cambridge University, 1947.

Assistant Professors
Sam L. Clark, Jr., M.D., Harvard University, 1949.
Ray Reed Peterson, A.B., University of Kansas, 1948; Ph.D., 1952.

Research Associate
Goldine Gleser, A.B., Washington University, 1935; M.S., 1936; Ph.D. 1950.

Instructors
Lorraine Lake (National Foundation for Infantile Paralysis Fellow), B.S., Washington University, 1950; M.A., 1954. (See Physical Therapy.)

Consultant
Hugh Monroe Wilson (Radiology), B.A., Illinois College, 1921; 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, 1953.

Assistants
Ben G. Mannis, B.Ed., Central State College, 1933; M.A., University of Wisconsin, 1938; M.D., University of Arkansas, 1940.
Raymond U. Seale, B.S., Eastern New Mexico University, 1956.

Fellow
Harold W. Payne, B.Sc., University of Alberta (Canada), 1950; M.D., 1952. (See Department of Obstetrics and Gynecology.)

FIRST YEAR
10 (501 and 502). 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 dissecting rooms so that students may easily compare their dissections with museum specimens. X-ray equipment and films are used for presenting the internal structure of the body, and motion pictures of fluoroscopic examinations.
tions are regularly presented. 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, Peterson)

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. Dempsey, Davies, Hess, Clark, Cohen, de Lorenzo)

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.)
DEPARTMENT OF BIOLOGICAL CHEMISTRY

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.

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
Distinguished Service Professor Emeritus
Philip Anderson Shaffer, A.B., West Virginia University, 1900; Ph.D., Harvard University, 1904; Sc.D., University of Rochester, 1939; Sc.D., Washington University, 1953. (Also holds title of Lecturer.)

Associate Professors
David H. Brown, B.S., California Institute of Technology, 1942; Ph.D., 1948.
Robert K. Crane, B.S., Washington College, 1942; Ph.D., Harvard University, 1950.
Sidney F. Velick, A.B., Wayne University, 1935; Ph.D., University of Michigan, 1938.

Assistant Professors
George R. Drysdale, B.S., Birmingham-Southern College, 1948; M.S., University of Wisconsin, 1950; Ph.D., 1952.
Philipp Strittmatter, B.S., Juniata College, 1949; Ph.D., Harvard University, 1954.

Research Associates
Barbara Illingworth Brown, B.A., Smith College, 1946; Ph.D., Yale University, 1950.
Paul W. Preisler, B.S. in Chem. E., Washington University, 1923; M.S., 1925; Ph.D., 1927; L.L.B., St. Louis University, 1954.
Mildred Cohn Primakoff, A.B., Hunter College, 1931; M.A., Columbia University, 1932; Ph.D., 1938.

Instructor
Luis Glaser, B.A., University of Toronto, 1953; Ph.D., Washington University, 1956.

Fellow
David A. Kipnis (Markle Postdoctoral), M.D., University of Maryland, 1951.

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; first semester. 312 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.
Dr. Carl V. Moore, Busch Professor of Medicine, examining a patient during ward rounds with three senior students and a house officer.

THE JOHN MILLIKEN DEPARTMENT OF MEDICINE

(The 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. Hagemann
Cardiovascular Disease ................................. Dr. J. Smith
Chest Disease .................................................. Dr. A. Goldman
Dermatology ................................................... Dr. Eisen
Gastroenterology ....................................... Dr. Duden
Hematology .................................................. Dr. Harrington
Hypertension ................................................ Dr. M. H. Perry
Immunology .................................................. Dr. Noah
Infectious Disease ........................................... Dr. Harford
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 both juniors and seniors. 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.

Busch Professor and Head of the Department

Professors
Richard John Bing, M.D., University of Munich, 1934; M.D., University of Bern, 1935.
Herman Nathaniel Eisen (Dermatology), A.B., New York University, 1939; M.E., 1943.
Robert Ely Shank (Preventive Medicine), A.B., Westminster College, 1935; M.D., Washington University, 1939. (See Department of Preventive Medicine.)
Sol Sherry, A.B., New York University, 1935; M.D., 1939.

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

Professors Emeriti (Clinical)
Harry Louis Alexander, A.B., Williams College, 1910; M.D., Columbia University, 1914.
Richard S. Weiss (Dermatology), M.D., Washington University, 1909.
Edward Massie, A.B., Washington University, 1931; M.D., 1935.

Associate Professors Emeriti (Clinical)
Adolph H. Conrad (Dermatology), M.D., St. Louis University, 1906.
Joseph W. Larimore, A.B., DePauw University, 1908; M.D., Washington University, 1913.
Drew W. Luten, A.B., University of Kentucky, 1901; M.D., Johns Hopkins University, 1911.
William H. Olmsted, B.S., Cae College, 1909; M.D., Johns Hopkins University, 1913.
Llewellyn Sale, M.D., Washington University, 1907.

Assistant Professors
Bernard Bercu, M.D., Washington University, 1944.
Neal S. Bricker, A.B., University of Colorado, 1945; M.D., 1949. (See Department of Preventive Medicine.)
Hugh Chaplin, Jr., A.B., Princeton University, 1943; M.D., Columbia University, 1947. (See Department of Preventive Medicine.)
Albert B. Eisenstein, A.B., University of Missouri, 1941; M.D., Washington University, 1944. (See Department of Preventive Medicine.)
Herman Erlanger, A.B., University of Wisconsin, 1933; M.D., Washington University, 1937. (See Department of Preventive Medicine.)
Anthony P. Fletcher, B.M., University of London, 1943; B.S., 1943; M.D., 1949.
David Tredway Graham, A.B., Princeton University, 1938; M.A., Yale University, 1941; M.D., Washington University, 1943. (See Department of Psychiatry and Neurology.)
Samuel B. Guze, M.D., Washington University, 1948; Ph.D., University of London, 1954. (See Department of Psychiatry and Neurology.)
Adolph Surtshin (Physiology), A.B., Columbia University, 1936; M.D., St. Louis University, 1941. (See Department of Physiology and Gerontology.)

Assistant Professors (Clinical)
Grace E. Bergner, A.B., Washington University, 1939; M.D., 1943.
Harold Aten Bulger, B.S., Ohio State University, 1916; M.D., Harvard University, 1920.
Truman Guthred Drake, A.B., Washington University, 1929; M.D., 1933.
Charles W. Duden, M.D., Washington University, 1926.
Bernard Friedman, A.B., University of Wisconsin, 1931; M.D., 1934.
Samuel B. Grant, B.S., Washington University, 1918; M.D., 1920.
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.
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.
William Bryan Kountz, M.D., Washington University, 1926.
John V. Lawrence, B.S., University of Chicago, 1917; M.D., 1925.
Virgil Loeb, Jr., M.D., Washington University, 1944. (See Department of Pathology.)

Horace Mitchell Perry, M.D., Washington University, 1946.
Lillian Recant, A.B., Hunter College, 1941; M.D., Columbia University, 1946. (See Department of Preventive Medicine.)
Seymour Reichlin, A.B., Antioch College, 1945; M.D., Washington University, 1948; Ph.D., University of London, 1954. (See Department of Psychiatry and Neurology.)
Morris Moore (Dermatology), S.B., Boston University, 1928; A.M., Harvard University, 1929; Ph.D., Washington University, 1933.

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.

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

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

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)

Jerome Epstein Cook, M.D., Washington University, 1905.

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

George D. Kettelkamp, A.B., Central Wesleyan College, 1909; M.D., Washington University, 1914.

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

Moises Grinstein, D.Ch., University of Buenos Aires, 1934.

Virginia Minnich, B.S., Ohio State University, 1937; M.S., Iowa State College, 1938.

Lecturer

Hitomu Tsuchiya, A.B., University of Missouri, 1913; Sc.D., Johns Hopkins University, 1930. (See Department of Microbiology.)

Instructors

Thomas Brittingham (USPHS) (Hematology), M.D., Harvard University, 1950.

Elmer B. Brown, Jr. (Hematology), A.B., Oberlin College, 1946; M.D., Washington University, 1950. (Also National Research Council Fellow.)

Guillermo Cabrera (Biochemistry), M.D., Madrid University, 1946.

Phillip Comens (Hypertension), B.S. in Medicine, University of Missouri, 1949; M.D., Washington University, 1951.

George L. Fischer, M.D., University of Rochester, 1951. (See Department of Preventive Medicine.)

Milton Kern, B.S., Brooklyn College, 1949; Ph.D., Yale University, 1954. (See Department of Microbiology.)

Eric Reiss, B.S., Randolph-Macon College, 1943; M.D., Medical College of Virginia, 1948. (Also American Cancer Society Scholar.)

John C. Tinsley, Jr., B.S., College of William and Mary, 1939; M.D., University of Virginia, 1943. (On leave of absence.)

Instructors (Clinical)

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

Louis F. Aitken, 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.

Seth S. Barnes (Dermatology), M.D., University of Tennessee, 1935.
Alfred Fleishman, B.S., Washington University, 1935; M.D., 1935.
Bruce Todd Forsyth, M.D., Washington University, 1947.
Ralph V. Gieselman, M.D., Washington University, 1947.
Bertrand Y. Glassberg, B.S., Washington University, 1923; M.D., 1925.
Melvin Leonard Goldman, A.B., Washington University, 1939; M.D., 1943.
Axel Reinhold Gronau, M.D., University of Naples, 1935.
Lee B. Harrison, A.B., University of Utah, 1925; M.D., Washington University, 1927.
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.
James Herbert Hutchinson, Jr., B.S., Arkansas A. and M. College, 1942; M.D., University of Arkansas, 1945.
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.
Melvin B. Kirstein, B.S., Indiana University, 1930; M.D., 1933.
William S. Klein, B.S., Columbia University, 1933; M.D., University of Chicago, 1937.
Norman P. Knowlton, B.S., Harvard University, 1912; M.D., 1945.
Robert E. Koch, A.B., Washington University, 1936; M.D., 1940.
Karl F. Koenig, B.S., University of Illinois, 1923; M.D., Washington University, 1931.
Marvin E. Levin, A.B., Washington University, 1947; M.D., 1951.
David M. Lieberman, M.D., Vanderbilt University, 1949.
Hiram S. Liggett, M.D., Washington University, 1920.
Warren M. Lonergan, A.B., Westminster College, 1936; M.D., Vanderbilt University, 1940.
Kurt Mansbacher, M.D., Friedrich-Wilhelms University, 1919. (On leave of absence.)
Morris D. Marcus (Dermatology), M.D., Washington University, 1934.
Richard W. Maxwell, A.B., Greenville College, 1932; M.D., University of Chicago, 1937.
James F. Nickel, A.B., University of Oklahoma, 1944; M.D., Washington University, 1948.
James W. Owen, Jr., M.D., Washington University, 1946.
Kenneth C. Price, M.D., University of Washington, 1951.
Marvin Rosecan, B.S., Washington University, 1949; M.D., 1949.
Samuel E. Schechter, M.D., Washington University, 1941.
John Wickham Seddon, Ph.B., Yale University, 1931; M.D., Washington University, 1935.
John Blasdel Shapleigh II, M.D., Washington University, 1946.
Burton A. Shatz, A.B., Washington University, 1940; M.D., 1943.
James C. Sisk (Dermatology), A.B., Washington University, 1943; M.D., 1946.
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.
Robert M. Smith, A.B., Washington University, 1936; M.D., 1940.
Ross B. Sommer, A.B., Miami University, 1949; M.D., Cornell University, 1949.
Franz U. Steinberg, M.D., University of Berne, 1933.
Ruth C. Steinkamp, B.S., M.S., University of Texas, 1940; M.D., University of Arkansas, 1950.
William A. Tibbs, Jr., B.S., in Medicine, University of Missouri, 1949; M.D., Washington University, 1951.
Stanley M. Wald, M.D., Washington University, 1946.
Thomas Joseph Walsh, B.S., University of Richmond, 1946; M.D., Washington University, 1949.
Hugh R. Waters, B.S., Northwestern University, 1942; M.D., Washington University, 1945.
Eugene P. Weber (Dermatology), M.D., Northwestern University, 1940.
Herbert C. Wiegand, A.B., Washington University, 1940; M.D., 1943.
Harry W. Wiese, B.S., Washington University, 1920; M.D., 1922.
Edward B. Williams, Jr., M.D., Meharry Medical College, 1944. (On leave of absence.)
Herbert B. Zimmerman, M.D., Washington University, 1951.

Instructors Emeriti (Clinical)
Anthony B. Day, B.S., Harvard University, 1913; M.D., Washington University, 1919.
George Manting (Dermatology), M.D., University of Michigan, 1915.

Assistants
Morton A. Binder, B.S., Yale University, 1948; M.D., Columbia University, 1951.

Alan B. St. Brinsmade, B.A., University of Wisconsin, 1947; M.D., Universite de Lausanne (Switzerland), 1955.

Jean Chapman, B.S., Southeast Missouri State College, 1950; B.S. in Medicine, University of Missouri, 1951; A.M., 1951; M.D., Washington University, 1953.

Henry Chong, M.D., University of British Columbia, 1956.

Isaac Cohen, B.S., Quetzaltenango, 1947; M.D., University of San Carlos, 1956.

Major L. Cohn, B.A., Brooklyn College, 1950; B.M., Fribourg University (Switzerland), 1953; M.D., Geneva University, 1956.


Jack M. Colwill, B.A., Oberlin College, 1953; M.D., University of Rochester, 1957.

Charles R. Cooke, A.B., West Virginia University, 1950; B.S., 1952; M.D., Johns Hopkins University, 1954.

Ralph Copp, Jr., A.B., Washington University, 1948; M.D., 1952.

William H. Danforth, A.B., Princeton University, 1947; M.D., Harvard University, 1951.

Eugene T. Davidson, A.B., Vanderbilt University, 1952; M.D., 1956.

Josephine Davis, R.N.


William H. Fleming, M.D., Medical College of Georgia, 1955.


Robert Frazier, M.D., University of Cincinnati, 1955.

Guido Guidotti, M.D., Washington University, 1957.

Edward Leo Hogan, B.S., Tufts College, 1953; M.D., 1957.

Charles Hogancamp, B.S., Murray State College, 1949; M.D., Washington University, 1953.

Richard G. Hosford, B.A., Southern Methodist University, 1953; M.D., Harvard University, 1957.

Michael Hughes, M.D., University of Tennessee, 1954.


Jack Kayes, B.A., Yale University, 1953; M.D., Washington University, 1957.


Richard Lewis Klein, A.B., Cornell University, 1953; M.D., New York University, 1957.

Harvey Liebhaber, A.B., New York University, 1953; M.D., 1957.


J. Russell Little, A.B., Cornell University, 1952; M.D., University of Rochester, 1956.


Otto M. Marx, A.B., University of California, 1953; M.D., 1957.

James McElroy, M.D., University of Alabama, 1953.

John J. McKinsey, B.S., Southern Methodist University, 1953; M.D., Southwestern Medical School, 1957.

David Miller, B.S., City College of New York, 1949; M.D., Harvard University, 1953.

Richard Miller, M.D., University of Buffalo, 1957.


David D. Nolting, B.S., University of New Mexico, 1950; M.D., Washington University, 1954.
Lynn L. Ogden II, B.S., University of Georgia, 1953; M.D., Medical College of Georgia, 1957.


Robert F. Owen, A.B., Princeton University, 1948; M.D., Yale University, 1952.

Robert C. Packman, A.B., Washington University, 1953; B.S. in Medicine, University of Missouri, 1954; M.D., Washington University, 1956.

Charles Ward Parker, M.D., Washington University, 1953.

Ernest Pund, M.D., Medical College of Georgia, 1955.

James Rentfrow, M.D., University of Oklahoma, 1950.

Frank A. Riddick, Jr., B.A., Vanderbilt University, 1950; M.D., 1954.

Celestino Sanchez, M.D., San Marcos University (Peru), 1954.

Albert Sattin, B.S., Western Reserve University, 1953; M.D., 1957.

Jane Sawyer, R.N. (On leave of absence.)

William D. Sawyer, M.D., Washington University, 1954.

Elizabeth Y. E. See, M.D., University of the Philippines, 1953.


Jeremiah E. Silbert, A.B., Harvard University, 1953; M.D., 1957.


William S. Sly, M.D., St. Louis University, 1957.

Hamilton Smith, A.B., University of California, 1952; M.D., John Hopkins University, 1956.


Ellinore Tabbert, R.N.

Marjorie Tittsworth, R.N.


Alvin S. Wenneker, A.B., Washington University, 1949; M.D., 1953.

Martin J. Wohl, A.B., Harvard University, 1953; M.D., Columbia University, 1957.

Ting Wa Wong, A.B., University of California, 1953; M.D., University of Chicago, 1957.

Thomas L. Wright, B.S., Purdue University, 1949; M.D., Washington University, 1953.

Rae Zierne, R.N.

Research Assistants


Evie G. Dennis, B.S., St. Louis University, 1953.

Mary Chapman Johnson, A.B., Washington University, 1938.

Kyohei Kako, M.D., Tokyo Jikei-Kai School of Medicine, 1953.

Esther Mae Parker, A.B., Lindenwood College, 1948; M.S., University of Wisconsin, 1950.

Assistants (Clinical)

Joseph Efron, B.S., University of South Carolina, 1944; M.D., 1948. (On leave of absence.)

Irwin H. Ekeles (Dermatology), B.S., Washington University, 1920; M.D., 1922.

Mauri Feldaker (Dermatology), A.B., Washington University, 1949; M.D., 1950.

Sydney A. Fraser, B.S., City College of New York, 1948; M.D., Meharry Medical College, 1952.

Albert F. Fricke, S.B., University of Chicago, 1939; M.D., 1941.

Oliver A. McKee (Dermatology), L.R.C.P., Royal College of Physicians and Surgeons (Dublin), 1949; S.M., 1949.

Arnold S. Moe, B.S., University of Minnesota, 1938; M.B., 1939; M.D., 1940.

Lamar H. Ochs, A.B., Washington University, 1941; M.D., 1944.

Maurice L. Sievers, B.S., University of South Dakota, 1947; M.D., Washington University, 1949.
Fellows

France Alexander (Trainee), A.B., Indiana University, 1950; M.D., 1953.
Robin M. Bannerman (Hematology), B.A., Oxford University, 1949; B.M., B.Ch., 1952.
Alois J. Beuren, M.D., University of Munich, 1945.
Gerald A. Dietert (St. Louis Heart Association) (Cardiology), M.D., Washington University, 1954.
Herbert H. Gass, B.S., Washington University, 1928; M.D., 1930.
Edgar J. Mills (St. Louis Heart Association) (Cardiology), M.B.Ch.B., University of Edinburgh, 1948.
Enrique Garcia Castelazo Moreno (Eli Lilly Foreign Fellow) (Hematology), M.D., Universidad Nacional Autonoma, 1952.
William Davis Salmon, Jr., B.S., Alabama Polytechnic Institute, 1946; M.D., Vanderbilt University, 1949.
Don M. Samples (Trainee), B.A., Westminster College, 1950; M.D., Vanderbilt University, 1954.
Salvador U. Vial (Research in Hypertension), M.D., Catholic University of Chile, 1951.
Adel A. Yunis (Trainee), B.A., American University of Beirut, 1950; M.D., 1954.

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

William J. Harrington.................................................................Committee Chairman

59
20. **Elementary Medicine.**

   (a) **Pathologic Physiology.** Observation and interpretation of the symptoms and signs of disease, with special reference to pathologic physiology. Part of Conjoint Medicine. 36 hours.  
   (Dr. Moore 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)

   (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. Harrington and Staff)

**Third Year**

30. **General Medicine.** Supervised Study of Patients on the Semi-Private Medical Service of the Barnes Hospital and on the Wards of St. Louis City 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. 408 hours.  
   (Drs. Bercu, Paine, 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 student 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. Goldman, Massie, Roberts, Brooks and Staff)

Dermatology Clinic. One afternoon a week for six weeks. 18 hours.

(Drs. Eisen, Lane, and Staff)

Psychosomatic Clinic. One morning a week for twelve weeks and one afternoon a week for six weeks. 54 hours.

(Drs. Graham, Guze, 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; Dr. Hartroft and 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. (Dr. Rouse 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. (Dr. Moore 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. (Dr. Bercu and Staff)

53. Student Internship at the St. Louis Veterans Hospital—Washington University Service. Six students. Six or twelve weeks, morning and afternoon. The medical service has been divided equally between the two medical schools in St. Louis to provide about 80 beds each. The full-time and part-time staff members plus the consultants and attending men on the Washington University service are prepared to offer highly individualized instruction. (Dr. R. Bing and Staff)
54. **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. S. Sherry and Staff)

55. **Medical Clerkships at Homer Phillips Hospital.** Six students. Morning only for six weeks. Attendance at ward rounds and conferences. Students will be given an opportunity to study selected patients admitted to the medical wards.

(Drs. J. Smith, Waters, and Staff)

56. **Psychosomatic Clinic.** Two students. Afternoons, twelve weeks. Participation in diagnosis and treatment of ambulatory patients with psychosomatic disorders. Only students who can arrange for longer elective periods than six weeks (see summer clerkships) will be accepted in the clinic.

(Drs. Graham, Guze)

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

(Drs. Brooks, Hampton, Hageman, Harrington, Scheff, Daughaday)

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.

58. **Diseases of the Chest, Koch Hospital.** Four students. All day for six weeks. Individual training in the clinical examination of patients suffering from thoracic disease. Assignment of selected cases. Discussion and demonstration of therapeutic procedures. Attendance at staff conferences and Clinical Pathological Conferences at Koch Hospital.

(Dr. Friedman)

59. **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 Washington University Clinics. Training in special diagnostic tests applicable to the study of metabolic and endocrine diseases.

(Dr. Daughaday)

60. **Infectious Diseases.** Two students. Six or twelve weeks. Observations of patients with infectious diseases in Barnes Hospital and the ward for contagious diseases at the City Hospital. Intensive study in the library of problems connected with these patients, followed by conferences with instructor.

(Dr. Harford)

61. **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. C. Moore, Harrington, Reinhard, Loeb, Brittingham)
62. 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.

(Dr. J. Smith and Staff)

63. Rotating Student Internship, St. Luke’s Hospital. One senior student. Six weeks. Students will serve as intern on medical, surgical, or obstetrical service. For medical service, apply to Dr. Paul O. Hagemann.

64. 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 include the following:

- Allergy—Drs. Noah and Hampton
- Cardiovascular Disease—Drs. J. Smith, R. Bing, and Bercu
- Dermatology—Dr. Eisen
- Hematology—Drs. Moore, Harrington, Reinhard, Loeb, and Brittingham
- Hypertension—Dr. M. Perry
- Infectious Disease—Dr. Harford
- Malignant Disease—Drs. Reinhard and Loeb
- Metabolic Disease—Drs. Daughaday, MacBryde, and Recant
- Nutrition—Drs. Shank and Eisenstein
- Psychosomatic Disease—Drs. Graham and Guze
- Rheumatic Disease—

Arrangements for these electives should be made directly with the faculty member with whom the student wishes to work.
A group of second year students discuss a class experiment on the antibiotic, chloramphenicol, with Dr. Arthur Kornberg, Professor of Microbiology.

DEPARTMENT OF MICROBIOLOGY

The research activities and the graduate teaching of microbiology are mainly in the areas of (1) intermediary metabolism (biochemistry), (2) genetics, (3) virology, and (4) immunology.

Intermediary metabolism includes studies of cellular nutrition, enzymatic mechanisms of metabolizing these nutrients and the processes whereby cells synthesize their proteins, nucleic acids, enzymes, coenzymes, carbohydrates, and characteristic structures. It is also concerned with the chemical basis for the production of substances peculiar to the microorganisms such as toxins, antibiotics, or pigments. Genetics encompasses efforts to understand the process of cellular reproduction and how the distinctive features of the progeny are derived. The nature of mutations, selection, resistance, and all the newly discovered mechanisms whereby cells are continually transformed and populations changed are included. The ease with which the growth of microorganisms can be regulated and the speed of their reproductive cycles (fifteen
minutes in certain bacteria) make it possible to study the development of populations of many billions of individuals in test tubes during the course of a few hours. Investigations in virology are concerned chiefly with bacterial viruses (bacteriophages) and the behavior of animal viruses in cell cultures. In this area biochemical and genetic questions are of prime importance. These studies blend imperceptibly into cancer research. Immunology is devoted largely to studies of antibody formation by animal tissues or cultures of tissue cells, to studies on the chemical nature of microbial antigens, and to the development of a better understanding of the antigen-antibody reaction.

Professor and Head of the Department
Arthur Kornberg, B.S., College of the City of New York, 1937; M.D., University of Rochester, 1941.

Professor
Melvin Cohn, B.S., College of the City of New York, 1939; M.S., Columbia University, 1941; Ph.D., New York University, 1949.

Associate Professor
Paul Berg (American Cancer Society Scholar), B.S., Pennsylvania State University, 1948; Ph.D., Western Reserve University, 1952.

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

Assistant Professor
David S. Hogness, B.S., California Institute of Technology, 1949; Ph.D., 1952.

Instructors
Robert I. DeMars, B.S., College of the City of New York, 1949; Ph.D., University of Illinois, 1953. (On leave of absence.)
Jerard Hurwitz (USPHS Senior Research Fellow), A.B., Indiana University, 1949; Ph.D., Western Reserve University, 1953.
Armin Dale Kaiser, B.S., Purdue University, 1950; Ph.D., California Institute of Technology, 1954.

In addition to instruction of medical students, the department offers graduate training to a limited number of students.

Research Assistants
Kengo Horibata, A.B., Hiroshima University (Japan), 1945.
Sylvy R. Kornberg, A.B., University of Rochester, 1938; M.S., 1940.
Gilbert Morales, B.S., Indiana University, 1955; M.S., Purdue University, 1957.
Ernest S. Simms.
Martin J. Walsh, M.S., University of Kentucky, 1955.

Fellows
Maurice Beesman (USPHS Postdoctoral), A.B., Harvard University, 1949; M.S., 1952; Ph.D., Tufts College, 1955.
Marvin L. Bobb (National Foundation for Infantile Paralysis Postdoctoral), A.B., University of Pennsylvania, 1942; M.D., Hahnemann Medical College, 1951.
Edward J. Oelgang (National Science Foundation Predoctoral), B.S., Massachusetts Institute of Technology, 1955; M.S., 1956.
Elliott H. Stonehill (Predoctoral), M.S., Brooklyn College, 1956.
Fred G. White (Predoctoral), B.S., Brigham Young University, 1952; M.S., 1956.
Herbert Wiesmeyer (National Science Foundation Predoctoral), A.B., University of Illinois, 1954.
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 will then be considered: viruses, rickettsia, bacteria and fungi. 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. 264 hours.
Dr. Willard M. Allen, Professor of Obstetrics and Gynecology, and a fourth year student observe the induction of anesthesia in a patient being prepared for gynecologic surgery.

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

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 2,000 new patients are seen and about 25,000 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.) Hobart College, 1940.

Professor (Clinical)
A. Norman Arneson, B.S., Texas Christian University, 1924; M.D., Washington University, 1926. (See Department of Radiology.)

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

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

Associate Professors (Clinical)
Robert J. Crossen, A.B., Oberlin College, 1921; M.D., Washington University, 1925.
John E. Hobbs, A.B., Southwest Missouri State Teachers College, 1923; M.D., Washington University, 1927.
Frank P. McNalley, B.S., Washington University, 1915; M.D., 1917.
Melvin A. Roblee, B.S., Washington University, 1923; M.D., 1925.
Samuel D. Soule, M.D., Washington University, 1928.
Carl Reinhard Wegner, A.B., North Central College, 1922; M.D., University of Nebraska, 1926.

Assistant Professors
Alfred I. Sherman, M.D., University of Toronto, 1944. (See Department of Radiology.)
Ralph B. Woolf, B.S., Massachusetts Institute of Technology, 1935; M.D., University of Rochester, 1939.

Assistant Professors (Clinical)
Seymour Monat, A.B., University of Pennsylvania, 1935; M.D., Long Island College of Medicine, 1939.

Kevin Charles Morrin, M.B., B.Ch., National University of Ireland, 1921.
Richard S. Paddock, M.D., Washington University, 1921.
Willard C. Scrivner, B.S., Washington University, 1926; M.D., 1930.
Heiman C. Wasserman, A.B., Johns Hopkins University, 1928; M.D., Washington University, 1932.
George J. L. Wulff, Jr., A.B., Washington University, 1929; M.D., 1933.

Instructor
Matthew W. Neall (Experimental), B.A., University of Utah, 1948; M.A., 1949; Ph.D., 1952.

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.
H. Marvin Camel, M.D., Creighton University, 1950.
Francis J. Canepa, M.D., Washington University, 1922.
Myron W. Davis, M.D., Washington University, 1925.
Arthur T. Esslinger, M.D., Washington University, 1940.
Leon Foster, M.D., University of Georgia, 1933.
Charles R. Gulick, A.B., Central College, 1910; M.D., St. Louis University, 1943.
William D. Hawker, B.S., Shurtleff College, 1933; M.D., Washington University, 1938.
Herman Hutto, A.B., University of Alabama, 1932; M.D., Washington University, 1935.
Frank B. Long, Jr., M.D., Washington University, 1947.
Paul F. Max, B.S., Washington University, 1932; M.D., 1932.
Milton H. Meyerhardt, A.B., University of Missouri, 1925; M.D., St. Louis University, 1927.
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.
Leslie E. Patton, B.S., St. Louis University, 1921; M.D., 1924.
James Pennoyer, B.S., Hobart College, 1933; M.D., University of Rochester, 1939.
David Rothman, B.S., Washington University, 1935; M.D., 1935.
William L. Smiley, A.B., Ohio State University, 1933; M.D., 1937.
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.
Seth E. Wissner, A.B., Washington University, 1942; M.D., 1945.

Instructor Emeritus (Clinical)
Grover Bernard Liese, A.B., Real-Gymnasium, Cassel, Germany, 1910; M.D., University of Heidelberg (Germany), 1913.

Assistants
David M. Anderson, Jr., A.B., University of North Carolina, 1950; M.D., 1954. (On leave of absence.)
Peter Bartsch, M.D., Johann Wolfgang Goethe University (Germany), 1952.
Julio Contreras, M.D., Escuela National de Medicina, 1953.

Thomas S. Gilpatrick, A.B., Harvard University, 1948; M.D., University of Washington, 1953.
David R. Holmes, B.S., Southwest Missouri State College, 1942; M.D., Washington University, 1951.
John Barlow Martin, B.A., Amherst College, 1951; M.D., Washington University, 1955. (On leave of absence.)
Everett M. McClintock, B.A., Washington and Lee University, 1951; M.D., University of Arkansas, 1955.
Girgis Mikhail, M.D., Alexandria University, 1955.
Amtul Muti, B.S., Punjab University (Lahore), 1951; M.D., 1951. (On leave of absence.)
Richard Munford, A.B., University of Rochester, 1947; M.D., Yale University, 1951.
Hans I. Orup, B.S., University of Washington, 1953; M.D., Washington University, 1956.
Amelia Rivera, M.D., University of Santo Tomas (P. I.) 1954.
Walter A. Ruch, A.B., Princeton University, 1951; M.D., Washington University, 1955.
Nathan I. Simon, B.S., St. Louis University, 1950; M.D., 1954.
Saul Vitner, A.B., Emory University, 1950; M.D., 1954.
Carol F. Williams, B.A., University of Tennessee, 1952; M.D., 1955.
Robert W. Wintemute, B.A., University of Saskatchewan, 1948; M.D., University of Alberta, 1952.
Hector Zevallos, B.S., St. Marcos University, 1948; M.D., 1956.

Assistants (Clinical)
Irving Blumfeld, B.S., Temple University, 1942; M.D., Jefferson Medical College, 1949.
OBSTETRICS AND GYNECOLOGY

John J. Carroll, A.B., Miami University, 1943; M.D., Loyola University, 1946.
Ira Clyde Gull, B.S., University of Cincinnati, 1948; M.D., 1951.
Justin F. Kraner, M.D., University of Michigan, 1949.
Laurence E. Maze, M.D., Washington University, 1948.
Melvin M. Schwartz, A.B., University of Nebraska, 1945; M.D., 1947.
Alfred F. Sudholt, A.B., University of Missouri, 1940; B.S., 1942; M.D., Washington University, 1943.
Wilfred B. Weisbrod, M.D., University of Toronto, 1947.

Mitchell Yanow, M.D., Washington University, 1941.

Research Assistant
Samuel J. Hayward.

Fellows
Mary F. Leahy, A.B., University of Rochester, 1947; M.D., 1953.
Harold W. Payne, B.S., University of Alberta (Canada), 1950; M.D., 1952. (See Department of Anatomy.)
Hilton A. Salhanick, A.B., Harvard University, 1946; M.A., 1948; Ph.D., 1950; M.D., University of Utah, 1956.
David Hu Ming Wu, B.D., Taihoku University (Formosa), 1947; M.D., National Taiwan University, 1951.

SECOND YEAR

20. Introduction to Obstetrics. Instruction is given to small groups of students in the University Clinics. (Part of Conjoint Medicine. See page 59.)

(Dr. Woolf and Staff)

THIRD YEAR

30. Obstetrical and Gynecological Pathology. One session of three hours each is used for lectures and study of representative slides (in sections of one-third of the class). 36 hours.

(Dr. Hobbs and Staff)

31. 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.

70.
FOURTH YEAR

40. Clinics and Lectures. Entire class each second week throughout the year. 18 hours. (Dr. Allen and Staff)

41. 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.

42. 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.

43. Tumor Service. Instruction in the diagnosis and treatment of neoplastic disease is given three hours once weekly in the tumor clinic for a period of six weeks. Informal lectures covering the use of X-ray, radium, and radio isotopes are given. (Dr. Sherman and 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.
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 twelve didactic lectures is given as an introduction to various aspects of ocular disease.

During the fourth year, students are assigned to the Eye Clinic once a week for six weeks. 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.

Professors Emeriti (Clinical)
Lawrence Tyler Post, A.B., Yale University, 1939; M.D., Johns Hopkins University, 1913.

Martin Hayward Post, A.B., Amherst College, 1908; M.D., Johns Hopkins University, 1912.
William Ewing Shahan, A.B., Washington University, 1901; M.D., 1904; A.M., 1912.
Meyer Wiener, M.D., Missouri Medical College, 1896.
Associate Professors (Clinical)
Howard Rommel Hildreth, M.D., Washington University, 1928.
William Mahlon James, B.S., Drury College, 1923; M.D., Washington University, 1926.
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.
Frederick Eno Woodruff, M.D., Missouri Medical College, 1897; A.B., Washington University, 1923.

Assistant Professors
Paul A. Cibis, M.D., University of Berlin, 1936; M.D., University of Heidelberg, 1944.
Marguerite A. Constant (Biochemistry), B.S., George Washington University, 1947; Ph.D., University of Wisconsin, 1951.

Assistant Professors (Clinical)
Edmund B. Alvis, M.D., Washington University, 1934.
Carl Conrad Beisbarth, B.S., Washington University, 1922; M.D., St. Louis University, 1926.
Leslie C. Drews, A.B., Washington University, 1927; M.D., 1929.
Adolph Charles Lange, B.S., Washington University, 1928; M.D., 1930.
Benjamin Milder, M.D., Washington University, 1939.
Paul W. Miles, A.B., University of Kansas, 1935; M.D., 1938.
Harry David Rosenbaum, M.D., Washington University, 1934.

Instructors
James W. Miller, M.D., Medical College of Alabama, 1949.

Associate Professors (Clinical)
Robert A. Moses, A.B., Johns Hopkins University; M.D., University of Maryland School of Medicine, 1942.
Bernard Wortman (Biochemistry), A.B., Syracuse University, 1948; Ph.D., Ohio State University, 1955.

Instructor Emeritus
Jay S. Crawford, A.B., Millington Academy, 1902; B.S., Spring Garden Institute, 1905; M.D., Temple Medical College 1906.

Instructors (Clinical)
Daniel Bisno, B.A., University of Wisconsin, 1927; M.D., Johns Hopkins University, 1931.
James Howard Bryan, A.B., Washington University, 1932; M.D., 1936.
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, 1913.
S. Albert Hanser, B.S., St. Louis University, 1933; M.D., 1937.
William Harry Middleton, A.B., Oberlin College, 1940; M.D., Washington University, 1943.
Lawrence T. Post, Jr., M.D., Washington University, 1948.
Philip T. Shahan, A.B., Harvard University, 1938; M.D., Washington University, 1942.

Assistants
Parviz Bozorgmehri, B.S., Louisiana State University, 1952; M.D., Washington University, 1956.
Robert E. Christensen, A.B., Stanford University, 1949; M.D., University of Southern California, 1954. (On leave of absence.)
Andrew J. Gay (National Neurological Diseases and Blindness Trainee), B.S., University of Alabama, 1950; M.S., 1954; M.D., Medical College of Alabama 1955.

Calvin T. Hughes, Jr., B.A., Yale University, 1950; M.D., Harvard University, 1953.

Robert H. Jessen B.A., University of Utah, 1943; M.D., Long Island College of Medicine, 1947.

Glen Paul Johnston, A.B., Washington University, 1953; M.D., 1956.

Charles W. Keskey, M.D., University of Michigan, 1954.

Albert P. Ley (National Neurological Diseases and Blindness Trainee), B.S., Antioch College, 1940; M.D., Harvard University, 1943.

William A. Moor, A.B., Washington University, 1935.

Edward Okun, M.D., University of Vermont, 1956.

Irvin Paul Pollack, A.B., The Johns Hopkins University, 1952; M.D., University of Maryland, 1956.

Joe Robert Smith, B.S., Central Missouri State College, 1951; B.S. in Medicine, University of Missouri, 1953; M.D., Washington University, 1955.

Assistant (Clinical)

Arthur W. Stickle, Jr., M.D., University of Oklahoma, 1943.

Fellows

Kurt A. Hahn, M.D., Kiel University (Germany), 1950.

Eugenia Megoussoglou, M.D., Athens University, 1952.

Tsuyoshi Yamashita, M.D., Juntendo Medical College (Japan).

Second Year

20. Ophthalmology. Lectures and demonstrations are given as a part of the course in Conjoint Medicine as well as additional lectures. 7 hours.

(Drs. Becker, Cibis, L. T. Post, Jr., and Resident Staff)

Third Year

30. Ophthalmology. Twelve didactic lectures are given in each trimester to one-third of the class.

(Drs. Becker, Cibis, Freeman, James, Miller, Moses, L. T. Post, Jr., Sanders 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. Three hours a week for six weeks. 18 hours.

(Drs. Becker, Miller, Moses, L. T. Post, Jr., P. T. Shahan, Stickle, and Resident Staff)
Dr. Theodore E. Walsh, Professor of Otolaryngology, reviews a student's dissection of the inner ear.

DEPARTMENT OF OTOLARYNOLOGY

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
Hallowell Davis (Research), A.B., Harvard University, 1918; M.D., 1922. (See Department of Physiology.)
Sol Richard Silverman (Audiology), A.B., Cornell University, 1933; M.S., Washington University, 1938; Ph.D., 1942.

Professor (Clinical)
James B. Costen, A.B., University of Arkansas, 1917; M.D., Washington University, 1922.

Professor Emeritus (Clinical)

Associate 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.

Associate Professors (Clinical)
French K. Hansel, M.D., St. Louis University, 1918; M.S., University of Minnesota, 1923.

Associate Professors Emeriti (Clinical)
Arthur M. Alden, A.B., University of Oklahoma, 1907; A.M., 1909; M.D., St. Louis University, 1915.
Isaac Dee Kelley, Jr., B.A., St. Louis University, 1903; M.D., 1908.

Assistant Professor

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.
Lee W. Dean, Jr., B.S., Yale University, 1930; M.D., Washington University, 1933.
Harry N. Glick, A.B., Cornell University, 1916; M.D., St. Louis University, 1922.
Edward H. Lyman, B.S., Washington University, 1937; M.D., 1937.
Robert E. Votaw, B.S., State University of Iowa, 1927; M.D., 1929.

Research Associates
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.

Instructor
Allan Goodman (Audiology), A.B., Brooklyn College, 1941; M.S., University of Michigan, 1949; Ph.D., 1952.

Instructors (Clinical)
Benard Adler, B.S., Washington University, 1937; M.D., 1937.
Harold M. Cutler, A.B., University of Maine, 1930; M.D., Tufts College, 1937.
Morris Davidson, B.S., Indiana University, 1936; M.D., 1938.
Guerdan Hardy, M.D., Washington University, 1929.
Daniel D. Klaff, B.S., University of Virginia, 1933; M.D., 1936.
Allen B. Potter, A.B., William Jewell College, 1916; M.D., St. Louis University, 1924.
Herbert M. Smit, M.D., St. Louis University, 1933.
A. Chesterfield Stutsman, B.S., Roanoke College, 1927; M.D., University of Virginia, 1931.
Joseph Warren West, M.D., Duke University, 1944.
Doris Surles Woolsey, B.S., Duke University, 1938; M.D., 1939.
Assistants

Che Jen Chen, M.D., National Taiwan University, 1951.


Dean W. Gray, B.S., Brigham Young University, 1952; M.D., Stanford University, 1956.

Toshio Roy Kaku, M.D., Washington University, 1956.

Fernando Medina do Amaral, M.D., Faculdade de Medicina de Para, Brazil, 1955.


Richard Rabkin, B.S., University of Cincinnati, 1951; M.D., Ohio State University, 1955.

Richard Voorhees, B.S., University of Washington, 1945; M.D., University of Oregon, 1953.

Ronald K. Watson, M.D., University of Manitoba, 1953.

Research Assistants

Marian Pfingsten Bryan, A.B., Washington University, 1931.

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


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 the use of instruments peculiar to this field. (Part of Conjoint Medicine. See page 59.)

THIRD YEAR

30. Otolaryngology. Twelve lectures are given in each trimester to one-third of the class. (Drs. Walsh, Ogura)

FOURTH YEAR

40. Otolaryngology. Practical instruction in diagnosis and treatment is given to small sections of the class. Three hours a week for 6 weeks. 18 hours. (Drs. Votaw, Lyman, Woolsey)

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)
A member of the resident staff demonstrates a gross specimen to students in the second year course in pathology.

DEPARTMENT OF PATHOLOGY

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 (Drs. M. Silberberg, R. Silberberg, and L. Yuan), Homer G. Phillips Hospital (Dr. Blache), and Jewish Hospital (Dr. Hassen). Material from these hospitals is available for teaching and research.
For the purpose of both teaching and research, the Department of Pathology is divided into specialties under the following directors:

Cardiovascular Pathology.......................... Dr. Thomas
Clinical Pathology............................... Dr. V. Loeb, Jr.
Dentistry........................................... Dr. Burstone (on leave of absence)
Experimental Pathology.......................... Dr. P. Hartroft
Genitourinary Pathology......................... Dr. Harkin
Infectious Diseases............................... Dr. M. G. Smith
Medicolegal Pathology............................ Dr. O'Neal
Metabolic Diseases............................... Dr. W. S. Hartroft
Neuropathology .................................... Dr. Luse
Pathology of the Endocrines..................... Dr. Lacy
Surgical Pathology................................ Dr. Ackerman

Edward Mallinckrodt Professor and Head of Department
Walter Stanley Hartroft, B.Sc. in Medicine, University of Alberta, 1941; M.D., 1941; Ph.D., University of Toronto, 1950.

Professors
Lauren V. Ackerman, A.B., Hamilton College, 1927; M.D., University of Rochester, 1932. (See Department of Surgery.)
Adolfo F. Cardeza, M.D., University of Buenos Aires, 1937. (Visiting.)
Margaret Gladys Smith, A.B., Mount Holyoke College, 1918; M.D., Johns Hopkins University, 1922.

Professor Emeritus
Leo Loeb, M.D., University of Zurich, 1896; Sc.D. (hon.), Washington University, 1948.

Associate Professors
Sarah A. Luse, A.B., Rockford College, 1940; M.D., Western Reserve University, 1949.
Martin Silberberg, M.D., University of Breslau, 1920.
Ruth Silberberg, M.D., University of Breslau, 1931.
Wilbur A. Thomas, B.A., University of Mississippi, 1941; M.D., University of Tennessee, 1946.

Assistant Professors
James C. Harkin, B.S., University of Nebraska, 1951; M.D., 1951.
Jack Hasson, B.S., City College of New York, 1947; M.D., State University of New York, 1951.
Paul E. Lacy, B.A., Ohio State University, 1945; M.D., 1948; M.Sc. 1948; Ph.D., University of Minnesota, 1955.
Virgil Loeb, Jr., M.D., Washington University, 1944. (See Department of Medicine.)
Robert M. O'Neal, B.S., University of Mississippi, 1943; M.D., University of Tennessee, 1945.
Harlan J. Spjut, B.A., University of Utah, 1943; M.D., 1946. (See Departments of Radiology and Surgery.)

Lecturer Emeritus
Thomas B. Pote, D.V.S., McGill University, 1892; M.D., Washington University, 1902.

Instructors
Robert C. Ahlvin (Life Insurance Medical Research Fund Fellow), B.S., Iowa State College, 1950; M.D., Washington University, 1954.
John D. Bauer, B.Sc, University of Innsbruck (Austria), 1938; L.R.C.P. & S., University of Glasgow (Scotland), 1941; M.D., Marquette University, 1947.
Julian Blache, M.D.
Ernest L. Frank, M.D., Friedrich-Alexander University, 1942.
Nadya F. Konikov, B.S., Boston University, 1946; M.D., 1950.
William R. Platt, B.S., University of Maryland, 1936; M.D., 1940.
Robert F. Schaef er, M.D., St. Louis University, 1948.
Ursula Slafford, B.S., Howard University, 1942; M.D., 1945.
Louis S. K. Yuan, M.D., Aurora University (China), 1938.

Assistants
Bernabe Banson, M.D., University of Santo Tomas, 1954.
Robert R. Belliveau, A.B., Clark University, 1953; M.D., Washington University, 1957.
Dennis Debeyiotis, M.D., Athens University (Greece), 1951.
David Lincoln Edwards, A.B., Yale University, 1951; M.D., Washington University, 1955.
John F. Fitzgibbons, B.S., Creighton University, 1950; M.S., 1951; M.D., 1955.
John W. Grayson, Jr., B.S., Ohio State University, 1953; M.D., Washington University, 1957.
Joe W. Grisham, A.B., Vanderbilt University, 1953; M.D., 1957.
Hideshige Imai, B.S., Toyama College (Japan), 1947; M.D., Tohoku University (Japan), 1947.
Frederick T. Kraus, B.A., College of William and Mary, 1951; M.D., Washington University, 1955.
James A. Pitcock, B.S., Massachusetts Institute of Technology, 1951; M.D., Washington University, 1955.
Barbara Rosenberg, B.A., Wellesley College, 1949; M.D., Yale University, 1953.
Antonio Stazio, M.D., University of Naples (Italy), 1954.

Research Assistants
Phyllis Merritt Hartroft, B.S., University of Michigan, 1949; M.A., University of Toronto, 1951; Ph.D., 1954.
William Wilson.

Fellow
Leonard Newmark (Research), A.B., Washington University, 1956.
Robert Ogilvie, B.A., University of Utah, 1943; M.D., 1946.

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. 336 hours. (Drs. Hartroft, M. Smith, Luse, Thomas, O'Neal, Harkin, Lucy, Konikov and Staff)
THIRD AND FOURTH YEARS

30 and 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 third and fourth years.

(Drs. Hartroft, M. Smith, Thomas, O'Neal, Luse, Harkin, Lacy, Konikov)

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. W. S. Hartroft, M. Smith, Luse, P. M. Hartroft, Thomas, O'Neal, Harkin, Lacy, Konikov)

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.

(Drs. Hartroft, M. Smith, Thomas)

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

(Drs. Hartroft, M. Smith, Thomas)

53 (598). Elective Course in Experimental Pathology. Conducted during the third trimester one afternoon a week. General Pathology portion of 501 is the prerequisite. The course consists of the production of experimental lesions in small animals, using a variety of techniques. Only a limited number of students can be accepted.

(Drs. W. S. Hartroft, Thomas, P. M. Hartroft, and Staff)

54. 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.

(Drs. Hartroft, M. Smith)

55. 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.

(Drs. W. S. Hartroft, M. Smith, P. M. Hartroft, and Staff)

The Department offers facilities for fulfilling requirements for the degree of Ph.D. in Pathology.
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 196, and accepts all types of problems in children under 15 years of age, averaging about 5,000 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 Head of Department
Alexis F. Hartmann, B.S., Washington University, 1919; M.S., 1921; M.D., 1921.

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

Associate Professors
David Goldring, A.B., Washington University, 1936; M.D., 1940.
William Klingberg, A.B., University of Wichita, 1938; M.D., Washington University, 1943. (On leave of absence.)
Donald Lionell Thurston, B.S., Vanderbilt University, 1934; M.D., 1937.

Associate Professor Emeritus (Clinical)
Adrien S. Bleyer, M.D., Missouri Medical College, 1899.

Assistant 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.
Ruth E. Martin (Dentistry), D.D.S., Washington University, 1923. (On leave of absence.)
J. Neal Middelkamp, B.S., University of Missouri, 1946; M.D., Washington University, 1948.
Jean Holowach Thurston, B.A., University of Alberta, 1937; M.D., 1941.

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.
Alfred S. Schwartz, A.B., Amherst College, 1932; M.D., Johns Hopkins University, 1936.
Park J. White, A.B., Harvard University, 1913; M.D., Columbia University, 1917.
Paul J. Zentay, M.D., University of Kolozsvár (Hungary), 1914. (See Department of Psychiatry and Neurology.)

Research Associates
Frances K. Graham (Research), B.A., Pennsylvania State University, 1938; Ph.D., Yale University, 1942. (See Department of Psychiatry and Neurology.)
Helen Knott Thornton (Research), B.S., University of Washington, 1937; M.S., 1938; Ph.D., Ohio State University, 1944.

Instructors
John Gilster (Dentistry), D.D.S., Washington University, 1944.
Alexis F. Hartmann, Jr. (Research Fellow), B.S., Washington University, 1951; M.D., 1951.
Barbara Jones (Research Fellow), A.B., Stanford University, 1949; M.D., University of Utah, 1952.
Miriam M. Pennoyer, B.S., Carnegie Institute of Technology, 1935; M.D., University of Rochester, 1939.
Hulda J. Wohltmann, B.S., College of Charleston, 1941; M.D., Medical College of South Carolina, 1949.

Instructors (Clinical)
Helen Aff-Drum, B.S., Washington University, 1934; M.D., 1934.
Joseph A. Bauer, M.D., Washington University, 1926.
Clifford Read Boles, A.B., Washington University, 1940; M.D., 1943.
Robert H. Friedman, M.D., Washington University, 1948.
Samuel Gollub, B.S., Washington University, 1941; M.D., 1941.
Leo Francis Goven, A.B., St. Joseph's College, 1934; M.D., Temple University, 1938.
Gene Grabau, B.S., St. Louis College of Pharmacy, 1937; M.D., Washington University, 1942.
Stanley Leonard Harrison, B.S., Washington University, 1928; M.D., 1930.
Dorothy Jeannette Jones, A.B., Oberlin College, 1930; M.D., Washington University, 1934.
Lawrence I. Kahn, A.B., University of Alabama, 1941; M.D., Louisiana State University, 1945.
Kenneth Albert Koerner, A.B., Washington University, 1935; M.D., 1941.
Paul Edward Kubitschek, B.S., Creighton University, 1918; M.D., 1922; D.Sc., University of Pennsylvania, 1928. (See Department of Psychiatry and Neurology.)
Sol Londe, B.S., Washington University, 1925; M.D., 1927.
John C. Martz, A.B., University of Missouri, 1938; M.D., Washington University, 1942.
Herbert Arthur Mazur, M.D., Washington University, 1943.
David McClure, M.D., University of Tennessee, 1940.
Helen Nash, A.B., Spelman College, 1942; M.D., Meharry Medical College, 1945.
Paul H. Painter, M.D., St. Louis University, 1947. (Also Psychiatry.)
Edith C. Robinson, A.B., Randolph-Macon College, 1927; M.S., University of South Carolina, 1929; M.D., Johns Hopkins University, 1932. (See Department of Psychiatry and Neurology.)
Edwin H. Rohling, M.D., Washington University, 1919.
Wayne Arthur Rupe, A.B., University of Missouri, 1916; M.D., Washington University, 1918.
Stanley H. Schuman, M.D., Washington University, 1948.
Bernard Schwartzman, A.B., Washington University, 1931; M.D., 1935.
Frank S. Wissmath, A.B., Washington University, 1939; M.D., 1943.

Instructor Emeritus (Clinical)
Maurice J. Lonsway, B.S., Valparaiso University, 1910; M.D., St. Louis University, 1914.

Assistants
Mary Elizabeth Beckman, R.N., Washington University, 1945; B.S. in Nursing, 1948.
Erwin F. Busiek, A.B., Southwest Missouri State College, 1950; M.D., Vanderbilt University, 1955.
Burton M. Franklin, B.S., University of Wisconsin, 1950; M.D., 1953.
Cherie Friedman, B.A., University of Mississippi, 1948; M.D., University of Tennessee, 1955.
Dorothy Glahn, B.S., Washington University, 1947. (On leave of absence.)
Dorothy May Grundonner, R.N., Washington University School of Nursing, 1953.
Virginia Hagemann, B.S. in Nursing, Washington University, 1948. (On leave of absence.)
Antonio Hernandez, Jr., M.D., Manila Central University, 1954.
Robert D. Holland, A.B., Kansas State College, 1952; B.S., University of Missouri, 1954; M.D., Washington University, 1956.
Channivat Kashemsant, M.D., University of Medical Sciences, Bangkok, Thailand, 1951.
Colette M. Kohler, B.A., University of Texas, 1951; M.D., 1955.
Kathleen Doris McClinton, R.N., DePaul Hospital School of Nursing, 1947.
Frederick D. Peterson, A.B., Knox College, 1953; M.D., Washington University, 1957.
Alexander W. Pierce, Jr., B.A., Vanderbilt University, 1952; M.D., 1956.
Mable L. Purkerson, A.B., Erskine College, 1951; M.D., Medical College of South Carolina, 1956.

Yavuz A. Renda, M.D., Ankara University (Turkey), 1953.

Leonard P. Rome, B.A., Yale University, 1952; M.D., Tufts University, 1956.

Howard V. Sanden, M.D., Washington University, 1957.

Ulgan I. Sila, M.D., Istanbul University, 1956.

Mary A. Smith, B.S. in Nursing, St. Louis University, 1950.

Allan B. Sokol, B.S., College of Charleston, 1949; M.D., Medical College of South Carolina, 1953.


Barbara A. Stephenson, B.S., Pennsylvania College for Women, 1952; M.D., Emory University, 1956.

Donald B. Strominger, B.A., Yale University, 1949; M.D., Washington University, 1953.

I. Thomas Taylor, M.D., Washington University, 1953.

Barbara Nancy Voege, B.S., University of Illinois, 1950; M.D., Washington University, 1957.

Betty Jean Whitener, R.N., St. Luke’s Hospital, 1948.

Marion M. Winkler, Jr., M.D., Tulane University, 1955.

Kathleen Winters, B.S., Winthrop College, 1946; M.D., Medical College of South Carolina, 1955.

Assistants (Clinical)

Donald B. Bond, A.B., Western Maryland College, 1938; M.D., University of Maryland, 1948.

Martin Calodney, B.S., College of the City of New York, 1930; M.D., New York University, 1936.

Norman Hankin, A.B., University of Wisconsin, 1940; M.D., 1943.

Maurice J. Keller, A.B., Yale University, 1936; M.D., Columbia University, 1940.

Marian Kuttner, M.D., Johann Wolfgang Goethe University (Frankfurt am Main), 1931.


Homer Nash, M.D., Meharry Medical College, 1951.

Frederick Sargent, A.B., Yale University, 1939; M.D., Cornell University, 1943.

George Sato, M.D., Washington University, 1947.

Seymour M. Schlansky, M.D., Chicago Medical School, 1950.


Research Assistants

Marguerite Craft (USPHS), B.S., Northwestern University, 1950; M.A., 1952.

Claire Ernhart, A.B., Heidelberg College, 1949; M.A., University of Missouri, 1953. (See Department of Psychiatry and Neurology.)


Fellow

H. B. Zwirn (Research) (St. Louis Heart Association), M.D., University of Basel (Switzerland), 1954.

SECOND YEAR

20. In the course on Applied Pathologic Physiology the student is introduced to pediatrics and the full-time staff through the medium of eleven 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 on Conjoint Medicine the student is taken to the wards and given instruction in physical diagnosis. (See page 59.)
THIRD YEAR

30. Twelve lectures on nutritional requirements, infant feeding, and contagious diseases are given to the entire class. One-sixth of the class works as clinical clerks for six weeks. This work consists of the following: (1) Assignment to intern or resident with joint responsibility of caring for inpatients; (2) Daily ward rounds and bedside conferences with house staff and their full-time supervisor; (3) Twice weekly bedside conferences with members of the visiting staff; (4) Weekly clinical-pathological conference; (5) Weekly clinical conference primarily designed for fourth-year students; (6) Weekly Saturday morning sessions in the Metabolic Clinic; (7) Special demonstrations in common nursing procedures, which include the preparation of artificial formulae.

(Entire full-time Staff)

FOURTH YEAR

40. One-twelfth of the class works for one week in the St. Louis Maternity Hospital with newborn infants, and for two weeks in the pediatric outpatient department.

(Entire Staff)

41. The entire fourth-year class attends weekly amphitheatre demonstrations and discussions of selected cases from the Hospital.

(Entire full-time Staff)

ELECTIVE COURSE

50. Six weeks of elective time may be spent according to the individual desires of the student—as 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. As new and better drugs are introduced, some of the older ones are discarded. It is therefore 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.

Many drugs are harmful in excessive amounts; toxicology is therefore 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 is comprised of a small research project for each group of four students. The problems are of student choice and frequently require the use of special equipment in the research laboratories of the department. The results are reported at a final meeting of the class.

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

Professor
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.
Morris Enton Friedkin, B.S., Iowa State College, 1940; M.S., 1941; Ph.D., University of Chicago, 1948.
Francis Edmund Hunter, Jr., B.S., Mount Union College, 1938; Ph.D., University of Rochester, 1941.

Assistant Professor
Jack Strominger (Markle Scholar), A.B., Harvard University, 1946; M.D., Yale University, 1948.

Instructor
David B. McDougal, Jr. (Kenney Foundation Fellow), A.B., Princeton University, 1945; M.D., University of Chicago, 1947.

Research Assistants
Elizabeth Jane Crawford, B.S., Cornell University, 1943.
Kathryn Little, Ph.D., University of Rochester, 1957.

Fellows
Bruce Breckenridge, B.S., Iowa State College, 1947; Ph.D., University of Rochester, 1952; M.D., 1956.
David Dietzler (Predoctoral), A.B., Washington University, 1957.
John Kissane (National Foundation for Infantile Paralysis), A.B., University of Rochester, 1948; M.D., Washington University, 1952.
Steven Mayer (National Multiple Sclerosis Society), B.S., University of Chicago, 1949; M.S., University of Illinois, 1953; Ph.D., 1954.

SECOND YEAR
20 (501 and 502). (a) Lectures, conferences, panel discussions. 70 hours.
(b) Laboratory course. 146 hours.

(Drs. Lowry, Graham, Hunter, Friedkin, Strominger, Burch, McDougal)

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.
First year students making observations during one of the laboratory sessions in physiology.

DEPARTMENT OF PHYSIOLOGY

The department occupies one and a half floors 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. Students work in groups of two at individual tables, except for special experiments where groups of two or four are assigned. The principal research interests of the department at present are the peripheral and central nervous systems, circulation, smooth and striated muscle, respiration, and the kidney.

Professor and Head of Department
Harrow Lester White, B.S., Washington University, 1918; M.D., 1920.

Professor
Hallowell Davis, A.B., Harvard University, 1918; M.D., 1922; Sc.D. (Hon.), Colby College, 1954. (See Department of Otolaryngology.)
Professor Emeritus

Joseph Erlanger, B.S., University of California, 1895; M.D., Johns Hopkins University, 1899; LL.D., University of California, 1932; Sc.D., University of Wisconsin, 1936; Sc.D., University of Pennsylvania, 1936; Sc.D., University of Michigan, 1937; Sc.D., Washington University, 1946; LL.D., Johns Hopkins University, 1947; Doctor (hon.), Free University of Brussels, 1949.

Associate Professors

Arthur S. Gilson, Jr., B.S., Dartmouth College, 1919; A.M., Harvard University, 1922; Ph.D., 1924.

Albert Roos, M.D., University of Groningen (Netherlands), 1940. (See Department of Surgery.)

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.

Adolph Surtshin, A.B., Columbia University, 1936; M.D., St. Louis University, 1941. (See Department of Medicine and Division of Gerontology.)

Assistant Professor

Stanley Lang, Ph.B., University of Chicago, 1946; S.B., 1948; S.M., 1949; Ph.D., 1952.

Assistant

Frederick W. Klinge, A.B., University of Missouri, 1938; M.D., Washington University, 1942. (See Department of Surgery.)

Research Associate

Doris Rolf, A.B., Harris Teachers College, 1936.

Research Assistant

Koichi Yagi, Ph.D., Hokkaido University, 1956.

Fellow

Vivian Krespi, M.S., University of Minnesota, 1956.

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.

Each week students in small groups meet an instructor to discuss the lecture material presented in the preceding week. Small groups of students also meet with instructors to discuss principles concerned with laboratory experiments and results obtained.

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

10 (502). Lectures in second and third trimesters of first year. 114 hours.
11 (503). Laboratory and conferences. Third trimester of first year. Laboratory 152 hours, conferences 40 hours.

(Drs. White, Gilson, Schoepfle, Roos, Sleator, Surtshin, Lang)

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.
Dr. Robert E. Shank, Professor of Preventive Medicine, other members of his department, and fourth year students assigned to the co-ordinated out-patient clerkship photographed during an informal seminar at which the problems presented by a patient recently seen in the Clinic are discussed.

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 trimester 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.)

**Assistant Professors**
Neil S. Bricker, A.B., University of Colorado, 1945; M.D., 1949. (See Department of Medicine.)
Hugh Chaplin, Jr., A.B., Princeton University, 1943; M.D., Columbia University, 1947. (See Department of Medicine.)
Herbert R. Domke (Public Health), B.S., University of Chicago, 1939; M.D., 1942; M.P.H., Harvard University, 1948.
Albert Eisenstein, A.B., University of Missouri, 1941; M.D., Washington University, 1944. (See Department of Medicine.)
Herman Erlanger, A.B., University of Wisconsin, 1933; M.D., Washington University, 1937. (See Department of Medicine.)
Lillian Recant, A.B., Hunter College, 1941; M.D., Columbia University, 1916. (See Department of Medicine.)

**Research Associate**
Alfred G. Etter (Nutrition), A.B., Washington University, 1941; Ph.D., 1950.

**Instructors**
George Fischer, M.D., University of Rochester, 1951. (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.

**Research Assistants**
Chuan-huan Cheng, B.S., National Central University (China), 1944; M.S., Cornell University, 1950; Ph.D., Michigan State College, 1955.
Mary B. Koch, A.B., Miami University, 1936.

**Lecturer**
Barbara Hixon (Statistics), B.S., University of Illinois, 1941.
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 trimester, 1 hour a week, 12 hours. (Dr. Chaplin and Staff)

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. Third trimester, 2 hours a week, 24 hours. (Mrs. Barbara Hixon)

SECOND YEAR

20. Natural History of Disease. This is a series of lectures reviewing the principles of epidemiology and the utilization of epidemiologic data in arriving at description of the natural history of disease. The course is concerned with multiple rather than the specific causes of disease and demonstrates how a knowledge of the natural history of a disease is of assistance in diagnosis, prognosis, and prevention of that disease. Each student is required to submit a treatise on the natural history of a selected disease. Third trimester, 1 hour a week, 12 hours. (Drs. Shank, Domke, Eisenstein, Recant, Bricker, Chaplin)

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, 31 hours a week, 372 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. Domke)
Instruction in psychiatry and neurology is given in all four years of the medical course. In the third trimester 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, correlated with medical and surgical instruction in history-taking and in physical examination, instruction is given in the approach to the patient as a person. This is done in lectures, demonstration interviews, and discussion. The student begins to appreciate the chief patterns of behavior that characterize a given person; the vulnerabilities of the person when these patterns are inadequate for important life situations; the symptoms (disturbances in physiology, emotion, and thinking) associated with ineffective management of common and uncommon life crises; and the adequate reactions to life crises.
In the third year, psychiatric teaching covers the field of clinical psychiatry in a systematic series of patient clinics. The students spend one week on an inpatient psychiatric service. They have the opportunity to observe and participate in emergency service psychiatric problems in addition to their work on the wards.

In the fourth year, psychiatric and neurologic teaching are 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 psychosomatic medicine and upon psychotherapy.

Neurological instruction commences 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 in the localization of neurological lesions. In the second year the neurological part of physical diagnosis is covered by lectures and exercises. Third and fourth year work centers upon in- and outpatient clerkship studies in clinics and on hospital wards. Systematic lecture series are provided for both third and fourth years. Electroencephalography is available as a fourth-year elective.

Wallace Renard Professor of Psychiatry and Head of Department

Edwin Francis Gildea, A.B., Colorado College, 1920; M.D., Harvard University, 1924.

Professors

Ivan Norman Mensh (Medical Psychology), A.B., George Washington University, 1940; A.M., 1942; Ph.D., Northwestern University, 1948.

James Lee O'Leary (Neurology), S.B., University of Chicago, 1925; Ph.D., 1928; M.D., 1931.

Saul Rosenzweig (Medical Psychology), A.B., Harvard University, 1929; M.A., 1930; Ph.D., 1932.

George Andrew Ulett (Psychiatry), B.A., Stanford University, 1940; M.S., University of Oregon, 1943; Ph.D., 1944; M.D., 1944.

Professor Emeritus

George Holman Bishop (Neurophysiology), A.B., University of Michigan, 1912; Ph.D., University of Wisconsin, 1920. (Also holds title of Lecturer.)

Associate Professors

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

Eli Robins (Psychiatry), A.B., Rice Institute, 1940; M.D., Harvard University, 1943.

Associate Professors (Clinical)

Bernard A. Cruvant (Psychiatry), A.B., Washington University, 1932; M.D., 1937.

Irwin Levy (Neurology), A.B., Cornell University, 1927; M.D., St. Louis University, 1931; Med.Sci.D., Columbia University, 1935.

Associate Professor Emeritus (Clinical)

Andrew B. Jones (Neurology), M.D., Vanderbilt University, 1916.

Research Associates

Bettye M. Caldwell (Medical Psychology), A.B., Baylor University, 1945; A.M., State University of Iowa, 1946; Ph.D., Washington University, 1951.
Margaret H. Clare (Neurophysiology), B.S. in Ed., Southeast Missouri State Teachers College, 1940; M.A., Washington University, 1951.

Frances K. Graham (Medical Psychology), B.S., Pennsylvania State University, 1938; Ph.D., Yale University, 1942. (See Department of Pediatrics.)

John A. Stern (Medical Psychology), A.B., Hunter College, 1949; M.S., University of Illinois, 1951; Ph.D., 1953.

Lecturer

Lester Drubin (Psychiatry), B.S., Columbia University, 1933; M.D., Long Island University, 1937.

Assistant Professors

Hassan Azima (Psychiatry), B.A., University of California, 1946; M.D., University of Kansas, 1948.

Loretta Cass (Medical Psychology), A.B., Colorado College, 1934; M.A., 1942; Ph.D., Ohio State University, 1950.

Patricia S. Fingert (Psychiatric Social Work), A.B., Washington University, 1934; M.S.W. 1950.

David T. Graham (Psychiatry), A.B., Princeton University, 1938; M.A., Yale University, 1941; M.D., Washington University, 1943. (See Department of Medicine.)

Samuel B. Gaze (Psychiatry), M.D., Washington University, 1945. (See Department of Medicine.)

Warren H. Kempinsky (Neurology), B.S., University of Washington, 1941; M.D., Washington University, 1944.


Patricia L. O’Neal (Psychiatry), A.B., Washington University, 1944; M.D., 1948.

Seymour Reichlin (Psychiatry), A.B., Antioch College, 1945; M.D., Washington University, 1948; Ph.D., University of London, 1954. (See Department of Medicine.)

Kathleen Smith (Psychiatry), B.S., University of Arkansas, 1944; M.D., Washington University, 1949.

James M. A. Weiss (Psychiatry), B.A., University of Minnesota, 1941; B.S., 1947; M.B., 1949; M.D., 1950; M.P.H., Yale University, 1951.

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

Assistant Professors (Clinical)


Anthony K. Busch (Psychiatry), M.D., St. Louis University, 1937.

Archie D. Carr (Neurology), B.S., Washington University, 1918; M.D., 1921.

Hyman H. Fingert (Psychiatry), B.A., State University of Iowa, 1931; M.D., 1934.

Margaret C.L. Gildea (Psychiatry), B.S., University of Chicago, 1923; M.D., Yale University, 1936.

Joseph J. Gitt (Neurology), M.D., Washington University, 1930.

Alex H. Kaplan (Psychiatry), B.S., College of City of New York, 1932; M.D., St. Louis University, 1936. (Also Child Guidance.)

Robert L. Lam (Psychiatry), A.B., University of Michigan, 1941; M.D., 1944.


Ernest Holden Parsons (Psychiatry), B.A., Vanderbilt University, 1927; M.D., 1930.

Val B. Satterfield (Psychiatry), B.S., Washington University, 1922; M.D., 1924.

Conrad Sommer (Psychiatry), B.S., University of Illinois, 1929; M.S., 1931; M.D., 1932.

Instructors

Louetta Berger (Psychiatric Social Work), B.S., University of Wichita, 1941; M.S.W., Washington University, 1945.

Alfred D. Buchmueller (Psychiatric Social Work), A.B., Elmhurst College, 1932; M.S.W., Washington University, 1948.

Marguerite Cannon (Psychiatric Social Work), B.S., St. Louis University, 1936; M.S.W., Washington University, 1948.


Lucile Healy (Psychiatric Social Work), A.B., College of St. Catherine, 1922; M.A., University of Minnesota, 1927; M.S.W., Washington University, 1949.


Arthur M. Kaplan (Medical Psychology), A.B., University of Maine, 1949; A.M., Boston University, 1950; Ph.D., Cornell University, 1955.

George E. Murphy (Psychiatry), B.S., Oregon State College, 1949; M.D., Washington University, 1952.

Donald M. Pollie (Medical Psychology), A.B., Kalamazoo College, 1950; M.A., University of Michigan, 1952; Ph.D., 1956.

Instructors (Clinical)

Libby G. Bass (Medical Psychology), B.A., University of Illinois, 1928; M.A., Northwestern University, 1929.

Robert M. Bell (Psychiatry), M.D., St. Louis University, 1928.

Thomas T. Bennett (Psychiatry), B.S., University of Oregon, 1950; M.D., 1952.

Nathan Blackman (Psychiatry), B.S., University of Rhode Island, 1929; M.D., University of Paris, 1936.

Robert D. Brookes (Neurology), A.B., DePauw University, 1934; M.D., Washington University, 1938.

Mary A. Cox (Psychiatry), A.B., Washington University, 1941; M.D., 1944.

Robert Bailey Deitchman (Psychiatry), B.A., University of Virginia, 1949; M.D., 1953.

Herbert J. Erwin (Psychiatry), A.B., Lincoln University 1933; M.D., Meharry Medical College, 1937.

Arthur S. Greditzer (Psychiatry), M.D., Washington University, 1948.

James N. Haddock (Psychiatry), A.B., University of Missouri, 1940; M.A., 1942; M.D., Washington University 1943.

Barbara S. Kendall (Medical Psychology), A.B., Radcliffe College, 1913; Ed.M., Harvard University, 1928.

Harold Korner (Psychiatry), M.D., University of Oklahoma, 1949.

Edward H. Kowert (Psychiatry), A.B., Washington University, 1940; M.D., 1943.

Paul E. Kuhatschek (Child Psychiatry), B.S., Creighton University, 1918; M.D., 1922; Sc.D., University of Pennsylvania, 1928. (See Department of Pediatrics.)

Wanda Lamb Lam (Psychiatry), B.S. in Medicine, University of Missouri, 1946; M.D., Washington University, 1948.

Ervin Lipschitz (Psychiatry), B.S., Washington University, 1949; M.D., 1949.

John H. McMahan (Psychiatry), A.B., Southeast Missouri State Teachers College, 1939; M.D., St. Louis University, 1943.

Kenneth D. Michael (Psychiatry), M.D., St. Louis University, 1947.

Warren B. Mills (Psychiatry), B.S., Washington University, 1941; M.D., 1942.

David P. Morton (Psychiatry), M.D., Long Island College of Medicine, 1937.

Robert J. Mueller (Neuropsychiatry), M.D., Washington University, 1936; M.S., University of Michigan, 1942.

Jackson C. Neavles (Psychiatry), A.B., Washington University, 1938; B.S., 1942; M.D., 1942.

Paul H. Painter (Child Psychiatry), M.D., St. Louis University, 1947. (See Department of Pediatrics.)

Reese H. Potter (Psychiatry), A.B., University of Kansas, 1931; B.S., University of Missouri, 1933; M.D., Washington University, 1935.

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 Pediatrics.)

Frank O. Shobe (Psychiatry), A.B., Washington University, 1938; M.D., 1942.

Fernando Tapia-Lopez (Psychiatry), B.A., University of Iowa, 1943; M.D., 1947.

Paul J. Zentay (Neurology), M.D., University of Kolozsvár, 1914. (See Department of Pediatrics.

Assistants

Horacio Arias-Duque (Psychiatry), M.D., National University of Colombia, 1954.

Mary McFayden Bishop (Psychiatry), A.B., Washington University, 1936; M.D., 1940. (Also National Institute of Mental Health Trainee in Psychiatry.)

Dietrich Blumer (Psychiatry), M.D., University of Zurich, 1955.

Harry A. Boita (Psychiatry), M.D., University of Padua, 1954.

William B. Boniface (Fellow in Neurology), A.B., Washington University, 1949; M.D., 1953.

James C. Chang (Psychiatry), M.D., National Medical College of Shanghai, 1943.

Gladys Cordero-Gaud (Psychiatry), B.A., West Virginia University, 1949; M.D., University of Mexico, 1954.

Claire Ernhart (Medical Psychology), A.B., Heidelberg College, 1949; M.A., University of Missouri, 1953. (See Department of Pediatrics.)

Tulio Estrada (Psychiatry), M.D., National University of Colombia, 1950.

Dorothy Ford (Fellow in Neurology), B.S., State College of Washington, 1950; M.D., Washington University, 1954.

Wolfgang Froelich (Fellow in Neurology), M.D., Free University of Berlin, 1955.

Arwin E. Gorham (Psychiatry), B.S., University of Tulsa, 1950; M.D., Washington University, 1954. (Also National Institute of Mental Health Trainee in Psychiatry.)

Franz E. Hornung (Psychiatry), M.D., University of Heidelberg, 1945. (Also National Institute of Mental Health Trainee in Psychiatry.)

George Iturralde (Psychiatry), M.D., University of Buenos Aires, 1949. (Also National Institute of Mental Health Trainee in Psychiatry.)

Alan G. Johnson (Psychiatry), A.B., Oberlin College, 1952; M.D., Washington University, 1956. (Also National Institute of Mental Health Trainee in Psychiatry.)


Rosella E. Jones (Psychiatry), A.B., Indiana University, 1949; M.D., University of Maryland, 1954. (Also National Institute of Mental Health Trainee in Psychiatry.)

Edward M. Keelan (Psychiatry), M.B., B.Ch., B.A.O., University College of Dublin, 1954.

H. Kienast (Psychiatry), M.D., University of Tuebingen, 1951. (Also National Institute of Mental Health Trainee in Psychiatry.)

Joseph W. Lamberti (Psychiatry), M.D., Ottawa University, 1954.

Arthur L. Lesser (Psychiatry), M.D., Dalhousie University, 1956.

Thomas Maloney (Psychiatric Social Work), A.B., University of Illinois, 1952; M.S.W., St. Louis University, 1955.

Edward James Manley (Medical Psychology), B.B.A., St. John’s University, 1936; A.M., St. Louis University, 1955.

James N. McClure, Jr. (Psychiatry), A.B., Washington University, 1951; M.D., 1955. (Also National Institute of Mental Health Trainee in Psychiatry.)

David G. McDonald (Medical Psychology), A.B., University of Missouri, 1955. (Also USPHS Trainee in Psychiatry.)

William V. McKenney, Jr. (Psychiatry), B.A., Westminster College, 1951; M.D., St. Louis University, 1955. (Also National Institute of Mental Health Trainee in Psychiatry.)

Alma Miller (Psychiatry), B.S., LeMoyne College, 1941; M.D., Meharry Medical College, 1949.

Yael Nissan (Psychiatric Social Work), M.S.W., Washington University, 1954.
James H. Satterfield (Psychiatry), B.S., University of Kentucky, 1947; M.A., University of Mississippi, 1956; M.D., Washington University, 1955. (Also National Institute of Mental Health Trainee in Psychiatry.)
Barbara J. Seelye (Speech Correction), A.B., Eureka College, 1952; M.D., University of Denver, 1955.
Basri A. Sila (Psychiatry), M.D., University of Istanbul, 1956.
Mark A. Stewart (Psychiatry), B.A., M.A., Cambridge University, 1953; L.R.C.S., L.R.C.P., Cambridge University and St. Thomas’ Hospital Medical School, 1956.
Vincente B. Tuason (Psychiatry), M.D., University of Santo Tomas, 1955.
Frank I. Uyeno (Psychiatry), M.D., Chicago Medical School, 1944. (Also National Institute of Mental Health Trainee in Psychiatry.)
de Wet S. Vorster (Psychiatry), M.B., Ch.B., University of Capetown, 1953.
Stuart Weiss (Fellow in Neurology), A.B., Washington University, 1950; M.D., 1954.
Georgia Windman (Medical Psychology), A.B., Grinnell College, 1953. (Also USPHS Trainee.)
Daniel C. Wunderman (Psychiatry), B.S., University of Texas, 1939; M.D., 1942.

Assistants (Clinical)
Edmund V. Cowdry, Jr. (Psychiatry), A.B., Princeton University, 1942; M.D., Washington University, 1945.
Anthony Ferro (Psychiatry), M.D., Havana University, 1949.
Joseph Shuman (Psychiatry), B.S., Middlesex University, 1943; M.D., University of兰辛, 1952.

Research Assistants
John C. Glidewell (Medical Psychology), A.B., University of Chicago, 1949; Ph.D., 1953.
Margaret Johnson (Psychiatry), R.N., Baylor University Hospital School of Nursing, 1940; B.S., University of Chicago, 1948.
Irene Fosner Lowe (Psychiatry), B.S., George Washington University, 1945; M.S., 1949; Ph.D., Washington University, 1954.
Lee N. Robins (Psychiatry), A.B., Radcliffe College, 1942; M.A., 1943; Ph.D., 1951.
Lois A. Rommel (Medical Psychology), A.B., Houghton College, 1951; M.A., Southern Methodist University, 1954.
Gertrude J. Williams (Medical Psychology), A.B., University of California at Los Angeles, 1948; A.M., University of Southern California, 1951.

Fellows
Lawrence A. Cohen (National Paraplegia Foundation), B.S., Western Reserve University, 1948; M.D., 1954; M.A., Northwestern University, 1951.
David Davis (Research in Psychiatry), M.B., Ch.B., Glasgow University, 1949.
Tetsuo Fukuda (Research in Psychiatry), M.D., Kyoto University, 1950.
Leopold Hofstatter (Research in Psychiatry), M.D., University of Vienna, 1926.
Chong Eun Kim (Research in Psychiatry), M.D., Seoul National University, 1949.
K. Warner Schaeie (Medical Psychology), A.B., University of California, 1952; M.S., University of Washington, 1953.

FIRST YEAR


Introduction to Medical Psychology. Through lectures and discussion a framework for understanding human behavior (both in illness and in health) is presented. The behavior of ill people is presented as following the same principles (laws of learning, influence of organismic factors, role of emotion, etc.) as in the better understood behavior of well persons. 12 hours. (Dr. Mensh and associates)
Integrative Neurology (Given as part of Anatomy 11). A series of four clinics is held in the second trimester 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.

Second Year
20. Psychiatry.
The Pathology of Behavior. (Part of Conjoint Medicine. See page 59.) Emphasis is upon (a) effective interviewing as preparation for medical history-taking; (b) evaluation of the patient as a person, to determine the possible etiological relevance of personality to illness from the viewpoint of comprehensive medicine; (c) an introduction to psychiatric medicine. Lectures, demonstration interviews, written assignments, group discussions with participation of psychiatrists, internists, surgeons, obstetrician, neurologist, psychologist, etc. 36 hours.

Neurological Examination in Clinical Diagnosis. (Part of Conjoint Medicine. See page 59.) Lectures, demonstrations, and exercises in the neurological examination of the patient. 6 hours. (Dr. Levy in conjunction with Neurology Staff)

Third Year
30. Psychiatry.
(a) Clinical Psychiatry: A systematic presentation of the field of clinical psychiatry is given by means of case presentations and discussion. 18 hours.

(Drs. Robins, Ulett, O’Neal, and associates)

(b) Clinical Clerkship: Students in groups of four spend one week on the inpatient service of St. Louis City Hospital. The students are assigned patients for complete study and for partial study. They see emergency psychiatric problems when on emergency call with some member of the house staff. Ward rounds are devoted to the patients the students have themselves studied. 56 hours.

(Drs. Ulett, K. Smith, and associates)

The third-year neurology inpatient clerkship is offered as a part of the larger medicine clerkship. This is divided between Barnes and City Hospitals and emphasizes the pathophysiologic approach to neurological disorders. A series of six lectures, repeated for each clerkship group throughout the year, emphasizes the practical considerations in early neurological diagnosis. (Dr. O’Leary and Staff)

Fourth Year
40. Psychiatry.
(a) Senior students obtain experience with medical problems in which personal and social factors have a high degree of relevance in that portion of the concurrent out-
patient clerkship conducted by the staffs of the Medicine D and Psychiatry Clinics. The objectives of this part of the clerkship are skill in defining, understanding, and dealing with personal and social factors in a variety of medical problems. 54 hours.

(Drs. Graham, Guze, Winokur and associates)

(b) Psychiatric Aspects of Clinical Medicine. (See Medicine—Dr. David T. Graham.)

(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)

41. Neurology.

Fourth-year neurological training continues to emphasize early diagnosis and the treatment of the commoner neurological conditions. Each student passes through an inpatient clerkship which is a part of the larger senior medicine clerkship, and an outpatient clerkship where acute and chronic ambulatory cases are worked up by the students under staff supervision. A series of 18 lectures is given on alternate weeks through the academic year, covering in systematic fashion the field of clinical neurology.

(Dr. O'Leary and Staff)

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 City Sanitarium, the Barnes Hospital, or the University Clinics. Each student must make his wishes known to Dr. E. F. Gildea and must then obtain the approval of the staff member who will supervise the work.

(Drs. E. Gildea, Guze, Winokur)

52. Research in Neurology, Neuropathology, 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.

(Drs. E. Gildea, O'Leary, Mensh)

53. Staff Conferences. Students are invited to attend certain of the psychiatric and neurological staff conferences. These are as follows: a psychiatric staff conference held weekly at the Bliss Institute; neurological staff conferences held weekly at the Barnes Hospital; conferences of the neuropsychiatric and neurosurgical staffs held weekly at Barnes Hospital.

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, Fingert, Kaplan, Sommer)

55. Barnes Hospital Clerkship. Neurology outpatient clinics, ward rounds, Neurology-Neurosurgery-Neuropathology Conferences, EEG. Full time for three or six weeks.

(Drs. Kempinsky, Landau)

56. City Hospital Externship. Ward care for neurological patients; opportunity to see consultation and outpatient material, ward rounds, Neuropathology Conferences. Full time for three or six weeks.

(Drs. Kempinsky, Landau)
Two fourth year students observing a radiologist as he adjusts the controls of the Betatron preparatory to beginning therapy on a patient suffering from malignant disease. This installation, one of the few available in medical schools in this country, makes it possible to deliver 24,000,000 electron volt X-rays.

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 radiochemistry, radiation physics, and radiobiology are housed in the Institute.

Four floors of the Institute building are devoted to diagnostic roentgenographic facilities. The first floor houses a business office, film library, and consultation viewing room. The radiation therapy section, including low and high voltage X-ray
therapy equipment and radioactive isotope service, is housed on the fifth floor. A 24 Mev. betatron is located in Barnard Hospital immediately adjacent to the Institute. 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. One introductory course in the third year provides an opportunity to present the principles of roentgenological interpretation and radiation therapy during the surgical clerkship. 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
Hugh Monroe Wilson, A.B., Illinois College, 1924; M.D., Washington University, 1927; M.A. (hon.) Yale University, 1945. (See Department of Anatomy.)

Professor Emeritus
Sherwood Moore, M.D., Washington University, 1905. (Also Lecturer in Radiology and Consultant in Radiology to the Division of Tumor Services.)

Professor (Clinical)

Consultants
Arthur L. Hughes (Physicist), B.Sc., Liverpool University, 1906; M.Sc., 1908; D.Sc., 1912; B.A., Cambridge University, 1910.

Professor and Head of the Department and Director of the Mallinckrodt
Institute of Radiology
Hugh Monroe Wilson, A.B., Illinois College, 1924; M.D., Washington University, 1927; M.A. (hon.) Yale University, 1945. (See Department of Anatomy.)

Professor Emeritus
Sherwood Moore, M.D., Washington University, 1905. (Also Lecturer in Radiology and Consultant in Radiology to the Division of Tumor Services.)

Professor (Clinical)

Consultants
Arthur L. Hughes (Physicist), B.Sc., Liverpool University, 1906; M.Sc., 1908; D.Sc., 1912; B.A., Cambridge University, 1910.


Edward H. Reinhard (Hematology and Oncology), A.B., Washington University, 1935; M.D., 1939. (See Department of Medicine.)

Alfred L. Sherman (Gynecology), M.D., University of Toronto, 1944. (See Department of Obstetrics and Gynecology.)

Harlan J. Spjut (Pathology), B.A., University of Utah, 1943; M.D., 1946. (See Departments of Pathology and Surgery.)

Mildred Trotter (Anatomy), A.B., Mount Holyoke College, 1920; M.S., Washington University, 1921; Ph.D., 1924; Sc.D. (hon.), Western College, 1956. (See Department of Anatomy.)

Associate Professors
Gladden V. Elliott, A.B., Central College, 1943; M.D., Washington University, 1946.

Martin D. Kamen (Radiochemistry), B.S., University of Chicago, 1933; Ph.D., 1936.

Michel M. Ter-Pogossian (Radiophysics), B.A., University of Paris, 1942; M.S., Washington University, 1948; Ph.D., 1950.

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
Fred J. Hodges III, B.A., University of Wisconsin, 1944; M.D., 1946.

Harvey A. Humphrey, A.B., University of Rochester, 1941; M.D., Yale University, 1944.

Assistant Professor (Clinical)
Oscar C. Zink, M.D., Washington University, 1921.

Visiting Assistant Professor (Neuro-radiology)
Torgny V. B. Greitz, M.D., Karolinska Institute (Stockholm, Sweden).
Instructor


Instructors (Clinical)

Donald Bottom, A.B., Washington University, 1932; M.D., 1940.
Mark D. Engleton, Jr., A.B., Amherst College, 1946; M.D., Washington University, 1950.
Wayne A. Simril, A.B., Culver Stockton College, 1941; M.D., Washington University, 1944.

Assistants

Mark Brown, B.S., University of Miami, 1946; M.D., Vanderbilt University, 1950.
Donald Cochran, A.B., Vanderbilt University, 1948; M.D., 1952.
L. Bruce Ellis, A.B., Harvard University, 1951; M.D., Washington University, 1955.
Charles Geyer, A.B., University of Kansas, 1948; M.D., 1951.

Joe Breese Johnson, B.S., University of Tennessee, 1951; M.D., 1952.
David B. Lewis, B.S., University of Louisville, 1950; M.D., 1953.
John E. Shick, A.B., Harvard University, 1947; M.D., Northwestern University, 1951.
Dewey Reid Tickle, M.D., Duke University, 1954.

Research Assistants

Robert G. Bartsch, B.S., University of California, 1948; Ph.D., 1956.
Anica Jovanovich, M.D., University of Belgrade (Yugoslavia).
Jack W. Newton (Radiochemistry), A.B., Miami University, 1950; M.S., University of Wisconsin, 1952; Ph.D., 1954.

THIRD YEAR

30. Introduction to Diagnostic and Therapeutic Radiology. The principles of roentgenological interpretation of diagnostic X-ray examinations in the major fields of clinical application are presented for group discussions. Radiophysics and the principles of radiation therapy are discussed. One trimester, 18 hours.

(Drs. Wilson, Elliott, Hodges, Humphrey, Powers, Ter-Pogossian)

ELECTIVE COURSES

50. Clerkships in Diagnostic or Therapeutic Radiology. Electives may be chosen in any section of the Department. The student will spend full time as an extern working under the supervision of the residents and senior staff in that section. Limited to two students per section. Six weeks, full time.

a. Roentgenology of the Chest..................................................Dr. Wilson
b. Gastrointestinal Roentgenology...........................................Dr. Elliott
c. Pediatric Roentgenology....................................................Dr. Humphrey
d. Therapeutic Radiology.......................................................Dr. Powers
51. *Special Elective Course.* By special arrangements students in groups of six or more may arrange for supervised group study of any diagnostic or therapeutic radiologic field of interest. Hours to be arranged.

52. *Research Electives.* Opportunity is available to carry out supervised research in the fields of diagnostic and therapeutic radiology, radiation physics, and radiochemistry under the direction and supervision of the heads of these sections.
A professor performs an operation in Barnes Hospital. He is assisted by members of the resident staff and fourth year students.

THE MARY CULVER DEPARTMENT OF SURGERY

(The Department of Surgery includes General Surgery, Orthopedic Surgery, Neurological Surgery, Genitourinary Surgery, and Thoracic Surgery)

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 really in the junior year that the first actual contact with patients occurs. Each student then is 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 in surgery lasts for one trimester and is divided between the surgical services at Barnes and St. Louis.
Children's Hospitals and at St. Louis City Hospital. Instruction during the clerkship in the junior year covers the field of general surgery and the major specialties excepting neurosurgery and urology, and the broad general principles of pathology, pathologic physiology, diagnosis, and treatment are extensively discussed. At St. Louis City Hospital special attention is given to the study of trauma and acute surgical emergencies. Students are given the opportunity of seeing all operations on patients assigned to them. Special instruction in history writing, in the examination of the patient, and in various diagnostic and therapeutic techniques is given to small groups of students by the resident and assistant resident house officers. These small groups are in the nature of tutorial classes.

During the junior year also the students attend a course in surgical pathology, and a weekly surgical clinic lasting throughout the year. During the latter part of the year there are various symposia on surgical subjects held in conjunction with other departments for the entire class.

In the senior year the students spend one-half of a trimester on a surgical clerkship, dividing the time between Neurological Surgery and Urology.

**Bixby Professor and Head of the Department**

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

Robert B. Dodd, M.D., University of Nebraska, 1945.

**Professors**

Lauren V. Ackerman (Surgical Pathology), A.B., Hamilton College, 1927; M.D., University of Rochester, 1932. (See Department of Pathology.)

Thomas H. Burford (Thoracic Surgery), A.B., University of Missouri, 1931; B.S. in Medicine, 1933; M.D., Yale University, 1936.

Justin J. Cordonnier (Urology), B.S., Washington University, 1926; M.D., 1928.

Fred C. Reynolds (Orthopedic Surgery), A.B., Washington University, 1931; M.D., 1934.

Henry Gerard Schwartz (Neurological Surgery), A.B., Princeton University, 1928; M.D., Johns Hopkins University, 1932.

**Professors (Clinical)**

James Barrett Brown, M.D., Washington University, 1923.

Glover H. Copher, A.B., University of Missouri, 1916; M.D., Washington University, 1918.

Peter Heinbecker, B.S., McGill University, 1918; M.D., 1921.

**Professors Emeriti (Clinical)**


Ernest Sachs (Neurological Surgery), A.B., Harvard University, 1900; M.D., Johns Hopkins University, 1904.

**Associate Professors**

Robert B. King (Neurological Surgery), M.D., University of Rochester, 1946.

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

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

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

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.

Charles H. Nicolai (Urology), A.B., Washington University, 1943; M.D., 1946.

Morton Donald Pareira, A.B., Washington University, 1933; M.D., 1937.

John R. S. Shields (Anesthesiology), M.B., University of Birmingham (England), 1941.

Harlan J. Spjut (Surgical Pathology), B.A., University of Utah, 1943; M.D., 1946. (See Departments of Pathology and Radiology.)

Assistant Professors (Clinical)

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.G., 1928; A.B., University of Missouri, 1934; B.S., 1935; M.D., University of Louisville, 1937.

William H. Sinkler, A.B., Lincoln University, 1928; M.D., Howard University, 1932.

Carl A. Wattenberg (G.U. Surgery), A.B., University of Kansas, 1934; M.D., 1937.

Instructors

Harvey R. Bernard, M.D., Washington University, 1947.

Robert C. Donaldson, A.B., University of Missouri, 1941; M.D., Washington University, 1944.


Hemprova Ghosh (Surgical Pathology), M.D., University of Calcutta, 1941.

Sidney Goldring (Neurological Surgery), M.D., Washington University, 1947.

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

Maurice Jurkiewicz (Plastic Surgery), M.D., Harvard University, 1952.

Fred W. L. Kerr (Neurological Surgery), M.D., National University of Buenos Aires, 1949.

Malcolm McGavran (Surgical Pathology), B.A., Bethany College, 1951; M.D., Washington University, 1954.

Kenneth D. Serkes, B.S., Yale University, 1950; M.D., Washington University, 1951.


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

Myron W. Wheat, Jr., A.B., Washington University, 1949; M.D., 1951. (Also Fellow in Thoracic Surgery.)

Instructors (Clinical)

Morris Abrams (G.U. Surgery), B.S., University of Illinois, 1936; M.D., 1937.
J. Byron Beare (G.U. Surgery), B.S., St. Louis University, 1935; M.D., 1939; M.S., University of Minnesota, 1947.

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


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. Hawkins, Jr. (Neurological Surgery), A.B., 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.

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

C. Alan McAfee, B.S., Washington State College, 1938; M.D., Washington University, 1942.

Joseph C. Peden, Jr., B.S., Harvard University, 1940; M.D., 1943.

Robert Killian Roche (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. (Also Health Service.)

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


Assistants


Oscar Leopoldo Aguilar, M.D., Buenos Aires University, 1955.


Jare L. Barkley, M.D., Harvard University, 1954. (On leave of absence.)

Thomas D. Bartley, A.B., University of Colorado, 1950; M.D., 1953. (On leave of absence.)

F. Gary Bivings, A.B., Princeton University, 1948; M.D., Columbia University, 1952.


Marie Brandon, R.N.

Edward J. Budil, Jr., B.S., Yale University, 1951; M.D., Harvard University, 1954. (On leave of absence.)


Fred T. Caldwell, Jr., B.S., Baylor University 1946; M.D., Washington University, 1950. (Also American Cancer Society Fellow.)

Gregorio M. Canales (Orthopedic Surgery), M.D., University of Texas, 1944.

Jose Castillo, M.D., Escuela Nacional de Medicina, 1953.

William S. Costen, A.B., Princeton University, 1950; M.D., Washington University, 1954. (On leave of absence.)


Carlton M. Dean, Jr., A.B., Washington University, 1953; M.D., 1957.

John S. Dillon, B.S., Georgetown University, 1952; M.D., 1956. (On leave of absence.)
Ernesto Ego-Aguirre, M.D., Universidad Nacional Mayor de San Marcos de Lima (Peru), 1955.
LaVerne Erickson, B.S., University of Idaho, 1949; M.D., Washington University, 1953.
Richard H. Fallon, B.S., Boston College, 1952; M.D., Harvard University, 1956. (On leave of absence.)
Susan Fast, R.N.
James W. Forrester, M.D., Harvard University, 1953.
Koichi Fujii, M.D., Keio University, Tokyo, Japan, 1955.
Howard J. Geist, M.D., Harvard University, 1955. (On leave of absence.)
Ted L. Grayson, M.D., Indiana University, 1953.
Edward B. Hager, M.D., Washington University, 1955. (On leave of absence.)
James S. Harvin, M.D., Medical College of South Carolina, 1953.
John L. Hazlehurst, B.A., University of North Carolina, 1952; M.D., 1956. (On leave of absence.)
Ronald C. Hertel, A.B., Washington University, 1952; M.D., 1956. (On leave of absence.)
Thomas Hornebin (Anesthesiology), B.A., University of Colorado, 1952; M.D., Washington University, 1956.
Jack U. Hudson, M.D., Western Reserve University, 1956. (On leave of absence.)
Leland H. Johnson, Jr., A.B., Harvard University, 1952; M.D., University of Colorado, 1956. (On leave of absence.)
Leona Johnson, R.N.
Marie Johnson, R.N.
Walter L. Johnson, M.D., Yale University, 1955. (On leave of absence.)
Russell L. Judd, M.D., Indiana University, 1957.
John B. Kelly (G.U. Surgery), M.D., Temple University, 1951.
John C. Kempley (G.U. Surgery), M.D., Medical College of the University of the State of New York, Syracuse, 1952.
Gerald Kenner, A.B., Washington University, 1953; M.D., 1957.
George L. Kraus, M.D., University of Pennsylvania, 1954. (On leave of absence.)
Joseph H. Lesser, M.D., Dalhousie University, 1949.
Robert T. Long, M.D., Medical College of Alabama, 1955. (On leave of absence.)
Herbert Lourie (Neurological Surgery), B.S., University of South Carolina, 1948; M.D., Duke University, 1952.
Zoltan J. Lucas, M.D., Johns Hopkins University, 1957.
James E. McKittrick, A.B., Harvard University, 1949; M.D., 1953.
Henry N. Meiers, Jr., M.D., Vanderbilt University, 1955. (On leave of absence.)
John S. Metcalf (Neurological Surgery), M.D., University of Maryland, 1952.
Verlyn Miller, M.D., University of Iowa, 1951. (On leave of absence.)
Katsumi Miyai, M.D., Keio University (Japan), 1956.
William W. Mohno, Jr., M.D., Tufts University, 1957.
Tillman M. Moore, Jr., B.S., Iowa State College, 1949; M.D., Washington University, 1953.
Harry C. Morgan (Orthopedic Surgery), M.D., Harvard University, 1953.
Cornelius A. Natoli, B.S., Niagara University, 1952; M.D., Georgetown University, 1956.
William T. Newton, M.D., Yale University, 1950.

Shemuel Nissan, M.D., Hebrew University Hadassah Medical School, 1952.

David A. Ohlwiller, B.S., St. Louis University, 1941; A.B., Johns Hopkins University, 1950; M.D., University of Rochester, 1954.

George Allan Oliver, A.B., Washington University, 1948; M.D., 1952.

Henry D. Onken, M.D., Harvard University, 1957.

Murray V. Osofsky, M.D., State University of New York, 1957.


George Duncan Robertson, A.B., Princeton University, 1949; M.D., Harvard University, 1953.

Irwin K. Rosenberg, M.D., Yale University, 1953.

Daniel L. Rosenstein (Surgical Pathology), B.S., University of Oklahoma, 1950; M.D., Washington University, 1954.

Sidney L. Saltzstein (Surgical Pathology), B.S., Yale University, 1950; M.D., Johns Hopkins University, 1954.

Mary Shannon, R.N.


William Shieber, M.D., Washington University, 1953. (On leave of absence.)

Merton A. Shure (Orthopedic Surgery), M.D., Emory University, 1953.

Clement B. Sledge, M.D., Yale University, 1955. (On leave of absence.)


Herbert A. Spady (Orthopedic Surgery), A.B., University of Oregon, 1951; M.D., Washington University, 1955.

John S. Spratt, Jr., M.D., Southwestern Medical College, 1952.

Robert B. Stell, A.B., Princeton University, 1952; M.D., Harvard University, 1956. (On leave of absence.)

William L. Stoops, B.A., Yale University, 1951; M.D., Washington University, 1955. (On leave of absence.)


William L. Strickler, A.B., James Millikin University, 1952; M.D., Harvard University, 1956. (On leave of absence.)

Howard S. Sturim, M.D., University of Rochester, 1957.

Winfred L. Sugg, M.D., University of North Carolina, 1957.


Charles S. Tannenbaum, M.D., Harvard University, 1957.

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

George L. Tucker, A.B., Columbia University, 1952; M.D., Harvard University, 1956. (On leave of absence.)


Robert L. Webb, B.A., Yale University, 1952; M.D., Johns Hopkins University, 1956. (On leave of absence.)

Thomas E. Whitesides, Jr., M.D., Emory University, 1955.

Benson R. Wilcox, M.D., University of North Carolina, 1957.

Kirk R. Williams, M.D., Johns Hopkins University, 1955. (On leave of absence.)

Dorothy Wolf, R.N.

Dean H. Wooldridge, B.S., Texas Christian University, 1950; M.D., Vanderbilt University, 1953. (On leave of absence.)

Assistants (Clinical)

Robert R. Anschuetz, M.D., Washington University, 1940.

Richard V. Bradley, M.D., Washington University, 1952.

William W. Carter (G.U. Surgery), M.D., St. Louis University, 1945.
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.
Arthur R. Dalton, B.S., University of Missouri, 1938; B.S. in Medicine, Northwestern University, 1940; M.D., 1941.
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 P. Klippel, A.B., Amherst College, 1944; M.D., St. Louis University, 1946.
Jules H. Kopp (G.U. Surgery), M.D., University of Arkansas, 1931.
Lawrence W. O’Neal, M.D., Washington University, 1946.
Mathe Pfeiffenberger, Jr., A.B., Yale University, 1941; M.D., Harvard University, 1944.
George B. Rader, M.D., Washington University, 1951.
Robert Rainey, B.S., Yale University, 1944; M.D., Washington University, 1947.
Frank O. Richards, A.B., Talladega College, 1944; M.D., Howard University, 1947.
Sam F. Schneider, A.B., Washington University, 1932; M.D., 1936.
Richard G. Sisson, B.A., Harvard University, 1943; M.D., Yale University, 1946.

George L. Watkins, Jr., A.B., Washington University, 1938; M.D., 1942.

Research Assistants
Harry W. Margraf.
Dixie McGregor, B.S., Murray State College, 1953.
John R. Robinson, B.S., Northwestern University, 1936; B.M., 1939; M.D., 1940.

Fellows
John H. Adametz (Neurological Surgery), M.D., University of Wisconsin, 1943.
Walter C. Bauer (American Cancer Society) Surgical Pathology), B.S., Ohio State University, 1946; M.D., Washington University, 1954.
James W. Davis (Plastic Surgery), B.S., University of Tennessee, 1943; M.D., Tulane University, 1946.
Francis Gerard Duffy (Anesthesiology), M.B., National University of Ireland, 1951.
John Graham (Thoracic Surgery).
Shi Hui Huang (Neurological Surgery), M.D., National Taiwan University (Formosa), 1951.
Marvin G. Newby (Orthopedic Surgery), M.D., Baylor University, 1953.
Charles Pinto (Plastic Surgery).
Franklin Porras (Orthopedic Surgery), M.D., University of El Salvador, 1956.
Frankie Romney (Anesthesiology), B.S., University of Utah, 1951; M.D., Washington University, 1955.
Charles L. Roper (Thoracic Surgery), M.D., University of Colorado, 1953.
Frank B. Scott, Jr. (Anesthesiology), M.D., Yale University, 1955. (On leave of absence.)
SECOND YEAR

20. Introduction to Surgery. A lecture course in which are studied certain fundamental principles of physiology, biochemistry, and pathology as applied to surgery. Recitations, demonstrations, and clinics to amplify the lectures are included. Three hours weekly during the second trimester. (Part of Conjoint Medicine. See page 59.)

THIRD YEAR

30. Surgical Clinic. A weekly exercise throughout two trimesters. Patients presenting the more usual general surgical conditions are demonstrated and their diagnostic and therapeutic problems are discussed. 24 hours. (Surgical Staff)

31. (a) Surgical Wards. For one trimester the student serves as a clerk in the surgical wards of Barnes, St. Louis Children's, and St. Louis City Hospitals. The time is divided between the Barnes Hospital service and that at City Hospital. While on the City Hospital service the student spends two weeks on emergency call at the hospital and sees all emergencies admitted. Ward conferences are held regularly both at City Hospital and at Barnes Hospital, and fundamental subject matter is systematically covered. The students take the case histories and make the physical examinations and the usual laboratory examinations on the patients assigned 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. The students attend autopsies performed in the cases studied by them and are encouraged to be present at the pathological conference at which these cases are discussed. The student is encouraged to consult the library frequently in the solution of problems concerning his patients. Both at Barnes and St. Louis City Hospitals the students are met at regular intervals by the residents and assistant residents in informal conferences, at which times various questions which have arisen during the day are discussed and various aspects of the care of the patient considered. Particular effort is made to see that the student comes in contact 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. 168 hours. (Various members of the staff)

(b) Fractures. All students are assigned to the fracture service of the City Hospital for two weeks (full time). In addition, a co-ordinated series of lectures and demonstrations on fractures is given to the entire clerkship group each Wednesday morning at City Hospital. The fundamentals of the diagnosis, treatment, and healing of common fractures are covered at this time. 12 hours. (Orthopedic Staff)

(c) Outpatient Service. In the junior year each student attends rectal clinic one morning a week for 4 weeks. He is assigned referred patients for examination and diagnosis and helps in carrying out simple procedures under the supervision of an instructor and members of the surgical house staff.

32. Surgical Pathology. Weekly exercises of two hours for three trimesters, at which time both early and late pathological changes are considered from the standpoint of their clinical manifestations. Pathological material from the operating room and the museum is studied both in the gross and microscopically. 72 hours. (Dr. Ackerman)
FOURTH YEAR

40. Surgical Clinic. A weekly exercise throughout the year. 36 hours.

(Surgical Staff)

41. Surgical Clerkship. Six weeks. (Three weeks in Neurological Surgery and three weeks in Urology.)

Urology

Complete history, physical examination, and urologic work-up on all ward and semi-private patients, including assisting in cystoscopic study and surgery. These patients are assigned in rotation. Case presentations, three hours weekly, Dr. Nicolai and House Staff. Grand rounds, two hours weekly, Dr. Cordonnier and Staff. Pyelogram Conference, five hours weekly, Drs. Cordonnier, Zink, and Nicolai. Didactic study of special urologic subjects, two hours weekly, Dr. Cordonnier. Surgical Pathology Conference, one hour every other week, Drs. Cordonnier, Nicolai, and Spjut.

Neurological Surgery

1. Admission history and physical examination on 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 afternoon and Saturday morning), 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 on Tuesday, 9:00 to 10:00 a. m., and 10:00 to 11:00 a. m., in 1200 Classroom.

8. Attend Neuropathology and Neurology-Neurosurgery Conferences, Wednesday afternoon, 2:00 to 5:00 p. m.

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

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

42. Outpatient Service. In the senior year the outpatient service in general surgery is part of a co-ordinated clinical clerkship shared with the other departments in the Washington University Clinics. One-third of the class is divided into four groups of about eight students each. Each group attends all clinics concurrently for one trimester of 12 weeks, one morning session each week being assigned to surgery. The student

*Students present their own cases.
is able to follow a patient for this entire period and in most cases through any other clinic he attends for subsequent diagnosis and treatment. The student is the first to see the patient, take the initial history and examination, and to make his own diagnosis, following which he calls on one of the instructors for consultation and final disposition. In addition to instructors, advanced members of the surgical house staff are assigned to the surgical clinic for supervision and assistance. The student may also carry out or assist in carrying out the relatively simple surgical procedures done in the operating room of the clinic. Attendance at the urological clinic for 6 weekly afternoon sessions is part of this course. For other surgical specialties such as plastic, orthopedic, thoracic, and neurosurgery, time for outpatient service is provided during the senior clerkship.

43. Tumor Clinic. As part of the conjoint clinic program each student attends the general surgery tumor clinic one afternoon each week for half the trimester. During this time an attempt is made to integrate patient visits with other clinics to allow the student to follow patients whom he may have referred to this outpatient division. 18 hours. (Surgical Staff)

44. Tumor Conference. One hour each week for twelve weeks during the surgery, pediatric, and gynecology trimester. Problem cases are presented for illustration and discussion of all aspects of neoplastic disease. 12 hours. (Dr. Ackerman and other members of the staff)

ELECTIVE COURSES

50. 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)

51. Washington University Clinics. General Surgery, six weeks for four students, mornings. The students will serve as clerks to outpatients, the time being spent in the study and care of the patients with special attention to minor surgical procedures.

52 (511). Research in Surgery. Six weeks, full time. This elective is for those students who have been carrying on surgical research in their spare time the previous year and who wish to devote their entire time toward the completion of their problems. (Dr. Moyer)

53. 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 the student will be the routine duties required of any clinical clerk, consisting of both in and outpatient work, particularly related to malignant disease.

54. Anesthesia. One or two students. Six weeks, full time. Since the surgical operative schedules begin early each morning, the hour to report will be 7 o’clock. This will enable the student to inspect and test mechanical equipment prior to its use.
The student will be assigned to certain nights on call duty with the supervisor to take emergency cases which arise. The course embraces a special training in the practical administration of anesthetics by approved modern techniques, this instruction taking place daily, except Sundays, during the weekly schedules in which the student participates in the operating room. The theoretical aspects are covered by specific periods of classroom instruction followed by examination at stated intervals. The administration of ether, nitrous oxide-oxygen, ethylene, cyclopropane, and basal anesthetics is taught and practiced.

55. **Urology Clerkship in Barnes Hospital.** One student, mornings for six weeks.

56. **Physical Medicine.** Four students. Mornings for six weeks.

57. **Advanced Clerkships.** Four students will be given advanced clerkships on the general surgery service at Barnes Hospital for periods of six weeks. Arrangements should be made with Dr. Moyer.

58. **Surgical Clerkship at Homer Phillips Hospital.** Full time for six weeks. Students will be given an opportunity to study selected patients admitted to the surgical wards.
DIVISION OF POSTGRADUATE STUDIES

Washington University does not have a separate Graduate School of Medicine, but postgraduate educational programs are conducted by the School of Medicine and graduate courses leading to a master’s and a doctorate degree are offered by the Graduate School of Arts and Sciences. For further information, write the Assistant Dean, Division of Postgraduate Studies, Washington University School of Medicine, St. Louis 10, Missouri.

MEDICAL JURISPRUDENCE

William W. Crow dus, LL.B. Lecturer in 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. 12 hours.

MISCELLANEOUS APPOINTMENTS

Mary Lewis, A.B., University of Iowa, 1933; M.S.W., Washington University, 1946, Lecturer in Medical Social Work and Director of the Department of Social Work. (On leave of absence.)

Margaret Schutz, A.B., Washington University, 1943; M.S.W., 1944, Instructor in Social Work.

Catherine Jones Wallace, A.B., Northwestern University, 1939; M.S.W., Washington University, 1950, Instructor in Medical Social Work.
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 Ebene Kirk, M.D., University of Copenhagen, 1929. (See Department of Medicine.)

Research Associates
Philip G. Ackermann, B.S., Oregon State College, 1931; Ph.D., Johns Hopkins University, 1936.
Adolph Surtshin, A.B., Columbia University, 1936; M.D., St. Louis University, 1941. (See Departments of Physiology and Medicine.)

Research Assistants
Marguerite Bick.
Nathaniel C. Johnson, B.S., University of Illinois, 1951.
Teofil Kheim, M.D., University of Budapest, 1934.
Gelson Toro, B.S., National University of Mexico, 1955.
Jaime Toro, M.D., National University of Mexico, 1954.
I. Cheng Wang, B.S., National University of Chekiang, 1944; M.S., Kansas State College, 1956.

INSTITUTE OF NEUROLOGY

The Beaumont-May Institute of Neurology was established in 1955 by gifts from the Louis D. Beaumont Foundation, Mr. Morton J. May, and 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

The Division of Tumor Services was organized in 1949 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.
DIVISION OF AUXILIARY MEDICAL SERVICES

EXECUTIVE COMMITTEE

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

IDA JORGENSEN FINKELNBURG AND EMMA JORGENSEN WERNSE
LABORATORY OF CANCER RESEARCH

Through the generosity of Emma Jorgensen Wernse, the School has established a special laboratory of cancer research. Investigation is largely in the fundamental field. Similar and related studies are also carried on in other departments of the School.

Director of the Wernse Laboratory
Edmund Vincent Cowdry, A.B., University of Toronto, 1909; Ph.D., University of Chicago, 1912. (See Department of Anatomy.)

Research Associates
Valentina Suntzeff, M.D., Women’s Medical Institute (Petrograd, Russia), 1917.
Brian Spencer, Ph.D., University of Liverpool, 1950. (Visiting.)
Kuang-Mei H. Wang, B.S., Southwestern National Associated University, 1942; M.S., Syracuse University, 1949; Ph.D., University of Missouri, 1951.

Research Assistants

Fellows
Suk Chul Chang (China Medical Board), B.S., Seoul National University, 1944; M.D., 1948.
Ide Genshiro, M.D., Chiba University (Japan), 1944; Ph.D., 1956.
William Zebrun (USPHS), Ph.D., University of Illinois, 1957

CHILD GUIDANCE CLINIC

The Child Guidance Clinic is operated as a joint enterprise of the Departments of Psychiatry and Neurology, Pediatrics, Psychology, Social Work, and Education with the assistance of the Children’s Research Foundation and the United Fund.

Alex H. Kaplan, M.D..................................Acting Director

DIVISION OF AUXILIARY MEDICAL SERVICES

The Division of Auxiliary Medical Services of the School of Medicine provides instruction in the more important technical fields which are 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, St. Louis 10, Missouri.

**DEPARTMENT OF HOSPITAL ADMINISTRATION**

*Professor and Director of the Course*

Frank R. Bradley, M.D., Washington University, 1928; LL.D., Central College, 1943.

*Assistant Professor and Associate Director*


*Lecturers*

William Anderson (Hospital Accounting).  
Howard Baer (Hospital Supplies), B.A., Princeton University, 1924.  
Henrietta Becker (Dietetics), B.S., University of Kansas, 1937.  
George Allen Bowles (Chaplaincy), A.B., Southern Methodist University, 1927; B.D., 1930; D.D., Central College, 1952.  
Ann Jones Campbell (Nursing), R.N., Vanderbilt University, 1930; B.S., 1933.  
John W. Claiborne, Jr. (Veterans Administration Hospitals), A.B., Vanderbilt University, 1929; M.D., 1932.  
Ethel Collins (Medical Records), R.R.L., St. Anthony's School.  
Adalbert Dierks (Woman's Auxiliary), A.B., Ohio State University, 1937; B.S., 1951; M.B.A., 1952; M.H.A., Washington University, 1954.  
David Gee (Hospital Housekeeping), B.S., DePauw University, 1949; M.H.A., Washington University, 1951.  
Raymond Gross (Hospital Supplies).  
Lilly Hoekstra, R.N., Washington University, 1933; B.S., 1947.  
Donald J. Horsh (Hospital Jurisprudence), B.S., University of Nebraska, 1941; M.H.A., Washington University, 1951; LL.B., St. Louis University, 1953.  
John H. Jenkins (Hospital Purchasing), B.S., St. Louis University, 1943.  
Cornelia S. Knowles, R.N., Washington University, 1925.  
Julius Krasner (Hospital Laundries).  
Mary Lewis (Medical Social Work), A.B., University of Iowa, 1933; M.S.W., Washington University, 1946.  
David Littauer, A.B., Cornell University, 1927; M.D., New York University, 1933.  
Ted Lloyd (Rural Community Hospitals).  
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.
DIVISION OF AUXILIARY MEDICAL SERVICES

Elizabeth McIntosh (Nursing), A.B., Scranton College, 1930; B.S., University of Pennsylvania, 1942; M.S., Western Reserve University, 1947.
Harry J. Mohler (Industrial Hospitals).
Elmer Nester (Third Party Payments), Benton College.
Harry Piper, B.A., University of Missouri, 1936.
Paul L. Robinson (Army), B.S., Washington University, 1926; M.D., 1928.

William Shearer (Medical Group Practice).
Cofford O. Vermillion, A.B., DePauw University, 1939; M.D., Washington University, 1947.
Paul Wozniak (Hospital Accounting), B.S., St. Louis University, 1950; M.H.A., 1955.
Lilyan Zindell (Hospital Administration).

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.

Tuition (academic year) ........................................ 8600.00
Tuition (clinical year) ........................................ 200.00
Student Health Fee (academic year) ......................... 42.00
Graduation Fee .................................................. 10.00
Late Registration Fee .......................................... 5.00

DEPARTMENT OF OCCUPATIONAL THERAPY

Assistant Professor and Elias Michael Director of the Department

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

Lecturer Emeritus


Instructors

Dorothy L. Flint.
Ada Wells Ford.
Garth D. Tubbs, B.S., Wisconsin State College, 1953.

Assistants

Marie Miller, B.A., Bryn Mawr College, 1938.
Marion Stumpf, B.S., Mount Mary College, 1950.

A four-year post-high-school course leading to a degree of Bachelor of Science in Therapy is offered. During the first two years the student acquires knowledge of both the physical and mental aspects of disease and disabilities, familiarity with manual and creative activity media, and a basic understanding of how these are correlated to provide Occupational Therapy measures. The student also becomes oriented to the role of Occupational Therapy as co-ordinated with various medical and social resources.
of rehabilitation. Curriculum includes: sciences such as anatomy, physiology, psychiatry, and neurology; clinical subjects such as general medical, orthopedic, and cardiac disease; interpretation of principles and practices of Occupational Therapy in specific areas of disabilities; technical instruction in manual and creative activities. The third year consists of ten months of hospital practice in approved clinical affiliation centers.

Applicants must have completed two years of college work including specified courses in biology, physical science, psychology, and sociology.

Candidates for B.S. degree

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Tuition (two academic years)</td>
<td>$600.00</td>
</tr>
<tr>
<td>Student Health Fee (two academic years)</td>
<td>$42.00</td>
</tr>
<tr>
<td>Tuition (clinical year)</td>
<td>$100.00</td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>$5.00</td>
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Advanced Standing Course

<table>
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<tr>
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<th>Cost</th>
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<tbody>
<tr>
<td>Tuition (academic year)</td>
<td>$600.00</td>
</tr>
<tr>
<td>Student Health Fee (academic year)</td>
<td>$42.00</td>
</tr>
<tr>
<td>Tuition (clinical year)</td>
<td>$100.00</td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>$5.00</td>
</tr>
</tbody>
</table>

DEPARTMENT OF PHYSICAL THERAPY

Assistant Professor of Physical Therapy and Director of the School


Lecturers

Ruth Benz, R.N.

Instructors

Ruth A. Lee, B.S., University of Missouri, 1934; M.S., St. Louis University, 1956.
Lorraine Lake, B.S., Washington University, 1950; M.A., 1954. (Also Fellow of National Foundation for Infantile Paralysis). (See Department of Anatomy.)

John W. Deyton, A.B., University of North Carolina, 1925; M.D., Rush Medical College, 1929.
Robert Hickock, B.S., Washington University, 1953.

A four-year posthigh-school course leading to a degree of Bachelor of Science in Physical Therapy. The first two years, which are basic liberal arts, may be taken in the College of Liberal Arts at Washington University, or in any other accredited liberal arts college. The last two years are taken in the Medical School, during which time the basic sciences of anatomy, physiology, pathology, lectures in the various medical and surgical fields, as well as the procedures utilized in the field of Physical Therapy, are presented.
DIVISION OF AUXILIARY MEDICAL SERVICES

Applicants must have completed two years of college including certain specified courses.

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Tuition (three semesters)</td>
<td>$300.00</td>
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<tr>
<td>Student Health Fee (three semesters)</td>
<td>$21.00</td>
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<tr>
<td>Tuition (clinical training, one semester)</td>
<td>$100.00</td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>$5.00</td>
</tr>
</tbody>
</table>

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; Dark-room 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 small monthly stipend of $50.00.

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:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (academic year)</td>
<td>$100.00</td>
</tr>
<tr>
<td>Student Health Fee (academic year)</td>
<td>$42.00</td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>$5.00</td>
</tr>
</tbody>
</table>

SCHOOL OF DIETETICS

Henrietta Becker, B.S. Director

A twelve-months course for the training of dietitians leading to a certificate.

The course includes theoretical and practical training in food and personnel administration, food cost and control, diet therapy, Washington University Clinics, St. Louis Children’s Hospital and teaching food and nutrition.

A bachelor’s degree from an accredited college or university is required for admission. Certain courses in chemistry, biology, social science, education, foods, 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.
SCHOOL OF MEDICAL TECHNOLOGY
Virgil Loeb, Jr., M.D.
Director of Laboratories and of the School of Medical Technology
Dorothy McGregor, B.S., M.T. (A.S.C.P.)
Assistant Director (Medical Technology)
Harold Ray, B.S. Assistant Director of Laboratories

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.

Applicants must present at least two years of college training approved by the Registry of Medical Technologists, Muncie, Indiana. The tuition is $100 for the entire course.

DEPARTMENT OF ANESTHESIA
Robert B. Dodd, M.D. Director
Mrs. Dean E. Hayden, R.N. Associate Director
Mrs. Louisa Jekel, R.N. Educational Director

An eighteen-months course for comprehensive 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 $100.00. Full maintenance is provided. A stipend of $50.00 per month is paid after six 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.

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 School of Medicine and its Alumni Association also maintain, in the David P. Wohl, Jr., Memorial Hospital, the Medical Center Alumni Lounge. A full-time receptionist, Miss Gwen Hixson, presides over this comfortable and convenient lounge, handling all Medical Alumni activities, contacting staff and students, and greeting visitors.

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

For the year 1956-57, the following alumni served as officers of the Washington University Medical Alumni Association:

- President: Louis T. Byars, '32
- President-Elect: Delevan Calkins, '31
- Vice-President: Robert W. Elliott, '36
- Secretary-Treasurer: Ernest T. Rouse, '43

Members of the Board of Alumni Association Meeting in the Medical Center Alumni Lounge to discuss the activities of the Association. Left to right—Dr. Ernest T. Rouse, Secretary-Treasurer; Dr. Louis T. Byars, President; Dr. Delevan Calkins, President-Elect.
PRIZES AWARDED

1955-56

Gill Prize in Anatomy
Gordon Roth Miller, B.S.

Biochemistry Prize
Morris Reichlin, A.B.

Bronfenbrenner Memorial Award
LeRoy Allen Pesch

The Borden Undergraduate Research Award
Robert Eugene Kuhlman, A.B.

The Alpha Omega Alpha Book Prize
Robert Martin Filler, A.B.

Prize of the Medical Fund Society in Medicine
Eugene Benjamin Feigelson, B.S.

Prize of the Medical Fund Society in Surgery
Ethelene Ray, A.B.

McCordock Book Prize
Robert Bruce Winter, A.B.

Alexander Berg Prize
Lewis Jones Thomas, Jr., B.S.

Roche Award
Bryce Leon Munger

Sidney I. Schwab Book Prize in Neurology
Kenneth Harvey Kapphahn, B.S.

Nu Sigma Nu Awards
Jerome Lester Silverman, B.A.
Richard David Aach, A.B.

Medical Alumni Fund Scholarship
Edward Herman Forgetson, B.A.

Scholarships, 1956-57

Jackson Johnson Regional Scholarships

Norman D. Anderson, B.A.
James S. Beck
Arthur Berken, B.S.
Malcolm B. Bowers, A.B.
I. David Bybee, B.A.
Donald C. Cannon, A.B.
Ruth E. Dinda, A.B.
Alexander Gottschalk, A.B.

Guido Guidotti
Donald R. Harkness, A.B.
Murray H. Helfant, A.B.
Duane C. Hellam, A.B.
Merton H. Kirsch, A.B.
James B. McClanahan, A.B.
Roland B. Mernitz, B.S.
Karl Muench, A.B.
Morris Reichlin, A.B.

David L. Sessions, A.B.
R. Michael Sly, A.B.
Kenneth R. Smith
Robert G. Smith, B.S.
Norman D. Sower, B.S.
Donald F. Terry, A.B.
Maxwell M. Urata, B.A.
Phillip Winter, B.A.
PRIZES AWARDED

Danforth Medical Fund Scholarships
Richard E. Bryant, A.B.
William I. Goettman, B.A.
In Chang Kim, B.A.
J. Ernest Mincy, B.S.
Richard H. Morrow, A.B.
William R. Swaim, B.A.
Richard E. Thompson, B.A.

Honors, 1956
William Lloyd Brydon, B.S., cum laude
James Howard Clark, Jr., B.A., cum laude
Daniel Murray Divack, A.B., cum laude
John Whitfield Drake, B.S., cum laude
Dale Russell Dunnihoo, B.S., M.S., cum laude
Eugene Benjamin Feigelson, B.S., cum laude
Morton Herbert Field, cum laude
Robert Martin Filler, A.B., cum laude
Harry Allen Fozzard, cum laude
Harold Eugene Kelch, B.A., cum laude
Robert Eugene Kuhlman, A.B., cum laude
Edward Conover Lynch, cum laude
John Strauch Meyer, B.A., cum laude
LeRoy Allen Pesch, cum laude
The Rand-Johnson Surgical Pavilion, one of the major units of the Barnes Hospital
<table>
<thead>
<tr>
<th>Name</th>
<th>Internship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abele, Donald Carlisle, A.B.</td>
<td>North Carolina Memorial Hospital, Chapel Hill, North Carolina</td>
</tr>
<tr>
<td>Andrews, Robert Owen, B.S., M.S.</td>
<td>Los Angeles County Hospital, Los Angeles, California</td>
</tr>
<tr>
<td>Apfel, Zachary, A.B.</td>
<td>Maimonides Hospital, Brooklyn, New York</td>
</tr>
<tr>
<td>Barker, Edward Theodore, A.B.</td>
<td>Letterman Army Hospital, San Francisco, California</td>
</tr>
<tr>
<td>Bauer, Donald Joseph, A.B.</td>
<td>George Washington University Hospital, Washington, D.C.</td>
</tr>
<tr>
<td>Beck, James Solomon</td>
<td>Mount Zion Hospital, San Francisco, California</td>
</tr>
<tr>
<td>Belloveau, Robert Rock, A.B.</td>
<td>Barnes Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Berk, Arthur, B.S.</td>
<td>Bronx Municipal Hospital Center, New York, New York</td>
</tr>
<tr>
<td>Berkowitz, Seymour David, A.B.</td>
<td>Kings County Hospital, New York, New York</td>
</tr>
<tr>
<td>Bowers, George Robert, A.B.</td>
<td>St. Luke’s Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Cohen, Edward Philip</td>
<td>University of Chicago Clinics, Chicago, Illinois</td>
</tr>
<tr>
<td>Dean, Carlton Miles, Jr., A.B.</td>
<td>Barnes Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>DeBruin, John Adrian, Jr., B.S.</td>
<td>Madigan Army Hospital, Tacoma, Washington</td>
</tr>
<tr>
<td>Dickinson, Theodore Cherrington, A.B.</td>
<td>Vancouver General Hospital, Vancouver, B.C., Canada</td>
</tr>
<tr>
<td>Drennan, James Anderson, A.B.</td>
<td>St. Luke’s Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Edmondson, Hugh Allen, Jr., B.S.</td>
<td>Cincinnati General Hospital, Cincinnati, Ohio</td>
</tr>
<tr>
<td>Edwards, David Joseph, A.B.</td>
<td>White Memorial Hospital, Los Angeles, California</td>
</tr>
<tr>
<td>Egashira, Elmer Takamori, A.B.</td>
<td>Providence Hospital, Seattle, Washington</td>
</tr>
<tr>
<td>Endlich, Harold Louis, A.B.</td>
<td>University of Chicago Clinics, Chicago, Illinois</td>
</tr>
<tr>
<td>Ferguson, John Norton, A.B.</td>
<td>Harbor General Hospital, Torrance, California</td>
</tr>
<tr>
<td>Ferriss, Alfred William, B.S.</td>
<td>Tripler Army Hospital, Honolulu, T.H.</td>
</tr>
<tr>
<td>Fogtson, Edward Herman, B.A.</td>
<td>Duke University Hospital, Durham, North Carolina</td>
</tr>
<tr>
<td>Friedman, Paul Lawrence, A.B.</td>
<td>Jewish Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Gassner, Seymour, B.S.</td>
<td>Mount Zion Hospital, San Francisco, California</td>
</tr>
<tr>
<td>Gasteyer, Theodore Hall, II, A.B.</td>
<td>Presbyterian Hospital, Chicago, Illinois</td>
</tr>
<tr>
<td>Geppert, Charles Henry, B.A.</td>
<td>Minneapolis General Hospital, Minneapolis, Minnesota</td>
</tr>
<tr>
<td>Gibson, Harry Cae, A.B.</td>
<td>Vancouver General Hospital, Vancouver, B.C., Canada</td>
</tr>
<tr>
<td>Gong-Guy, Ernest</td>
<td>Highland Alameda County Hospital, Oakland, California</td>
</tr>
<tr>
<td>Graff, Ralph Joseph</td>
<td>Jewish Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Grayson, John Wesley, Jr., B.S.C.</td>
<td>Barnes Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Grimm, Clark Alden, A.B.</td>
<td>Vanderbilt University Hospital, Nashville, Tennessee</td>
</tr>
<tr>
<td>Grossman, Milton Sharp, A.B., M.A.</td>
<td>Massachusetts General Hospital, Boston, Massachusetts</td>
</tr>
<tr>
<td>Guidetti, Guido</td>
<td>Barnes Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Gur, Ruth Sights, B.S.</td>
<td>Research at Cornell University School of Medicine, New York, New York</td>
</tr>
<tr>
<td>Harder, Ralph Hughes</td>
<td>Highland Alameda County Hospital, Oakland, California</td>
</tr>
<tr>
<td>Heckel, Thomas Alexander, A.B.</td>
<td>Cedars of Lebanon Hospital, Los Angeles, California</td>
</tr>
<tr>
<td>Herzog, Godofredo Max, B.S.</td>
<td>Jewish Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Holloszy, John</td>
<td>Jewish Hospital, St. Louis, Missouri</td>
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<tr>
<td>Hughes, Alfred Cecil Rhodes, A.B.</td>
<td>Cedars of Lebanon Hospital, Los Angeles, California</td>
</tr>
<tr>
<td>Ikeda, Donald Hideo, A.B.</td>
<td>Jewish Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Jasinski, Casimer, A.B.</td>
<td>Queens Hospital, Honolulu, Hawaii</td>
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<tr>
<td>Justus, Bertram William, A.B.</td>
<td>New York Hospital, New York, New York</td>
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<tr>
<td>Kayes, Jack, B.A.</td>
<td>Barnes Hospital, St. Louis, Missouri</td>
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<tr>
<td>Keltner, Raymond Marion, Jr., B.S.</td>
<td>Barnes Hospital, St. Louis, Missouri</td>
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<tr>
<td>Kendriick, Frank Erwin, Jr., A.B.</td>
<td>University of California Hospital, Los Angeles, California</td>
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<tr>
<td>Kenney, Gerald, A.B.</td>
<td>Barnes Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Kenney, Roy Evans, B.S.</td>
<td>St. Luke’s Hospital, St. Louis, Missouri</td>
</tr>
<tr>
<td>Kolker, Allan Erwin, A.B.</td>
<td>St. Louis Children’s Hospital, St. Louis, Missouri</td>
</tr>
</tbody>
</table>
Kurohara, Samuel Shoichi, A.B.—Jewish Hospital, St. Louis, Missouri
Lauritzen, Richard Edward, A.B.—Jewish Hospital, St. Louis, Missouri
Leptich, Jacob Harvey, A.B.—Jewish Hospital, St. Louis, Missouri
Mazzocco, Thomas Richard, A.B., B.S., M.S.—District of Columbia General Hospital, Washington, D. C.
McClenahan, James Brice, A.B.—New York Hospital, New York, New York
Merz, Edwin Henry, Jr., A.B.—Kings County Hospital, Brooklyn, New York
Monro, Alexander Valentine, B.S.—U. S. Public Health Service Hospital, San Francisco, California
Moon, William Adderley, Jr., A.B.—St. Luke's Hospital, Denver, Colorado
Nelson, Richard Alan—Cooper Hospital, Camden, New Jersey
Newell, Robert Calvin, A.B., A.M.—Denver General Hospital, Denver, Colorado
Nishi, James Akio, A.B.—St. Luke's Hospital, St. Louis, Missouri
Osterholm, Jewell LaVerne—Barnes Hospital, St. Louis, Missouri
Pakula, Lawrence Charles, B.S.—Johns Hopkins Hospital, Baltimore, Maryland
Peterson, Frederick Durham, A.B.—St. Louis Children's Hospital, St. Louis, Missouri
Rapp, Earl LaMoine, A.B., B.S., M.H.A.—St. Luke's Hospital, St. Louis, Missouri
Richards, William Russell, B.A.—Barnes Hospital, St. Louis, Missouri
Robertson, John Patrick, A.B.—Bronx Municipal Hospital Center, New York, New York
Robinson, Jerome Charles—Grace-New Haven Community Hospital, New Haven, Connecticut
Rubenstein, Paul, A.B.—Cedars of Lebanon Hospital, Los Angeles, California
Sandeen, Howard Vernon—St. Louis Children's Hospital, St. Louis, Missouri
Schanche, Arthur Farnham, A.B.—University of California Hospital, Los Angeles, California
Seibert, Warren Clement, A.B.—Salt Lake City General Hospital, Salt Lake City, Utah
Simon, William Charles, B.A.—San Diego County General Hospital, San Diego, California
Sims, William Aubrey, Jr., A.B., B.S.—Jewish Hospital, St. Louis, Missouri
Singleton, John Milton, III, A.B.—Barnes Hospital, St. Louis, Missouri
Smathers, John Hurst, B.A.—St. Luke's Hospital, St. Louis, Missouri
Smith, Kenneth Rupert, Jr.—Johns Hopkins Hospital, Baltimore, Maryland
Soell, Erwin Frederick, A.B., B.S.—St. Luke’s Hospital, St. Louis, Missouri
Sower, Norman Dale, B.S.—Walter Reed Army Hospital, Washington, D. C.
Spivak, Dixon Flemon, B.A., LL.B.—Barnes Hospital, St. Louis, Missouri
Stewart, Jack Trent, Jr.—Barnes Hospital, St. Louis, Missouri
Stodard, Elizabeth Ann, B.S.—Jewish Hospital, St. Louis, Missouri
Stunkle, Gene, B.S.—Albany Hospital, Albany, New York
Sunder, Linda Zahn, A.B.
Sunder, Stephen George, A.B.—Highland Alameda County Hospital, Oakland, California
Swisher, Robert Chalmers, Jr.—St. Luke's Hospital, Denver, Colorado
Taylor, William Wilkinson, B.A.—Grady Memorial Hospital, Atlanta, Georgia
Terry, Donald Franklin, A.B.—Jewish Hospital, St. Louis, Missouri
Thomas, Lewis Jones, Jr., S.B.—Bronx Municipal Hospital Center, New York, New York
Utiger, Robert David, B.A.—Barnes Hospital, St. Louis, Missouri
Voegel, Barbara Nancy, B.S.—St. Louis Children's Hospital, St. Louis, Missouri
Weiss, Leonard Stanley, A.B.—Syracuse Medical Center Hospital, Syracuse, New York
Wittmer, James Frederick—University of Virginia Hospital, Charlottesville, Virginia
Zemlyn, Seymour—Jewish Hospital, St. Louis, Missouri

THIRD-YEAR CLASS (1956-57)
Anderson, Norman Duane, B.A., Montana State Univ., '54—Chinook, Montana
Apostolopoulos, Thomas Christ, A.B., Washington Univ., '54—University City, Missouri
Becker, Matthew Kurt, B.S., Univ. of Miami, ’55—Miami, Florida
Benage, Clarence Matthew—Lebanon, Missouri
Birdsman, Oliver Joseph, A.B., Washington Univ., ’54—Webster Groves, Missouri
Briand, Richard Anderson, A.B., Harvard Univ., ’54—Westfield, New Jersey
Borowsky, Benjamin Arthur—Manila, Arkansas
Bowers, Malcolm Baker, A.B., Southern Methodist Univ., ’54—Dallas, Texas
Brickner, Theodore James, Jr., B.S., Purdue Univ., ’54—Tulsa, Oklahoma
Brightwell, Austin Stanley, A.B., Washington Univ., ’50—Independence, Missouri
Broadwater, John Ralph, B.S., Millsaps Coll., ’54—Crystal Springs, Mississippi
Broman, George Ellis, Jr., A.B., Washington Univ., ’54—Clayton, Missouri
Bryant, Richard Edward, A.B., Southern Methodist Univ., ’54—Dallas, Texas
Bryant, Wilbur Ralph, Jr., B.S. in Med., Univ. of South Dakota, ’56—Canton, South Dakota
Buck, Myron Lee—Kennett, Missouri
Burford, Edwin King, Jr.—Doniphan, Missouri
Calvert, John Randolph, B.S., Washington and Lee Univ., ’54—Natchez, Mississippi
Cartwright, Robert Ray, B.S., Drury Coll., ’54—Calhoun, Missouri
Catanzaro, Ronald John, A.B., Washington Univ., ’54—St. Louis, Missouri
Christensen, Roger Frank, B.S. in Med., Univ. of South Dakota, ’56—Sioux Falls, South Dakota
Cutler, Robert Eugene, A.B., Montana State Univ., ’54—Bozeman, Montana
Glass, Michael, B.S., Elmhurst Coll., ’54—East St. Louis, Illinois
Gentsch, Kenneth Walter, A.B., Princeton Univ., ’54—Belleville, Illinois
Goldman, Donald Yale, B.A., Univ. of Pennsylvania, ’54—Long Beach, L. I., New York
Gottschalk, Alexander, A.B., Harvard Univ., ’54—Chicago, Illinois
Guille, Mickey Leland, B.S., State Coll. of Washington, ’54—Colfax, Washington
Harkness, Donald Richard, A.B., Univ. of California, ’54—Pasadena, California
Harkness, Mary Nishi, A.B., Univ. of California, ’54—Pasadena, California
Headrick, John Anderson, A.B., Washington Univ., ’54—St. Louis, Missouri
Hejna, William Frank, A.B., Grinnell Coll., ’54—Chicago, Illinois
Holomon, Ralph Eugene, A.B., Washington Univ., ’55—St. Louis, Missouri
Holt, John Huston, Jr., A.B., Central Coll., ’54—Savannah, Missouri
Innes, Constantine Speros—Weiser, Idaho
Kafka, Ernest, A.B., Harvard Univ., ’54—Jackson Heights, New York
Karschner, Paul Hodges—Aberdeen, Washington
Keller, Daniel Floyd, B.S., Univ. of Oklahoma, ’54—Oklahoma City, Oklahoma
Kessner, David Morton, B.S., Univ. of Arizona, ’54—Lancaster, Pennsylvania
King, Lucy Jane, A.B., Washington Univ., ’54—Greenville, Illinois
Kirsch, Morton Hilliard, A.B., Washington Univ., ’54—St. Louis, Missouri
Koehler, George Alvin, A.B., Washington Univ., ’53—Joplin, Missouri
Levy, Jerome Fred, A.B., Washington Univ., ’54—University City, Missouri
Lindemeyer, Robert Irving, A.B., Cornell Univ., ’54—Kirkwood, Missouri
Lubowitz, Herbert, A.B., Clark Univ., ’54—Worcester, Massachusetts.
Maas, Raymond Reuben, B.S. in Med., Univ. of South Dakota, ’56—Freeman, South Dakota
Manis, James George, A.B., Columbia Univ., ’53—Flushing, New York
Mantini, Emil Louis, A.B., West Virginia Univ., ’39; M.S., ’52; B.S. in Med., ’56—Morgantown, West Virginia
Martin, William Henry, B.S., Arizona State Coll., ’51—Phoenix, Arizona
Masterson, Byron Jackson, A.B., Univ. of Missouri, ’55—Kennett, Missouri
McGregor, Ronald Keith, A.B., Murray State Coll., ’54—Madisonville, Kentucky

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McKinney, Joe Kent, A.B., Westminster Coll., '54—Muskogee, Oklahoma
Meger, Robert Francis, B.S., Univ. of Illinois, '54—Chicago, Illinois
Mernitz, Roland Baldwin, Jr., B.S., Elmhurst Coll., '54—Evansville, Indiana
Mincy, James Ernest, Jr., B.S., Millsaps Coll., '54—Jackson, Mississippi
Moore, Donald Scott, A.B., Washington Univ., '54—St. Louis, Missouri
Morrison, Arlen Edward, A.B., Washington Univ., '54—St. Louis, Missouri
Mullins, John Edward, A.B., Washington Univ., '54—St. Louis, Missouri
Munger, Bryce Leon—Everett, Washington
Neal, Royden Wayne, A.B., Phillips Univ., '54—Adair, Oklahoma
Oborman, Arthur E., A.B., Washington Univ., '55—Kirkwood, Missouri
Oglesby, Richard Berkeley, A.B., Washington Univ., '55—St. Louis, Missouri
Park, Ralph Shappee, Jr., B.S., Washington and Lee Univ., '54—Swarthmore, Pennsylvania
Parsons, Richard Plattner, B.S., Missouri Valley Coll., '54—Malta Bend, Missouri
Porterfield, John Franklin, A.B., Washington Univ., '55—Poplar Bluff, Missouri
Preston, Keith Travis, A.B., Washington Univ., '54—St. Louis, Missouri
Rabin, David L., A.B., Univ. of Arizona, '54—Lancaster, Pennsylvania
Rehg, William Franz, A.B., Westminster Coll., '54—St. Charles, Missouri
Rice, Raymond Dalton—Indianapolis, Indiana
Richman, Sidney Morris, A.B., Brown Univ., '54—Providence, Rhode Island
Roberts, Donald Mundy, B.A., Univ. of Oklahoma, '54—Oklahoma City, Oklahoma
Schneider, Robert Benedict, B.S., Idaho State Coll., '54—Pocatello, Idaho
Semmelmeyer, John Albert, III, A.B., Harvard Univ., '54—Glendale, Missouri
Sessions, David Lee, A.B., Princeton Univ., '54—La Grange, Illinois
Sessions, Frances Pope—Cincinnati, Ohio
Silverman, Jerome Lester, B.A., Pomona Coll., '54—Coronado, California
Sisler, Jerry, B.S., Univ. of Tulsa, '55—Tulsa, Oklahoma
Swain, William Raymond, B.A., Macalester Coll., '54—Duluth, Minnesota
Weaver, Gerald George, B.S., Univ. of Idaho, '51—Lewiston, Idaho
Wilkinson, Robert Holden, Jr., B.S., Coll. of William and Mary, '54—Norfolk, Virginia
Williamson, Joseph Robert, A.B., Phillips Univ., '54—Enid, Oklahoma
Winter, Robert Bruce, A.B., Grinnell Coll., '54—Cedar Rapids, Iowa
Wislocki, Louis Clothier, A.B., Swarthmore Coll., '54—Milton, Massachusetts
Wolff, Ray Joseph, A.B., Dartmouth Coll., '54—St. Louis, Missouri

SECOND-YEAR CLASS (1956-57)
Aach, Richard David, A.B., Washington Univ., '55—St. Louis, Missouri
Ashbel, Theodor Shelomo, B.A., Univ. of California, '50—Los Angeles, California
Bernstein, Irving, A.B., Brooklyn Coll., '55—Brooklyn, New York
Bieber, William Parker, A.B., Washington Univ., '55—University City, Missouri
Bookchin, Robert Martin, A.B., Univ. of Chicago, '55—Uniontown, Pennsylvania
Boyce, John Milton, A.B., Grinnell Coll., '55—Webster Groves, Missouri
Bridgers, William Frank, B.A., Univ. of the South, '54—Asheville, North Carolina
Brown, John Hodgen, B.A., Univ. of Colorado, '55—Denver, Colorado
Calton, Farrell Marlon, B.S., Univ. of Utah, '56—Salt Lake City, Utah
Colbert, Richard Martin, B.S., Stanford Univ., '55—Monterey Park, California
Cordonnier, James Kermit—Carthage, Missouri
Creveling, James Gordon, Jr., B.S., Univ. of the South, '55—Birmingham, Alabama
Criss, James Allerton, B.A., Lehigh Univ., '55—Belvidere, New Jersey
Culp, Neil Walker, B.S., Univ. of Tulsa, '55—Tulsa, Oklahoma

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Curran, Joel Danforth, A.B., Brown Univ., '55—Providence, Rhode Island
Dawes, Robert Bethel, A.B., Central Coll., '55—Knob Noster, Missouri
De Bruin, Paul Harvey, B.S., Elmhurst Coll., '55—Elmhurst, Illinois
Deitch, Milton Joseph, A.B., Princeton Univ., '55—Hixson, Tennessee
Dickey, Ward Eugene, Jr.—Idaho Falls, Idaho
Diets, Ruth Ellen, A.B., Marietta Coll., '55—Cleveland, Ohio
Elsea, William Robert, A.B., Westminster Coll., '55—Kirksville, Missouri
Farmer, Howard Stephen—Elizabeth, New Jersey
Ferguson, David Willett, A.B., Grinnell Coll., '55—Cedar Rapids, Iowa
Finch, John Emmett, B.A., Univ. of Illinois, '55—Urbana, Illinois
Goldman, Arnold Milton, A.B., Harvard Univ., '55—Clayton, Missouri
Hanks, Gerald Eugene, B.S., The State Coll. of Washington, '57—Fresno, California
Helfant, Murray Howard, A.B., Harvard Univ., '55—Newtonville, Massachusetts
Hicks, Richard Gerald, B.S., Murray State Coll., '54—Columbia, Missouri
Hippenssteel, John Leslie—Robinson, Illinois
Hirsch, Carl Alvin, B.S., California Institute of Technology, '51—Huntington Park, California
Jacob, Karl Adolph, Jr., A.B., Washington Univ., '54—St. Louis, Missouri
Kesler, Jane Courtney, B.S., Coll. of William and Mary, '55—Virginia Beach, Virginia
Kilo, Charles—St. Louis, Missouri
Kim, In Chang, B.A., Evansville Coll., '56—Seoul, Korea
Kuhn, Charles, 3rd, A.B., Harvard Univ., '55—Cambridge, Massachusetts
Kuten, Jay Julius, A.B., Cornell Univ., '55—Irvington, New Jersey
Laatsch, Robert Henry, B.A., Park Coll., '55—Webster Groves, Missouri
Lanc, Daniel Kerns, A.B., Princeton Univ., '55—St. Louis, Missouri
Leachy, David Armstrong, B.A., Pomona Coll., '55—Long Beach, California
Lemon, Franklin Calvin, A.B., Univ. of California, '55—Sacramento, California
Levenson, David, A.B., Cornell Univ., '55—The Bronx, New York
Malison, Robert Francis, A.B., Washington Univ., '56—St. Louis, Missouri
Miller, Gordon Ruth, B.S., Univ. of Miami, '56—Miami, Florida
Moon, Thomas Roy, Jr., A.B., De Pauw Univ., '55—South Bend, Indiana
Nagel, Eugene Louis, B.E.E., Cornell Univ., '49—Clinton, Missouri
Nathenson, Stanley Gail, B.A., Reed Coll., '55—Denver, Colorado
Near, David Myron, B.S., Montana State Coll., '55—Bozeman, Montana
Noren, George Robert, B.S., Hamline Univ., '53—Excelsior, Minnesota
Norland, Charles Carssow, B.S., State Coll. of Washington, '55—Klamath Falls, Oregon
O'Rourke, Thomas Kevin, B.S., Univ. of Portland, '55—Pendleton, Oregon
Owen, Nicholas Loyd, A.B., Harvard Univ., '55—Milwaukee, Wisconsin
Parellman, Allen Grover, A.B., Washington Univ., '55—Kansas City, Missouri
Randolph, Elizabeth Ann, B.A., Univ. of Texas, '54—Fort Worth, Texas
Reed, Louis Juden, A.B., Washington Univ., '55—St. Joseph, Missouri
Reichlin, Morris, A.B., Washington Univ., '55—Toledo, Ohio
Rhoto, Albert Loren, B.S., Ohio State Univ., '54—Keokuk, Iowa
Rosenberg, Richard Irwin, B.S., Purdue Univ., '55—East Orange, New Jersey
Schultze, Raymond Gilbert, A.B., Washington Univ., '55—St. Louis, Missouri
Sebransky, Sanford Lewis—Shaker Heights, Ohio
Smith, Robert Gene, B.S., Univ. of Oklahoma, '56—Tulsa, Oklahoma

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Srebo, Richard—Forest Hills, L.I., New York
Stillman, Irving Mayer, B.S., Queens Coll., '55—Brooklyn, New York
Stohr, Paul Edward—Terre Haute, Indiana
Stone, Dwight Howard, B.A., State Univ. of Iowa, '55—Knoxville, Iowa
Sullivan, William Wallace, B.A., Pomona Coll., '55—Claremont, California
Swearingen, Robert Lee—Austin, Texas
Talbert, Clifford Rosco, Jr.—Kennett, Missouri
Tallman, Edward Ringwood, B.A., Reed Coll., '55—Los Angeles, California
Taylor, William John, Jr.—Miami, Florida
Thompson, Richard Elliott, B.A., Vanderbilt Univ., '55—Springfield, Missouri
Urata, Maxwell Michio, B.A., Univ. of Hawaii, '55—Honolulu, Hawaii
Wegner, Wallace William—Scribner, Nebraska
West, John Roger, A.B., Princeton Univ., '55—Rockford, Illinois

FIRST-YEAR CLASS (1956-57)
Abramowicz, Mark, A.B., Harvard Univ., '56—Cambridge, Massachusetts
Anderson, Maurice Sidney, B.A., Univ. of Texas, '56—San Antonio, Texas
Armstrong, Clay Margrave, B.A., Rice Institute, '56—Dallas, Texas
Bach, Fritz Heinz, A.B., Harvard Univ., '56—Burlington, Vermont
Beaver, Thomas Buford, B.S., Southwestern Univ., '56—New Holland, Illinois
Bloom, Floyd Elliott, A.B., Southern Methodist Univ., '56—Dallas, Texas
Boren, Charles William, A.B., Earlham Coll., '56—Poseyville, Indiana
Briggs, Dick Dowling, Jr., B.S., Univ. of the South, '56—York, Alabama
Bybee, Joseph David, B.A., Rice Institute, '56—Beaumont, Texas
Cannon, Donald Charles, A.B., Harvard Univ., '56—Independence, Missouri
Clements, Arthur Morgan, B.A., Univ. of Texas, '56—San Antonio, Texas
Cooperman, Lee Herschel, B.S., Ohio State Univ., '56—University Heights, Ohio
Crowley, William James, Jr., A.B., Washington Univ., '56—Homewood, Illinois
Dismukes, William Paul, Jr., B.A., Vanderbilt Univ., '56—Coral Gables, Florida
Donnell, Henry Denny, Jr.—Greenville, Illinois
Eades, Joseph William, A.B., Amherst Coll., '56—St. Louis, Missouri
Eberstein, Alan Eugene, A.B., Southern Methodist Univ., '56—Dallas, Texas
Edmonds, Robert Wallace, A.B., Univ. of Missouri, '56—Kansas City, Missouri
Fabien, Leonard August, A.B., Washington Univ., '56—Warrenton, Missouri
Fechner, Robert Eugene, B.A., Univ. of Utah, '56—Salt Lake City, Utah
Felkner, Richard Sidney—Kansas City, Missouri
Fogg, Lyman Babcock, A.B., Harvard Univ., '54—Newton Centre, Massachusetts
Glick, Aaron, B.S., McGill Univ., '56—Montreal, Canada
Grubb, William Burl, Jr.—Decatur, Illinois
Hammond, David Todd—Bluffton, Iowa
Harmon, Ben Calvin, B.A., Texas Christian Univ., '56—Fort Worth, Texas
Huech, George Paul, Jr., B.A., William Jewell Coll., '54—Winfield, Missouri
Jekel, James Franklin, B.A., Wesleyan Univ. (Conn.), '56—Kirkwood, Missouri
Johnson, Floyd George, A.B., Northwest Nazarene Coll., '56—Nampa, Idaho
Jystad, Gary Ronald, B.A., Montana State Univ., '56—Columbia Falls, Montana
Kalkhoff, Ronald Kenneth, B.A., Yale Univ., '56—Milwaukee, Wisconsin
Kam, Calvin Chock Ming, A.B., Washington Univ., '56—Honolulu, Hawaii
Keoshian, Leo Arman, A.B., Fresno State Coll., '56—Fresno, California
Kreager, John Arthur, Jr., A.B., Washington Univ., '56—Tulsa, Oklahoma
Landau, Samuel, A.B., Cornell Univ., '56—Bronx, New York
Limberg, Paula Jean, B.S., Univ. of Michigan, '56—Normandy, Missouri
Mayo, Marvin Glen, A.B., Florida State Univ., '56—Lynn Haven, Florida
McGonagle, Thomas John, A.B., Colorado Coll., '56—Denver, Colorado
Medart, William Sherman, Jr., A.B., Washington Univ., '52—St. Louis, Missouri
Miller, Louis Howard, A.B., Haverford Coll., '56—Baltimore, Maryland
Moore, Richard Taylor—Ogden, Utah
Muench, Karl Hugo, A.B., Princeton Univ., '56—Evanston, Illinois
Murashige, Robert Hiroyuki, A.B., Washington Univ., '56—Honolulu, Hawaii
Payne, John Henry—Idaho Falls, Idaho
Pfeiffer, Eric Armin, A.B., Washington Univ., '56—St. Louis, Missouri
Reynolds, Harry Edward, B.A., Claremont Men's Coll., '56—Glendale, California
Richardson, Raymond Gregge—Long Beach, California
Rosen, Peter, A.B., Univ. of Chicago, '55—Brooklyn, New York
Rosenbaum, David Leon, A.B., Cornell Univ., '56—Teaneck, New Jersey
Rosenquist, Carl John, B.A., Univ. of Texas, '56—Austin, Texas
Ruben, Martin L., A.B., Columbia Univ., '56—Brooklyn, New York
Rubin, Laurence Edward, A.B., Washington Univ., '56—St. Louis, Missouri
Sauer, Donald Carl, A.B., Washington Univ., '56—University City, Missouri
Sayne, Eugene Joe, A.B., West Virginia Univ., '56—Charleston, West Virginia
Schaumberg, Herbert Howard, A.B., Harvard Univ., '56—Houston, Texas
Schonfeld, Gustav, A.B., Washington Univ., '56—East St. Louis, Illinois
Scott, Russell Carter, A.B., Knox Coll., '56—Glen Ellyn, Illinois
Shelmire, David Sutton, B.A., Univ. of Texas, '56—Dallas, Texas
Shields, Jim Lee, A.B., Central Coll., '56—Troy, Missouri
Shuter, Eli Ronald, A.B., Cornell Univ., '56—Spring Valley, New York
Sirota, David King, A.B., Harvard Univ., '56—Jamaica, New York
Sisson, Joseph Andrew, A.B., San Diego State Coll., '55—San Diego, California
Skaggs, Jerome Donley—Mountain View, Missouri
Sly, Ridge Michael, A.B., Kenyon Coll., '56—Yakima, Washington
Smith, Julius Steve—Los Angeles, California
Steiger, Barry W.—Danville, Illinois
Steinberg, Lawrence Sheldon, A.B., Washington Univ., '56—Richmond Heights, Missouri
Stewart, Donald Houston, Jr., B.S., Davidson Coll., '59—Kirkwood, Missouri
Terry, Boyd Earl—St. Anthony, Idaho
Tobias, Hillel, A.B., Columbia Univ., '56—Brooklyn, New York
Tufts, Winston Andrew, B.A., Montana State Univ., '54—Billings, Montana
Utley, Joe Roy—Elk City, Oklahoma
Voss, Richard Gerald, B.A., Colorado Coll., '56—Osborne, Kansas
White, Carolyn Martin, A.B., Washington Univ., '56—Louisville, Kentucky
Winter, Phillip Emil, B.A., Carroll Coll., '56—Milwaukee, Wisconsin
Wishnow, Donald Elliott—Flushing, New York
Wochner, Raymond Dean, A.B., Arizona State College., '56—Tempe, Arizona
Zatlin, Gabriel Stanley, B.S., Univ. of Miami, '56—Miami Beach, Florida

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