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School of Medicine
Post-Graduate Medical School

Announcement • 1968-1969

New York University Bulletin



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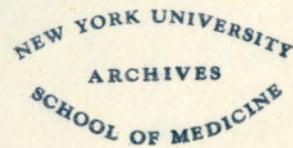
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NOTICE

The program and requirements set forth in this bulletin are necessarily subject to change without notice at any time at the discretion of the administration.

COVER

Bacteriophages are viruses which multiply inside bacteria and destroy them. In the center of the photograph is seen a phage particle (notice its head and tail), the DNA of which has been caused to stream out. This DNA is the genetic material of the phage and it consists of one long filament (one single molecule) with two clearly visible free ends. The DNA filament, about 50 microns (one-thousandth of an inch) in length, corresponds to a single chromosome having several hundred genes. Biochemical and electron microscopic studies of bacteriophages have given biologists deep insight into the basic mechanisms of heredity.



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New York University

School of Medicine Post-Graduate Medical School

Announcement • 1968-1969

550 First Avenue • New York, N.Y. 10016

The world needs men and women who combine an appreciation of the best of our cultural heritage and an intimate knowledge of the challenges of urban civilization. New York City presents an unequalled array of the benefits and problems of urbanization. The most relevant preparation for such men and women is provided in the metropolis, at a highly developed university that is infused with the city's vitality and perspective.

New York University is equipped by experience, philosophy, and location to meet this need. In a country where higher education has been inclined to turn its face away from the city, where "academic" still connotes an aloofness from practical affairs, New York University is attuned to the people, the culture, and the realities of urban life.

James M. Hester
President

About New York University

New York University is a private, metropolitan university that provides the advantages of a great urban setting to a highly diverse student body. It currently enrolls more than 41,000 students who come from all 50 states and 106 foreign countries.

Founded in 1831, the University now includes fifteen schools and colleges at six major centers in Manhattan and the Bronx. In addition, the University owns New York's celebrated Town Hall and operates it as its midtown cultural arts center. At a 1,000-acre site in Sterling Forest, near Tuxedo, New York, certain of the University's research activities, notably the Institute of Environmental Medicine, are located.

Although the University is large, its individual units are small enough to ensure intimate instruction and advisement for every student. Four of the six undergraduate schools have between 1,000 and 3,000 students.

In keeping with a liberal tradition dating from its founding, the University is open without restriction to qualified students of all religions and national or racial origins.

A faculty of 5,500 men and women teach more than 2,500 courses leading to 35 different degrees. Through extensive summer and evening courses, educational opportunities are opened to ambitious students who cannot afford to give full time to their studies.

The University derives its principal income from tuition, endowment, and from friends, alumni, and other private philanthropic sources.

A Leader in Higher Education

Throughout its 137 years, New York University has been responsible for many important advances in higher education. It established the first university school of aeronautics, the first university teacher-training school, the first laboratory in the

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nation devoted to bacteriology and pathology. The University established one of the first university schools of business, and was an early leader in the training of engineers.

Pioneering advances for the world of today and tomorrow are currently pursued in such University service and research units as the Institute of Rehabilitation Medicine, the Courant Institute of Mathematical Sciences, the Institute of Fine Arts, the Murry and Leonie Guggenheim Foundation Institute for Dental Research, the Comparative Criminal Law Project, and the Engineering Research Division.

The University Community

New York University is an integral part of the thriving metropolitan community of New York City—the business, cultural, artistic, and financial center of the nation, and the home of the United Nations. The city's extraordinary resources greatly enrich both the academic programs and the experience of living at New York University.

The chief centers for graduate and undergraduate study are at Washington Square in Greenwich Village, long famous for its contributions to the fine arts, literature, and drama; and at University Heights, a self-contained, 47-acre campus in the Bronx, 30 minutes from midtown Manhattan. University residence halls accommodate more than 5,200 men and women. Student activities buildings provide facilities for a stimulating and enjoyable campus life.

Accreditation

New York University is a member of the Association of American Universities and is accredited by the Middle States Association of Colleges and Secondary Schools. Graduate and professional schools recognize its degrees.

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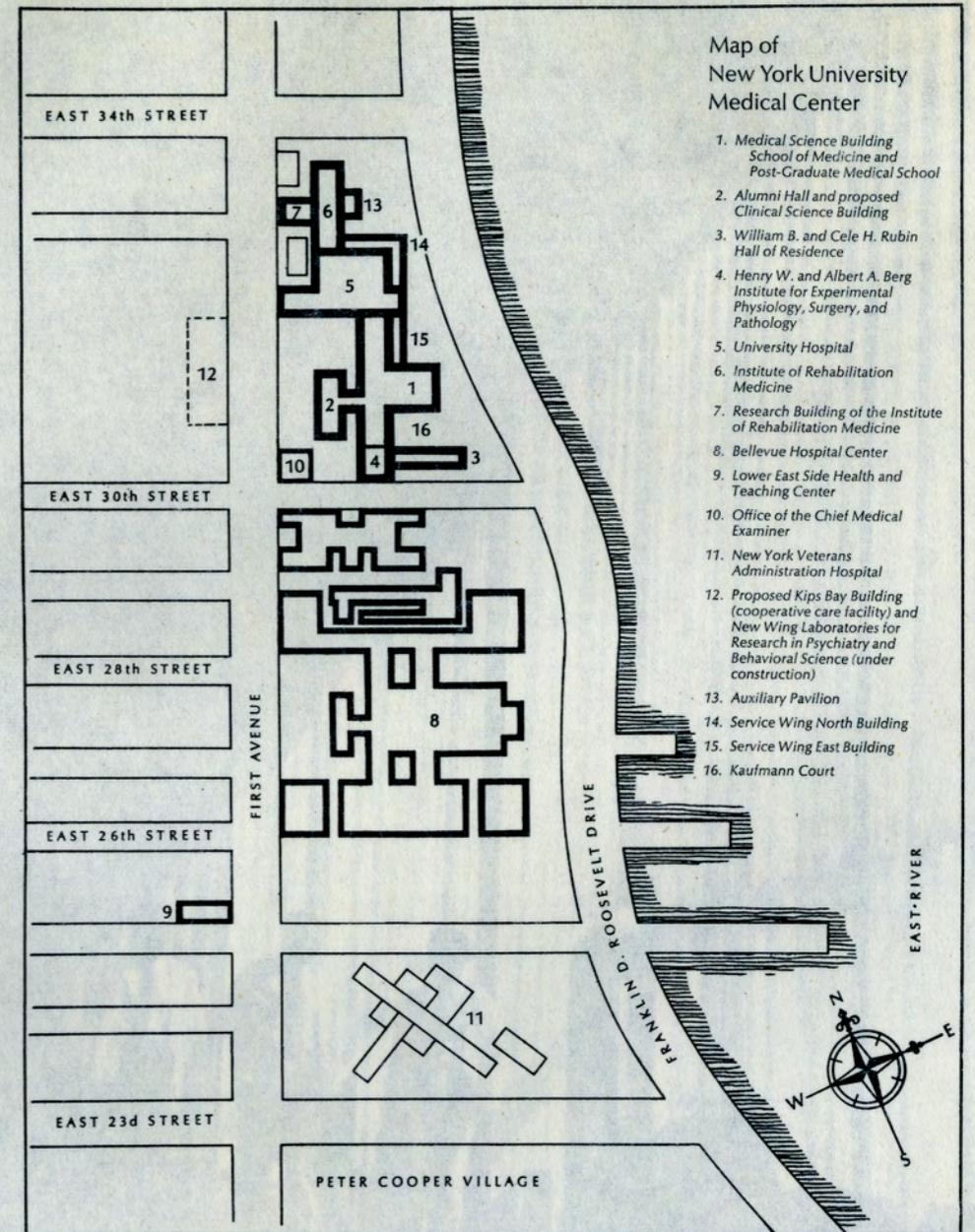
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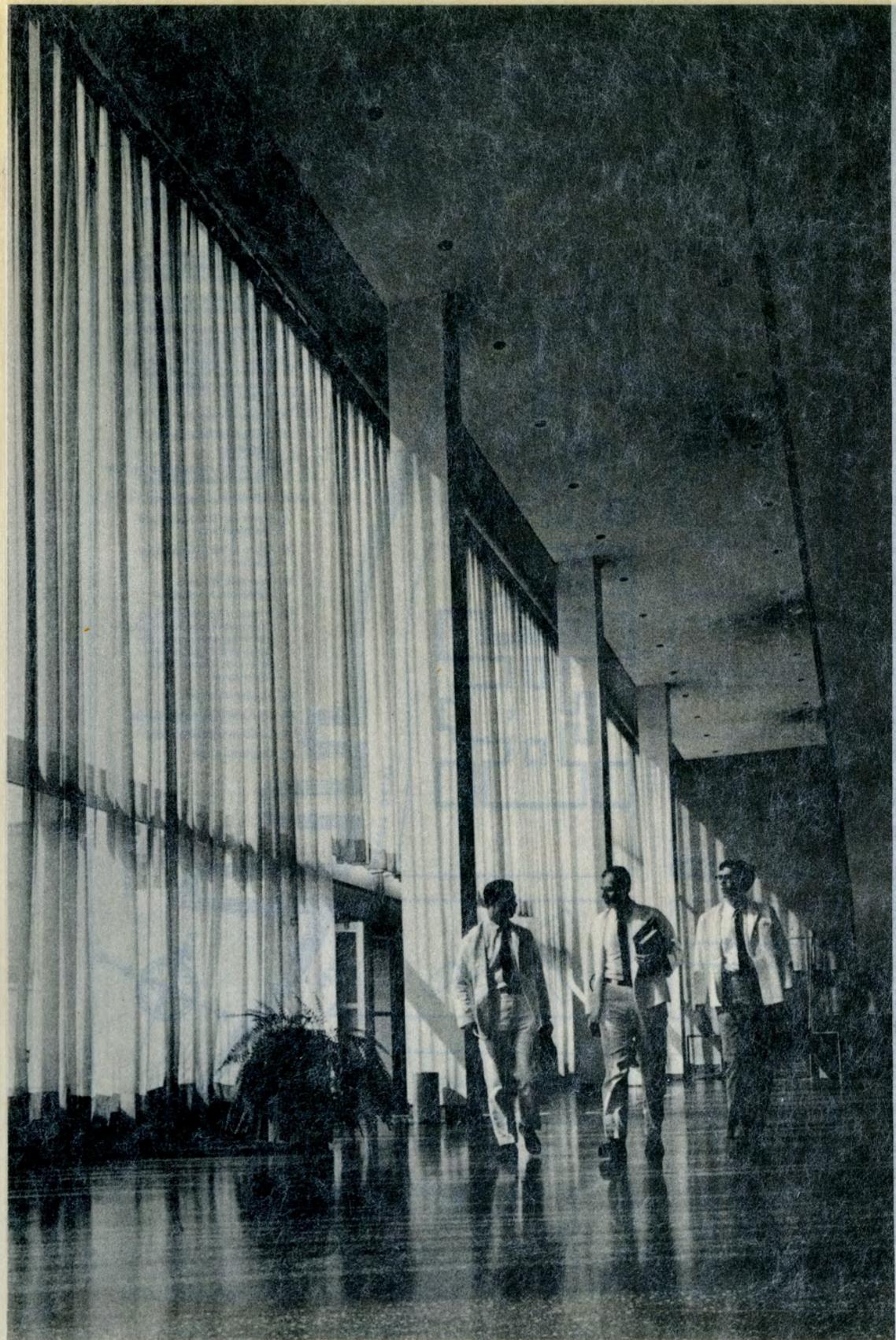
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New York University

School of Medicine

The 129th Session • 1968-1969

The School of Medicine is a unit of the
New York University Medical Center

CALENDAR

1968-1969

All dates are inclusive

First Year

Registration Friday, September 6, 1968
Academic year Monday, September 9, 1968-Friday, May 30, 1969
(34 weeks)¹

Second Year

Academic year Monday, September 9, 1968-Friday, May 30, 1969
(34 weeks)¹

Third Year

Academic year Monday, September 9, 1968-Thursday, July 17, 1969
(42 weeks)¹

Fourth Year

Academic year Monday, September 9, 1968-Friday, May 23, 1969
(33 weeks)¹

Last Day Exercises Tuesday, June 10, 1969

Graduation Wednesday, June 11, 1969

Student Assembly Day Wednesday, March 26, 1969

Holidays for All Four Years²

Election Day Tuesday, November 5, 1968

Thanksgiving recess Thursday, November 28-Saturday, November 30, 1968

Christmas recess
(*First, Second and Fourth Years*)
Monday, December 23, 1968-Friday, January 3, 1969
(*Third Year Only*)

Monday, December 23-Wednesday, December 25, 1968

Monday, December 30, 1968-Wednesday, January 1, 1969

Washington's Birthday Saturday, February 22, 1969

Spring Recess
(*First and Second Years*)

Friday, April 4, 1969. Monday, April 14-Friday, April 18, 1969

(*Third and Fourth Years*)

Friday and Saturday, April 4 and 5, 1969

Memorial Day Friday, May 30, 1969

Independence Day Friday, July 4, 1969

¹ Number of weeks in academic year *excludes* holiday time.

² Students in third and fourth years will be responsible for clinical assignments during the holiday periods at the instruction of the departments.

HISTORICAL SKETCH

School of Medicine

In 1966 the New York University School of Medicine marked its one hundred and twenty-fifth anniversary in a history that goes back as far as 1837 and includes initiation of, and participation in, many of the major events in American medicine through two centuries. In 1837, six years after the granting of the first University charter, the minutes of the meetings of the University Council contained the names of men suggested as professors for the chief branches of medical instruction. In 1841, the University Medical College was organized and instruction was begun under the following faculty: Valentine Mott, professor of surgery; Granville Sharp Pattison, professor of anatomy; John W. Draper, professor of chemistry; John Revere, professor of theory and practice of medicine; Martyn Paine, professor of institutes of medicine and materia medica; Gunning S. Bedford, professor of obstetrics and diseases of women and children.

Clinical instruction was started in Bellevue Hospital in 1847, and in 1861 Bellevue Hospital Medical College was founded when a college building was erected on the hospital grounds. The first faculty consisted of the following teachers of medicine and its branches: Stephen Smith, principles and practice of surgery; Frank Hastings Hamilton, surgery of bones and accidents; James R. Wood, operative surgery and surgical pathology; Alexander B. Mott, surgical anatomy; Lewis A. Sayre, orthopedic surgery; Isaac E. Taylor, Fordyce Barker, George T. Elliot, Jr., obstetrics; Benjamin W. McCready, materia medica and therapeutics; John William S. Gouley, anatomy; Austin Flint, principles and practice of medicine; Austin Flint, Jr., physiology; R. Ogden Doremus, chemistry and toxicology.

With the passing of the years and a deepening conviction that the total medical enterprise should be placed in the scholarly setting of the University, it became clear that University Medical College and Bellevue Hospital Medical College would be benefited by a consolidation. Thus the medical school was established in its present form in 1898 when it became an integral part of New York University under the name of University and Bellevue Hospital Medical College. In 1935, the name was changed to New York University College of Medicine. In 1960 it was changed to its present name — New York University School of Medicine.

Post-Graduate Medical School

The New York University Post-Graduate Medical School was founded in 1948 through the consolidation of the New York Post-Graduate Medical School and the Postgraduate Division of the College of Medicine. The New York Post-Graduate Medical School and Hospital had been incorporated in 1882 and chartered by the State of New York in 1886. The College of Medicine had offered postgraduate studies first in 1914 and, because of the large number of physicians interested in further education, the Postgraduate Division of the College was organized in 1945.

Through the richness of clinical services operated by the medical school, the consolidated Post-Graduate Medical School offers courses in all branches of medicine for the general practitioner and the specialist. The creation of this center of excellence for the continuing education of the physician and surgeon has served significantly to elevate the standards of medical practice and patient care in the metropolitan New York area.

Hospitals and the Medical Center

New York University established the Medical Center in 1947 in order to conduct an expanded program of medical education, patient care, and research. The Medical Center includes the School of Medicine, the Post-Graduate Medical School, and the two main hospitals in which the bulk of clinical teaching is done: University Hospital, a private hospital adjacent to the Medical School and physically connected with it, and the Bellevue Hospital Center, in which most of the student teaching is done. The new University Hospital, which was formerly the New York Post-Graduate Hospital, opened in 1963. It has 622 beds for the care of private and semiprivate patients. Bellevue Hospital, the largest of the twenty-six municipal hospitals owned and operated by the Department of Hospitals of New York City, can accommodate 3,000 patients with acute and chronic illnesses and has a yearly admissions average of 47,000 patients.

The old Bellevue Hospital is now being refurbished and reconstructed pending completion of the new, modern twenty-story Bellevue which is rising on Franklin D. Roosevelt Drive in the rear of the present structure. Two other hospitals that have been integrated into University facilities for patient care and teaching are the Goldwater Memorial Hospital, a 1,250-bed edifice on Welfare Island in the East River, and the New York Veterans Administration Hospital, a 1,218-bed facility adjacent to Bellevue Hospital on Twenty-third Street and First Avenue.

An integral part of the Medical Center is the Institute of Rehabilitation Medicine, which was the first unit in the Medical Center complex to be completed in 1951, and has since deservedly earned world-wide fame. In 1954, the Medical Science Building, which houses research laboratories, administrative offices, the Center library, and classrooms for students in the first two years, and the Berg Institute, the Center's main animal facility, was occupied. The William B. and Cele H. Rubin Hall of Residence, the student and the Currier McEwen and John Ben Snow faculty dining areas were completed in 1957, as was Alumni Hall, which contains an auditorium and three large, well-equipped lecture rooms.

Library

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The Medical Center Library is located on three floors of the Medical Science Building. During the academic year, library hours are 8.45 a.m. to 11 p.m., Monday through Friday; 9 a.m. to 5 p.m., Saturday; and 1 p.m. to 11 p.m., Sunday.

The Library collection consists of more than 78,000 volumes and has approximately 1,300 current periodicals. The card catalog (Library of Congress system), circulation desk, reserve book section, reference room, and current periodicals room are on the ground floor.

Seating for readers is available in the reference and current periodicals room where current journals, including indices, and books in heavy demand, are accessible with ease. Individual study carrels and small rooms for group discussion are located in the periphery of the lower level stacks. A photoduplication service makes possible the copying of material at a nominal fee.

The Institute of Environmental Medicine at Sterling Forest in University Valley maintains a reference library. A daily messenger service makes this collection available to the Medical Center readers.

Interlibrary borrowing enables the Medical Center Library to draw upon the New York University Libraries which contain 1,815,000 volumes and other large medical and science libraries in New York City.

Art Collection

The New York University Art Collection consists of more than 1,000 paintings, sculptures, drawings, prints, and photographs on display in buildings throughout the University. The majority of the work is contemporary. Paintings and sculptures may be seen in the lounge areas of the student centers and dormitories. Small exhibitions of works are used in connection with the teaching programs in several departments. Works are installed in seminar rooms and faculty and administrative offices. The collection has been developed during the past ten years through the generous gifts of artists, alumni, and friends of the University. Acquisitions are controlled by the Art Collection Committee. Information concerning the collection may be obtained from the office of the Curator, New York University Art Collection, 80 Washington Square East, New York, N.Y. 10003 (telephone: 598-3479).

ADMISSION, REGISTRATION, AND MATRICULATION

Requirements for Admission

All students applying to the New York University School of Medicine must meet the following minimum requirements:

1. Completion of at least three years of study in an accredited college or university.

2. Completion of the Medical College Admissions Test of the Association of American Medical Colleges. Applications and general information may be obtained from the Psychological Corporation, 304 East 45th Street, New York, N.Y. 10017.

3. The following minimum course requirements must be met:

English—six semester hours* (two years are recommended)

Inorganic Chemistry—six semester hours

Organic Chemistry—six semester hours

Physics—six semester hours

General Biology or Zoology—six semester hours.

Courses taken outside of approved colleges of liberal arts will not be credited toward admission requirements and normally credit is not given for courses taken in schools of nursing, pharmacy, veterinary medicine, dentistry, or agriculture.

The Committee on Admissions recommends that if two or more introductory courses are offered by the undergraduate departments the applicant take the more rigorous of the basic science courses. In the case of inorganic and organic chemistry and of general physics, it is strongly recommended that a year's work be completed, even in colleges where the minimum requirements can be satisfied in one semester. Recommended, but not required, are additional courses in mathematics, including calculus, and quantitative and physical chemistry.

* A semester hour is calculated as one hour of classroom or two hours of laboratory work each week for sixteen weeks.

Excellence in the premedical sciences—chemistry, physics, and biology—constitutes a basic requirement for entrance to New York University School of Medicine. No special preference is given to science concentrators. In the case of the Medical Science Training Program (M.D.-Ph.D. Program), one year of calculus and physical chemistry are required in addition to other stated requirements. All candidates for the School of Medicine must exhibit excellence at all levels of college study, regardless of the area of concentration they choose. All candidates are urged to demonstrate more than a superficial familiarity with a field of interest at the college level, that is, to select advanced courses and to examine, in depth, some special aspect of the course material.

Application Procedure

Inquiries and applications for admission should be addressed to the Committee on Admissions, New York University School of Medicine, 550 First Avenue, New York, N.Y. 10016. Applicants with foreign credentials should see page 17.

Normally application forms are available for distribution on or about September 1. There is a \$15.00 application fee, nonrefundable. Applicants are responsible for making certain that transcripts of *all* college and graduate level work, including summer school, and a college faculty evaluation are sent to the School of Medicine. The faculty evaluation may consist of a premedical committee appraisal, as is the custom in some colleges, or of two letters from individual faculty members. Applications postmarked later than December 31 are not acceptable. The Office of Admissions will try to advise candidates if complete data are not received in a reasonable time.

The Selection of Students

Evaluation of the applicant is based upon four criteria as follows:

1. Excellence in course work at the college level.
2. Evaluation of the student by college instructors, premedical committees, and other similar mechanisms used by the colleges.
3. A personal interview at the New York University School of Medicine.
4. Results of the Medical College Admissions Test.

There is no upper age limit for matriculation and occasionally older students of exceptional merit are chosen for admission. The vast majority of entering first-year students range in age between 21 and 24 years. Women have been eligible for admission to this school of medicine since 1919, and their applications are welcomed. There is no policy limiting the number of women applicants, who have constituted from 8 to 15 percent of recent entering classes.

It is not possible to interview all applicants and the interview therefore is limited to those students who, on the basis of the application data, appear to merit serious consideration. Those selected for interview constitute approximately one third of the total number of applicants. Under special circumstances, applicants west of the Mississippi River are interviewed locally, either by a local representative of the School or by a member of the Admissions Committee who travels to the interview site.

Students are advised by letter of the final decision of the Committee on Admissions. If the student is accepted, he is given two weeks in which to make his decision. Matriculation is accomplished by a letter of acceptance from the student and a deposit of \$50.00, which is refundable until January 15. Final registration becomes official only after the student has completed satisfactorily all of his admission requirements and has been given a physical examination by the Office of Student Health.

Admission to Advanced Standing

All requirements for admission to the first-year class (including the Medical College Admissions Test) must have been fulfilled by applicants for advanced standing.

A student in good standing at an accredited American or Canadian medical school may apply for admission to advanced standing in the third-year class. Requirements are as follows: a letter stating the applicant's reason for wishing to transfer, endorsement and recommendation of the dean of the medical school from which the student wishes to transfer, and an official transcript from that school. The Committee on Admissions may also require the applicant to take examinations in the subjects of the first two years if it so desires.

Applications for advanced standing may be made between January 15 and May 1. No credit toward advanced standing is given for work completed in schools of dentistry, nursing schools, medical schools not approved by the Association of American Medical Colleges, schools of veterinary medicine, or schools of pharmacy.

M.D.-Ph.D. Program

A curriculum leading to the M.D. and Ph.D. degrees in a minimum of six years is offered to selected students. The Ph.D. is taken in one of the basic medical science departments of the School of Medicine. Requirements for the Ph.D. will be completed together with the preclinical work for the M.D. during the preclinical years. Correlation sessions in the clinical sciences will be given throughout the preclinical years.

In addition to the established premedical requirements necessary for admission to the School of Medicine (*see* pages 15-16), students interested in this program must have a bachelor's degree and complete, at college or during the summer preceding attendance in medical school, courses in calculus and physical chemistry. Students participating in the program will be registered both in the Graduate School of Arts and Science and the School of Medicine.

A number of fellowships with stipend and tuition support for the entire period are available.

For further information, applicants should consult the Office of the Dean or Dr. Rody P. Cox, Associate Professor of Medicine.

Applicants with Foreign Credentials

Students from schools outside the United States and Canada must have their full educational credentials approved by the New York State Board of Education, Licensing Bureau, Albany, N.Y. 12201, before making application for admission to the School of Medicine. Such applicants must also fully satisfy the regular entrance requirements of the School of Medicine, as described elsewhere in this bulletin. The difficulties involved in the application procedure (and the large numbers of students applying each year) place foreign students at some disadvantage. This is particularly true with respect to the possibilities of scholarship or loan support.

Registration

At the beginning of each session, students must register in the School of Medicine, 550 First Avenue, New York, N.Y. 10016, and make a payment on their general tuition fee as described under the schedule of fees.

Registration of Veterans

Public Laws 634 and 361 under Chapter 35, Title 38, United States Code. These laws provide educational benefits for sons and daughters of deceased (Public Law 634) or totally and permanently disabled (Public Law 361) veterans.

Public Law 89-358 under Chapter 34, Title 38, United States Code, provides educational assistance for veterans and in-service personnel who served on active duty after January 31, 1955.

To be certified for such benefits the applicant must secure a Certificate of Eligibility (VA Form 21E-1993) from the Veterans Administration, which should then be submitted promptly to the Veterans Coordinator in the school in which the student is registered. For further information, the student should consult the Veterans Counseling Service of the University, Room 302, Main Building, Washington Square, or the Veterans Administration.

Under these laws, a student pays his fees at the time of registration but will receive a monthly allowance from the Veterans Administration.

It is imperative that a student have all his registration material and any change of program stamped P.L. 634, 361, or C.W.V. (P.L. 89-358) if he wishes to receive educational benefits under the provisions of these laws.

Public Laws 894, 16, 815, or 721 under Chapter 31, Title 38, United States Code. A veteran desiring to register under one of these laws is required to submit to the Veterans Administration a letter of acceptance from the college he wishes to attend. If he meets the requirements of the Veterans Administration, he will be given an Authorization for Education (VA Form 7-1905), which he must present to the Veterans Counseling Service in Room 302, Main Building, before registering.

All Veterans. All allowance checks are sent to the veterans by the Veterans Administration. However, any preliminary inquiries regarding nonreceipt of these checks should be made of the Veterans Coordinator in the school in which the student is registered.

All veterans are expected to reach the objective (bachelor's or master's degree, doctorate, or certificate) authorized by the Veterans Administration with the minimum number of points required. The Veterans Administration may not authorize tuition payments for credits that are in excess of scholastic requirements.

Veterans Counseling Service. Veterans are always welcome to use the University's Counseling Service in the Office of the Registrar (Room 302, Main Building, Washington Square) for information or assistance in filing for educational benefits.

Since interpretation of regulations governing veterans' benefits is subject to change, veterans should keep in touch with the Veterans Administration or with the Veterans Counseling Service of the University.

Selective Service

Matriculated, full-time students in good standing may be considered for deferment by their local Selective Service Boards. It is required that graduate students who are requesting deferment submit Selective Service Form 103 to their Local Boards. This form is executed by the University and constitutes the official statement of the student's status for consideration by his Local Board. The student should initiate his request for SS Form 103 with the Recorder of the school in which he is matriculated. The SS Form 103 cannot be issued until the student completes initial registration. Prior to registration but following admission the Admissions Office will certify that the student has been admitted.

It is the student's responsibility to keep his Local Board informed of his student status; he must request the Recorder of the school in which he is matriculated to

submit SS Form 103 at the beginning of each academic year for which he is requesting deferment.

Inasmuch as the law as well as the regulations may be modified, it is suggested that the student keep in touch with his Local Board.

Advancement in Course

The advancement of a student from one year of study to the next and the recommendation for graduation is made by action of the faculty through a committee appointed by the Dean. The Faculty Committee can, at its discretion, approve advancement, require the student to repeat all or part of a year's work, refuse further registration, or take whatever other action it may deem appropriate in an individual instance. The student may petition the faculty in person or by letter to reconsider its decision.

Candidates refused further registration or required to repeat all of a year's work receive no credit for that academic year.

The School of Medicine reserves the right to refuse registration to any student whom it believes to be unsuited for study in this School.

Examinations

A student may be required to submit to such written, oral, and practical examinations deemed proper in each individual case. The regulations governing examinations are subject to change at any time. At the present time these regulations are as follows:

Examinations in course are held at the discretion of the department concerned and are considered part of its teaching activity. As such they are given in the hours assigned to the course by the Curriculum Committee. The forms of the examinations are determined by the departments.

At the end of each of the four years a time is set aside during which the student may be given final examinations.

Requirements for Graduation

Students may become candidates for graduation under the following conditions:

1. They must have successfully completed four years of medical work, of which the last two years must have been taken in this institution.
2. They must, as required by law, have reached the age of twenty-one years.
3. They must have discharged all their financial obligations to the University.
4. They must be recommended for graduation by the Faculty Committee of the School of Medicine.
5. They must be present at Last Day and Commencement Exercises.

Students who meet these requirements will be recommended to the Board of Trustees of New York University for the degree of Doctor of Medicine.

Medical Licensure

National Board Examinations: The certificate of the National Board is accepted in lieu of the State Board Examination by the licensing authorities of a majority of states.

Applications for these examinations should be made at least six weeks in advance of the date of the examination. Additional detailed information may be obtained by writing to Dr. John Hubbard, Executive Director, National Board of Medical Examiners, 3930 Chestnut Street, Philadelphia, Pa. 19104.

New York State Board Examinations: Applications for admission to the examinations must be filed at Albany at least fifteen days prior to the date of the examinations. Complete information concerning the New York State Board Examinations is contained in Handbook No. 9, which may be obtained by writing to the Chief, Professional Examinations Bureau, New York State Education Department, Albany, N.Y. 12201.

FEES¹

The Board of Trustees of New York University reserves the right to alter this schedule of fees without notice.

The medical course consists of four academic years. The tuition is \$1,920.00 per year. In addition, there are the following annual fees amounting to \$130.00: student health, hospitalization insurance, laboratory coat, and class fund. In 1969-1970, total fees will amount to \$2,250.00.

Holders of New York State Regents Scholarship and Fellowship Awards and Scholar Incentive Awards will be allowed credit toward their tuition fees in the amount of their entitlement, provided they are enrolled on a full-time basis and they attach to their registration cards the Award Certificate for the term and provided they have previously submitted to the Bursar's Department a signed and notarized power of attorney. If a power of attorney has not been submitted, a blank form should be obtained from the Bursar's Department and the executed form must accompany the registration cards. Holders of Part-Time Regents Fellowships will be allowed credit if they enroll for a minimum of six points and submit the Award Certificate and power of attorney as outlined.

Please note that the Bursar's Department will not make refunds to students who present the certificate after registration. These students must wait until the state issues the checks.

No candidate may be recommended for a degree until all required fees have been paid. The University cannot be responsible for the inclusion in the current official graduation list of any candidate who pays fees after the first day of June, October, or February for degrees in June, October, or February, respectively. Following the payment of all required fees, and upon approval of the faculty, the candidate will be recommended for the degree as of the date of the next regular meeting of the University Board of Trustees at which the awarding of degrees is part of the order of business.

Should a student withdraw for any reason other than serious illness, no fee will be refunded.

Payment of Fees

Students may select either Plan I or II for the payment of fees.

I. Full-Payment Plan

Upon registration:

General instruction, including student health, hospitalization insurance, class fund, and laboratory coat fees \$2,050.00

¹ A deposit of \$50.00 is required of all accepted applicants. This deposit is not returnable after January 15 but is applied to the first tuition payment.

Students are required to provide themselves with a microscope, dissecting sets, laboratory materials, and textbooks as recommended by the heads of various departments. All books and materials, except microscopes, are sold at the School Campus Store.

II. Two-Payment Plan

Upon registration:

One-half academic session (general instruction, including student health, hospitalization insurance, class fund, and laboratory coat fees) \$1,025.00

At midterm:

One-half academic session (general instruction and above fees) 1,025.00

Checks should be made payable to New York University School of Medicine for the exact amount of fees.

Alumni of the School of Medicine are admitted without fee to the lectures and clinics of the third and fourth years upon approval of the department chairman.

Estimate of Minimal Expenses for Students Taking a Full Course for One Session

Fees

General instruction, including student health, hospitalization insurance, class fund, and laboratory coat fees	\$2,050.00
Board	900.00
Room	585.00
Supplies, books, clothing, etc. (not including microscope)	800.00
Total	\$4,335.00

The William B. and Cele H. Rubin Hall of Residence

Residence hall accommodations available at or through New York University are open to both men and women without discrimination with respect to race, color, religion, or national origin.

The Hall of Residence provides single and double rooms as well as a few two-room suites. Accommodations are available for both women and men. Married couples may also live in the dormitory but there are no housekeeping facilities. Blankets and maid service are provided but towels and bed linens are not. They may be rented from a recognized linen service company. A cafeteria in the Center provides meals at reasonable prices.

School of Medicine. Single-room accommodations rent at \$585.00 for the school year (September through May). Double-room rates for each occupant are \$450.00 for the school year. Suites rent for \$720.00 for the school year for each occupant.

Applications for rooms should be made at the time the student accepts a place in the class by writing to: Manager, the Hall of Residence, New York University, School of Medicine, 435 East 30th Street, New York, N.Y. 10016.

Post-Graduate Medical School. Physicians registered in the Post-Graduate Medical School may stay in the Hall of Residence. For reservations, communicate directly with the Manager, the Hall of Residence, New York University, School of Medicine, 435 East 30th Street, New York, N.Y. 10016.

For those physicians who prefer to stay in a hotel while enrolled in courses, a list of hotels in the vicinity of the Medical Center may be obtained by writing to the Recorder, Post-Graduate Medical School, New York University, 550 First Avenue, New York, N.Y. 10016.

Off-Campus Housing. The University maintains a Residence Bureau to assist out-of-town students to find suitable accommodations in off-campus areas. All inquiries concerning these accommodations should be addressed to the Residence Bureau, New York University, 543 La Guardia Place, New York, N.Y. 10012.

FELLOWSHIPS, SCHOLARSHIPS, LOAN FUNDS, AND PRIZES

Fellowships

Abraham S. Birsh Fellowship. For the purpose of advancing research and knowledge in diseases of the cardiovascular-renal system.

Harry Livingston Research Fellowship. The income to be used for a fellowship or fellowships for research in metabolism.

John Wyckoff Memorial Fellowship. Established through gifts of faculty and alumni (through the Alumni Fund) and friends of the late Dean Wyckoff for a fellowship to be awarded annually in the Department of Medicine.

Scholarships and Loan Funds

Although the scholarships and loan funds are listed individually, applications for financial aid are made to the Committee on Student Aid through the Office of the Dean, without reference to any specific fund. The Committee makes available these funds at its discretion. Loan applicants must be fully matriculated and, for all except short-term emergency loans, must be citizens or permanent residents of the United States and in good academic standing. Early application, at least eight weeks prior to registration, is strongly recommended.

Vivian B. Allen Scholarship Fund. For direct aid to needy students.

American Merit Medical Scholarship. Established by the Lucien and Ethel Brownstone Foundation to encourage outstanding students to seek careers as teachers and investigators in any of the disciplines of medicine. A four-year scholarship, awarded quadrennially, which pays tuition and supplementary expenses.

Edward A. Ames Scholarship. Bequest of Dr. Edward A. Ames, provides aid for worthy students in the School of Medicine.

Avalon Foundation Scholarships. Established in 1961 to provide scholarships for medical students.

Sara Chait Memorial Scholarship. Established in November 1960 for scholarships for the academic year 1967-1968 to be awarded at the discretion of the Student Aid Committee.

Equitable Life Assurance Society Scholarships. For deserving and gifted medical students.

Christian A. Herter Scholarship. This scholarship was founded for the encouragement of research in chemical pathology, physiological chemistry, or pharmacology. The annual income is awarded each year to a graduate or undergraduate who has demonstrated aptitude for physiological and chemical research.

Nathan Hofheimer Foundation Scholarship. Established in 1962 through a gift from The Nathan Hofheimer Foundation, in support of scholarship aid for students in the School of Medicine.

Priscilla L. Kaufman Memorial Fund. Established in 1968 in support of summer research by students of the School of Medicine.

J. C. Kellogg Foundation Scholarship. In memory of Charles and Margaret E. Urner, for students of high scholastic standing who would otherwise be financially unable to acquire a medical education.

Loft Foundation Student Aid Fund. Established by the George W. Loft and Julia M. Loft Foundation, Inc. to financially assist students who reside or come from the New York metropolitan area who otherwise would not be able to undertake a medical education. Awards are made at the direction of the Student Aid Committee.

Lubin Scholarship. Endowed in memory of Dr. Edward Kenneth Lubin and Dr. Philip Lubin, for a scholarship to be awarded annually at the discretion of the Student Aid Committee.

Manges Memorial Scholarship. Endowed in memory of Dr. Morris Manges, a member of the faculty from 1911 to 1925, for student scholarships.

Muehlstein Scholarship Fund. The Herman Muehlstein Scholarship Fund for medical education provides financial assistance for the education of students, interns, residents, and fellows who reside or come from New York and the vicinity. The program is administered by the Office of the Dean.

Pfizer Laboratories Medical Scholarship. For a scholarship to be awarded by the Student Aid Committee.

Dr. Herman L. Reis Student Aid Fund. Established in 1959 in honor of Dr. Herman L. Reis, an alumnus, to be used for student scholarships or loans, at the discretion of the Dean of the School of Medicine.

Samuel Rubin Foundation Scholarships. Awarded to students who would otherwise be financially unable to undertake a medical education. Awarded upon the recommendation of the Student Aid Committee and renewable for four years.

United Parcel Service Scholarships. Awarded to students in need of financial assistance.

The Leah Katz Wasserman Memorial Fund. Established by her family to provide support for students to engage in research bearing upon the problem of cancer.

John E. Weeks Scholarship. Established through gifts from the late Dr. John E. Weeks, Professor Emeritus of Ophthalmology.

Health Professions Scholarship Program. Direct aid to needy students who enter medical school after July 1, 1966; administered in conjunction with the Health Professions Loan Program and in accordance with regulations established by the United States Department of Health, Education and Welfare. These awards are available only to such students who, without this financial assistance, could not pursue their studies during the year for which the award is made. Additional information may be obtained from the Office of the Dean.

Health Professions Student Loan Program. This loan program is sponsored by the Federal Government in cooperation with the School of Medicine. Loans are available to undergraduate full-time medical students. The application deadline is established each year by the School of Medicine. Students requiring financial assistance may obtain additional information from the Student Aid Committee, Office of the Dean.

William Woods Beckman Student Aid Fund. Established by friends and students as a memorial to the late Dr. William Woods Beckman, Assistant Dean of the School of Medicine from 1948 to 1951, for the purpose of assisting needy students.

Max Blumberg Philanthropic League, Inc., Loan Trust. Established in 1951 in memory of Dorothy Schwartz Rosenberg to provide financial aid to a deserving student or students selected by the Committee on Student Aid of the School of Medicine.

Robert J. Carlisle Student Loan Fund. Established through gifts from alumni of the School of Medicine, to afford students financial assistance to complete their medical education.

Class of 1927 Fund for Student Aid. Established by the Class of 1927 for student aid.

Class of 1933 Student Loan Fund. Established by the Class of 1933 for student aid.

Clinical Research Society Loan Fund. Established in 1950 for students in the School of Medicine.

Elisha M. Friedman Memorial Fund. For loans to students in the School of Medicine.

Emanuel Giddings Loan Trust. To assist students in the School of Medicine.
Dr. Mary Halton Memorial Fund. Established in 1950 as a loan fund to aid women students in the School of Medicine.

William C. MacTavish Student Loan Fund. Established in 1958 in honor of Professor William C. MacTavish who retired after 50 years of service. This fund is used to aid students in the School of Medicine.

David Marks Memorial Loan Fund. Established by Mrs. A. Braslau and Miss Sophie Braslau in memory of Dr. Marks in the hope that his unselfish, beautiful spirit will serve as an inspiration and incentive to the lofty and noble attainments that characterized his life.

Medical Alumni Association Student Loan Fund. Established in 1959, through gifts from alumni of the School of Medicine, for deserving students.

The Parents Association Special Loan Fund. The Parents Association provides loans for emergency needs of students upon recommendation of the Dean.

Picker Loan Trust Fund. Gift of Mr. James Picker, the Picker X-Ray Corporation, to provide loans for students who would otherwise be unable to continue their education.

Agnes Purdie Medical Student Aid Fund. Established in memory of Agnes Purdie, to make available small amounts of money on a short-term loan basis. This fund is utilized primarily as an emergency fund for needs which have not been anticipated.

School of Medicine Class of 1926 Loan Fund. Established by the Class of 1926, as a memorial to deceased classmates.

School of Medicine Loan Trust. Gifts from various sources, to be used for student loans.

School of Medicine 1956 Scholarship Loan Fund. Established by the Class of 1956 for a loan to a student in the School of Medicine, at the discretion of the Dean.

Students Association Loan Trust. This fund was established through gifts of the 1941-1943 Students Association of the School of Medicine.

Tudor Foundation Student Loan Fund. Established in 1960 for loans to students at the discretion of the Dean.

Jonas Weissberg Loan Fund. Established in memory of Dr. Jonas Weissberg, Class of 1935. Short-term loans to meet unforeseen exigencies.

New York State Loan Program for Residents of the State of New York. Information concerning these loans may be obtained in the Office of the Dean.

Loans for Residents of Other States. All other states have funds available for loans, including those under the *Federal Guaranteed Loan Program*, that may be used by students attending New York University. The applicant's State Department of Education will have information on any such aids. Information, as well as application forms, may also be obtained from participating lending institutions in the student's home state. *Applications are not available from New York University.* However, the Student Credit and Loan Department is the designated representative to sign the "Education Certification Section" of these applications in the name of New York University.

National Defense Student Loan Program. Loans under the National Defense Education Act of 1958 are available to students enrolled in graduate courses in the Post-Graduate Medical School. Information may be obtained from the Committee on Student Aid, Office of the Dean.

New York State Scholar Incentive Program

Legal residents of the State of New York who are enrolled in a full-time degree program of at least 12 points a term, or the equivalent, may be eligible for awards under this program. The stipend varies, depending on family income and

tuition costs, from \$100.00 to \$300.00 per semester for the first year of graduate or professional study, and from \$200.00 to \$400.00 for each succeeding semester up to a total of eight semesters of graduate work. However, the Scholar Incentive Award cannot exceed the amount by which the college tuition for the semester (not including fees) exceeds \$100.00. Holders of Regents Scholarships or Fellowships may also receive the Scholar Incentive Award, but it cannot be more than the amount by which the tuition for the semester exceeds the scholarship or fellowship.

Applications should be filed before July 1 for each academic year but will be accepted by the state up to December 1. Applications for the spring semester only have an April 1 deadline. Annual application is required. For further information and an application form, write to the Regents Examination and Scholarship Center, New York State Education Department, Albany, N.Y. 12224.

Tuition credit for New York State Scholar Incentive Awards, Regents Scholarships, and Regents Fellowships will be allowed in accordance with the conditions stated on page 20.

Prizes

Alpha Omega Alpha Prizes. The Alpha Omega Alpha honorary fraternity awards prizes annually to the three students who have attained the highest scholastic ratings for the four years of their medical course.

American Psychiatric Association Award. An award given to a fourth-year student for the best thesis on some aspect of psychiatry or the best report on research in psychiatry.

Glover C. Arnold Surgical Prize. A prize of \$50.00 is offered for the best examination in surgery to a fourth-year student. The prize was established by the family of Dr. Glover C. Arnold, a graduate of the Class of 1873.

Borden Undergraduate Research Award in Medicine. An award of \$500.00 is made each academic year to the student in his senior year who, during any part of his medical course, has shown outstanding ability in research. The award is presented at the time of graduation.

James E. Constantine, Class of 1907 Annual Awards in Obstetrics and Gynecology. An endowment fund established in 1963 through the bequest of Dr. James E. Constantine, an alumnus of the School of Medicine. The income to be awarded annually to the three students, who, in the opinion of the faculty, present the best theses on obstetrics and gynecology.

Maurice Freiman Memorial Prize. Bequest of Dr. Maurice Freiman, an alumnus of the School of Medicine, provides an annual award to a student or students for exemplary and outstanding work.

Andrew Alan Friedland Memorial Award. The award, established by the friends and family of Andrew Alan Friedland, an alumnus of the School of Medicine, is given each year to a senior student for excellence in medicine. The Department of Medicine designates the recipient.

Frederick C. Holden Award. A prize of \$25.00 is awarded each year to a student of the graduating class for excellence in obstetrics and gynecology.

William Linder Prize. Under a bequest of Dr. William Linder, a prize of \$100.00 is awarded each year to the student of the graduating class who excels in clinical surgery.

Fred S. Mandelbaum Fund. The income of this fund to be used for an annual award to a student who excels in pathology and allied sciences.

The Valentine Mott Prize Medals. By the will of Dr. Valentine Mott, a founder of the University Medical College, and for many years its president and professor of surgery, provision was made for the following medals:

A silver medal to the student who has attained an honor standing in anatomy during the first year.

A bronze medal to the student making the best contribution to the clinical investigation in surgery.

The preparations shall belong to the University Mott Prize Museum in the Department of Anatomy and be labeled with the names of the students submitting them.

Reports of cases shall belong to and be filed in the library. Further information regarding the preparations or reports will be furnished by the professor of anatomy or surgery.

New York University Alumnae Club Key Pin. An award is made to the outstanding woman student in the senior class on the basis of scholarship and participation in school activities.

School of Medicine Alumni Award. Awarded to the student who has made the greatest contribution to his class.

Solomon and Dora Monness Shapiro Scholarship. The income awarded in the form of an annual cash prize to the student who in the opinion of the faculty is most deserving.

Samuel Spiegel Prize Fund. To be awarded to a senior medical student who is a resident of Greater New York and who attains the highest scholastic record for four years of his medical course.

James E. Tower Prize. An instrument case presented annually to a student for the best examination in surgery for the year.

Hippolyte M. Wertheim Prize. Established by the Tau Epsilon Phi fraternity as a memorial to Dr. Wertheim. A prize on the form of books awarded to the second-year student who attains the highest scholastic record during his first two years.

Women's Medical Association of New York City Award. An award is granted to the senior woman student with the most distinguished record.

Herman Wortis Neuropsychiatric Prize. This prize, the income of a fund given in memory of Herman Wortis, M.D., formerly assistant professor of clinical psychiatry, is awarded annually at the Last Day Exercises to the member of the senior class who has done the best work in the Departments of Psychiatry and Neurology and Medicine.

GENERAL INFORMATION

Discipline

To safeguard its ideals of scholarship, character, and personal behavior, the University reserves the right to require the withdrawal of any student at any time for any reason deemed sufficient under the rules and traditional practices of the University. If further attendance of any student is prohibited before the end of the term for which he has paid tuition, a refund of fees will be made according to the standard schedule for refunds.

Transcripts of Record

The first two official transcripts of a student's record are issued free of charge. A fee of \$2.00 is charged for each additional transcript. Applications for transcripts, certifications, and other statements relating to the record should be addressed to the Recording Office of the School of Medicine with correct remittance and should state the name and address of the official to whom the information is to be mailed. In accordance with the general practice of colleges and universities, official transcripts and certifications are sent directly by the University, not transmitted by the applicant.

The University reserves the right to withhold registration material and all information regarding the record of any student who is in arrears in the payment of fees or other charges, including student loans.

International Student Center

The International Student Center, located at 54 Washington Square South, provides orientation and counseling services for foreign students, visiting professors and scholars, and research scientists after their arrival at New York University; administers all matters pertaining to student passports, visas, etc.; and offers opportunities for foreign students and scholars to participate in various social, cultural, and recreational activities.

Required Equipment

Students entering the School of Medicine are required to provide themselves with microscopes for use throughout their medical course.

Microscopes should be purchased prior to the beginning of the school year and should meet the following minimum requirements:

Triple nosepiece (quadruple nosepiece recommended)

Divisible condenser, Abbe type

Mechanical stage

Oculars: 10x (it is recommended that a pointer be installed in one ocular)

Objectives: 3.5x, 10x, 43x (or 45x), 97x (or 100x), oil immersion

Accessories: microscope lamp, immersion oil

The refinements of elaborate research models are not necessary for routine work and unless one foresees a definite future need for such specialized optics, a considerable expense can be avoided by a simpler instrument which is as satisfactory for the work in hand. Students who wear glasses may wish to purchase so-called high eye-point oculars instead of the regular type. Some people also prefer to utilize a wide-field ocular, particularly if they wear glasses. Those who select a binocular microscope are advised to choose oculars that allow a total magnification of about 1,000x when used with the oil immersion objective. A suitable microscope lamp should be purchased if an illumination source is not built into the microscope itself. In this connection, it should be noted that whereas quite simple lamps are adequate for monocular lens systems, more intense light sources are needed for binocular systems. The performance of the lamp should be checked using both the 43x and 97x objectives. The 43x objective should be tested with a hematologic counting chamber to ensure that the working distance is adequate. Since this objective is extensively used with the counting chamber, it is important to be sure that working distance is adapted to the very heavy slide and cover slip of the counting chamber.

Student Health Service

Bertram M. Gesner, A.B., M.D., *Director*

School of Medicine. The School of Medicine undertakes active supervision of the health problems of the student body. The supervision begins with a complete physical examination of all entering students and continues with annual roentgenographic examinations.

The Student Health Service is located in Room HG 78, University Hospital. Office hours are from 9 a.m. to 12 m. and 1 to 4 p.m. Monday through Friday during which time a registered nurse is in constant attendance. A physician is present from 1 to 2 p.m. each day to see those students requiring medical atten-

tion. Provision is made for caring for emergencies occurring at other times in the Emergency Room of University Hospital. A student who is confined to his home by illness may be cared for by his family physician, and the Health Service should be notified.

Emergency and other acute illnesses requiring hospitalization are cared for by the staff of the Health Service or by other staff members of the School of Medicine. Such students may be hospitalized in the University Hospital of New York University Medical Center or at Bellevue Hospital Center. Hospitalization insurance (included under fees) is mandatory.

All students are given tuberculin and Schick tests as part of the teaching in microbiology in the second year. This program is correlated with the theoretical and practical phases of immunology given as part of that course. Those students who desire it are immunized at this time. Other immunization is carried out on an individual basis.

Post-Graduate Medical School. The physicians of the Student Health Service are available for consultation by physicians enrolled in the Post-Graduate Medical School who may become ill.

Student Assembly Day

During each academic year one day, usually in March, is set aside for a student assembly. At this time students present the results of research that they have undertaken. Following the students' presentations, the program of the day concludes with a guest lecturer.

Lectureships

Alpha Omega Alpha Lectureship. Sponsored by the Delta Chapter of Alpha Omega Alpha honorary fraternity in conjunction with the Honors Program. The lecturer for the 1967-1968 session was Dr. James H. Jandl, Thorndike Memorial Laboratory, Harvard Medical School. The topic of his lecture was "The Spleen: Pathophysiology and Pathophilosophy."

Howard Fox Lectureship. Established in memory of the late Dr. Howard Fox who was one of the country's leading dermatologists and formerly professor of dermatology at the New York University School of Medicine. The lecturer for the 1967-1968 session was Dr. Thomas H. Weller, Richard Pearson Strong Professor and Chairman, Department of Tropical Public Health, School of Public Health, Harvard University. The topic of his lecture was "Varicella—A Not So Benign Pox."

Menas S. Gregory Lectureship. Established in 1945 in accordance with the will of the late Dr. Menas S. Gregory; provides for an annual lecture in psychiatry. The lecturer for the 1967-1968 session was Dr. Zdenek Votava, Professor of Pharmacology, Charles University, Prague, Czechoslovakia. The topic of his lecture was "The Influence of the Depletion of Catecholamines and Serotonin on the Effect of Some Cholinomimetics, Antidepressants, and LSD."

Louis Gross Memorial Lectureship. Established by a bequest from the estate of the late Dr. Emanuel Libman. The lecturer for the 1967-1968 session was Dr. Jacob Furth, Acting Director, Columbia Institute of Cancer Research. The topic of his lecture was "The History of Experimental Leukemia in Perspective."

Christian A. Herter Lectureship. Dr. Christian A. Herter, a former professor of pathological chemistry, provided in 1903, through the Board of Trustees of New York University, a fund for an annual course of lectures on this subject. The lecturer for the 1967-1968 session was Dr. Britton Chance, Department of Biophysics and Physical Biochemistry, Johnson Research Foundation, University

of Pennsylvania School of Medicine. The topic of his lecture was "Instabilities of Metabolic Controls: Enzymatic Oscillators."

Louis J. Horowitz Lectureship. Established in 1957 for an annual lecture on rehabilitation medicine.

The Harold Jacobziner Memorial Lectureship. Established in 1966 in memory of the late Dr. Harold Jacobziner, formerly professor of clinical pediatrics. The lecturer for the 1967-1968 session was Dr. Frederick C. Robbins, Dean, Western Reserve University School of Medicine. The topic of his lecture was "The Intellectual Challenge of Medical Practice."

Sigmund Pollitzer Lectureship. Established in honor of the late Dr. Sigmund Pollitzer, an outstanding dermatologist, who was also professor of dermatology at the former New York Post-Graduate Medical School. The lecturer for 1967-1968 was Dr. Walter C. Lobitz, Professor and Head, Division of Dermatology, University of Oregon. The topic of his lecture was "The Human Eccrine Sweat Gland."

John Wyckoff Lectureship. Established in 1937 by the Phi Delta Epsilon fraternity as a memorial to the late Dean Wyckoff, this lectureship provides for a lecture on a clinical subject.

Visiting Professorship

Leopold Stieglitz Visiting Professorship. Established in 1947 by the friends of Dr. Stieglitz for a visiting professor to the School of Medicine.

Student Government

The Students' Association of the School of Medicine. All students in the School of Medicine are members of the Association upon registration. The object of the Association is to "foster fellowship, support, regulate, and encourage student activities, to promote further interest in problems of medicine, and to facilitate a cordial student-faculty relationship." It is the official representative of students in the School of Medicine, and its elected officers constitute the student council. Dues are determined by the student council upon the advice and approval of the Dean, and are paid at the time of registration. Each year students receive a copy of the Medical Violet yearbook, which is supported in part by the Association.

Societies

Alpha Omega Alpha Honorary Fraternity. A chapter of the Alpha Omega Alpha honorary fraternity was established at New York University in 1923. Selection of members is on the basis of scholarship; not more than one tenth of any class is eligible for selection.

The *William Welch Society* was founded in 1929 by undergraduates for the "advancement of the study of medical history and culture among medical students."

The *Friends of the Le Fevre Library* was established in 1937 with the purpose of furthering the interests of the library.

School of Medicine Alumni Association

The Association serves as a common bond between the School and all graduates, the old University Medical College, Bellevue Hospital Medical College, and the School of Medicine. The officers for the year 1968-1969 are: president, Alan A. Scheer '46; president-elect, George Craft '52; vice presidents, Richard D. Amelar '50, Allan R. Aronson '40, William F. Mitty, Jr. '46, M. Leon Tancer '40; recording secretary, Lillian Batlin '39; corresponding secretary, Marilyn T. Schittone

'43; treasurer, Marvin Kushner '43; historian, John H. Mulholland '25. The Alumni Federation directors representing the Medical Alumni Association for 1968-1969 are: David H. Goldstein '33, Sophia J. Kleegman '24, and George M. Saypol '35. The Association publishes a magazine, the *New York University Medical Quarterly*. Ira J. Laufer '53 serves as editor.

General Plan of Instruction

The general plan of instruction is to provide a setting in which the student can learn fundamental principles applicable to the whole body of medicine. The curriculum is designed to establish habits of reasoned and critical judgment and to develop the ability to use these principles and judgments wisely in solving problems of health and disease. There is no attempt made to present in systematic detail the data related to every medical discipline.

The first and second years are divided into semesters, separated by a five-week elective period and followed by a three-month free summer interval. The third year starts in the fall and continues until the end of July. The fourth year is divided into eight periods, each approximately four weeks long.

The work of the first year is concerned chiefly with the normal patterns of human structure, metabolism, growth, and development. The Departments of Anatomy, Physiology and Biophysics, and Biochemistry assume the major responsibility for this teaching. The Departments of Psychiatry and Neurology, Rehabilitation Medicine, and the other clinical departments offer introductory and orientation lectures as well as correlation clinics in order to assist the student in integrating his basic studies.

During the second year, the student continues his study of normal structure and function but with increasing reference to disease. The last semester is largely an orientation and transition to clinical medicine. The Departments of Microbiology, Pathology, Pharmacology, and Preventive Medicine assume major responsibility for basic medical science instruction during the second year. The Department of Medicine, including Clinical Pathology, and the several medical and surgical specialty departments combine in teaching a course in the principles of the examination of the patient. This course is an introduction to clinical medicine and is given in the latter portion of the second year.

The third-year students spend all their time on the hospital wards, with the exception of a one-hour lecture daily. The Departments of Medicine, Surgery, Pediatrics, and Psychiatry and Neurology have regularly assigned clerkship periods. The medical and surgical specialty departments regularly participate in the teaching during the major clerkships.

Fourth-year instruction is devoted to senior clinical clerkships in the Departments of Medicine, Psychiatry and Neurology, Pediatrics, Surgery, and Preventive Medicine. Four months of the year are spent as an elective period.

Electives

A student may do work of his own choosing in his free time in any year, subject to the approval of the Dean. Students may, at the discretion of the faculty, elect to interrupt their regular course of study any time after the first year in order to pursue individual work in one of the departments of the School of Medicine.

During the first and second years a five-week elective period is scheduled between the first and second semesters. During the fourth year, a period of sixteen weeks is provided in the regular curriculum for the student to work in an area of his own choosing. The nature of this work should be determined by the interests of the student, as developed during his instruction in the first three

years of medical school, and by his work during free time. Elective work on an individual basis is available in all departments and is arranged through departmental representatives. Where an individual's interests are better served by work in other institutions, this may be arranged through the sponsorship of a member of the faculty. Students who wish to carry out research work under faculty supervision, or who wish to continue research begun in earlier years, may do so during this period.

This period may also be used, by selected students, to increase the flexibility of the curriculum. By appropriate scheduling and by taking regular clerkships in two clinical departments during the summer vacation between the second and third year, a student may achieve as much as forty-two weeks of free time in continuity, extending from midway in the third year to midway in the fourth year of medical school.

During the second and third years, students are met as a group and elective opportunities are discussed. A personal interview with the Dean, or with the appropriate departmental representative, is arranged for each student in choosing his elective work. Students interested in special work are urged to consult a member of the faculty, or the Dean, at any time.

History of Medicine

Adrian W. Zorgniotti, M.D., *Principal Lecturer*

A series of 4 to 6 lectures on the historical evolution of medicine will be given each year, and in the course of four years will provide a background for the undertaking of certain basic philosophic assumptions and scientific theories upon which modern medicine is based.

The Honors Program

Medicine advances at an extraordinary pace; its frontiers are what was formerly the exclusive domain of the basic sciences. That the impact of this cannot be fully appreciated by the student who restricts his education exclusively to the minimal course work requirements is as true for students who intend to enter clinical medicine as for those who intend to pursue an academic career. It is, therefore, imperative that the medical school curriculum familiarize the student with this wealth of basic information through the use of educational devices other than formal classroom lectures and laboratories. To fulfill these obligations, the New York University School of Medicine in 1956 developed an Honors Program with sufficient flexibility to permit students to supplement their formal classwork in the light of their individual long-range objectives. Thus, in its broadest perspective, the Honors Program enables the student to free himself of much of the rigidity imposed by formalized curricula and, at the same time, provides for a degree of self-expression commensurate with his capacities and limited only by his own sense of values.

Participation in the formal Honors Program, or some less structured equivalent of it, is completely voluntary. Constantly improved on the basis of suggestions from both the faculty and student body, the program is designed to help the student find his proper place in medicine. Attendance or nonparticipation in no way affects his standing in the class. It is possible for a student to spend approximately 25 percent of his time during his four years of medical school in a laboratory working on a research project of his own choosing under the guidance of a member of the senior faculty. Such a program is easily arranged in the New York University School of Medicine.

The Honors Program Director is selected from the faculty by the Dean and is

assisted by advisers from each of the major departments of the School. The director and his associates are available for advice and guidance concerning the many activities included in the program.

No single mechanism can fulfill such broad objectives. Weekly lectures by outstanding scientists and clinicians, scholarship and research opportunities, tutorials, and journal clubs are all included in the Honors Program. Because of the diversity of the program, its various facets are described separately in the following sections.

In the fall of the first year, students are screened and accepted for the Honors Program. Approximately 15 percent of the class enlists. Enrollment carries with it the agreement to attend Journal Club meetings and the Friday afternoon special lecture series. The student is assigned a faculty adviser, usually chosen from one of the preclinical departments. In the second half of the first year, the student is required to enroll in one or more of the tutorial offerings made available by senior faculty members. In the summer between the first and second year, the student in the Honors Program enters a medical school laboratory of his own choosing, receiving a stipend for a summer's work in experimental medicine. In the second year the student continues his affiliation with the Journal Club and participates in the tutorials. At this point he is eligible to receive a stipend of \$100 a month for the next 12 months. Provision is also made for additional second-year students—those who have not participated in the Honors Program in the first year—to join the program if they so choose. Following the second year, a number of mechanisms are open to students wishing to pursue research, among them the Medical Science Year and the Intracurricular Fellowships (*see page 33*). All students participating in the Honors Program become student members of the New York Academy of Science.

Honors Lectures

The weekly series of honors lectures is one of the most stimulating activities of the program. Outstanding men who have made challenging contributions to our scientific knowledge are invited to speak. During the past year thirty-four lectures were given on such topics as RNA and DNA biochemistry, the biological effects of ionizing radiation, genetic factors in disease, immunology, virology, neurophysiology, photosynthesis, and bacterial metabolism. In general, lectures cover advances in the basic sciences and topics more directly related to clinical problems.

Journal Clubs

Students who elect to participate in the Honors Program enroll in one of the evening journal clubs. Twelve to fifteen students meet two to three times a month under the guidance of a faculty adviser and evaluate important scientific papers in terms of data, method of presentation, conclusions, and areas for future investigation. Sessions of this type—organized and conducted by the students themselves—develop to a high degree an essential working skill that no other educational technique can duplicate.

Tutorials

Students are also invited to participate in advanced tutorials in which selected facets of a broad problem are intensively and critically surveyed. About thirty such tutorials are offered each year by members of the faculty in their field of specialization, covering topics such as bacterial genetics, collagen diseases, biochemistry of RNA and DNA, hemodynamics, renal physiology, electrophysiology, the biology of cancer, the subcellular organization of cells and inflammatory mechanisms.

Research Discussion Groups

Journal Club sessions continue to be held during the third and fourth years and are supervised by members of the clinical faculty. In recent years, it has been found profitable to set up a research discussion group as a forum for the students to organize and present data from their own experimental experiences. Student Assembly Day is a major annual event at which eight or ten students are selected to present research reports. The activities of the day are climaxed by a lecture delivered by an outstanding medical scientist.

Summer Research

During the summer months, fellowships are provided for interested students to participate in the numerous research projects conducted by members of the School. About thirty fellowships were awarded last year to students assigned to both clinical and basic science departments. Opportunities are also available for work outside the School proper in the Bermuda Biological Station, Woods Hole, The Will Rogers Memorial Hospital at Saranac, etc. Many students become interested in a particular area of research and continue to find opportunities to participate in such problems either on a part-time basis during the school year, as a part of their elective courses, or in subsequent summers.

Medical Science Year Fellows and Intracurricular Fellows

By the end of the second year, certain students will be attracted to a particular area of research. An opportunity to explore such a research career is provided through the Medical Science Year Fellowships with a stipend of \$3,200. Under this program, selected students pursue an alternative 5-year curriculum that includes a year of full-time study in a laboratory of their choice.

A similar but less extended research curriculum is offered through the Intracurricular Fellowship, which enables selected students to pursue an individualized laboratory experience for nine consecutive months. The program is completed within the standard four-year curriculum. The Intracurricular Fellowship provides a stipend of \$1,200.

Each student participating in either the Medical Science Year or the Intracurricular Program is encouraged to write a thesis covering his research activities; if it is accepted by the faculty he is entitled to graduate with the degree of M.D. with Honors.



Description of Courses

*Faculty members hold title in both
the School of Medicine and the Post-Graduate Medical School*

ANATOMY

Associate Professor and Acting Chairman of the Department

Michael H. Ross, B.S., M.S., Ph.D.

Professor

Joseph Pick, M.D. [Vienna]

Assistant Professors

Bruce I. Bogart, A.B., Ph.D.

Lawrence Prutkin, B.S., A.M., Ph.D.

Instructors

Virginia H. Black, A.B., A.M.

Mary J. Lorenc

Mary Alice Cunningham Rundles, A.B.

Nak Kwang Shim, M.D. [Yonsei]

Teaching Assistant

Robert S. Bressler, B.S., M.S.

First Year

Lectures and laboratory extend through the first semester. Emphasis is placed on general biological principles, the structure and function of the cell, genetics, growth and development, and the general arrangement of the organs and tissues in the body. Wherever possible structure and function are studied together.

Neuroanatomy and neurophysiology are taught during the second semester by Dr. Louis Hausman, clinical professor of neuropsychiatry. Lectures—two a week. Laboratory—three periods weekly.

Electives

Advanced work in gross and microscopical anatomy and experimental neuroanatomy is offered to a limited number of students in any of the four years. Elective work is available by arrangement with the Dean and the departmental chairman.

ANESTHESIOLOGY

Professor and Chairman of the Department

Valentino D. B. Mazzia, B.S., M.D.

Associate Professor

Terence W. Murphy, B.S., M.B., Ch.B. [Liverpool]

Associate Professor of Clinical

Boardman C. Wang, M.D. [Cheeloo]

Associate Clinical Professors

Johannes Bartels, M.D.

Salvatore L. Dell'Aria, M.D. [Catania]

Henry H. Guy, M.D. [Teheran]

Helene D. Mayer, Ph.D. [Vienna],
M.D. [Basel]

Assistant Clinical Professors

Adel R. Abadir, M.B., Ch.B. [Alexandria]

Michael A. Colella, A.B., M.D.

Mansoor B. Day, M.D. [Teheran]

Ruth Ferguson, M.B., Ch.B. [Edinburgh]

Lawrence Spielberg, M.D. [Rome]

Frank Z. Warren, B.S., M.D.

Franz Wascherohl, M.D. [Berlin]

Valdemar O. Zialcita, M.D. [Philippines]

Lilija Ziverts

Davor Zuberko, M.D. [Zagreb]

Instructor

Phyllis M. McDonough, B.S.N. [Ottawa],
R.N.

Clinical Instructors

Louis Abelson, M.D.

Mahgul M. Ali, M.B., B.S. [Panjab]

Sonia Armengol

Fernando Bistarelli, M.D. [Perugia]

Massimo P. Degiarde, M.D. [Perugia]

Robert Hsu, M.D. [Aurora]

T. K. Mong, M.D. [Aurora]

George Ovanezian, M.D. [Inst. Medicine
Pharmacy, Bucharest]

James B. Pollaci, B.S.; M.D. [Rome]

Clara Ruano, Doc. en Med. [Havana]

Marcelle M. Willock, A.B., M.D.

Third Year

A general introduction to anesthesiology is presented during five one-hour lectures. Instruction in agents and techniques of general, conduction, and regional anesthesia is offered on an individual basis during the clerkship on obstetrics and gynecology. With the cooperation of the Department of Surgery, a one-hour period is devoted to cardiopulmonary resuscitation, stressing closed chest external cardiac massage and mouth-to-mouth ventilation.

Fourth Year

Elective courses are offered according to the needs and desires of the student who may choose to devote full time to administration of anesthesia for general surgery, or for obstetrics, or in anesthesia research. Elective periods may be arranged through the Office of the Dean and the departmental chairman.

BIOCHEMISTRY

Professor and Chairman of the Department

Severo Ochoa, M.D. [Madrid]; (hon.) Sc.D.;
D.H.C., L.H.D., LL.D.

Professor

Robert C. Warner, B.S., M.S., Ph.D.

Research Professor

Sarah Ratner, A.B., A.M., Ph.D.

Associate Professors

Robert W. Chambers, A.B., Ph.D.
Menek Goldstein (assigned to Psychiatry), Ph.D. [Bern]
Albrecht K. Kleinschmidt (Molecular Biology), Dr. med. [Munich]
M. Daniel Lane, B.S., M.S., Ph.D.

Research Associate Professors

Harvey S. Penefsky, Ph.B., A.B., Ph.D.
Maynard E. Pullman, B.S., M.S., Ph.D.
Albert J. Wahba, A.B., A.M., Ph.D.

Assistant Professors

Rajarshi Mazumder, B.S., M.S. [Calcutta], Ph.D.
William G. Robinson, A.B., A.M., Ph.D.

Research Assistant Professors

Wlodzimierz Szer
Alexander A. Tzagoloff, A.B., Ph.D.

Instructors

Gunter Feix, Dip.Chem., Dr.rer.nat. [Freiburg]
David J. Garwes, B.S., M.S. [London]; Ph.D. [Australian National]
Sylvia Lee-Huang, B.S. [National Taiwan], M.S., Ph.D.
Alan C. Rutner, B.S., M.S., Ph.D.

First Year

First Semester

Lectures—Four hours a week. Biochemistry is discussed as a basic biological science, emphasizing its relations to other medical disciplines (physiology, pharmacology, microbiology, genetics, molecular biology) and its significance and application in medicine.

Laboratory—Six hours once a week. Attention is given to the basic qualitative and quantitative analytical techniques, the isolation of important chemical compounds from tissues, and the performance of experiments illustrating the chemical dynamics of the cell and the role and properties of enzymes, as well as experiments in the fields of molecular biology and molecular genetics. A special course (six hours once a week) is conducted during the last four weeks of the course for a limited group of interested students. This course consists of supervised experiments on selected projects.

Conferences—Two hours a week for group discussion of elementary lecture and laboratory material.

Electives

Opportunity is offered to a limited number of highly qualified students to work in the laboratories during their elective periods. Arrangements should be made with the Dean and the departmental chairman.

DERMATOLOGY

George Miller McKee Professor and Chairman of the Department

Rudolf L. Baer, M.D. [Frankfurt]

Professor

Alfred W. Kopf, A.B., M.D., M.S. (in Derm. and Syph.)

Professors of Clinical

Frances Pascher, M.D.
Orlando C. Canizares, Doc. Univ. [Med. Fac., Paris]
William Director, M.D.
Samuel B. Frank, A.B., M.D.
Andrew G. Franks, B.S., M.D., LL.B.
Irving N. Holtzman, M.D.
Arthur B. Hyman, M.B., B.S. [London]
Abraham J. Orfuss, B.S., M.D.
George L. Popkin, B.S., M.D.

Clinical Professors

Alexander A. Fisher, A.B., M.D.
Juan Larralde, M.D. [Paris], Med.Sc.D. [Central, Caracas]
Morris J. Rothstein, B.S., M.D.

Associate Professors

Rafael Andrade, Doc. en Med. [Paris]
Leonard C. Harber, A.B., M.D., M.S. (in Derm. and Syph.)
Morris Leider, A.B., M.D.
George Lipkin, A.B., M.D.
Sonia Dobkevitch Morrill, M.D. [Paris]
Stanley A. Rosenthal (Experimental), B.S., M.S., Ph.D.

Associate Professors of Clinical

Max Braitman, B.S., M.D.
Earle W. Brauer, A.B., M.D.
Joseph Hahn, B.S., M.D.
John A. Heinlein, A.B., M.D.
Norman B. Kanof, A.B., M.D., Med.Sc.D.
George H. Kostant, A.B., M.D.
Emory Ladany, M.D. [Budapest]
Julius H. Pollock, B.S., M.D.
Gdali Rubin, Doc. Univ. [Med. Fac., Paris]
Herman H. Sawicky, B.S.; M.D. [Edinburgh]

Research Associate Professor

Victor R. Wheatley, B.S., Ph.D. [London]

Associate Clinical Professors

Saul Blau, B.S., M.S. (in Derm. and Syph.), L.R.C.P.
Eugene L. Bodian, B.S. in Cer. E., M.D.
Sidney G. Clyman, B.S. (Pharmacy), B.S., M.D.
Charles P. DeFeo, Jr., A.B., M.D.
Dorothy Fisher, A.B., M.D.
Arthur H. Gladstein, A.B., M.D.
Norman J. Goldfarb, A.B., M.D.
Leonard V. Kornblee, A.B., M.D.
Morton Kulick, B.S., M.D.
Cyril H. March, Bach. en Phil. [Paris], Agricult. Ing. [Grignon], M.S., M.D.
Paraskevas Michaelides, B.S., M.D.
Helen J. Neave, A.B., M.D.
Norman Orentreich, B.S., M.D.

Nathan Pensley, A.B., M.D.
Edwin R. Ruskin, M.D.
Louis H. Tobin, M.D.
Jules E. Vandow, M.D., M.P.H.
Abraham I. Weidman, M.D. [Bologna]

Assistant Professors

Michael J. Fellner, A.B., M.D.
Alvin E. Friedman-Kien, A.B., M.D.
Marie-Louise T. Johnson, A.B., Ph.D., M.D.
Thomas H. Rea, Jr., A.B., M.D.
Inga Silberberg, A.B., M.D., M.S. (in Derm.)

Assistant Professors of Clinical

Perry Robins, B.S.; M.D. [Heidelberg]
Robert S. Bart, A.B., M.D.
Donald S. Waldorf, A.B., M.D.

Assistant Clinical Professors

Sheldon J. Brodie, B.S.; M.D. [Lausanne]
Harvey J. Cohen, A.B., M.D.
William M. Coon, A.B., M.D.
Thomas L. Day, B.S., M.D.
Lionel A. Dick, M.D. [Toronto]
Gerald R. Frolow, A.B., M.D.
Abraham J. Gewirtz, B.S.; M.D. [Laval]
Richard C. Gibbs, A.B., M.D.
Frank Krasner, A.B., A.M., M.D.
Simeon E. Landy, A.B.
Rene Leviticus, M.D. [Utrecht]
Harvey S. Moser, A.B., M.D.
Jessie Rubin, A.B.; M.D. [Lausanne]
Felix Schell, M.D. [Bern]
Samuel Weinberg, M.B., M.D.
Erwin H. Zimmerman, B.S., M.D.

Lecturers

Edgar N. Grisewood, A.B., A.M.
Max Jessner, M.D. [Königsberg]
Theodore Rosenthal, B.S., M.D.
Jesse A. Tolmach, M.D.
Leonard J. Vinson, A.B., M.S., Ph.D.

Instructors in Clinical

Burton Allyn, B.S., M.D.
Lawrence M. Blum, B.S., M.D.
Selig Eisenberg, A.B., M.D.
Melvin Gelfarb, A.B.; M.D. [Bern]
Paulino L. Getzrow, Doc. en Med. [Litoral]
Richard W. Green, B.S., M.D.
Harriet Harris, A.B., M.D.
Josef E. Jelinek, M.B., B.S. [London]
Marinos A. Petratos, A.B., M.D.
Gilbert M. Schiff, A.B.; M.D. [Geneva]
Morton B. Weinberg, B.S. (Pharm.), M.D.

Clinical Instructors

Robert Auerbach, A.B., M.D.
Wayne T. Branom, Jr., A.B., M.D.
Arthur A. Echental, B.S.; Dr. med. [Geneva]
Nathan Eisen, B.S.; M.D. [Berlin]
Herbert L. Fine, A.B., M.D.
Alan C. Lightstone, A.B., M.D.
William J. Miles, A.B., M.D.
Paul I. Nelson, A.B., M.D.
Stephen W. Rozan, A.B., M.D.
Ronald Stritzler, A.B.; M.D. [Lausanne]
Elli Ventouras, M.D. [Athens]
Joseph Vogel, A.B.; B.M., M.D. [Laval]
Alan S. Weinstein, A.B., M.D.

Teaching Assistants

Rhoda S. Narins, A.B., M.D.
Lewis P. Stolman
Teaching Assistant in Clinical
John F. Fritz, B.S., M.D.

Second Year

Eight hours are devoted in the second year to clinical and laboratory methods of examination of the skin. Four of these hours are didactic lectures and the remainder are clinical demonstrations.

Third Year

Five didactic lectures in systematic dermatology and three hours of dermatologic consultations during clinical clerkship are given in the third year.

Fourth Year

Eight hours of clinical demonstrations are given in out-patient departments.

Elective Work

During the third and fourth years, and also, by arrangement, in the first and second years, elective work on the dermatologic wards and outpatient departments or in research facilities of the Department of Dermatology may be taken for one or more months.

For courses in dermatology offered by the Post-Graduate Medical School, see page 80.

ENVIRONMENTAL MEDICINE

Professor and Chairman of the Department
Norton Nelson, A.B., Ph.D.; (hon.) Sc.D.

Professors

Roy E. Albert, A.B., M.D.
Merril Eisenbud, B.S. (Elec.Eng.); (hon.) Sc.D.
David H. Goldstein, A.B., M.D., Med.Sc.D.
Edward D. Palmes, B.S., M.S., Ph.D.

Adjunct Professor

John H. Harley, B.S., M.S., Ph.D.

Clinical Professors

Morris Kleinfeld, A.B., M.D.
Edgar Mayer, A.B., M.D.

Associate Professors

Bernard Altshuler, B.S. (Eng. Physics), Ph.D.
Sidney Belman, B.S., M.S., Ph.D.
Hanson Blatz, E.E.
Bernard S. Pasternack (Biostatistics), A.B., M.S., Ph.D.
Walter Troll, B.S. (Chem.), M.S., Ph.D.
Benjamin L. Van Duuren, B.S., M.S., Sc.D. [South Africa]

Research Associate Professor

Sidney Laskin, A.B.

¹ On military leave of absence.

² On leave of absence.

Adjunct Associate Professors

Jack Baliff, B.S. (Mech.Eng.)
Paul M. Densen, A.B., Sc.D.
Nathan V. Hendricks, B.Eng., Ch.E.
Charles C. Johnson, Jr., B.S.C.E., M.S.C.E.
C. Boyd Shaffer, B.S., Ph.D.
Leonard R. Solon, A.B., M.S., Ph.D.
George M. Woodwell, A.B., A.M., Ph.D.

Associate Clinical Professors

Theodore E. Allen, A.B., M.D., M.P.H.
Robert E. Eckardt, B.S., M.S., Ph.D., M.D.
S. Charles Franco, M.D.
Mac Roy Gasque, M.D.
Horace W. Gerarde, B.S., M.S., Ph.D., M.D.
D. John Lauer, B.S., M.B., M.D., D.Ind.M.
Jacqueline Messite, A.B., M.D.
Leo Orris, A.B., M.S. (Pub.Health), M.D.
Ralph F. Schneider, B.S., M.D.
John J. Welsh, B.S., M.D.
L. Holland Whitney, A.B., M.D.

Assistant Professors

Morton Lippmann, B.Ch.E., M.S., Ph.D.
Frank H. Mukai, B.S., Ph.D.
Chiu-sen Wang, B.S. [National Taiwan], M.S., Ph.D.

Assistant Clinical Professors

Carl U. Dernehl, A.B., M.D.
Frank P. Guidotti, M.D. [Naples]
Irvin Klein, A.B., M.D.
Henry B. Nachtigall, B.S., M.B., M.D.
Harry E. Tebrock, B.S., M.D.

Lecturers

Joyce N. Benoit, B.S., A.M., R.N.
Melvin E. Cassidy, B.E.E., M.E.E.
Anna M. Ference, B.S. (Nurse Educ.), R.N.
Leonard Greenburg, C.E. (San.Eng.), Ph.D., M.D.
Anita M. Harris, B.S., A.M., R.N.
Jeanne T. Healey, B.S., A.M., R.N.
Lyda S. Howard, A.B., A.M., R.N.
James E. McLaughlin, Jr., B.S.
Norbert J. Roberts, M.D., M.S. (Med.)
Margaret B. Sinnott, B.S., R.N.
Sara P. Wagner, B.S., R.N.
Eleanor V. Williams, B.S., A.M., R.N.

Instructors

Gerard R. Laurer, B.S.E.E., M.S.
McDonald E. Wrenn, A.B., M.S., Ph.D.

Clinical Instructor

Joseph A. Cimino, A.B., M.S., M.D.,
M.Ind.Health, M.P.H.

Fourth Year

Ten hours devoted to the etiological, epidemiological, clinical, and preventive aspects of environmental and occupational diseases. Particular attention is given to physical and chemical factors in the environment in respect to their relationship to health. Problems of diagnosis, treatment, and prevention are covered.

Clinical and research electives are available for senior medical students. These may be extramural, e.g., with a government agency

concerned with occupational diseases, or intramural, e.g., studies of pulmonary physiology, carcinogenesis, statistics, and epidemiology.

For courses in environmental medicine offered by the Post-Graduate Medical School, see pages 80-82.

FORENSIC MEDICINE

Professor and Chairman of the Department

Milton Helpern, B.S., M.D.

Professor

Alexander S. Wiener (Serology), A.B., M.D.

Associate Professors

Henry Siegel, B.S., M.D.

Charles J. Umberger (Toxicology), B.S., Ph.D.

Research Associate Professor

J. Moor-Jankowski, Dr. med. [Bern]

Assistant Professors

Paritosh K. De (Toxicology), B.S., M.S.,

Ph.D. [Calcutta]

John F. Devlin, B.S.; M.D. [Lausanne]

Lorenzo Galante (Toxicology), Dott. in Chim.

[Palermo]

Elliot M. Gross, A.B., M.D.

Rowland H. Long (Jurisprudence), LL.B.,

LL.M.

Meyer Texon, A.B., M.D.

Sidney B. Weinberg, M.D.

Lecturer

Theodore Ehrenreich, Doc. en Med. [Paris]

Instructors

Stephen J. Andryauskas (Toxicology), A.B.

Eve B. Gordon (Serology)

Shivnarayan K. Verma (Toxicology), B.S.,

M.S. [Vikram], A.M.

Fourth Year

Lectures—A series of twelve lectures is given during the fourth year covering the following topics: the obligations and rights of physicians; relations of the physician to government agencies; functions of the office of medical examiner and of coroner; investigation and determination of the cause of sudden, suspicious, and violent deaths; the medicolegal necropsy; identification, signs of death, changes in the body after death; sudden natural death; relationship of disease and trauma; suicidal, accidental, and homicidal violent deaths; blunt-force injuries, stab and bullet wounds, traumatic asphyxia, rape, abortion, infanticide; toxicology, especially the indications of poisoning and the selection of organs for chemical analysis; examination of blood stains, seminal stains, and hair, forensic application of blood grouping; occupational injuries and disease.

Practical Course—An opportunity is offered to small groups of elective students to learn the surrounding circumstances and observe at firsthand the autopsy and other

laboratory procedures in numerous and varied cases of sudden, unexpected, suspicious, and violent deaths which are continuously being brought to the attention of the Office of the Chief Medical Examiner for investigation. Students are encouraged to work on special problems if they so desire.

The lectures and practical courses are given in the building of the Office of the Chief Medical Examiner, 520 First Avenue.

Applicants for this course should arrange their time with Professor Helpern.

For courses in forensic medicine offered by the Post-Graduate Medical School, see page 82.

MEDICINE

Nathan Freidman Professor of Medicine, Chairman of the Department, and Director of New York University Medical Services
Saul J. Farber, A.B., M.D.

Professor and Co-director of New York University Medical Services

H. Sherwood Lawrence, A.B., M.D.

Samuel A. Brown Professor of Therapeutics

Arthur C. DeGraff, B.S., M.D.

Professors

Herbert Chasis, A.B., M.D., Med.Sc.D.

Francis P. Chinard, A.B., M.D.

Clarence E. de la Chapelle, B.S. (Med.), M.D.

William Goldring, B.S., M.D.

John H. McClement

Currier McEwen, B.S., M.D.; (hon.) Sc.D.

George S. Mirick, A.B., M.D.

Charles A. Poindexter, B.S., M.B., M.D., M.S.

J. Murray Steele, A.B., M.D.

Lewis Thomas (Research), B.S., M.D.

Professors of Clinical

Adolph R. Berger, A.B., M.D.

Emanuel Appelbaum, A.B., M.D.

A. Wilbur Duryee, B.S., M.D.

William J. Grace, B.S., M.D.

(at St. Vincent's Hospital)

Max Trubek, A.B., M.D.

Alfred Vogl, M.D. [Vienna]

Adjunct Professor

Morris Schaeffer, A.B., A.M., Ph.D., M.D.

Clinical Professor

Richard J. Kennedy, B.S., M.D.

Associate Professors

David S. Baldwin, A.B., M.D.

Norman Bank, A.B., M.D.

Eugene Y. Berger, A.B., M.D.

J. Scott Butterworth, A.B., M.S., M.D.,

Med.Sc.D.

Rody P. Cox, M.D.

Peter Elsbach, M.D. [Amsterdam], M.D.

[Leiden]

Arthur C. Fox, M.D.

Edward C. Franklin, B.S., M.D.

Morton Galdston, B.S., M.D.

Edwin E. Gordon, B.S., M.S. (Biochemistry),

M.D.

Lester H. Grant, A.B., M.D.; D.Phil. [Oxford]

Alan J. Johnson (Experimental), A.B.,

A.M., M.D.

Herbert J. Kayden, A.B., M.D.

Herbert S. Kupperman (assigned to

Therapeutics), A.B., A.M., Ph.D., M.D.

Bernard B. Levine, B.S., M.D.

Jacobus L. Potter, M.B., Ch.B. [Edinburgh]

Bertha Rader, A.B., M.D.

Elaine P. Ralli, A.B., M.D.

Maxwell P. Schubert, A.B., A.M., Ph.D.

Robert Silber, A.B., M.D.

Eric J. Simon (Experimental), B.S.,

M.S., Ph.D.

Angelo Taranta, M.D. [Rome] (at Irvington

House Institute for Rheumatic Fever

and Allied Diseases)

Margaret H. Tewksbury (Clinical Pathology),

A.B., M.D.

Jonathan W. Uhr, A.B., M.D. (at Irvington

House Institute for Rheumatic Fever

and Allied Diseases)

Gerald Weissmann, A.B., M.D.

Associate Professor of Pathology

(assigned to Medicine)

Marjorie B. Zucker, A.B., Ph.D.

Associate Professor of Urology

(assigned to Medicine)

Salah A. Al-Askari, M.B., Ch.B. [Iraq],

M.S. (Urology)

Associate Professors of Clinical

Anne L. Davis, A.B., M.D.

Herbert Gershberg, B.S., M.S., M.D.

Thomas G. Kantor, A.B., M.D.

Gerson T. Lesser, A.B., M.D.

Walter Redisch, M.D. [German, Prague]

Edmund H. Reppert, A.B., M.D.

Hyman Alexander, B.S., M.D.

Allan R. Aronson, B.S., M.D.

Benjamin I. Ashe, B.S., M.D.

Stephen M. Ayres, A.B., M.D.

John H. Ayvazian, A.B., M.D.

Harry Bartfeld, A.B., M.D.

Anthony A. Bianco (assigned to Preventive

Medicine), B.S., M.D.

Morris Block, B.S., M.D.

Joseph V. Brumlik, M.D. [Charles, Prague]

Michael S. Bruno, A.B., M.D.

Samuel C. Bukantz, B.S., M.D.

Maurice R. Chassin, A.B., M.D.

Eugene Clark, A.B., M.D.

Sidney Cohen, A.B., M.D.

Charles A. R. Connor, A.B., M.D., Med.Sc.D.

Paul R. Esserman, A.B., M.D.

Harry D. Fein, B.S., M.D.

Elmer S. Gais, B.S. (Med.), M.D.

Maxwell L. Gelfand, B.S., M.D.

Irving Graef, A.B., M.D.

Samuel U. Greenberg, A.B., M.D.

Edward F. Hartung, A.B., M.D.

Michael J. Lepore

Winifred C. Loughlin, A.B., M.D.

Francis J. Lovelock, A.B., M.D.

Jerome A. Marks, A.B., M.D.
William J. Messinger, A.B., A.M., M.S., M.D.
Lawrence Meyers, B.S., A.M., M.D.
Jack Nelson, B.S., M.D.
Elliot Oppenheim, M.D. [Edinburgh]
Joseph Post, B.S., M.D., Med.Sc.D.
O. Alan Rose, A.B., M.D.
Conrad Rosenberg, B.S., M.D.
Sheldon Schwartz, B.S., M.D.
Saul Solomon, A.B., M.D., C.M. [McGill]
Harry Taube, M.D. [Toronto]
James Tesler, M.D., M.S. (Med.)
Marcel Tuchman, M.D. [Heidelberg]
William J. Welch, A.B., M.D.
Norman S. Wikler, A.B., M.D.

Adjunct Associate Professors

Martin J. FitzPatrick, B.S., M.D.
Maxwell L. Littman, B.S., M.S., Ph.D., M.D.

Associate Clinical Professors

L. Fred Ayzavian, A.B., M.D.
Harold Brandaleone (assigned to Rehabilitation Medicine), B.S., M.D., Med.Sc.D.

Assistant Professors

Mark W. Bitensky, A.B., M.D.
Randolph M. Chase, Jr., A.B., M.D.
Martin Dolgin, A.B., M.D.
William D. Drucker, A.B., M.D.
Jane W. Garfield
Bertram M. Gesner, A.B., M.D.
Roberta M. Goldring, A.B., M.D.
Jacob I. Hirsch, A.B., M.D.
Lawrence Horowitz, A.B., M.D.
Jamshid Javid, B.S., M.D.
Evangelia H. Kaklamanis (Experimental), M.D., Ph.D. [Athens]
Simon Karparkin, B.S., M.D.
Irving Karten, B.S., M.D.
James C. King (Genetics), B.S., A.M., Ph.D.
Arthur E. Lindner, B.S., M.D.
Jerome Lowenstein, A.B., M.D.
Martin Meltzer, A.B., M.D.
Barbara A. Parker, A.B., M.D.
Marcus A. Rothschild, B.S., M.D. (at New York Veterans Administration Hospital)
Gregory W. Siskind, A.B., M.D.
Mario Spagnuolo, M.D. [Naples] (at Irvington House Institute for Rheumatic Fever and Allied Diseases)
Fritz H. Streuli (Experimental), Dr. med. [Zurich]
Dorothea Zucker-Franklin, A.B., M.D.
Assistant Professor of Orthopedic Surgery (assigned to Medicine)
Lawrence C. Rosenberg, B.S., M.D.
Research Assistant Professor of Clinical Psychology (assigned to Medicine)
B. Berthold Wolff, B.S. [Edinburgh], A.M.; Ph.D. [Edinburgh]
Assistant Professors of Clinical
Manfred Blum, A.B., M.D.
Lynn C. Christianson, M.D.
Robert P. Eisinger, A.B., M.D. (at New York Veterans Administration Hospital)
Alfred J. Kaltman, A.B., M.D.

Henriette Lackner, M.B., Ch.B., M.D. [Leeds]
David S. Zimmon, M.D. (at New York Veterans Administration Hospital)
Norman Alisberg, A.B., M.S., M.D.
Frances L. Bailen-Rose, B.S., M.D.
Samuel H. Belgorod, A.B., M.D.
Peter H. Berczeller, A.B., M.D.
Perry Berg, A.B., M.D.
Joel J. Brenner, B.S.; A.B., M.B., Ch.B., A.M. [Oxford]
Donald K. Briggs, M.B., B.Chir., A.M. [Cambridge]
Frederick R. Brown, A.B., M.D.
Howard R. Brown, B.S., M.D.
Robert Brown, B.S., M.D.
Leonard B. Burness, B.S., M.S. (Bacteriology), M.D.
Theodore Cohen, M.B., M.D.
George S. Craft, A.B., M.D.
John B. Cromie, M.D. [Queens, Belfast]
Herbert A. Dann, A.B., M.D.
Arthur Dishman, A.B., M.D.
Ariel Distenfeld, A.B., M.D.
John H. Donnelly, A.B., M.D.
Jeanne A. Epstein, B.S., M.D.
Maximilian Fabrykant, M.D. [Charles]
Seymour A. Fink, B.S.; M.D. [Lausanne]
Benjamin S. Fishman, A.B.; M.D. [London]
H. Beecher Geiger, M.D., C.M. [Queen's, Kingston]
Irving A. Glass, A.B., M.D.
Morton B. Glenn, A.B., M.D.
Louis Goodkin, B.S., M.D.
Richard F. Grady, A.B., M.D.
David S. Greenbaum, A.B., M.D.
Sidney S. Greenberg, B.S., M.D.
John J. Gregory
Benjamin J. Gruskin, M.D.
Robert R. Henderson, M.D.
Joseph Hoffman, A.B., M.D.
Alexander S. Honig, M.D. [Vienna]
Stanley A. Isenberg, A.B., M.D.
Frode Jensen, A.B., M.D.
S. Edward King, B.S., M.D., M.S.P.H.
Howard H. Kloth, B.S., M.D.
Harry G. Kupperman, A.B., M.D.
Martin Kurtz, M.D.
Stephen H. Leslie, B.S., M.D.
Arthur J. Lewis, A.B., M.D.
Hirsch R. Liebowitz, B.S., M.D.
William S. M. Ling, A.B., M.D.
Philip A. LoPresti, A.B., M.D.
Morton F. Mark, A.B., M.D.
Leo M. Meyer, B.S., A.M., M.D.
David T. Mintz, B.S., M.D.
Francis X. Moore, Jr., M.D.
Alvin Mund, B.S., D.D.S., M.D.
Oscar Pascal, B.S.; B.M., M.D. [Laval]
Morris Pearlmutt, A.B., M.D.
Albert A. Pollack, A.B., M.D., M.S. (Med.)
George Pollack, M.D. [London]
Marie C. Rosati, A.B., M.D.
Sidney S. Schreiber, B.S., M.S., M.D.
M. Stephen Schwartz, A.B., A.M., M.D.
Myron F. Sesit, A.B., B.S., M.D.
Edward Sheckman, A.B., M.D.
Robert J. Soberman, B.S., M.D.
John L. Soscia
Anna R. Spiegelman, A.B., M.D.

Joseph M. Spitzer, Ph.D., M.D. [Bonn]
Abraham Sunshine, A.B., A.M., M.D.
John J. Thorpe, B.S., M.D.
Edward S. Wally, B.S.; M.D. [Vienna]
Allan H. Warner, B.S., M.D.
Murray Weiner, B.S., M.S., M.D.
Stanley J. Wittenberg, B.S., M.D.
Harry M. Woske, A.B., M.D.
Iven S. Young
George A. Zak, M.D. [Vienna]

Adjunct Assistant Professor

Verne D. Hospelhorn, B.S., M.S., Ph.D.

Instructors

Edward L. Amorosi, M.D.
Shirley R. Andersen, A.B., M.D.
Manuel K. Ang, M.D. [Far Eastern]
George Bear, A.B., M.D.
Jak T. Cohane, B.S., M.D.
Morton Davidson, M.D.
Richard M. Effros, A.B., M.D.
Sidney L. Eberman (Experimental), B.S., Ph.D.
Martin L. Fox, A.B., M.D.
¹Blas Frangione (Experimental), M.D. [Buenos Aires]
Melvin C. Gluck, A.B., M.D.
Marvin A. Goldiner, B.S., M.D.
S. Howard Gorfinkel, A.B., D.D.S., M.D.
Anthony J. Grieco, B.S., M.D.
Rochelle Hirschhorn, A.B., M.D.
Norman W. Keller, A.B., M.D.
Jay W. Kislak, A.B., M.D.
Clement E. Marks, Jr., A.B., M.D.
Richard J. Murphy, A.B., M.D.
Bernard D. Nidus, A.B., M.D.
Richard O. Ores (Experimental), Dr. med. [Bern]
William E. Paul, A.B., M.D.
David S. Scotch, A.B., M.D.
Irwin Sharkey, A.B., M.D.
Simon H. Stertzer, A.B., M.D.
Michael R. Swift (assigned to Physiology and Biophysics), A.B., A.M., M.D.
William C. Taylor, A.B., M.D.
Hillel Tobias, A.B., M.D.
Fred T. Valentine, A.B., M.D.
Stephen M. Wittenberg, A.B., M.D.
David Zimmerman, A.B., M.D.

Instructors in Clinical

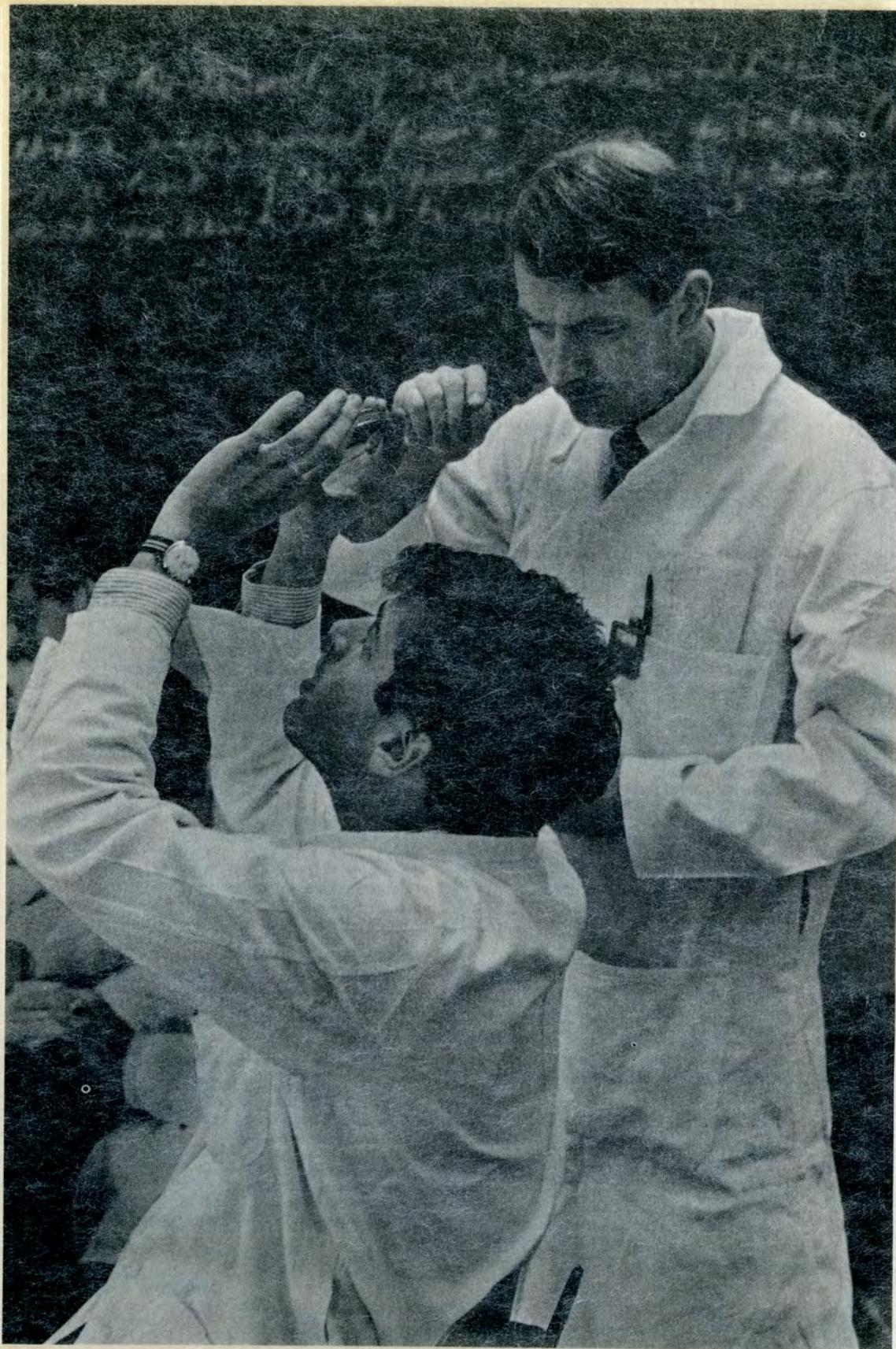
Norberto Acevedo, B.S., M.D.
Diana C. Argyros, A.B., M.D.
Shepard G. Aronson, A.B., M.D.
Michael R. Balsamo, B.S., M.D.
Donald E. Brandon, A.B., M.D.
Antonella Brughera-Jones, A.B., M.D.
Patrick J. Cashin, M.B., B.Ch., B.A.O., M.D. [National of Ireland, Cork]
Henry Chin, A.B.; M.D. [Peiping Union Med. Coll.]
Ruth E. Cortell, A.B., Ph.D., M.D.
Max E. Cytryn, B.S., M.D.
Maurice F. Deraney, A.B., M.D. [Beirut]
Ned Doscher, B.S., M.D.
David C. Dove, A.B., A.M. [Cambridge], M.B., B.S. [Durham]

¹ On military leave of absence.

Leonard Felder, A.B., M.D.
Harrison Fertig, A.B., M.D.
Joseph Florio, A.B., M.D.
William D. Franklin, B.S., M.D.
Stephen B. Fredd, A.B., M.D.
Mitchel G. Garren, B.S., M.D.
Charles P. Giel, M.D.
Pauline R. Goger, A.B., A.M., Ph.D., M.D.
Arthur F. Goldberg, A.B.; M.D. [Lausanne]
Frances A. Greenwood B.S., M.D.
Virginia Hardman, A.B., M.D.
Helen S. Haskell, A.B., A.M., M.D.
George E. Hayunga III, M.D., C.M. [Queen's, Kingston]
Arthur Hecht, A.B., M.D.
Edwin A. Henck, M.D.
Melvin Hershkovitz, A.B., M.D.
Grace D. Hughes, B.S., M.D.
George Hyams, A.B., M.D.
Julian B. Hymn, A.B., M.D.
Marian C. Isaacs, A.B., M.D.
Mildred E. Kamner, A.B., A.M., Ph.D., M.D.
Edwin H. Kaufman, B.S., M.D.
Benjamin L. Kohnop, B.S., M.D.
Peter Kornfeld, A.B., M.D.
Ira J. Laufer, A.B., M.D.
Arthur Lind, A.B., M.D.
Paul C. Lipschutz, M.D.
Gunter Lomnitz, M.D. [Frankfurt]
Bennett P. Lustgarten, A.B., M.D.
Robert H. Manheimer, A.B., M.D.
Hiltrud S. Mueller
Henry H. Murphy, A.B., M.D.
Martin B. Myles, A.B., M.D.
Richard H. Nachtigall, A.B., M.D.
Darlyne A. Pew, B.S., M.D.
Elizabeth M. Potter, M.B., Ch.B. [Edinburgh]
T. Dennie Pratt, M.D.
Richard B. Quan, M.D.
Viola T. Raybin, A.B., M.D.
Robert Rosengarten, A.B., M.S., M.D.
Edward H. Roston, A.B., M.D.
Aurelia Rozov, M.D. [Komensky]
Michael Ruoff, A.B., M.D.
Eli W. Sachs, B.S., M.D.
Marilyn T. Schittone, A.B., M.D.
Robert L. Segal, A.B., M.D.
Jean E. Seidl, A.B., M.D.
Thomas N. Silverberg, A.B., A.M., M.D.
George Simmons, M.D. [Bologna]
Jerome Simon, A.B., M.D.
Mark M. Singer, A.B., M.D.
Burton S. Sklarin, A.B., M.D.
Max A. Tesler, A.B., M.D.
Kenneth W. Unger, A.B., M.D.
Howard E. Voss, A.B., M.D.
William E. Wagner, Jr., A.B., M.D.
Milton Wigod, A.B., A.M., M.D.

Clinical Instructors

Thomas G. Argyros, B.S., M.D.
Matthew J. Ferguson, B.S., M.D.
R. Winifred House Grady, A.B., M.D.
Lawrence S. Greene, M.D.
Dwight J. Hotchkiss, Jr., A.B., M.D.
Lawrence S. Kryle, A.B., M.D.
Alan F. Lyon, A.B., M.D.
Lawrence R. Ross, A.B., M.D.
Natalio Schwartz, M.D. [Buenos Aires]



Teaching Assistants

Bertrand Agus
 Gerald Altschuler, B.S., M.D.
 John E. Asher
 Marvin S. Belsky, B.S., M.D.
 Paul J. Block
 Paul A. Bloustein, A.B., M.D.
 Elias Botvinick, A.B., M.D.
 Daniel Camacho, M.D. [Guadalajara]
 Stephen I. Chavin, A.B., M.D.
 James T. T. Chien, M.D. [National Hsiang-ya, Hunan]
 Morton Connor, B.S., M.D.
 Edward I. Curtiss, A.B., M.D.
 Robert M. Davidson, B.S., M.D.
 Steven L. Diamond, A.B., M.D.
 Harold Federman, A.B., M.D.
¹ David Feldman, A.B., M.D.
 Theodore R. Fink, M.B., B.S. [London]
 Ronald Fishbach
 Marshall S. Flam, B.S., M.D.
 George I. Grayson, A.B., M.D.
 Roger P. Hand, B.S., M.D.
 Clifford N. Harris, A.B., M.D.
 Eugenia A. Hawrylko, A.B., M.D.
 Charles G. Hazzi, M.B., B.Ch., M.D. [Cairo]
 Robert S. Holzman, A.B., M.D.
¹ Edward R. Janowitz, A.B., M.D.
 Martin L. Kahn, B.S., M.D.
 Neil Kaplowitz, B.S., M.D.
 Herbert Krohn, A.B., M.D.
 John A. Kruger
 Arthur S. Lebowitz, M.D.
 Morton M. Lebowitz, A.B.
 Andrew J. Lewin
 Ellen Mansell, B.S., R.N.
 Robert Matalon, A.B., M.D.
 Richard D. Meyer
 Andrew M. Milano, A.B., M.D.
 Philip K. Moskowitz, B.S., M.D.
 Aida R. Moussalli
 Michael A. Nocero, Jr., B.S., M.D.
 Nicholas A. Pace, B.S., M.D.
 Rene F. Pecikyan, Tip. Doktoru [Istanbul]
 Michael Proper
 Robert F. Raicht, A.B., M.D.
 Robert Rosenblum, A.B., M.D.
 Michael A. Rosenbluth, A.B., M.D.
 Marian B. Rosenthal, A.B., M.D.
 Alan R. Saltzman, A.B., M.D.
¹ Louis Shenkman, A.B., M.D.
 Robert Small, M.D.
 Edward Spitz, A.B., M.D.
 Francis U. Steinheber, A.B., M.D.
 Gregory F. Sullivan, A.B., M.D.
 Mark L. Teitelbaum, A.B., M.D.
 Vincent G. Vinci, A.B., M.D.
 Richard Wasnich, A.B., M.D.
 Edward J. Weinman, A.B., M.D.
 Judith J. Woodruff, B.S., M.D.
¹ Frederick H. Yorra, M.D.
 Barry L. Zaret, B.S., M.D.
 Leonard Zir, A.B., M.D.

Teaching Assistants in Clinical

Abraham M. Goldman, A.B., M.D.
 Alexander Jody, A.B.; M.D. [Mexico]

¹ On military leave of absence.

Alfred Miller, B.S., M.D.
 Stanley Reichman, M.B., M.D.; B.S. (Med.)
 [Toronto]

Second Year

Introduction to Clinical Medicine, Including Physical Diagnosis—During the second semester, two hours a week are spent on hospital wards. Small groups, assigned to each of several instructors from the Department of Medicine, interview and examine patients. The course begins with history taking, the determination of normal findings elicited by physical examination, and proceeds to the physical diagnosis of abnormal states.

Seminars and Lectures—During the second semester, lectures to the whole class are given one hour a week. The lectures begin with a consideration of the technique of history taking and physical examination. They are subsequently extended to include discussions of the basis and significance of abnormal findings in relation to anatomical, physiological, chemical, and pathological changes.

During the second semester, seminar sessions of two hours' duration with small groups of students extend further the correlation of subject matter learned in the pre-clinical disciplines with the clinical states of patients studied on the ward.

Clinical Pathology—Four hours a week during the second semester are devoted to laboratory instruction in the microscopical and chemical examination of blood, urine, sputum, vomitus, stomach contents, inflammatory exudates, etc. Two additional hours a week are devoted to lectures and class exercises.

A final examination is given at the end of the year in Introduction to Clinical Medicine, Physical Diagnosis, and Clinical Pathology.

Third Year

Clinical Clerkship—Every student serves as a clinical clerk for a period of approximately ten weeks. In this activity he becomes an integral part of the clinical department engaged in the diagnosis, treatment, and study of patients on the wards of the Third Medical Division of Bellevue Hospital Center. Except for clinics or special lectures given by different departments for the class as a whole, daily, the entire time is essentially available for clinical activities and study in relation to the hospitalized patients. Patients on admission to the wards are assigned to students by the resident physician. The students take histories, make physical examinations, and do some of the required laboratory work. They are then expected to follow the patient's course by daily visits and examinations. Bedside teaching for students is conducted three times a week by the attending physician in charge of the ward. In addition, a weekly bedside teaching session is conducted by instructors in turn from the Departments of Radiology, Dermatology, Ophthalmology, and Otorhinolaryngology.

A tutor is assigned to each ward to teach advanced physical diagnosis.

A group seminar is held weekly, Saturday, for the purpose of discussing the broad principles of diagnosis and treatment of the various types of diseases in light of newer advances.

A clinical pathological conference for the whole third-year class is held once a month in collaboration with the Department of Pathology. A formal medical clinic of one hour's duration is held once weekly for the entire class.

A final examination is given at the end of the year.

Fourth Year

The teaching in internal medicine centers about the patients hospitalized on the two medical wards of the Psychiatric Pavilion and on the three medical wards of the Fourth Medical Division of Bellevue Hospital Center. The period of this activity is four weeks for each student. Patients upon admission are assigned to students who take the history, perform the physical examination, and under guidance, become increasingly concerned with the diagnosis, therapy, and management of the patient's illness. Students participate in teaching ward rounds and in reviewing the medical literature pertinent to the patients. Students also participate in the more specialized types of laboratory determinations on their patients.

Once a week throughout the year the entire fourth-year class attends a therapeutic conference in which the approach to the treatment of the patient as a whole is considered and integrated from the standpoint of the internist, the surgeon, the specialist in other fields, the psychiatrist, and the social worker.

During a four-month elective period, students may, if they wish, elect to attend one or several chronic disease clinics of their choice and participate in the diagnosis and care of the ambulant patient, under the guidance of the clinic staff. A clinical elective at University Hospital is available. Elective time may also be spent in one of the research groups of the Department. These electives may be full-time research or a combined research and clinical period may be arranged.

For courses in medicine offered by the Post-Graduate Medical School, see page 82.

MICROBIOLOGY

Professor and Chairman of the Department

Milton R. J. Salton, B.S.Agr. [Sydney], Ph.D. [Cambridge]

Professors

W. Lane Barksdale, A.B., A.M., Ph.D.
Alan W. Bernheimer, B.S., A.M., Ph.D.
Werner K. Maas, A.B., Ph.D.

Research Professors

Richard M. Franklin, B.S., Ph.D.
George K. Hirst, B.S., M.D.
Paul Margolin, B.S., Ph.D.

Associate Professors

Elizabeth McFall, B.S., A.M., Ph.D.
James H. Schwartz, A.B., Ph.D., M.D.
James E. Ziegler, Jr., A.B., M.D.

Research Associate Professors

Samuel Dales, A.B., A.M. [British Columbia], Ph.D. [Toronto]
Benjamin Mandel, B.S., M.S., Ph.D.

Assistant Professors

Barbara J. B. Beam, A.B., M.S., Ph.D.
John H. Freer, B.S. [Durham], M.S. [Nottingham], Ph.D. [Birmingham]
Jan T. Vilcek, M.D., Kand. Sc. [Comenius]
Jeanette E. Winter, A.B., Ph.D.

Research Assistant Professors

David A. Dubnau, A.B., A.M., Ph.D.
Peter Knolle, B.S., M.S., Ph.D.
Leonard E. Mindich, B.S., Ph.D.
Richard P. Novick, A.B., M.D.

Lecturer

Paula S. Popkin, B.S., M.S.

Instructor

Marjorie R. Krauss, A.B., M.S.

Second Year

First Semester

The course in medical microbiology is concerned with the study of bacteria, viruses, and fungi as agents of infectious disease and as models for metabolic disease. Topics considered include methods of isolation and identification of pathogenic organisms, mechanisms of pathogenesis and the response of the host to infection, the phenomena of specific immunity, including the related topic of hypersensitivity, the mode of action of chemotherapeutic agents, microbial genetics in relation to metabolism and bacterial physiology, permeability, resistance to chemotherapy, alterations in virulence and changes in other physiological properties, and microbial physiology.

Electives

Problems in immunology, hypersensitivity, bacteriology, virology, microbial genetics, and other fields present possibilities for productive research during the student's free time. Arrangements for elective work should be made with the Dean and the departmental chairman.

Genetics

An interdepartmental course presented to first-year students during the second semester, genetics consists of twenty lectures, eight demonstrations, and eight conferences. It is divided into two parts: basic genetics followed by topics in human, population, and

developmental genetics. The demonstrations are designed to familiarize students with methods in microbial genetics. The class is divided into five groups for conferences. Four of these are for students who have not had a course in genetics. The fifth conference group considers more advanced topics and consists of seminars presented by students; students may elect to join it if they have previously studied genetics.

Participating faculty are: Dr. Werner K. Maas, Dr. Rody P. Cox, Dr. James C. King, Dr. Eric J. Simon, and Dr. Elizabeth McFall.

NEUROSURGERY

Professor and Chairman of the Department

Joseph Ransohoff, B.S., M.D.

Professor

Thomas I. Hoen, A.B., M.D.

Research Professor

James B. Campbell, A.B., M.D.

Clinical Professors

Francis A. Echlin, M.D., C.M., M.S. (Neurology) [McGill], Med.Sc.D. (Neurology)
Thomas Q. Garvey, Jr., B.S., M.D.

Associate Professor

Arthur F. Battista, B.S., M.D., C.M. [McGill], M.S. [Western Ontario]

Associate Professor of Clinical

Richard L. Rovit, M.D.; M.S. [McGill]

Research Associate Professor

¹Kai C. Nielsen, Lic. Med. [Lund]

Assistant Professors

Ernest S. Mathews, A.B., M.D.
William S. Owen, A.B., M.D.
Betty Pinner-Poole (Experimental), B.S., M.S.; Ph.D. [Dublin]

Assistant Professor of Clinical

Mnashe S. Benjamin, M.D. [Teheran]

Third and Fourth Years

Weekly rounds and conferences. Professor Ransohoff and staff.

Electives

Elective work is available by arrangement with the Dean and the departmental chairman. Clerkships in neurosurgery, with active participation in ward and operating room activities, are available.

Elective periods can also be arranged for work in departmental laboratories.

OBSTETRICS AND GYNECOLOGY

Professor and Chairman of the Department

Gordon W. Douglas, A.B., M.D.

¹ On military leave of absence.

Professors

Fritz K. Beller, M.D. [Philipps, Marburg]
Mortimer Levitz (Research Chemistry), B.S., A.M., Ph.D.

Professor of Gynecology

Gray H. Twombly, A.B., M.D.; (hon.) Sc.D.

Professor of Clinical

Locke L. Mackenzie, A.B., M.D.

Clinical Professors

William Filler, B.S., M.D.
Sophia J. Kleegman, M.D.
John S. Labate, B.S., M.D., Med.Sc.D.
M. Leon Tancer, B.S., M.D.

Associate Professor

Robert F. Porges, M.D.

Associate Professor of Clinical

Wayne H. Decker, M.D.

Associate Professor of Pathology (assigned to Obstetrics and Gynecology)

Fred Gorstein, A.B., M.D.

Associate Clinical Professors

Louis C. Blaha, M.D.
Elliott D. Blumenthal, Jr., B.S., M.D.
Louise M. Dantuono, A.B., M.D.
Stuart C. Heaton, B.S., M.D.
Michael J. Jordan, B.S., M.D.
Ernest W. Kulka, M.D. [Vienna]
Hans Lehfeldt, M.D. [Berlin]
Bernard J. Pisani, A.B., M.D.
Lewis Shenker, B.S., M.D.
Melvin L. Stone, B.S., M.D., Med.Sc.D.
David E. Warden, A.B., M.D.
Irwin Weiner, A.B., M.D.
Ben B. Wetchler, B.S., M.D., M.M.S.

Assistant Professors

E. Mark Beckman, A.B., M.D.
Charles H. Debrowner, B.S., M.D.
Manfred D. Epstein, A.B., M.D.
Robert H. Morris, A.B., M.D.
Stanley Zinberg, A.B., M.D.

Assistant Professor of Clinical

Alvin C. Weseley, A.B., M.D.

Assistant Clinical Professors

Irving Abelow, B.S., M.D.
Gerald S. Barad, A.B., M.D.
Jorge de Murga, Lic. en Med. y Cir. [Madrid]
William W. Filler, Jr., A.B., M.D.
George T. Fulmer, B.S., M.D.
W. Spencer Gurnee, M.D.
Frank J. Hardart, Jr., A.B., M.D.
H. George Liebmann, M.D. [Würzburg]
Jacob Mayron, A.B. [Beirut], Dr. med. [Lausanne]
Irving T. Michaels, B.S., M.D.
Arthur Miller, B.S., M.D.
Lila E. Nachtigall, A.B., B.S., M.D.
Velimir S. Svesko, M.D. [Zagreb]
Lee F. Vosburgh, B.S. (Biology), M.D.
Bernard A. G. Weisl, B.S., M.D.

Clinical Instructors

John D. Angelides, B.S. (Pharmacy), M.D.
Howard Berk, A.B., M.D.
¹Howard L. Bitterman, A.B., M.D.
Lyle J. Breikopf, A.B., M.D.
Raimondo E. Brevetti, M.D. [Naples]
E. Catherine Cline, A.B.; M.D., C.M. [McGill]
Robert M. Cushing, B.S., M.D.
Jere B. Faison, A.M., M.B., Ch.B. [Glasgow]
Warner C. Hall, M.D. [Toronto]
Roger I. Hassid, A.B., M.D.
Andre Heltai, M.D. [Geneva]
Walter E. Jacobowitz, A.B., M.D.
Sherwin A. Kaufman, A.B., M.D.
Martin Kurman, B.S., M.D.
Louis A. Mucelli, A.B., M.D.
Robert C. Post, B.S., M.D.
Solly M. Scheiner, A.B., M.D.
Maxwell Schram, B.S. (Med.), M.D.
Neil Sherman, A.B., M.D.
Julia J. Tsuei, B.S. [National Medical, Shanghai], M.D. [National Defence Medical Center], M.M.S.
Richard D. Wesley, A.B., M.D.
Stanley L. Wiener, A.B., M.D.
Leonard M. Wolf, M.B., B.Ch., B.A.O. [Queen's, Belfast]

Teaching Assistants

Jose M. Berio, Jr., B.S., M.D.
Chandra K. Bhavnani, M.B., B.S. [Grant Medical College]
Peter L. De Lotto, Jr., A.B., M.D.
Alfred W. Edlin, A.B., M.D.
Enrico Frigeri, M.D. [Naples]
Stephen A. Heller, A.B., M.D.
Francisco Kalafatic
Stephen R. Katz, B.S., M.D.
J. Joshua Kopelman
Poungpen Rimdusit, M.D. [Medical Sciences, Bangkok]
Jerome S. Seiler, A.B., M.D.
Myriam Selinger
Andrew J. Stiber, B.S., M.D.
Michael Weingarten, B.S., M.D.
Gerson Weiss, A.B., M.D.
Allan Zarkin, B.S., M.D.

Third Year

Clerkships—At intervals of approximately eight weeks, twenty-two students report to the Obstetrical and Gynecological Service of Bellevue Hospital Center for clerkships.

One half of this group is assigned to the Obstetrical Service for four weeks. During this period, patients admitted to the service are assigned to students at the time of entry to the hospital. From this time onward, the student assumes the role of obstetrician. He is responsible for the initial history, physical examination, and laboratory work. Under supervision, he follows the patient during labor, delivery, and the puerperium. Students personally deliver six to eight multiparous patients, assist in other deliveries, and should observe fifty other deliveries during the assignment to this service. Morning rounds and

¹ On military leave of absence.

afternoon lectures or seminars are devoted to abnormalities of pregnancy, illustrated with available clinical material.

The other half of the group is assigned to the Gynecological Service and the Prenatal and Gynecological Clinic for four weeks. In the gynecological clinic students have the opportunity to learn the special aspects of physical diagnosis in the female and gain proficiency in the technique of pelvic examination. In the prenatal clinic, they participate in the antepartum management of patients who will be delivered on the Obstetrical Service. Students are assigned cases for examination and follow up on the gynecological wards. Each day two students are assigned to admissions, during which they take histories, carry out physical examinations, and perform laboratory work on all patients admitted during that period.

An intensive course in gynecological pathology is given during the combined clerkship, and interesting cases are discussed on morning rounds and in afternoon discussion groups.

At the end of four weeks, students exchange their assignments. A practical examination is given at the end of the combined clerkship.

Fourth Year

During the fourth year, students may elect to spend all or part of their four-month period of major clinical instruction in obstetrics and gynecology. Individual programs are set up, with opportunities for intensive work in sterility investigation, the gynecological tumor service, gynecological and obstetrical pathology, as well as additional experience on the clinical services.

For courses in obstetrics and gynecology offered by the Post-Graduate Medical School, see page 83.

OPHTHALMOLOGY

Daniel B. Kirby Professor and Chairman of the Department

Goodwin M. Breinin, B.S., A.M., M.D.

Professors

Harris Ripps (Experimental), B.S., M.S., A.M., Ph.D.

George N. Wise, B.S., M.D., Med. Sc.D.

Professors of Clinical

Harold W. Brown, B.S., M.D.

Ramon Castroviejo, Doc. en Med. [Madrid], D.H.C.

Clinical Professors

Wendell L. Hughes, M.D. [Western Ontario]; (hon.) Sc.D.

Associate Professors

Paul Henkind, A.B., M.D., M.S. (in Ophthalmology); Ph.D. [London]

Ralph Z. Levene, M.D. [Manitoba], Med. Sc.D.

Adjunct Associate Professor of Clinical

Helena T. Fedukowicz, Physician [Jekaterinoslaw]

Associate Clinical Professors

Irwin J. Cohen, A.B., M.D.
Robert S. Coles, A.B., M.D.
Frank H. Constantine, A.B., M.D.
Gerald E. Fonda, B.S., M.D.
Bernard Fread, B.S., M.D.
A. Marvin Gillman, A.B., M.S. (Public Health), M.D.
Isadore Givner, B.S. (Med.), M.D.
William R. Houston, A.B., M.D.
Bernard Kronenberg, B.S.; M.D. [Bern]
Joseph H. Krug, A.B., M.D.
Walter J. Maher, A.B., M.D.
John Sauer, A.B., M.D.
Frederick H. Theodore, A.B., M.D.

Assistant Professors

Jules L. Baum, A.B., M.D., M.S. (in Ophthalmology)
Cecil D. Bridges (Experimental), B.S., Ph.D. [London]
Ronald E. Carr, A.B., M.D., M.S. (in Ophthalmology)
Newton B. Chin, B.S., M.S., M.D.
Manoucher Shakib, M.D. [Teheran], Ph.D. [London]
Arnold L. Shapiro, B.S., M.S., M.D.
Irwin M. Siegel (Experimental), B.S., M.S., Ph.D.

Assistant Professors of Clinical

Thomas R. Kuhns, A.B., M.D.
Harvey B. Taterka, A.B., M.D.

Assistant Clinical Professors

Arnold S. Breakey (assigned to Rehabilitation Medicine), A.B., M.D.
Francis P. Campbell, M.S. (in Ophthalmology)
Myron Charlap, A.B., M.D.
Brian J. Curtin, B.S., M.D.
Isidore S. Edelstein, B.S., M.D.
Donald A. Fonda, M.D.
George Goodman, A.B., M.D., M.S. (in Ophthalmology)
Gabriel J. Greco, B.S., M.D.
Bernard B. Gurland, B.S., M.D.
George H. Kurz, A.B., M.D.
Jack V. Lisman, B.S., M.D.
Almerindo G. Portfolio, A.B., M.D., M.S. (in Ophthalmology)
John T. Simonton, A.B., M.D.
Barry F. Smith, A.B., M.D.
Howard K. Weisberg, A.B., M.D.
Milton M. Zaret, A.B., M.D.

Lecturers

Rudolf Aebli, A.B., M.D.
Girolamo Bonaccolto, M.D. [Rome]
Sidney A. Fox, A.B., M.D., M.S. (in Ophthalmology)

Instructors

Jacob Davidowitz (Experimental), A.B., Ph.D.
Ira T. Kaplan (Experimental), A.B., A.M., Ph.D.

Instructors in Clinical

Harvey J. Breslin, A.B., M.D., M.S. (in Ophthalmology)
Robert A. D'Amico, A.B., M.D.
Frederic H. Deutsch, A.B., M.D.
John R. Finlay, B.S., M.D.
Martin E. Greenspan, A.B., M.D.
David L. Krohn, A.B., M.D.
Edwin M. Miller, A.B., M.D.
Lewis Schachne, M.D.
Robert A. Silver, A.B., M.D.
Edwin B. Slomka, A.B., M.D.
Jean B. Smith, B.S., M.D.
Daniel I. Weiss, A.B., M.D.
Leon M. Weiss, B.S., M.D.
Arnold M. Wiesen, M.B., Ch.B. [Edinburgh]

Clinical Instructors

Allen M. Demby, M.D.
Gerald Evans, A.B., M.D.
Terence P. Fogarty, A.B., M.D.
Alan J. Friedman, A.B., M.D.
Arthur A. Gold, B.S., M.S., M.D.
Robert T. Goldberg, B.S., M.D.
Francis C. Keil, Jr., A.B., M.D., Med.Sc.D.
John E. Kennedy, A.B., M.D.
Michael S. Schafrank, B.S., M.D.
Herbert Schmidt, A.B., M.D.
Maurice Tannenbaum, A.B., M.D.
Luis E. Uribe, M.D. [Colombia]

Teaching Assistants

Kazuichiro Akita, M.D., D.M.S. [Tokyo]
Roy W. Bellhorn, B.S., D.V.M.
L. N. Ferraz De Oliveira, Lic. em Med. [Lisbon], Ph.D. [London]
George N. Thomas, B.E.E.
Joseph F. Weiss, A.B., M.D.

First Year

One hour of lectures in anatomy of the eye and four hours of gross anatomy instruction in the dissection of the orbit are given.

Second Year

12 hours divided between lectures and demonstration are given in anatomy, embryology, physiology, and physical diagnosis of the eye and adnexa.

Third Year

Four didactic lectures are given to the third-year students. Medical ophthalmology, pediatric ophthalmology, and neuro-ophthalmology are the subjects of the lectures.

Fourth Year

Four didactic lectures on general ophthalmology, of interest to the general practitioner, are given.

Four clinical sessions of three hours each are devoted to a résumé of elementary ophthalmology covering the simpler conditions affecting the eye both internally and externally. The class is divided into small groups, with a clinical instructor assigned to each group.

Electives of four weeks or longer are available to fourth-year students, during which time individual instruction is given in medical and surgical ophthalmology. Opportunities are also provided to witness and participate in research activities of the Department.

For courses in ophthalmology offered by the Post-Graduate Medical School, see pages 83-84.

ORTHOPEDIC SURGERY

Professor and Chairman of the Department
Walter A. L. Thompson, M.D.

Professor
John C. McCauley, Jr., B.S., M.D.

Professors of Clinical
George Anopol, M.D.
Kenneth C. Francis, A.B., M.S., M.D.
Ralph Lusskin, B.S., M.D.

Clinical Professors
Ernst W. Bergmann, M.D. [Erlangen]
Irving V. Glick, A.B., M.D.
Beckett M. Howorth, B.S., M.D., Med.Sc.D.
Alvin Hulnick, A.B., M.D.
Anthony J. Pisani, B.S., M.D.
Robert L. Preston, B.S., M.D.
Marvin A. Stevens, Ph.B., M.D., Med.Sc.D.; (hon.) B.S.
George Truchly, M.D. [Innsbruck], M.S. (in Orthopedic Surgery)

Associate Professor
Arnold Soren, M.D., Ph.D. [Vienna]

Associate Professors of Clinical
Raphael R. Goldenberg, M.D. [Toronto]
Otho C. Hudson, B.S., M.D.
Constantine L. Jeannopoulos, A.B.; M.D. [Rome]
Harvey P. Kopell, A.B., M.D.

Associate Clinical Professors
Albert B. Accettola, B.S., M.D.
Arthur I. Blieden, B.S., M.B., M.D.
John T. Croft, M.D.
William P. Howley, M.D.
Frederick J. Knocke, A.B., M.D.
S. Harold Nickerson, B.S., M.D., C.M. [McGill]
Irvine I. Redler, U M Dr. [Lwów], M.D. [Bologna]
Robert M. Richman, A.B., M.D.
Daniel E. Russo, B.S.; M.D. [Laval]
Mario E. Stella, B.S., M.D.
Nicholas A. Tzimas, M.D. [Athens]
Wilfred Yoslow, A.B., M.D.

Assistant Professor (assigned to Medicine)
Lawrence C. Rosenberg, B.S., M.D.

Assistant Clinical Professors
Edward H. Axelrod, B.S., M.D.
Emanuel Blumenfeld, B.S., M.D.
Maccabae Boorstein, B.S., M.D.
Dale C. Bouton, A.B., M.D.
John W. Bromley, A.B., M.D.

George J. DeVito, B.S.; M.D. [Bologna]
Irving M. Etkind, A.B., M.D.
Carl F. Freese, B.S. (Elec.Eng.), M.D.
Joseph F. Giattini, A.B., M.D.
Anthony G. Gristina, A.B., M.D.
Alexander D. Papas, A.B., M.D.
Paul Post, A.B., M.D.
Peter C. Rizzo, III, B.S., M.D.
Henry H. Sprague, A.B., M.D.

Lecturer
David M. Bosworth, A.B., M.D.; (hon.) Sc.D.

Instructor
Philip Cohen, B.S., M.D.

Instructors in Clinical
Alvin M. Arkin, B.S., M.D., M.S. (Orthopedic Surgery)
Gordon L. Engler, B.S., M.D.
Jerrold M. Feigenbaum, B.S. (Biology), M.D.
Julius C. Felicetti, B.S., M.D.
Richard S. Goodman, A.B., M.D.
Jacob J. Graham, B.S., M.D.
¹Alfred D. Greisman, A.B., M.D.
Herbert H. Joseph, A.B., M.D.
Irving Liebman, A.B., M.D.
Robert J. Lorello, B.S.; M.D. [Rome]
John S. Mazella, A.B., M.D.
Kenneth A. Morrissey, A.B., M.D.
Norman Moskowitz, B.S., M.D.
L. Anthony Pagnillo, B.S.; M.D. [Naples]
Emil J. Papa, B.S., M.D.
Arturo Pena, M.D. [Colombia]
Theodore J. Rusnack, A.B., M.D.
Herbert M. Simonson, B.S. in Biology, M.D., M.S. (Orthopedic Surgery)
John P. Stump, A.B., M.D.
Walter A. Trenkle, A.B., M.D.
A. Burton White, A.B., M.D.

Second Year
Lectures and patient demonstrations in the special techniques of examination of the patient as related to orthopedic surgery are offered during the second semester of the second year.

Electives
Elective work is available by arrangement with the Dean and the departmental chairman.

For courses in orthopedic surgery offered by the Post-Graduate Medical School, see page 84.

OTORHINOLARYNGOLOGY

Professor and Chairman of the Department
John F. Daly, A.B., M.D.

Clinical Professors
David Bernstein, B.S., M.D.
John C. Cardona, A.B., M.D.
Arthur J. Cracovaner, A.B., M.D.
David I. Frank, M.D.

¹ On military leave of absence.

Joseph H. Hersh, B.S., M.D.
William J. Hochbaum, A.B., M.D.

Associate Professors of Clinical
Francis Kwok, M.D. [St. John's, Shanghai]
Leslie P. Villanyi, M.D. [Zagreb]

Associate Clinical Professors
Louise Fischer, B.S., M.D.
Leon Greenberg, B.S., M.D.

Assistant Professors
Noel L. Cohen, A.B.; M.D. [Utrecht]
Maurice H. Miller, A.B., A.M., Ph.D.

Assistant Professors of Clinical
¹Glenn M. Seager, B.S., M.D.
J. Ormond Frost, M.B., B.Ch. [Univ. Coll., Dublin]

Assistant Clinical Professors
Murray Abrams, B.S., M.D.
Wilbur J. Gould, B.S., M.D.
Robert W. Murray, B.S., M.D.
Radovan A. Pavelic, M.D. [Zagreb]
Leo P. Reckford, M.D. [Vienna]
Frank J. Riccio, B.S.; M.D. [Rome]
Roger M. Rose, B.S., M.D.
John S. Sadowski, A.B., M.D.
Darrell G. Voorhees, B.S., M.D.
Ernest A. Weymuller, B.S., M.D.
Joseph E. Zbar, A.B., M.D., C.M. [Queen's, Kingston]

Instructors
George D. Chonkich, A.B., M.D.
Vincent J. Scavo, A.B., M.D.
James R. Shepard, B.S., M.D.

Clinical Instructors
Laszlo Csovanyos, A.B. [Cegled], M.D. [Budapest]
Cyril Fox, B.S.; M.D. [Montreal]
Gerald Kaplan, M.D.
Ioan Metianu, Dr. med. [Babes-Bolyai]

Teaching Assistants
John E. McClear (Esophageal Voice Therapy)
Yoshinobu Sato, M.D., D.M.S. [Kyoto]
G. Gordon Snyder III, A.B., M.D.
Minoru Toriyama, B.Ag., M.D. [Tokyo]

Second Year

As part of the course, Introduction to Clinical Medicine, the Department of Otorhinolaryngology presents the physical diagnosis of the ear, nose, and throat. Four lectures are devoted to the anatomical and physiological basis of symptoms and signs arising in the head and neck region. Demonstrations and practice of diagnostic procedures are then carried out by the students in the outpatient department.

Third Year

The common diseases of the ear, nose, and throat are presented in lectures. Four lectures on otology are given.

Fourth Year

Students attend the ear, nose, and throat clinics in Bellevue Hospital Center. They develop confidence in their examination of the head and neck and learn to recognize common problems arising in this area. Management is covered in informal discussion groups held at the end of each session. Four lectures are also given during the year.

An elective in otorhinolaryngology is given during the third and fourth years. Both research and clinical opportunities are available to the students.

For courses in otorhinolaryngology offered by the Post-Graduate Medical School, see page 85.

PATHOLOGY

Professor and Chairman of the Department
Chandler A. Stetson, Jr., B.S., M.D.

Professors
Baruj Benacerraf, B.S., M.D.
Norman S. Cooper, A.B., M.D.
Irwin H. Feigin (Neuropathology), A.B., M.D.
Howard Green, M.D. [Toronto], M.S. (Physiology)
Marvin Kuschner, A.B., M.D.
Robert T. McCluskey, A.B., M.D.
Zoltan Ovary, Lic. ès Scien., M.D. [Paris]
Philip H. Prose, B.S.; M.D. [Lausanne]
George Y. Shinowara, A.B., A.M., Ph.D.; (hon.) Sc.D.

Research Professors
Frank L. Adler, B.S., M.S., Ph.D.
Zdenek Hruza, M.D. [Charles], Kand věd, Dr. věd [Czechoslovak Academy of Sciences]

Adjunct Professor
Michael Heidelberg, B.S., A.M., Ph.D.; (hon.) D.S., (hon.) Dr., Dr. med., Fil. Dr.

Clinical Professors
William A. Antopol, B.S., M.D.
Antonio Rottino, B.S., Ph.D., M.D.

Associate Professors
Frederick F. Becker, A.B., M.D.
Bradley Bigelow, A.B., M.D.
John D. Broome, M.B., B.S. [London]
Gleb N. Budzilovich, M.D. [Munich]
Humberto C. Cravioto, B.S., M.D. [National Univ. of Mexico]
Harry B. Demopoulos, M.D.
Burton D. Goldberg, B.S., M.D.
Fred Gorstein (assigned to Obstetrics and Gynecology), A.B., M.D.
Aaron Janoff, A.B., M.S., Ph.D.
William J. Kuhns, B.S., M.S. (Bacteriology), M.D.
Victor Nussenzweig, Doc. in Med. [São Paulo]
Daniel Roth, A.B., M.D.
Irving Seidman, A.B., M.D.
G. Jeanette Thorbecke, M.D. [Groningen]
Marjorie B. Zucker (assigned to Medicine), A.B., Ph.D.

¹ On military leave of absence.



Associate Professors of Clinical

Mildred E. Phillips, A.B., M.D.
Louis Rosenfeld, B.S., M.S., Ph.D.
Marshall N. Daniels, M.D.

Research Associate Professors

Marvin Fishman, B.S., M.S., Ph.D.
Hidesaburo Hanafusa, B.S., Sc.D. [Osaka]

Adjunct Associate Professors

Edward A. Boyse, M.B., B.S., M.D. [London]
Felix deNarvaez, B.S., M.D. [Havana]

Adjunct Associate Professor of Clinical

Leonard J. Greenberg, B.S., M.S., Ph.D.

Associate Clinical Professors

Ancel U. Blaustein, B.S., M.D., C.M. [McGill]
Jamil R. Haddad, M.B., B.S. [Iraq]
Leung Lee, A.B., M.D.
Michael M. Lyons, M.D.
Edwin V. Olmstead, A.B., M.D.
K Kendall Pierson, B.S., M.D.
I. Jerome Silverman, B.S., M.D.

Assistant Professors

Michael M. Baden, B.S., M.D.
Ross S. Basch, A.B., M.D.
Milton J. Finegold, A.B., M.D.
Gerald C. Finkel, A.B., M.D.
John Foerster, B.S. (Med.), M.D. [Manitoba]
Gloria R. Gallo, A.B., M.S., M.D.
Michael E. Lamm, M.S., M.D.
Bernard P. Lane, A.B., M.D.
Moses K. Lieberman, A.B., M.D.
Frederick Miller, B.S., M.D.
Mayer Milstoc, M.D. [Inst. Medicine-
Pharmacy, Bucharest]
George W. Teebor, B.S., M.D.
George J. Todaro, A.B., M.D.
Quentin J. Valensi, A.B.; Dr. med. [Geneva]
Pierre Vassalli, Dr. med. [Geneva]
Edward A. Weiner, A.B., M.D.

Assistant Professors of Clinical

Alan N. Goodman, A.B., M.D.
Margaret H. Karpatkin (assigned to
Pediatrics), M.B., B.S., M.D. [London]
Rita I. Demopoulos, A.B., M.D.
Richard F. Robinson, A.B., M.D.
Eugene M. Sneff, A.B., M.D.
Sandra R. Wolman, A.B., M.D.

Research Assistant Professors

Teruko Hanafusa, B.S., Sc.D. [Osaka]
Eunice C. Kahan, B.S., A.M., Ph.D.
Marcel W. Pons, A.B., M.S., Ph.D.
Robert W. Simpson, B.S., M.S., Ph.D.

Assistant Clinical Professors

Masazumi Adachi, M.S., M.D. [Keio]
Charles P. Gandal, D.V.M.
Paul Illovsy, M.D. [Rome]
Dicran Y. Kassouny, A.B., A.M. (Med.),
M.D. [Beirut]
David M. Lowell, A.B., M.D.
Kenneth C. Nieberg, B.S., M.D.
Cassius M. Plair, B.S., M.S., M.D.
Jesus M. Vazquez, B.S.; Lic. en Med. y Cir.
[Madrid]

Instructors

George L. Eliceiri, M.D. [Buenos Aires]
Eugene P. Fazzini, B.S., M.D.
Gail T. Goodman, A.B., M.S., Ph.D.
Maximilian J. Kremzar, M.D.
Paul D. Leber, A.B., M.D.
John Pearson, B.S., M.B., B.S. (London)
Robert E. Pollack, A.B., Ph.D.
Henry F. Ryan, B.S., M.D.
Roger A. Schinella, A.B., M.D.
Michael R. Zimmerman, A.B., M.D.

Second Year

The course consists of lectures, conferences, demonstrations of gross material, and the study of histologic preparations illustrating fundamental pathologic processes and lesions of the various organ systems including neuropathology. Special emphasis is given to the correlations between lesions and clinical aspects of the diseases studied, and to the study of basic principles of the reactions of cells and tissues to injury.

During the course, groups of students study abundant fresh material from the necropsy rooms of Bellevue Hospital Center and University Hospital. An introduction to the problems and techniques of experimental pathology is achieved by means of conferences with each of the members of the staff.

Third and Fourth Years

Weekly clinical pathologic conferences are held under the supervision of the Department of Pathology with the cooperation of members of the clinical departments.

In collaboration with the Department of Surgery short courses in surgical pathology are given to the students in the third and fourth years.

Electives

Opportunity is offered a limited number of students with special aptitude, by arrangement with the Dean and the departmental chairman, to work in the experimental pathology laboratories and/or the anatomical pathology laboratories after the completion of their second year.

PEDIATRICS

Professor and Chairman of the Department
Saul Krugman, M.D.

Professors

Joseph Dancis, A.B., M.D.
Alfred L. Florman, A.B., M.D.
L. Emmett Holt, Jr., A.B., M.D.; (hon.) Sc.D.
Charles D. May, M.D.
Rosa Lee Nemir, A.B., M.D.
Selma E. Snyderman, A.B., M.D.

Professors of Clinical

Sidney Q. Cohan, B.S., M.D.

¹ On military leave of absence.

Leslie O. Ashton, B.S., M.D.
Harry Bakwin, B.S., M.D.
Ruth M. Bakwin, A.B., A.M., M.D.
John Dorsey Craig, B.S., M.D.
Samuel Stone, B.S., M.D.
Blandina Worcester, A.B., M.D.

Adjunct Professor

Edith M. Lincoln, A.B., M.D.

Clinical Professor

Jack Hammond, B.S., M.D., C.M.
[Dalhousie]

Associate Professors

Eugenie F. Doyle, B.S., M.D.
Sergio Piomelli, M.D. [Naples]

Associate Professors of Clinical

Brian Kiely, A.B., M.D.
Margaret S. Lyman, A.B., M.D.
Lois L. Neumann, A.B., M.D.
Emilia Sedlis, M.D. [Rome]

Beatrice Bergman, M.D.

Saul Blatman, A.B., M.D.
Philip S. Chasin, B.S.; M.D. [Düsseldorf]
Vincent J. Fontana, M.D.
Lilian A. Gilbert, A.B., M.D.
Regina Gluck, A.B., M.D.
Leo Jenkins, B.S., M.D.
Avrum L. Katcher, M.D.
Simon Kove, B.S., M.D.
Joshua Lynfield, A.B., M.B., B.Chir.
[Cambridge]
Mortimer W. Weber, B.S., M.D.

*Associate Professor of Clinical Neurology
(assigned to Pediatrics)*

Richard N. Reuben, A.B., M.D.

Research Associate Professor

Joan P. Giles, A.B., M.D.

Adjunct Associate Professor

Erwin H. Mosbach, A.B., A.M., Ph.D.

Associate Clinical Professors

Elaine L. Allen, M.D.
Alfred B. Amler, M.D. [Lausanne]
Thomas A. Anderson, A.B., M.D.
Aaron G. Meislin, B.S., M.D.
Shirley M. Stone, A.B., M.D.
Edward T. Wilkes, B.S., M.D.

Assistant Professors

Philip A. Brunell, B.S., M.S., M.D.
Louis Z. Cooper, B.S., M.D.
Delores A. Danilowicz, A.B., M.D.
Raphael David, M.D. [Lausanne]
Elias Halac, Jr., Med. Cir. [Córdoba]
¹Albert B. Ockerse, A.B. [Stellenbosch],
M.B., Ch.B. [Pretoria]

Assistant Professors of Clinical

Fuad Z. Moallem, M.D. [Hebrew]
Donna B. O'Hare, A.B., M.D.
Anna Teichner, M.D. [Belgrade]
Katharine Dodge Brownell, A.B., M.D.,
M.P.H.

Edward A. Davies, A.B., M.D.
Joseph D. Ferrara, Jr., A.B., M.D.

*Assistant Professor of Clinical Neurology
(assigned to Pediatrics)*

Peter H. Berman, A.B., M.D.

*Assistant Professor of Clinical Pathology
(assigned to Pediatrics)*

Margaret H. Karpatkin, M.B., B.S., M.D.
[London]

Research Assistant Professor

Sadashiv V. Phansalkar, B.S., M.S., Ph.D.
[Poona]

Assistant Clinical Professors

Nathan Cabot, B.S., M.D.
Albina A. Claps, A.B., M.D.
Cesare E. Cucci, M.D. [Perugia]
James Dick, A.B., M.D.
Joseph H. Di Leo, M.D. [Bologna]
Alvin N. Eden, A.B., M.D.
Rosa Foscarinis, M.D. [Athens]
Sheldon Fox, A.B., M.D.
Rose W. Hu, B.S. [St. John's, Shanghai],
M.D.

Kathryn G. Jacobs, A.B., M.D.

Sol N. Keen, B.S., M.D.
Neil F. Lebhar, A.B., M.D.
Margaret S. Tenbrinck, A.B., M.S., M.D.
Wanda S. Walsh, A.B., M.D.
Stanley M. Wershof, A.B. [Alberta],
M.D., C.M. [McGill]

Instructors

Rosalina M. Alberto, M.D. [Santo Tomás]
David M. E. Allan, A.B. [Cambridge],
M.B., Ch.B. [London]
Anthony Brickman, M.B., Ch.B.
[Birmingham]
Sylvia M. McLaughlin, A.B., M.D.
Claude Sansaricq, Doc. en Med. [Haiti]
Judith K. Wallin, B.S., M.D.
Philip R. Ziring, A.B., M.D.

Instructor in Clinical

Vincent J. Felitti, A.B. (Med.), M.D.

Clinical Instructors

Gerald R. Begun, A.B.; M.D. [Bern]
Charlotte R. Brown, A.B., M.D.
Matilda B. Brust, A.B., M.D.
Stuart J. Danoff, A.B., M.D.
Harold D. Dundy, B.S., M.D.
Marvin S. Eiger, A.B., M.D.
Vincent F. Guinee, B.S., M.D., M.P.H.
Ilse Hirschfeld, Dr. med. [Basel]
Arthur Kaufman, B.S. (Pharm.); M.B., Ch.B.
[St. Andrews]
Gerald M. Klein, A.B.; M.D. [Bern]
Ivan R. Koota, A.B., M.D.
R. Frances Lande, M.D. [Vienna]
W. Kenneth Lane, B.S. (Natural Sci.), M.D.
Gisela N. Laufer, Dr. med. [Vienna]
Rosemarie I. Meldola, Physician [Hamburg]
Italo A. Palmieri, M.D.
John C. Pisacano, B.S., M.D.
Paul H. Roberts, A.B., M.D.
Gerald M. Rood, A.B., M.D.

¹On military leave of absence.

Marianne F. Schwob, A.B., M.D.
Marjorie K. Smith, A.B., M.D., M.P.H.
Mildred Stanley, A.B., M.D.
Abbas Taheri, M.D. [Teheran]
Max Werner, A.B., M.D.
Keith R. Woodroffe, Dr. med. [Lausanne]

Teaching Assistants

Felicia B. Axelrod, A.B., M.D.
Patricia H. Bazemore, A.B., M.D.
Stephen R. Chernay, A.B., M.D.
Gilles H. deMeuron, Lic. es Let. [Neuchâtel],
Dr. med. [Geneva]
Arnold S. Goldstein, B.S., M.D.
Kitty Hahn, M.D. [Budapest]
Norman Katz
Fred Leffert, A.B., M.D.
Monika Rutkowski
Robert G. Schacht
Henry A. Schaeffer, A.B., M.D.
Tillie Schwartz, A.B., M.D. [Manitoba]
Susan F. Travis, A.B., M.D.
Clinical Teaching Assistant
Brona Szuldberg, M.D. [Warsaw]

Third Year

Students serve as clinical clerks for a period of seven to eight weeks. The clerkship in Pediatrics provides clinical experience with exposure to a variety of clinical problems in the setting of both a municipal and a private hospital. Groups of five or six students rotate through wards of Bellevue Hospital and of University Hospital. Students take histories, perform physical examinations and perform some of the laboratory work on patients admitted to hospital, and are expected to follow these patients subsequently during their hospitalization. Bedside rounds are held daily with an attending physician. In addition, each student has opportunities to work in the Pediatric Emergency Room and to attend the Well Baby Clinic.

Students attend pediatric clinical staff conferences during their clerkship. In addition, there is a series of lectures, detailed case analyses and tutorials throughout the clerkship for small groups of students. No attempt is made to provide comprehensive coverage of all topics, but emphasis is placed on the basic mechanisms of disease as encountered in a clinical problem, and the correlation of mechanisms of disease with clinical findings. Independent reading is encouraged. A full-time instructor supervises student training.

A final examination is given at the end of the year.

The aim of the clerkship is not to require memorization of a large body of factual knowledge, but rather to promote independent, critical habits in evaluating clinical evidence, in order to enhance the capacity to cope with a wide variety of situations which may not have been encountered previously.

Fourth Year

Each student spends five afternoons a week for one month in the pediatric clinic of Belle-

vue Hospital Center. At least one new patient is assigned to him each day. In addition he follows his own patients on subsequent revisits. The student takes histories, performs physical examinations, and plans the diagnostic and therapeutic regimen for the patient in consultation with an attending physician.

A pediatric conference is held each week.

Electives

During a four-month elective period students may devote all or part of their time in the Department of Pediatrics. Individual programs are planned with opportunities for additional clinical training in general pediatrics, pediatric cardiology, pediatric pathology, pediatric endocrinology, hematology, virology, pulmonary diseases, or assignments to a group engaged in pediatric research.

Elective work is available by arrangement with the Dean and the departmental chairman.

PHARMACOLOGY

Professor and Chairman of the Department

Bert N. La Du, Jr., B.S., Ph.D., M.D.

Adjunct Professor

Robert Steele, B.S., Ph.D.

Associate Professors

Norman Altszuler, B.S., M.S., Ph.D.
Vincent G. Zannoni, B.S., M.S., Ph.D.

Assistant Professors

Sanford N. Cohen, A.B., M.D.
Albert Grossman, B.S., A.M., Ph.D.
Richard U. Margolis, B.S., Ph.D., M.D.
Jose M. Musacchio, M.D. [La Plata]
Nosrat E. Naftchi (*assigned to Rehabilitation
Medicine*), A.B., M.S., Ph.D.
Wendell W. Weber, A.B., Ph.D., M.D.
Bertram S. Winkler, B.S., M.S., Ph.D.

Research Assistant Professor

Gabrielle H. Reem, M.D. [Basel]

Second Year

First Semester

Lectures—Four hours a week. The most important drugs are discussed with regard to their effects, mechanism of action, distribution, fate, toxicity, and therapeutic applications. Attention is given to the relationship between chemical structure and pharmacological action and to the biochemical basis for the action of these drugs.

Laboratory—One six-hour session each week. Experiments illustrating the effects of many important drugs, as well as certain basic pharmacological principles, are performed by the students working in small groups. These studies are carried out on humans, animals, isolated tissues, and on the cellular level. The course is occasionally supplemented with special demonstrations.

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Conferences—One hour a week for discussion of results obtained in the laboratory experiments and their correlation with the pharmacological literature.

Electives

Elective work is available by arrangement with the Dean and the departmental chairman.

PHYSIOLOGY AND BIOPHYSICS

Professor of Physiology and Chairman of the Department

William G. Van der Kloot, B.S., A.M., Ph.D.

Professors of Physiology

Eric R. Kandel (*assigned to Psychiatry*), A.B., M.D.

Harvey M. Levy, A.B., Ph.D.

W. Alden Spencer, A.B., M.S., M.D.

Associate Professors of Physiology

Edward H. Bergofsky (*assigned to Rehabilitation Medicine*), B.S., M.D.

Donald J. Marsh, A.B., M.D.

Jack Rosenbluth (*assigned to Rehabilitation Medicine*), A.B., M.D.

Assistant Professor of Physiology

Martin Mendelson, A.B., Ph.D.

Assistant Professor of Biophysics

W. James Sullivan, B.S., M.D.

Instructors in Physiology

Felice B. Aull, A.B., Ph.D.

Irving Kupfermann, B.S., Ph.D.

Robert M. Lebovitz, B.S., M.S., Ph.D.

Instructor in Medicine (assigned to Physiology and Biophysics)

Michael R. Swift, A.B., A.M., M.D.

First Year

Second Semester

The course in physiology is concerned with applying the principles of physics and chemistry toward an understanding of the living animal. The physiology of the organ systems of the human body is emphasized in preparation for a rational approach to understanding the diseased state. The laboratory is designed to illustrate important physiological principles and the methods for their study. The emphasis in the laboratory is on critical thinking and a rational approach to problems in experimental biology. The major topics are: cellular physiology, nerve and muscle, sense organs, the central nervous system, circulation, respiration, the kidney, metabolism, and endocrine glands.

Electives

Elective work is available by arrangement with the Dean and the departmental chairman.

PREVENTIVE MEDICINE

Hermann M. Biggs Professor and Chairman of the Department

Harry Most, B.S., M.D., Med.Sc.D.

Professor

Meir Yoeli (Parasitology), M.S. [Kaunas], M.D. [Basel]

Professor of Medical Statistics

Donald Mainland, M.B., Ch.B., Sc.D. [Edinburgh]

Clinical Professors

Edward O'Rourke, A.B., M.D., M.P.H.

Arthur B. Robins (Tuberculosis Control), A.B., M.D., Med.Sc.D., D.P.H.

Theodore Rosenthal, B.S., M.D.

Randolph A. Wyman (Hospital Administration), B.S., M.D.

Associate Professors

Nathan Entner, A.B., A.M., Ph.D.

Irvin G. Wilmot (Hospital Administration), B.S., M.B.A.

Associate Professor of Clinical Medicine (assigned to Preventive Medicine)

Anthony A. Bianco, B.S., M.D.

Research Associate Professor

Rene I. Jahiel, A.B., Ph.D., M.D.

Adjunct Associate Professor

Frances T. Poe, A.B., A.M., M.S.

Assistant Professors

Martin S. Begun (Medical Administration), A.B., A.M.

Robert A. Derzon (Hospital Administration), A.B., M.B.A.

Ruth S. Nussenzweig, Doc. in Med. [São Paulo]

Jerome P. Vanderberg, B.S., M.S., Ph.D.

Assistant Clinical Professors

J. Lawrence Manuell, A.B., M.D.

Frederik Van Assendelft, Physician [Amsterdam]

Lecturers

Paolo L. Ottolenghi (Tropical Medicine), M.D. [Turin], M.D. [Central, Ecuador]

Louis Weiner (Vital Statistics), E.E.

Irving M. Witlin (Environmental Sanitation), B.S., LL.B., J.S.D., M.P.H.

Second Year

Epidemiology—Two hours a week in the second semester (eighteen hours). Laboratory exercises on the epidemiology of communicable and other diseases and disabilities. Consideration is given to the principles of epidemiology, to specific diseases illustrating various routes, sources, and reservoirs of infection, and to general methods of control and epidemiological investigation. Mathemat-

ical and statistical methods are introduced in the study of epidemiology problems.

Parasitic Diseases—Five hours a week in the second semester (fifty-five hours). Lectures and laboratory exercises on the protozoan and helminthic diseases of man and the anthropoid vectors and agents of human diseases. The morphology of parasites and vectors is dealt with from the point of view of identification. In order to present a complete picture of each disease, emphasis is placed on life cycles, epidemiology, pathology, clinical symptoms, treatment, and prevention.

Fourth Year

Clerkships in Preventive Medicine and Public Health—Sections of about fifteen students spend four weeks part time (seventy hours) in the Health and Teaching Center of the Lower East Side District of the New York City Department of Health, in which the Department of Preventive Medicine is located. Instruction consists of seminars, field visits, medical-social studies of families, and special readings. The subjects covered include local, national, and international health administration, public health nursing, dental hygiene, diagnosis and control of tuberculosis and syphilis, medical-social service, environmental sanitation, industrial hazards, and planned parenthood. Emphasis is placed on the practice of preventive medicine by a physician and his cooperation with public health agencies.

Medical Practice—Informal discussions on public health organizations, chronic disease control, medical ethics, private practice, group practice, hospital and health insurance, employer's liability. The discussions are planned to present objectively the diverse points of view on medical practice and medical economics.

Social and Community Health—Seminars covering problems of social and community health significance such as alcoholism, drug addiction, care of the aged, etc.

Electives

Electives for second-, third-, and fourth-year students may be arranged for individuals or small groups. They consist of practical work or participation in research on medical statistics, parasitology, tropical medicine, child hygiene, epidemiology, tuberculosis, industrial hygiene, or other subjects. Some of these elective courses are conducted with the cooperation of the New York City Department of Health. A program for each elective student is made by consultation with the head of the Department. Electives in the tropics are available.

PSYCHIATRY AND NEUROLOGY

Psychiatry

Lucius N. Littauer Professor and Chairman of the Department

S. Bernard Wortis, A.B., M.D.

Menas S. Gregory Professor
Morris Herman, B.S., M.D.

Professors

Arnold J. Friedhoff, A.B., M.D.

Walter Kass (Clinical Psychology), A.B., M.S.E., Ph.D.

Marvin Stern, B.S., M.D.

Alexander Thomas, B.S., M.D.

Arthur Zitrin, B.S., M.S., M.D.

Professor of Physiology (assigned to Psychiatry)

Eric R. Kandel, A.B., M.D.

Research Professors

Eugene I. Burdock (Biometrics), A.B., A.M., Ph.D.

Samuel Gershon, M.B., B.S. [Sydney]

Clinical Professors

Benjamin Apfelberg, M.D.

Louis Hausman (Neuropsychiatry), A.B., M.D.

John H. Taterka, M.D. [Breslau]

Harvey J. Tompkins, B.S., M.D.

David Wechsler (Clinical Psychology), A.B., A.M., Ph.D.

Associate Professors

Stella Chess, A.B., M.D.

Barbara Fish, A.B., M.D.

Associate Professor of Biochemistry (assigned to Psychiatry)

Menek Goldstein, Ph.D. [Bern]

Associate Professors of Clinical

Andrew K. Bernath, M.D. [Pécs]

Lewis I. Sharp, B.S., M.D., C.M. [McGill]

Saul H. Fisher, B.S., M.D.

Research Associate Professor

Thomas S. Langner (Sociology), A.B., Ph.D.

Associate Clinical Professors

Fritz A. Freyhan, M.D. [Berlin]

Florence C. Halpern (Clinical Psychology), A.B., A.M., Ph.D.

David J. Impastato, A.B., M.D.

Meyer H. Maskin, A.B., M.B., M.D.

Joseph H. Merin, B.S., M.D.

Leo L. Orenstein, B.S., M.D.

Nathan Roth, M.D. [Toronto]

Earl Saxe, B.S., M.D.

William Schick, M.D.

Archie A. Silver, B.S., M.D.

Samuel Slipp, B.S., M.D.

William A. Triebel, B.S., M.D.

Assistant Professors

Murray Alpert (Experimental Psychology), A.B., M.S., Ph.D.

William A. Frosch, A.B., M.D.

Hugh P. Gabriel, A.B., M.D.

Rosa A. Hagin (Clinical Psychology), B.S.

(Educ.), A.M., Ph.D.

Adelbert H. Jenkins (Clinical Psychology), A.B., A.M., Ph.D.



Gerald H. Rozan, A.B., M.D.
Theodore Shapiro, A.B., M.D.

Assistant Professors of Clinical

George L. Ginsberg, A.B., M.D.
Robert E. Gould, M.D.
Leon J. Hekimian, A.B.; M.D. [Geneva]

Research Assistant Professors

Emanuel E. Fisher (Clinical Psychology),
B.S., M.S., Ph.D.
Anne S. Hardesty (Biometrics), B.S., M.S.,
Ph.D.
B. Berthold Wolff (Clinical Psychology)
(assigned to Medicine), B.S. [Edinburgh],
A.M.; Ph.D. [Edinburgh]

Assistant Clinical Professors

A. Leonard Abrams, A.B., M.D.
Helene E. Aronson, Doc. en Med. [Paris]
Marianne K. Beran (Clinical Psychology),
Ph.D. [Vienna]
Seymour Berg, A.B., M.D.
Albert Bryt, Doc. Univ. [Med. Fac., Paris]
Charles C. Dahlberg, B.S., M.D.
Samuel L. Dunaif, B.S., M.D.
Joseph Epstein, Ph.B., M.D.
Sidney Finkel, B.S., M.D.
Hana Fischman-Rostain, M.D. [Buenos Aires]
David B. Friedman, A.B., M.D.
Noel C. Galen, A.B., M.D.
Moe A. Goldberg, M.D.
Leon Gottfried, Ph.D., M.D. [Vienna]
Maurice R. Green, B.S., B.M., M.D.
Henry Greenbaum, Doc. en Med. [Paris]
Milton H. Horowitz, M.D.
Louis R. Hott, M.D. [Bern]
George H. Hull, B.S., M.D.
Michael G. Kalogerakis, A.B.; M.D.
[Lausanne]
Malvina W. Kremer, A.B., A.M., M.D.
Matthew Levine, B.S., M.D.
Alfred Lilienfeld, B.S., M.D.
Anthony E. Maniscalco, B.S.; M.D. [Bologna]
Richard A. Markoff, A.B., A.M., M.D.
George Nicklin, A.B., M.D.
Samuel P. Oast III, M.D., M.P.H., M.S.
Myra R. Palmer, A.B., M.D., M.P.H.
Alfred H. Rifkin, B.S., M.D.
Manuel Riklan (Clinical Psychology), A.B.,
Ph.D.
Edwin S. Robbins, A.B., M.D.
Sidney Rosen (assigned to Rehabilitation
Medicine), M.D. [Western Ontario]
Salo Rosenbaum, A.B., M.D.
Pauline L. Rudnick, A.B., M.D.
Dora Schaffer, M.D. [Berlin]
Rubin L. Siegel, B.S.; L.R.C.P.S.
[Edinburgh, Glasgow]
Alexandra Symonds, A.B., A.M., M.D.
Martin Symonds, A.B., M.D.
Robert J. L. Waugh, B.S., M.D.
Sidney Yudin, A.B., A.M., Ph.D.
Arnold S. Zentner, A.B., M.D.
Bernard Zuger, A.B., M.D.

Instructors

Magda Campbell, M.D. [Belgrade]
Stanley J. Coen
Margaret E. Hertzog, A.B., M.D.

Ursula S. Heyum, A.B., M.D.
Martin S. Kesselman, A.B., M.D.
Leah B. Lapidus (Clinical Psychology)
Josephine D. Martin, A.B., M.D.
Susan T. Schwartz (Experimental), A.B.,
Ph.D.
Jack W. Schweitzer (Experimental), B.S.,
M.S., Ph.D.
Josephine Stout (Clinical Psychology), A.B.,
M.S., Ph.D.
Herbert E. Walker, Jr., B.S., M.D.
Renée Wile (Psychiatric Social Work),
A.B., M.S.

Instructors in Clinical

Maria E. Gamboa, M.D. [Córdoba]
Joy C. Schein (Psychiatric Social Work),
B.S., M.S.

Clinical Instructors

Salvatore V. Ambrosino, A.B., M.D.
Stanley Berger (Clinical Psychology), A.B.,
A.M., Ph.D.
Edgardo C. Bianchi, M.D. [Buenos Aires]
Karl E. Buchholz (Psychiatric Social Work),
A.B., M.S.
Robert Cifu, B.S.; M.D. [Rome]
Adrien L. Coblentz, M.D.
Dan J. Croy, A.B., M.D.
Estelle R. DeVito, A.B., M.D.
Morris Factor, M.D.
Simeon L. Feigin, B.S., M.D.
Grace Frank, M.D. [Western Ontario]
Jack M. Gershberg, A.B., M.D.
Myron R. Gershberg, A.B., A.M., M.D.
Benjamin S. Gershwin, B.S., M.D.
Burton S. Glick, B.S. (Educ.), B.S., M.D.
Elizabeth Goodman, M.D.
Esther Greenbaum, Doc. en Med. [Paris]
Edward L. Greene, B.S., A.M., M.S.; M.D.
[Bologna]
Stephen R. Gushin, A.B., M.D.
Edward Hanin, B.S., M.D.
Joseph H. Herson, A.B.; M.D. [Zurich]
Victor F. Huppert
Laszlo Kadar, M.D. [Medical, Budapest]
Warren L. King, A.B., M.D.
Alan D. Kramer, A.B., M.D.
Jordan H. Lachman, B.S., M.D.
Mark Leibo, A.B., M.D.
Martin I. Lubin, A.B., M.D.
David L. Mayer, A.B., M.D.
Harry A. Mendelsohn, A.B., M.D.
Jason Miller, B.S., L.R.C.P.S. [Edinburgh]
Raoul P. Nadler, A.B., M.D.
Barbara E. O'Brien, A.B.; Lic. en Phil., Doc.
en Med. [Louvain]
Richard W. Oliver-Smith, A.B., M.D., M.S.
Henry Pinsker, B.S., M.D.
Lawrence Shaderowfsky, A.B., M.D.
Carl Towbin, A.B.; M.D. [Geneva]
Martin J. Weich, A.B., M.D.
Ronald M. Wilcox (Clinical Psychology),
A.B., Ph.D.

Teaching Assistants

Berta Anagnoste, M.D. [Inst. Medicine-
Pharmacy, Bucharest]
¹Harald K. Dale, B.S., M.D.

¹On military leave of absence.

Greta G. Ehrlich (Psychiatric Social Work), B.S. (Educ.), M.S.S.
 Charlotte Feibel (Clinical Psychology)
 Vivian Fromberg, A.B., M.D.
¹Martin P. Geller, A.B., M.D.
 James H. Gilmour, Jr., A.B., M.D.
 Sandra E. Grant, A.B., M.D.
 Elisabeth R. Jenks, A.B., A.M., M.D.
 Ebrahim J. Kermani, M.D. [Teheran]
¹Edward Leader, A.B., M.D.
 Cyrus J. Loverro, B.S.; M.D. [Naples]
 Marian G. Malcolm, A.B., M.D.
 Ariel R. Mattei, B.S.; Doc. en Med. [Madrid]
 Norton N. Nesis, A.B., M.D.
 Elsbeth Pfeiffer, Dipl. H.E.C. [Geneva], A.B., M.S.
 Donald M. Postel, M.D. [Toronto]
 Thomas R. Powers, A.B., M.D.
 Richard Rabkin, A.B., M.D.
¹Bernard Salzman, A.B., M.D.
 Joseph H. Toomey, M.D.
 Michael Wainston, B.S.; M.D. [Bern]
 Veva H. Zimmerman, A.B., M.D.

Neurology

Professor and Chairman of the Department
 S. Bernard Wortis, A.B., M.D.

Professor
 Clark T. Randt, A.B., M.D.

Associate Professors
 Fernando P. Aleu (Neuropathology), Lic. en Med. y Cir. [Barcelona]
 William K. Hass, A.B., M.D.
 Julius Korein, A.B., M.D.

Associate Professors of Clinical
 Morton Nathanson, A.B., M.D.
 Richard N. Reuben (assigned to Pediatrics), A.B., M.D.
 Albert L. Goodgold, A.B.; M.D. [Bern]

Associate Clinical Professors
 Alexandra Adler, M.D. [Vienna]
 Jerome M. Block, A.B., M.D.
 David J. Flicker, B.S., M.D.
 Israel S. Freiman, B.S., M.D.
 Milton Tarlau, M.D.

Assistant Professors
 Gerald M. Hochwald, A.B.; M.D. [Leiden]
 Stanley Samuels (Experimental), A.B., M.S., Ph.D.

Assistant Professors of Clinical
 Peter H. Berman (assigned to Pediatrics), A.B., M.D.
 Bennett M. Derby, A.B., M.D.
 Saran Jonas, B.S., M.D.
 Robert W. Kimball, M.D.
 Arthur W. Schappell, A.B., M.D.
 Don H. Wood, A.B., M.D.

Adjunct Assistant Professor of Clinical (assigned to Rehabilitation Medicine)
 Morton Marks, A.B., M.D.

Assistant Clinical Professors
 Donald L. Ansel, A.B., M.D.
 Eugene W. Loeser, M.D.
 Joachim Luwisch, M.D. [Erlangen]
 Ira S. Ross, A.B., M.D.
 Herbert S. Rubinowitz, A.B., M.D.

Instructor
 C. Dominique Allerand, A.B., M.D.

Clinical Instructors
 Milford Blackwell, Ed.B., M.D.
 Hyman Donnenfeld, B.S., M.D. [McGill]

Psychiatry

Psychiatric instruction extends throughout each of the four years of the medical curriculum. In addition to the regular time devoted to psychiatry, there are combined interdepartmental teaching exercises with the Departments of Anatomy, Physiology and Biophysics, Medicine, Neurology, Pediatrics, Rehabilitation Medicine, and Preventive Medicine.

First Year
Introductory Psychiatry — Psychodynamics. Lectures, conferences, clinical demonstrations, and seminars emphasizing the factors concerned in the development of normal behavior.

Second Year
Introductory Psychiatry — Psychopathology. Lectures, clinical demonstrations, and seminars illustrating the dynamics of psychopathological reactions and the dynamics of interviewing.

Third Year
Clinical Psychiatry — Clinical clerkships, lectures, and clinical demonstrations of the various psychiatric syndromes. Also bedside, outpatient department, and seminar instruction in methods of interview, examination, and study.

Fourth Year
Clinical Psychiatry — Lectures, clinical demonstrations, and clinical clerkships on the wards and outpatient service of the Psychiatric Division of Bellevue Hospital Center. Instruction in clinical psychiatry, psychosomatic medicine, psychotherapy, and medicolegal aspects of psychiatry.

Electives
 Electives for one- to three-month periods may be arranged. These elective periods may include work in general clinical psychiatry, psychosomatics, psychiatric problems of children and adolescents, psychosomatic methods, psychotherapy, and other psychiatric treatment methods and experimental psychiatry. A program for each elective student is made by consultation with the Dean and the departmental chairman.

¹ On military leave of absence.

Neurology

First Year

Neuroanatomy and neurophysiology are taught during the first year in collaboration with the Department of Anatomy.

Third Year

Clinical Neurology—Groups of eight students serve as clinical clerks on the Bellevue Third Division Neurology wards for a period of two weeks. They take histories and perform physical and neurological examinations under the supervision of a tutor. Rounds are made three times a week with the attending physicians in charge of the wards. One-hour seminars including neurosurgery are conducted by faculty members four mornings a week. Students attend at least six scheduled staff conferences including basic neurologic science seminars during the clerkship.

Fourth Year

Seminars with case presentations are scheduled at weekly intervals throughout the year for students in groups of fifteen. Both neurological and neurosurgical problems are considered.

A series of ten lectures in neurology is presented to third- and fourth-year students. The subject matter is organized in vertical fashion designed to cover neuroanatomy, neurochemistry, neurophysiology, neuropathology, and clinical neurology in an integrated manner with emphasis on basic sciences and clinical correlations.

Electives

Electives for one- to three-month periods may be arranged during which students may devote all or part time to clinical neurology on the wards and in the clinics. Individual programs may be planned with opportunities for participation in clinical or laboratory research projects. Elective work is available by arrangement with the Dean and the departmental chairman.

For courses in psychiatry and neurology offered by the Post-Graduate Medical School, see page 85.

RADIOLOGY

Professor and Chairman of the Department
 Maxwell H. Poppel, M.D.

Professor
 Norman E. Chase, B.S., M.D.

Professors of Clinical
 Milton Friedman, M.D.
 Harold G. Jacobson, B.S., M.B., M.D.
 Sidney Rubinfeld, B.S., M.D.

Clinical Professors
 Samuel L. Beranbaum, A.B., M.D. [Toronto]
 Francis F. Ruzicka, Jr., A.B., M.D.
 Samuel S. Wald, D.D.S.

Associate Professors

Irvin I. Kricheff, B.S., M.D.
 Solomon S. Schwartz, A.B., M.D.

Associate Professors of Clinical

Raymond M. Abrams, A.B., M.S., M.D.
 Melvin H. Becker, A.B., B.S. in Med., M.D.
 Lewis R. Lawrence, A.B.; M.D. [Lausanne]

Associate Clinical Professors

Joseph P. Arcomano, B.S., M.D.
 Carroll Z. Berman, B.S., M.S., M.D.
 Gustave Kaplan, B.S., M.D.
 Joseph Newall, M.B., Ch.B. [Edinburgh]
 Alexander W. Pearlman, A.B., M.D.
 Dominick J. Principato, M.D.
 Bernard Roswit, A.B., M.D.
 Sol M. Unger, B.S.; M.D. [Geneva]
 Arthur Weinberg, B.S., M.D.
 Costantino Zaino, B.S., M.D.

Assistant Professors

Elliott R. Beranbaum, A.B., M.D. [Toronto]
 Heywood Y. Epstein, A.B., M.D.
 Albert F. Keegan, A.B., M.D.
 Joseph P. Lin, M.D. [National Taiwan]
 Colin G. Orton, B.S. [Bristol], M.S., Ph.D. [London]
 E. Humphrey Porter, A.B., M.B., Ch.B. [Oxford]
 Joseph Zausner, B.S.; M.D. [Vienna]

Assistant Professors of Clinical

Paul Lichtblau, A.B., M.D.
 Jay P. Sackler, A.B., M.D.

Research Assistant Professor

Evelyn S. Slobodiansky, A.B., M.S., Ph.D.

Assistant Clinical Professors

Marvin R. Agran, A.B., M.D.
 Jules H. Bromberg, A.B., M.B., M.D.
 Oscar H. Cohen, B.S., M.D.
 Carl J. Collica, B.S. (Physics)
 William J. Esposito, A.B., M.D.
 Benjamin L. Feuerstein, B.S., M.D.
 Abraham Geffen, A.B., M.D.
 Arnold Gerson, A.B., A.M.; M.D. [Geneva]
 Richard H. Hamilton, M.D.
 Morris Kaplan, B.S., M.D.
 Anthony A. Maglione, M.D. [Naples], Med.Sc.M. (Radiology)
 Orlando L. Manfredi, B.S., M.D.
 Arthur Post, M.D. [Bern]
 Robert Silbey, A.B., M.D.

Instructors

Daniel Alessandro, A.B., M.S.
 Walter B. Bogart, A.B., M.D.
 Nancy B. Genieser, A.B., M.D.
 Stanton S. Hoehstetter, B.S., M.D.
 Thomas H. Lee, M.D. [National Sun Yat-Sen, Kwantung]
¹Vincent Valensi, A.B.; Dr. med. [Geneva]

Instructor in Clinical

Sandra M. Pickman, A.B., M.D.

¹ On leave of absence.

Clinical Instructors

Fidel A. Aguirre
Herbert S. Berlin, A.B., M.D.
Kam F. Chan, M.D. [Cheeloo], M.B., B.S.
[Hong Kong], M.P.H., D.P.H.
Richard B. Gordon, B.S., M.D.
Arnold Joffe, A.B., M.D.
McGregor E. Knight, M.D. [Toronto]
Milton Zarrow, B.S.; M.D. [Lausanne]

Teaching Assistants

Steven A. Lorber
James E. McKeown, A.B.

Clinical Teaching Assistant

Elsie R. Testa (Physics), A.B.

First Year

Instruction in roentgen anatomy is given in conjunction with the Department of Anatomy. During the elective period, the student may choose to serve in the Department of Radiology. The elective consists of a series of lectures and periods spent observing various departmental activities and attending departmental conferences.

Second Year

During the elective period, the student may choose to serve in the Department of Radiology. The elective consists of a series of lectures and periods spent observing various departmental activities and attending departmental conferences.

Third Year

A series of lectures in diagnostic radiology is given during the clerkships in medicine, surgery, and pediatrics.

Fourth Year

Sections attend ninety-minute conferences weekly for a period of two months, during which the diagnostic use of radiology is emphasized. Special instruction in X-ray and radium therapy and in the use of radioisotopes is given in conjunction with the clerkships.

Electives

Electives in radiology are available for one or more months and are planned in accordance with the interests of the student.

He may apply either for an elective of a survey type, which permits exposure to most diagnostic sections, or for a special elective in gastrointestinal, genitourinary, pediatric, chest, bone, neurological, or vascular radiology.

Time is spent in observing the performance and interpretation of diagnostic procedures or in observing the radiotherapeutic management of patients with malignant disease.

The senior student is offered an elective devoted to clinical isotopes at Bellevue Hospital where, in addition to blood and urine analysis for the diagnosis of thyroid diseases, and blood dyscrasias, and intestinal diseases,

he is taught techniques and interpretations of isotope scans of brain, thyroid, lung, liver, spleen, kidneys, and bone.

Students attend departmental and sectional conferences. Arrangements for limited participation in research projects are possible for those spending four or more months on their electives or for those interested in summer work.

For courses in radiology offered by the Post-Graduate Medical School, see page 86.

REHABILITATION MEDICINE

Howard A. Rusk Professor and Chairman of the Department

Howard A. Rusk, A.B., M.D.; (hon.) Sc.D.; D.H.C., L.H.D., Litt.D., LL.D.

Professors

Donald A. Covalt, B.S., M.D.
Michael M. Dacso, M.D. [Budapest]
Menard M. Gertler (Experimental), A.B.
[Saskatchewan], M.D., C.M., M.S. [McGill], Med.Sc.D.
Edward W. Lowman, B.S., M.D., M.S. (Med.)
Chester A. Swinyard, B.S., M.S., Ph.D., M.D.

Professor of Clinical

Bruce B. Grynbaum, M.D.

Research Professor

William F. Windle, B.S., M.S., Ph.D.; (hon.) Sc.D.

Associate Professors

Arthur Eberstein, B.S., M.S., Ph.D.
Joseph Goodgold, A.B., M.D.
Albert Haas (Experimental), M.D.
[Budapest]
Allen S. Russek, A.B.; L.R.C.P.S.
[Edinburgh, Glasgow]

Associate Professors of Physiology (assigned to Rehabilitation Medicine)

Edward H. Bergofsky, B.S., M.D.
Jack Rosenbluth, A.B., M.D.

Associate Professors of Clinical

Leonard Diller, B.S., A.M., Ph.D.
Leon Greenspan, A.B., M.D.
Jack Sokolow, B.S.; Dr. med. [Geneva]
Eugene Moskowitz, B.S.; M.D. [Basel]

Associate Professor of Clinical Surgery (assigned to Rehabilitation Medicine)

Theobald Reich, A.B., M.D.

Research Associate Professor

J. Spencer Munroe, A.B.; Ph.D., M.D.
[Toronto]

Adjunct Associate Professor

Eugene J. Taylor, B.S. (Educ.), A.M., L.H.D., LL.D.

Associate Clinical Professors

Gerald J. Friedman, B.S., M.D.
Hans Kraus, M.D. [Vienna]
Edith L. Kristeller, M.D.
Samuel S. Sverdlik, B.S., M.D.

Associate Clinical Professor of Medicine (assigned to Rehabilitation Medicine)

Harold Brandaleone, B.S., M.D., Med.Sc.D.

Assistant Professors

June N. Barker, B.S., A.M., Ph.D.
J. Herbert Dietz, Jr., A.B., M.D.
Jacob L. Halberstam, A.B., Ph.D.
Nancy C. Kester, A.B., M.S. (Physiology), M.D.
John E. Sarno, Jr., M.D.
Claire Schiller, M.B., Ch.B. [Witwatersrand]
Ramananda Sinha
Peter C. Stratis, B.S.; M.D. [Athens]
Frieda S. Trainor, B.S., A.M., Ph.D.

Assistant Professor of Pharmacology (assigned to Rehabilitation Medicine)

Nosrat E. Naftchi, A.B., M.S., Ph.D.

Research Assistant Professor

Erich Saluste, Kand. Fil. [Stockholm], Lic. Fil., Ph.D. [Lund]

Assistant Professors of Clinical

Augusta S. Alba, B.S., M.D.
Joan L. Bardach, A.B., A.M., Ph.D.
David Ernstoff, B.S., M.D.
Fred H. Frieden, A.B., M.D.
Mejer Ginzburg, Mag.Fil., Physician, M.D. [Wilno]
Jack M. Hofkosh, A.B., A.M.
Masayoshi Itoh, M.D. [Tokyo], M.P.H.
Selene Jaramillo, M.D. [Rome]
Valery F. Lanyi, M.D. [Budapest]
Edith B. Lawton, B.S., A.M.
Mathew H. Lee, A.B., M.D., M.P.H.
Martha Taylor Sarno, A.B., A.M.
Richard A. Sullivan, B.S., M.D.
Howard G. Thistle, M.D. [Dalhousie]
Aaron J. Weiss, A.B., M.H.L., Ph.D.
Muriel E. Zimmerman, B.S., A.M., O.T.R.
Lawrence W. Friedmann, A.B., M.D.
Keith C. Keeler, A.B., M.D.
Victor A. Ribera, Lic. en Med. y Cir. [Barcelona]
Henry Viscardi, Jr., LL.B.; D.S., L.H.D., Litt.D., LL.D.
Jane R. Winer, B.S., M.D.

Adjunct Assistant Professor of Clinical Neurology (assigned to Rehabilitation Medicine)

Morton Marks, A.B., M.D.

Assistant Clinical Professors

Angeles Badell-Ribera, Lic. en Med. y Cir. [Barcelona]
S. Harry Berns, B.S., M.D.
Lewis Dickar, B.S., M.D.
Joseph J. Panzarella, Jr., B.S., M.D.

Assistant Clinical Professor of Ophthalmology (assigned to Rehabilitation Medicine)

Arnold S. Breakey, A.B., M.D.

Assistant Clinical Professor of Psychiatry (assigned to Rehabilitation Medicine)

Sidney Rosen, M.D. [Western Ontario]

Instructors

Terese G. Anastasia, B.S., R.P.T.
Lawrence Antler, A.B., A.M., Ph.D.
Paul R. Clark, B.S., O.T.R.
Ellen Coffman, R.N.
M. David Diamond, B.S., A.M., Ph.D.
Maria D. Faro (Experimental), B.S., Ph.D.
Marguerite A. Fortmann, B.S., R.P.T.
Jacob M. Goldstein
Hans R. Lehneis, C.P.O.
Pi-Huai Ma
Joseph Novey, A.B., M.S.W., Ed.D.
William Paradowski, A.B., Ph.D.
Meyer S. Siegel, A.B., A.M.
William A. Tosberg
Herbert H. Zaretsky, B.S., A.M., Ph.D.

Clinical Instructors

Leo Dobrin, A.B., M.D.
Irving M. Friedman, A.B., M.S.P.H., LL.B.
Tibor A. Kiss, M.D. [Budapest]
Martin E. Lasoff, B.S., M.D.
James I. Porter, B.S., M.D., C.M. [McGill]
Gabriel S. Rinzier, M.D. [Bucharest]
Milton B. Spiegel, B.S. [Edinburgh]

Teaching Assistants

Philip E. M. Bourland, A.B., M.D., M.S.P.H.
Joan E. Edelstein, B.S., A.M.
Richard I. Haas, B.S., R.P.T.
Raymond R. Rodriguez, B.S., A.M.
Neil I. Spielholz, B.S., A.M., R.P.T.

First Year

Six two-hour sessions during the first semester. Departmental staff members discuss functional anatomy, and assist with the dissection of the extremities. Emphasis is placed on the clinical applicability of functional anatomy.

Second Year

One two-hour lecture session with case presentation is included in the teaching session of physical diagnosis. The material includes the data and techniques used in physical evaluation of the musculoskeletal system and disability evaluation.

Third Year

The therapeutic aspects of rehabilitation medicine are discussed in ward rounds and during consultations for clinical clerks on medicine and pediatrics.

Fourth Year

A series of weekly lecture-demonstrations is given by the departmental faculty for a period of fourteen weeks. Stress is placed on the contribution of rehabilitation medicine in the diagnosis and treatment of chronic disease and disability.

Electives

Elective work is offered in the Department by arrangement with the Dean and the departmental chairman. Such electives may be

taken in the broad field of rehabilitation or in areas of special interest.

A limited number of two-month summer fellowships is offered to students who have completed their second year.

Fourth-year students may elect to spend one-half day per week at the Institute of Rehabilitation Medicine in their elective time in the Department of Medicine.

SURGERY

George David Stewart Professor and Chairman of the Department

Frank C. Spencer, B.S., M.D.

Professor

John H. Mulholland, A.B., M.D.

Lawrence D. Bell Professor (Plastic Surgery)

John M. Converse, M.D. [Paris]

Professors of Clinical

Donald A. Davis, B.S., M.D.

Walter W. Fischer, B.S., M.D.

S. Arthur Localio, A.B., M.D., Med.Sc.D.

Jere W. Lord, Jr., A.B., M.D.

David Lyall, B.S., M.D.

Louis M. Rosati, B.S., M.D.

Louis M. Rousselot, A.B., M.D., M.S. (Surgery), Med.Sc.D.

Louis R. Slattery, A.B., M.D.

Samuel Standard, M.D.

Clinical Professors

Leon Ginzburg, M.D.

Norman L. Higinbotham, M.D., C.M. [McGill]

Associate Professors

Donald L. Ballantyne, Jr. (Experimental), A.B., M.S., Ph.D.

Ernest S. Breed, M.D.

Roy H. Claus, B.S., M.D.

Allan E. Dumont, A.B., M.D.

Felix T. Rapaport, A.B., M.D.

George E. Reed, D.V.M., M.D.

Harold H. Sage, B.S., M.D.

Irwin E. Siris, M.D.

Carl A. Smith, B.S., M.S. (Biochem.), M.D.

William M. Stahl, Jr., A.B., M.D.

David A. Tice, A.B., M.D.

Associate Professors of Clinical

Theobald Reich (*assigned to Rehabilitation Medicine*), A.B., M.D.

Lester Breidenbach, B.S. (Med.), M.D.

Ross M. Campbell (Plastic Surgery), M.D. [Toronto]

Stanley Giannelli, Jr., B.S., M.D.

Roald N. Grant, B.S., M.D.

Stephen L. Gumpert, A.B., M.D.

Walter D. Ludlum, Jr., A.B., M.D.

William Mackler, A.B., M.D.

Jesse W. Mahoney, A.B., M.D.

Daniel A. Mulvihill, A.B., M.D.

Charles G. Neumann (Plastic Surgery), A.B., M.D.

David Safadi (Surgical Pathology), M.B., M.D.

George M. Saypol, B.S., M.D.

Benjamin G. P. Shafiroff, M.D.

Peter W. Stone, M.D.

John E. Sullivan, M.D.

Alexander Zimany, A.B., M.D.

Philip A. Zoller, M.D.

Associate Clinical Professors

Abram J. Abeloff, A.B., M.D.

Lester Blum, A.B., M.D.

Donald R. Cole, M.D.

James F. Connell, Jr., A.B., M.D.

Carlo E. Grossi, A.B., M.D.

William T. Medl, A.B., M.D.

Gerald H. Pratt, M.D.

Rafael M. Sanchez-Ubeda, A.B., M.D.

David H. Saxe, A.B., M.D.

William I. Wolff, B.S., M.D.

Assistant Professors

Robert W. Beasley (Plastic Surgery), A.B., M.D.

Arthur D. Boyd, B.S., M.D.

Cary L. Guy (Plastic Surgery), B.S. (Med.), M.D.

Matthew N. Harris, A.B., M.D.

Alex C. Solowey, M.D.

Melvin H. Worth, Jr., A.B., M.D.

Assistant Professors of Clinical

Edgar H. Bates, A.B., M.D.

Jameson L. Chassin, B.S., M.D.

Alexander J. Conte, B.S., M.D.

Thomas J. Galvin, M.D.

Frederick M. Golomb, B.S., M.D.

W. Robson N. Grier, M.D. [Toronto]

George A. Harer, B.S., M.D.

Anthony M. Imparato, A.B., M.D.

Howard J. Kessler, A.B., M.D.

John A. Lawler, Jr., B.S., M.D.

Ruben Oropeza, M.S.; M.D. [Mexico]

Robert B. Pfeffer, B.S., M.D.

Thomas D. Rees (Plastic Surgery), A.B., M.D.

Blair O. Rogers (Plastic Surgery), A.B., M.D.

Charles F. Schetlin, A.B., M.D.

Kenneth C. Sze, A.B., M.D.

Assistant Clinical Professors

David Befeler, A.B., M.D.

Rudolph F. Bono, B.S., M.D.

Reynold E. Church, B.S., M.D.

Max P. Cowett, M.D.

William F. Mitty, Jr., B.S., M.D.

Augusto H. Moreno, M.D. [Buenos Aires]

William F. Panke, M.D.

Benjamin A. Payson, A.B., M.D.

Allen H. Postel, Ph.B., B.S., M.D.

Howard Richman, A.B., M.D.

Carl W. Roessel, A.B., M.D.

Sheldon D. Sax, M.D.

John R. Slattery, B.S., M.D.

William P. Whalen, A.B., M.D.

Lecturer

Robert H. Kennedy, A.B., M.D.

Instructors

Seth F. Abramson, A.B., M.D.

William Batiuchok, A.B., M.D.

Manuel Garcia-Moran

¹ Seymour D. Grauer, B.S., M.D.

George E. Green, M.D.

² Bruce W. Haims, A.B., M.D.

Pauline Gostinsky Hecht, A.B., M.D.

V. Michael Hogan (Plastic Surgery), A.B., M.D.

Donald J. Mayer, A.B., M.D.

D. Joseph Pastorelle, Jr., M.D.

Ronald S. Paul, A.B., M.D.

Warren T. Pearson, M.D.

Earl C. Risbeck, B.S., M.D.

Bertrand Y. Scalabrini, A.B. [Sherbrooke], M.D. [Laval]

Lucie A. Schoenenberger, A.B., M.D.

Sylvan M. Stillman, B.S., M.D.

Eugene Wallsh, B.S., M.D.

Instructors in Clinical

Harold W. Andersen, A.B., M.D.

Howard C. Baron, M.D.

Melvin D. Brown, A.B., M.D.

Albert R. Burchell, A.B., M.D.

Phillip R. Casson (Plastic Surgery), M.B., B.S. [Sydney]

Mark E. Fox, A.B.; Doc. Univ. [Med. Fac., Paris]

Josef Jahr, B.S., M.D.

William T. Kriete, Jr., A.B., M.D.

Leo L. Leveridge, M.D., C.M. [McGill]

Albert B. Lowenfels, A.B., M.D.

Griswold P. D. Nammack, M.D.

Joseph L. Pfeifer, Jr., B.S., M.D.

Eugene U. Thiessen, A.B., M.D.

Donald Wood-Smith (Plastic Surgery)

Clinical Instructors

Philip Alexander, M.B., B.S. [Kerala]

John W. Angers, B.S., M.D., C.M. [McGill]

Enrique A. Bonfils Roberts

Avron Daniller (Plastic Surgery),

M.B., Ch.B. [Cape Town]

Floyd J. Donahue, B.S., M.S., M.D.

James R. Donaldson, B.S., M.D.

Richard M. Engelman

Stephen V. Flagg (Plastic Surgery), B.S., M.D.

James F. Guthrie, A.B., M.D.

E. Lawrence Hanson, B.S., M.D.

Walter J. Henry, A.B., M.D.

Thomas P. Higgins, B.S., M.D.

Harry N. Iticovici, A.B. [Beirut], M.D.

C. Buckman Katzenbach, A.B., M.D.

Richard E. Kessler, B.S.; M.D., C.M. [McGill]

Sam B. Labow, B.S., M.D., C.M. [McGill]

James V. Lewis, B.S., M.D.

Nathan Libby, A.B., M.D.

James J. Mackrell

Theodore J. Medrek, B.S., M.D.

Peter A. Missier, M.D. [Bologna]

Andries Molenaar (Plastic Surgery), Ph.D.

[Nijmegen], M.D. [Groningen]

Leon Nesis, M.D. [Buenos Aires]

John H. C. Ranson, A.B., A.M., M.B., B.Ch. [Oxford]

Francis Z. Reinus, A.B., M.D.

Francis X. Reynolds, A.B., M.D.

Alan L. Rinstone (Plastic Surgery), B.S., M.D.

Tuguo Sano, M.D. [Keio]

Ernesto Santoni, Doc. en Med. [Santo Domingo]

Warren W. Schoetzau, M.D.

Emanuel O. Silver, B.S., M.D.

Orin S. Stern (Plastic Surgery), B.S., M.D.

Francis T. Thomas, B.S., M.D.

Charles A. Vinnik (Plastic Surgery), A.B., M.D.

Victor R. Zerbino, Med. Cir. [Montevideo]

Teaching Assistants

Stewart E. Altman, A.B., M.D.

Paul Baxt

Sherwood A. Baxt, B.S.

Regent L. Beaudet, A.B., M.D. [Montreal]

Jeffrey L. Benjamin, A.B., M.D.

Robert W. Bernard

Raymond J. Betson, Jr., A.B., M.D.

Richard A. Bronson, B.S., M.D.

Elliot L. Cohen, A.B., M.D.

Mark R. Cohen, A.B., M.D.

Ruth P. Cohen, A.B., M.D.

Kenneth Eng, B.Ch.E., M.D.

Arthur I. Feenberg, M.D.

William Fried

Jack A. Friedland, B.S., M.D.

Akira Fukuda (Plastic Surgery), M.D.,

D.M.S. [Chiba]

Charles D. Gianetti

Eugene D. Gierson, A.B., M.D.

Ronald C. Golinger, A.B., M.D.

Juergen K. Greineder, Dr. med. [Munich]

Tateo Hanoaka (Plastic Surgery), M.D.,

D.M.S. [Chiba]

Burton I. Herz, B.S., M.D.

Ibrahim M. Ibrahim, A.B., M.D.

Farhad Idjadi, A.B., M.D.

Daniel R. Kanell, B.S., M.D.

Edmund R. Kappy, A.B., M.D.

Ira M. Lebson, B.S., M.D.

James A. Leiter, B.S., M.D.

Oluwatope A. Mabogunje

Fred Mantel, A.B., M.D.

Mark F. O'Neill, A.B., M.D.

Thomas M. Parker, M.D.

Kalmon D. Post

Tretorn Pugkhem, M.D. [Medical Sciences,

Bangkok]

Jeremy M. Ramp, A.B., M.D.

Bert W. Rappole, A.B., M.D.

Jefferson F. Ray III, A.B., M.D.

Richard D. Robbins

Enrique Rossell, M.D. [San Carlos]

Joseph A. Scoma, B.S., M.D.

Sheldon R. Simon, B.Met.E., M.D.

Norman Sohn, B.S., M.D.

Frank C. Sparks

Alex M. Stone, B.S., M.D.

Sakda Suwansirikul

¹ On military leave of absence.

Third-Year Clerkship in Surgery

During the 10 weeks of the surgical clerkship, students become familiar with the pathophysiology and clinical manifestations of diseases treated by surgical methods. Appropriate responsibility is assumed by the student for patient care, in contrast to placing him purely in the role of an observer. However, the objective of responsibility is to facilitate the learning process, as well as to supplement the care of the patient.

Conferences are conducted each morning from 8:00 to 9:00 a.m., five mornings per week. Although complete coverage of all details in surgery is clearly impossible within 10 weeks, an effort is made to discuss when possible each of 60 to 70 major surgical disorders. Discussions center on selected patients and are informal, with a free exchange of questions between the students and the instructor. In the absence of suitable patients, slide presentations may be utilized, or a seminar-type session may be employed with previous assignments of selected reading references.

Seminars in surgical physiology are held at Thursday noon during the year for one hour. Topics are announced in advance with appropriate reference for reading in order to develop a seminar-type presentation with exchange of questions and information between the instructor and the students. Subjects consist of broad areas of surgery, such as shock, fluid, and electrolyte balance, which are best presented in broad discussion, rather than illustrated by particular patients.

Careful study of the assigned reference material in advance of the seminar is essential for adequate participation.

Afternoon rounds are conducted twice weekly for one hour by a member of the faculty or the surgical house staff. For these rounds, groups of 5 to 7 students are taken on rounds to discuss assigned patients at the bedside. Details of the record of the patient, including history, physical examination, and progress notes, are emphasized, and observations and conclusions reached by the student are carefully discussed. In contrast to the morning surgical conference, in which pathophysiology and clinical manifestations of major diseases are illustrated, objectives in the afternoon rounds are to evaluate the observations and deductions of the students upon their own patients. This exercise is based on the principle that the ability to make accurate observations and to evaluate them properly is the most essential component of a surgical clerkship and the most difficult to learn. The instructor and the house officer assigned to each student group work together in following each student's progress throughout the clerkship.

A history and physical examination are recorded by the student within 48 hours after admission of the patient to the hospital. These records are edited and graded by the surgical assistant resident assigned to teaching for each student group within 48 hours. A prog-

ress note is recorded at proper intervals. Accumulated grades for each student's patient will form the basis for his grade in "clinical work."

The students are responsible only for patients assigned to them. They are not responsible for any other patients on the ward. "Pooling" of responsibilities in which one student covers for several others during their absence is *prohibited* except under unusual circumstances. Virtually all laboratory work is performed by laboratory technicians. When not attending an assigned conference, students are expected to be on the surgical wards, in the Operating Room, or in the library.

A significant number of surgical patients are admitted at night because of trauma or other emergency disorders. As such pathology can only be observed before an emergency operation is performed, students are assigned to night and emergency room duty every third night. On call rooms and meals are provided as needed.

Two major surgical conferences are held each week at which attendance is mandatory. These are the general surgical conferences on Tuesday afternoon at 4 p.m. in Alumni Hall and the Mortality/Morbidity Conference on Thursday afternoon at 4 p.m. in the Bellevue Surgical Amphitheatre.

At the end of the clerkship, an extensive written examination is given to evaluate both the factual knowledge acquired by the student, as well as his ability to evaluate findings. The final grade in surgery will be derived from the clinical work on the wards, the written examination, and a short oral examination.

Fourth Year

Students are assigned for a four-week period full time to service on the surgical wards of St. Vincent's Hospital, University Hospital, or the New York Veterans Administration Hospital. This instruction period is designed as an advanced clerkship. Students are supervised by faculty on the resident and attending staffs of these hospitals, and certain responsibilities in the management of patients with surgical diseases are accorded students. Under some circumstances the responsibilities and duties are those ordinarily assigned to interns.

There are opportunities for selected students to work with members of the faculty on investigative clinical or laboratory problems during the surgical period.

Professors Spencer (University Hospital), Rousselot (St. Vincent's Hospital), and Tice (New York Veterans Administration Hospital).

Electives

Elective work is available by arrangement with the Dean and the departmental chairman.

For courses in surgery offered by the Post-Graduate Medical School, see page 86.

UROLOGY

Professor and Chairman of the Department

Robert S. Hotchkiss, B.S., M.D.

Associate Professor (assigned to Medicine)

Salah A. Al-Askari, M.B., Ch.B. [Iraq],
M.S. (in Urology)

Associate Professors of Clinical

Jordan S. Brown, A.B., M.D.

Pablo A. Morales, M.D. [Philippines],
M.S. (in Urology)

James F. N. Sullivan, A.B., M.D.

Arthur N. Tessler, A.B., M.D.

Associate Clinical Professors

Richard D. Amelar, A.B., M.D.

Thomas F. Howley, A.B., M.D.

Bernard D. Pinck, A.B., M.D.

George W. Slaughter, A.B., M.D.

Adrian W. Zornotti, M.D.

Assistant Clinical Professors

Lawrence Dubin, B.S., M.D.

Kenneth L. Hamilton, A.B., M.D.

Alexander C. Mitchell, A.B., M.D.

John M. Silberblatt, A.B., M.D.

Perrin B. Snyder, B.S., M.D.

Aaron H. Ulm, B.S., M.D., LL.B.

Instructors in Clinical

Leonard Biel, Jr., A.B., M.D.

Peter E. Bogdan, A.B., M.D.

Donald F. Brown, B.S., M.D.

Leonard I. Plaine, A.B., M.D.

Shimon Shalit, M.D. [Hebrew]

Michael Sierp, M.D. [Erlangen]

Clinical Instructors

Joseph J. Jaksy, M.D. [Komensky]

John J. O'Connor, Jr., M.D.

Ira A. Wasserberg, A.B., M.D.

Teaching Assistants

Martin M. Alexander, B.S., M.D.

Robert E. Donohue, B.S., M.D.

Edwin S. Gardiner, A.B., M.D.

Fred M. Gold, B.S., M.D.

David J. Narins, B.S., M.D.

Abelardo M. Prodigalidad

Juan B. Suarez, Lic. en Med. y Cir. [Madrid]

First Year

Correlation lectures are given to emphasize principles presented in the basic science courses. The application of this knowledge is demonstrated by its utilization in the diagnosis and treatment of patients.

Second Year

Lectures are given in the special techniques of a urological examination, including physical diagnosis and laboratory methods.

Seminars on specialized topics of interest are offered.

Third Year

Four lectures are given, related to the diagnosis and treatment of urological diseases in adults and children.

Clinical instruction is given on the wards in conjunction with the Department of Surgery.

Fourth Year

Four lectures are given pertaining to urological topics.

An elective program is offered at the clinical level that permits students to participate in patient care at Bellevue and University Hospitals on a subinternship or externship basis.

Opportunities are also offered for elective work in the research laboratories of the Department.

ROSTER OF STUDENTS

M.D.-Ph.D. Program

Braunstein, Seth N., A.B., Princeton

University

Breslow, Richard E., Yale University

Cable, Ritchard G., A.B., Harvard University

Camerini-Otero, Rafael D., B.S.,

Massachusetts Institute of Technology

Cedar, Howard, B.S., Massachusetts Institute

of Technology

Chase, Philip S., Harvard University

Dichter, Marc A., A.B., Queens College

Eckman, Peter R., B.S., The City College

Eisenstadt, Michael L., University of

Scranton

Elperin, David J., A.B., Columbia University

Gershengorn, Marvin C., B.S., The City

College

Giller, Earl L., Jr., B.S., Brown University

Glaubiger, George A., A.B., Columbia

University

Green, Donald H., A.B., Clark University;

M.S., Yale University

Heller, Philip H., A.B., Cornell University

Levin, Mark H., Yeshiva University

Mond, James J., A.B., Yeshiva University

Muravchick, Stanley, A.B., The Johns

Hopkins University

Novick, Isaac, McGill University

Pollet, Robert J., A.B., Columbia University

Press, Robert A., A.B., Princeton University

Rice, Stephen G., A.B., Columbia University

Rothman, Ivan K., A.B., Lafayette College

Sabol, Steven L., B.S., Yale University

Shaw, Arthur B., B.S., The City College

Sherr, Charles J., A.B., Oberlin College

Smolowe, Anson F., B.S., Yale University

Steinberg, Michael S., B.S., The City College

Tanner, Daniel J., A.B., Columbia University

Weiss, Gary B., A.B., New York University—

University College

Werblin, Theodore P., A.B., Princeton

University

Zasloff, Michael A., A.B., Columbia

University

Zeligs, Joseph D., A.B., Cornell University

First Year

Class of 1972

Ackert, John J., St. John's University

Arond, David E., Franklin and Marshall

College

Backman, John R., New York University—
University College
Baerncopf, Dayna E., Radcliffe College
Berlin, Arnold W., Queens College
Berlin, Jo Ann, University of Pennsylvania
Berman, Jonathan D., Williams College
Bigini, Patricia E., St. Joseph's College
for Women
Blackman, Marc R., Northeastern University
Bloom, Jeffrey N., Cornell University
Booth, James R., Lafayette College
Borkowsky, William, The City College
Braun, Kenneth, New York University—
University College
Bruckstein, Robert L., The City College
Chernoff, Joan, University of Pennsylvania
Cines, Douglas B., New York University—
University College
Connell, Frederick A., Harvard University
Cuyjet, Aloysius B., Brandeis University
Dell, Stephen O., Harvard University
Drexler, Andrew J., University of
Pennsylvania
Ehrnpreis, Murray N., University of
Michigan
Eichling, Philip S., North Central College
Faltz, Lawrence L., Columbia University
Fein, Frederick S., New York University—
University College
Feit, Frederick, New York University—
University College
Feldman, George M., Trinity College
Finkelstein, Richard, Temple University
Fishkin, Elloth H., Brooklyn College
Frank, Kenneth J., Rutgers—The State
University
Fried, Gregory, Cornell University
Friedberg, Phyllis N., Barnard College
Frisof, Kenneth B., Harvard University
Galati, Victor G., Fordham University
Gerstenblith, Jay, New York University—
University College
Gerstle, Claude L., Massachusetts Institute
of Technology
Glanz, Sidney, Columbia University
Gluck, Paul A., Massachusetts Institute
of Technology
Goldberg, Frank E., University of
North Carolina
Goldsmith, Gary O., Antioch College
Hamburger, David P., Brandeis University
Heuermann, Robert P., University of
Pennsylvania
Hilton, Stephen B., Tufts University
Hoffman, Stanley D., Massachusetts Institute
of Technology
Hoffmann, Robert M., Harvard University
Huberman, Richard A., Princeton University
Isenberg, Howard W., Harvard University
Jacobs, Alan N., Temple University
Jaffe, Leslie R., Lafayette College
Janowitz, Warren R., New York University—
School of Engineering and Science
Jelin, Abraham R., Williams College
Kahn, Robert H., Brooklyn College
Kaplan, Martin P., University of Pennsylvania
Katz, Cheryl S., Cornell University
Kennedy, James T., Manhattan College
Kessler, Michael S., The City College
Kirshbaum, Kenneth D., University of
Pennsylvania
Kirstein, Robert H., The City College
Kistler, Lane A., Franklin and Marshall
College
Klein, Alan, University of Rochester
Kramer, Kenneth, University of Pennsylvania
Kreeger, Elizabeth R., Bryn Mawr College
Krone, Anton M., Harvard University
Lefkow, Peter A., University of Pennsylvania
Leshaw, Steven M., Brooklyn College
Lessinger, Eric, Harvard University
Levine, Jay M., Columbia University
Levy, Bruce R., Dartmouth College
Lipinsky, Edward J., St. Lawrence University
Liteplo, Ronald R., Manhattan College
Manganaro, Andrew J., Fordham University
Max, Edward E., Harvard University
Mehl, Sydney J., Brooklyn College
Messing, Edward M., University of Chicago
Meyer, Gregory C., The Johns Hopkins
University
Miller, Matthew A., Amherst College
Nachtigall, Robert D., New York University
—School of Engineering and Science
Oppenheim, Michael D., University of
California at Los Angeles
Peff, Peter J., Princeton University
Pellish, Larry J., Union College
Peters, Lawrence S., Harvard University
Podrid, Philip J., New York University—
Washington Square College
Price, Steven M., University of Pennsylvania
Prichep, Lawrence S., University of Rochester
Raiten, Kenneth A., Cornell University
Reinstein, Paul R., State University of
New York at Buffalo
Ricci, Russell J., Columbia University
Rifkin, Robert D., Massachusetts Institute of
Technology
Rose, Stephen J., Princeton University
Rosenwasser, Lanny J., The City College
Ross, Gilbert L., Cornell University
Rothberg, Robert M., Queens College
Rothenberg, Stuart, Columbia University
Rotrosen, John P., Rutgers—The State
University
Rubenstein, Howard M., The City College
Rubenstein, James, Union College
Safir, David E., Brandeis University
Sass, Helen J., New York University—
University College
Scheinberg, Robert S., Queens College
Schwarz, Doris A., New York University—
University College
Sckolnick, Pamela B., Barnard College
Selcer, Donald M., University of Michigan
Sheinbach, Stanley F., Brooklyn College
Shonkoff, Jack P., Cornell University
Simon, David G., University of Pennsylvania
Simon, Roberta S., Barnard College
Skolnick, Lawrence M., Queens College
Slivinski, Charles A., Manhattan College
Snyder, Jon R., Columbia University
Sorrell, Stephan J., The City College
Spaulding, Kenneth F., Manhattan College
Steinberg, Howard R., Williams College
Stern, Robert M., New York University—
University College

Strauchen, James A., Columbia University
Strauss, James F., Harvard University
Tabb, Lloyd A., New York University—
Washington Square College
Thomas, Leonard C., University of Chicago
Tietjen, Ronald N., Ursinus College
Tolchin, Joan B., Vassar College
Usher, Sol M., Columbia University
Viscomi, Gregory N., Hofstra University
Wassner, Steven J., The City College
Weinstein, Howard M., Brooklyn College
Winograd, Stephen A., Rutgers—The State
University
Wolf, Ellen L., Connecticut College
Wolf, Jeffrey A., University of California at
Los Angeles
Zimmerman, Sol S., Columbia University
Zucker, Norman, University of California at
Berkeley

Second Year

Class of 1971

Anker, Donald J., A.B., New York University
—University College
Babad, Joshua N., A.B., Princeton University
Barcan, Andrew M., A.B., Columbia
University
Barmak, Leonard G., A.B., New York
University—University College
Bendo, John G., A.B., Columbia University
Berenzweig, Harold K., A.B., Cornell
University
Berger, Eric H., A.B., Yale University
Berman, Stanley B., A.B., Cornell University
Birken, Steven, A.B., New York University—
Washington Square College
Branitz, Bruce H., A.B., C. W. Post College
of Long Island University
Brenowitz, Jerold B., A.B., The Johns
Hopkins University
Bressman, Paul C., A.B., Franklin and
Marshall College
Brown, Lawrence W., A.B., Brandeis
University
Carmody, Padraic C., A.B., Stanford
University
Chang, Meimei, A.B., Radcliffe College
Charney, Edward B., A.B., Brown University
Cohen, Allen S., University of Rochester
Cohen, Ian M., A.B., Columbia University
Cohen, Kenneth L., A.B., Columbia
University
Cournos, Francine, B.S., The City College
Cowan, Robert B., Jr., A.B., University of
Michigan
Demar, Leon K., A.B., Haverford College
Dermer, Paul E., A.B., Brooklyn College
Doft, Bernard H., Cornell University
Ducker, Kenneth L., A.B., Oberlin College
Ehrlich, Neil P., A.B., New York University
—Washington Square College
Engel, Peter J., A.B., Columbia University
Ertel, Lawrence A., A.B., University of
Pennsylvania
Farber, Barry L., A.B., The Johns Hopkins
University
Feigenbaum, Howard, A.B., Franklin and
Marshall College
Feinstein, Jeffrey M., A.B., New York
University—University College
Felsenstein, Jerome M., A.B., University
of Vermont
Frances, Richard J., A.B., Columbia
University
Fried, Michael D., B.S., Cornell University;
A.M., Harvard University
Friedberg, Jonathan E., A.B., Harvard
University
Friedman, Richard K., The Johns Hopkins
University
Fuhrman, Bradley P., A.B., Franklin and
Marshall College
Gardner, David F., A.B., Brown University
Geltman, Edward M., B.S., Massachusetts
Institute of Technology
Gershwind, Mark E., University of
Rochester
Gerstle, Robert S., B.S., Massachusetts
Institute of Technology
Goldsmith, Jonathan C., A.B., Dartmouth
College
Gould, Herbert B., B.S., Brooklyn College
Grant, Dov Z., A.B., Brooklyn College
Greco, Philip S., A.B., Columbia University
Gribetz, Allen R., B.S., The City College
Grubin, John F., A.B., Yale University
Gudis, Matthew A., A.B., Brandeis University
Heller, Keith S., A.B., Amherst College
Hilfer, Jane B., A.B., Barnard College
Hirschberg, Stephen E., A.B., University of
Pennsylvania
Hoffman, Ronald, A.B., New York
University—Washington Square College
Homer, Marc J., A.B., Brooklyn College
Innerfield, Ronald J., A.B., Princeton
University
Isaac, Jerome H., B.S., The City College
Ivanhoe, Eliot R., A.B., Franklin and
Marshall College
Jacobs, Rayna H., A.B., Barnard College
Jonas, Alan M., A.B., The Johns Hopkins
University
Jucovy, Peter M., A.B., Brown University
Kallet, Steven P., B.S., Tufts University
Kane, John M., A.B., Cornell University
Kapit, Richard M., A.B., Columbia University
Kaplan, Bruce M., A.B., New York
University—University College
Kaplan, Myra S., B.S., The City College
Katz, Jack, A.B., Columbia University
Kent, Peter D., B.S., Hobart College
Kleiman, Theodore W., A.B., Dartmouth
College
Kurtz, Neil J., A.B., New York University—
University College
La Corte, Michael A., A.B., Queens College
Lehman, Robert M., A.B., Syracuse
University
Levine, Steven N., University of Rochester
Linberg, John V., A.B., University of
Rochester
Linick, Frederica M., A.B., Barnard College
Lubin, Alan B., B.S., The City College
Luria, Martin J., A.B., Rutgers—The State
University
Martin, George T., B.S., The City College

Mayer, Jack L., State University of New York—Harpur College
 McCauley, Dorothy I., A.B., Adelphi University
 Menitove, Jay E., A.B., Colgate University
 Miller, Jeffrey D., A.B., Queens College
 Moshell, Alan N., A.B., New York University—University College
 Neuman, Tom S., A.B., Cornell University
 Norton, Robert J., A.B., Harvard University
 Pachter, Leon L., A.B., Yeshiva University
 Paine, Karen N., University of Rochester
 Paltzik, Robert L., A.B., Queens College
 Peoples, James B., A.B., Franklin and Marshall College
 Pleasure, Judith G., A.B., Radcliffe College
 Post, Diana E., A.B., Radcliffe College
 Reed, David M., B.S., University of Pittsburgh
 Resnick, Jack A., A.B., Brooklyn College
 Ribner, Hillel S., A.B., Columbia University
 Richman, Lee K., A.B., Dartmouth College
 Roberts, Norbert J., Jr., A.B., Haverford College
 Rosman, Howard J., A.B., Yeshiva University
 Rudikoff, Michael T., A.B., Columbia University
 Ruffe, Thomas M., A.B., Colgate University
 Rundles, Ward F., B.S., Duke University
 Saez-Vijandé, Ruben de J., Portland State College
 Samach, Michael A., A.B., Cornell University
 Samuels, Alan M., A.B., New York University—University College
 Schulhoff, John W., A.B., University of Pennsylvania
 Schwartz, Stanley N., B.S., University of Pittsburgh
 Skolnick, Bruce R., A.B., New York University—University College
 Shamir, Hedva, A.B., New York University—Washington Square College
 Shapiro, Daniel W., A.B., University of Chicago
 Shaw, William S., A.B., Amherst College
 Sheckman, Peter R., A.B., Yale University
 Shrager, Laura B., A.B., Brandeis University
 Spieler, Paul J., A.B., Harvard University
 Spirt, Beverly A., A.B., Radcliffe College
 Stern, Stephen L., A.B., Columbia University
 Stewart, Russell M., III, A.B., West Virginia University
 Streicher, Howard Z., A.B., Cornell University
 Stutz, Philip A., B.S., The City College
 Terdiman, Robert J., A.B., Hamilton College
 Tunick, Paul A., A.B., Princeton University
 Walsky, Paul E., A.B., University of Rochester
 Weinstein, Gerald S., A.B., Columbia University
 Werlin, Ann E., A.B., Radcliffe College
 Wertebaker, Christian T., Harvard University
 Wildman, Joseph M., A.B., Harvard University
 Winikoff, Beverly, A.B., Radcliffe College
 Yamada, Tadataka, A.B., Stanford University
 Zion, Victor M., A.B., Cornell University

Third Year

Class of 1970

Ambos, Marjorie A., A.B., New York University—University College
 Andelman, Robert J., A.B., Harvard University
 Aronson, Peter S., University of Rochester
 Ashwal, Stephen, A.B., New York University—University College
 Auerbach, Eric D., A.B., University of Rochester
 Axelrod, Rita S., A.B., New York University—Washington Square College
 Bates, Robert O., Jr., A.B., Williams College
 Bavli, Samuel Z., B.S., The City College
 Bloomberg, Alan M., A.B., Columbia University
 Borak, Elliot H., A.B., New York University—University College
 Boylan, James J., A.B., College of the Holy Cross
 Braun, Robert S., A.B., University of Michigan
 Brody, David M., A.B., New York University—University College
 Burger, Andrew A., B.S., University of Michigan
 Cardos, Stephen F., B.S., Manhattan College
 Chasis, Joel A., A.B., Vassar College
 Cohen, Howard A., A.B., Yale University
 Cohen, Howard L., A.B., Brooklyn College
 Cohen, Jack R., A.B., Queens College
 Cohen, Neal L., A.B., Columbia University
 Coller, Barry S., A.B., Columbia University
 Coplan, Bennett M., A.B., Williams College
 Crayne, Richard S., A.B., Colgate University
 Denaro, Jack A., A.B., Queens College
 Deutsch, Paul G., B.S., Hobart College
 Drager, Sharon B., A.B., Pembroke College
 Dreyer, Benard P., A.B., Queens College
 Ecker, Martin D., A.B., Cornell University
 Eckian, Albert G., B.S., Yale University
 Ehrlich, Paul M., A.B., Columbia University
 Eisenberg, Stuart R., A.B., University of Pennsylvania
 Falk, Stephen A., A.B., Tufts University
 Feigin, David S., A.B., Cornell University
 Fierman, Eugene J., A.B., Columbia University
 Fischbach, Marnin E., A.B., University of Pennsylvania
 Frank, Lawrence R., A.B., New York University—University College
 Friedlander, Daniel, A.B., Columbia University
 Friedman, Ellen W., A.B., Barnard College
 Garnil, Emil, B.S., The City College
 Gilbert, Paul, Jr., B.S., University of Michigan
 Goldart, Jed C., B.S., The City College
 Golden, Stephen M., A.B., Boston University
 Goldfarb, Mark S., A.B., New York University—University College
 Goldfinger, Norman, A.B., New York University—Washington Square College
 Goodstein, Jordan H., B.S., The City College
 Gorevic, Peter D., A.B., Columbia University

Grossman, William S., A.B., State University of New York—Harpur College
 Halperin, Alan J., A.B., Hofstra University
 Halpern, Gary J., A.B., Harvard University
 Heller, Daniel G., A.B., Columbia University
 Jacobsen, Keith M., A.B., Drew University
 Jaffe, John S., A.B., University of Pennsylvania
 Jason, Donald R., B.S., Massachusetts Institute of Technology
 Jay, Harvey H., A.B., Columbia University
 Kalter, Zane G., A.B., State University of New York—Harpur College
 Katz, Melvin I., B.S., Brooklyn College
 Kaufman, Howard, A.B., Brooklyn College
 Kisloff, Barry, B.S., The City College
 Klein, Ira, A.B., University of Rochester
 Kleinman, Leonard H., A.B., Western Reserve University
 Kram, Jerrold A., A.B., Lafayette College
 Kristt, Donald A., A.B., Columbia University
 Kutin, Neil D., A.B., Columbia University
 Leavitt, Nancy R., Swarthmore College
 Lee, Tsun-Nin, A.B., Columbia University
 Leeds, Melvin I., A.B., Cornell University
 Lehmann, Laurent S., A.B., New York University—University College
 Lewis, Alan B., B.S., The City College
 Liesegang, Thomas J., Providence College
 Lindberg, Carol A., A.B., Queens College
 Lux, Warren E., Jr., A.B., Amherst College
 Mack, Bruce J., A.B., Harvard University
 Major, Patricia T., A.B., Radcliffe College
 Marmorek, Lynne, A.B., State University of New York—Harpur College
 Mazur, Margo, A.B., New York University—Washington Square College
 Mendelson, David C., A.B., Harvard University; M.S., University of Chicago
 Miller, Howard M., A.B., University of Rochester
 Moss, Joel, A.B., Brandeis University
 Parker, Martin I., B.S., The City College
 Passalacqua, Anthony M., B.S.E.E., Rutgers—The State University; M.S.E.E., Columbia University
 Pattengale, Paul K., B.S., Boston College
 Pfeffer, Bruce P., A.B., Rutgers—The State University
 Podwal, Mark H., Queens College
 Porensky, Richard S., A.B., Cornell University
 Portadin, Gary, A.B., New York University—Washington Square College; A.M., New York University—Graduate School of Arts and Science
 Preiser, Gary, B.S., University of Rochester
 Rappaport, Charles N., A.B., Cornell University
 Reich, Walter, A.B., Columbia University
 Richman, David L., B.S., University of Michigan
 Richter, Ronald C., B.S., University of Pittsburgh
 Roll, Frederick J., A.B., New York University—Washington Square College
 Romeu, Jose N., B.S., University of Notre Dame
 Romm, Richard E., B.S., Brooklyn College
 Rosenblum, Phyllis R., B.S., The City College

Rosenbluth, Richard J., B.S., The City College
 Sandler, Allen H., A.B., Yale University
 Scher, Barry M., B.S., The City College
 Schmalzer, Emily A., A.B., Radcliffe College
 Schreiber, Kenneth A., A.B., Lafayette College
 Schwartz, John L., A.B., Columbia University
 Schwartz, Sheldon E., University of Rochester
 Shapiro, Alan R., A.B., Brandeis University
 Sheppard, Carol T., A.B., Barnard College
 Sher, Aaron E., A.B., Queens College
 Shriber, Stephen C., A.B., Brown University
 Sillman, Jane S., A.B., Radcliffe College
 Simchowitz, Louis, B.S., The City College
 Smith, Franklin R., A.B., University of Pennsylvania
 Steele, Glenn D., Jr., A.B., Harvard University
 Steinberg, William M., A.B., Columbia University
 Vargish, Thomas, A.B., Yale University
 Velez, Ramon, B.S., The City College
 Walsh, Julia A., A.B., Manhattanville College of the Sacred Heart
 Weinberger, Andrew B., B.S., Bucknell University
 Weiner, Marc H., A.B., Queens College
 Weiss, Michael A., A.B., University of Rochester
 Weiss, William, B.S., The City College
 Willner, Joseph H., A.B., Hamilton College
 Wiviott, Lynda C., B.S., University of Wisconsin
 Wolschina, Susan B., A.B., Swarthmore College

Fourth Year

Class of 1969

Abramson, Norman S., A.B., Cornell University
 Ackerman, Neil B., A.B., Columbia University
 Adams, Peter X., A.B., Georgetown University
 Alch, Michael D., A.B., Cornell University
 Ashman, Ruth S., A.B., Barnard College
 Barbieri, Joachim J., B.S., Manhattan College
 Barquist, Walter E., B.S., George Washington University
 Bell, James R., A.B., Harvard University
 Berger, Paul S., A.B., Columbia University
 Bomback, Fredric M., A.B., Brandeis University
 Borah, Michael F., A.B., New York University—University College
 Botstein, Eva, A.B., Radcliffe College
 Brenner, William I., A.B., Columbia University
 Brinkley, James R., Jr., B.S., Dickinson College
 Cardone, Donald M., A.B., Fordham University
 Carfora, Daniel B., B.S., Fordham University
 Carpenter, Juliet A., A.B., Stanford University
 Chaitin, Barry F., A.B., Columbia University
 Cohen, Robert H., B.S., New York University—University College

Conway, Richard G., A.B., Columbia University
 Corash, Laurence M., A.B., Dartmouth College
 Corbin, Frederic H., A.B., Brown University
 Crisafulli, Frederick S., A.B., St. Peter's College
 Dashkoff, Neil, A.B., New York University—Washington Square College
 Dattner, Alan M., University of Rochester
 Drucker, Michael R., A.B., Columbia University
 Dubovsky, Steven L., A.B., New York University—University College
 Elson, Norton A., B.S., The City College
 Feffer, Stephen E., A.B., New York University—Washington Square College
 Feigenson, Joel S., A.B., Columbia University
 Feirstein, Ira D., A.B., University of Vermont
 Fink, Edward B., A.B., Brown University
 Fitts, Frederick B., Jr., A.B., Boston University
 Freedberg, Lawrence E., A.B., Clark University
 Friedhoff, Frances W., A.B., University of Pennsylvania; M.S., University of Pittsburgh
 Furmanský, Bert S., B.S., Brooklyn College
 Gisser, Susan D., A.B., University of Pennsylvania
 Greenberg, Abraham S., A.B., Columbia University
 Hammer, Glenn S., A.B., Columbia University
 Hammerman, Kenneth J., B.S., Brooklyn College
 Hammond, Robert E., A.B., Yale University
 Henkin, Robert E., A.B., New York University—Washington Square College
 Hochman, John I., The City College
 Hochstedler, Rowen M., A.B., Harvard University
 Horn, Kenneth A., A.B., Brooklyn College
 Hyman, Robert A., A.B., Columbia University
 Isaacs, Ellen S., A.B., University of Chicago
 Kellman, Judith D., A.B., Radcliffe College
 Kelly, George P., A.B., New York University—University College
 Kind, Margaret R., B.S., The City College
 Klein, Barbara E., B.S., Brooklyn College
 Klein, Kenneth A., A.B., Brown University
 Klein, Mark J., A.B., Cornell University
 Klein, Ronald, B.S., Brooklyn College
 Kline, Neal A., A.B., Brandeis University
 Kriz, Robert J., A.B., Queens College
 Krubel, Richard C., A.B., State University of New York—Harpur College
 Kurtz, Richard A., A.B., New York University—University College
 Langner, Edith J., A.B., University of Michigan
 Lazarus, Allan M., A.B., Brooklyn College
 Leffert, Mark N., A.B., University of California at Los Angeles
 Lesin, Benjamin E., B.S., The City College
 Levey, Mark, A.B., Amherst College
 Levin, Douglas M., A.B., Harvard University
 Levine, Sherman D., A.B., Columbia University

Levy, Harry A., A.B., Columbia University
 LeWinter, Martin M., A.B., Columbia University
 Lipsky, Peter E., A.B., Cornell University
 Lovitch, Leonard M., A.B., Queens College
 Malawer, Martin M., A.B., State University of New York at Buffalo
 Mann, Joseph I., A.B., Brooklyn College
 McPhee, Walter T., Jr., College of the Holy Cross
 Millman, Howard E., A.B., Cornell University
 Mintz, Lawrence H., A.B., Cornell University
 Moore, Kent A., A.B., Queens College
 Naidich, Thomas P., A.B., Cornell University
 Nemser, Sheila B., A.B., Barnard College
 Paltowitz, Irving M., University of Rochester
 Parmer, Jonathan B., A.B., Princeton University
 Phillips, Neil B., A.B., Temple University
 Pintz, Frederick R., A.B., Columbia University
 Plotkin, Jay N., A.B., University of Rochester
 Rifkin, Ira, A.B., Yeshiva University
 Rifkind, Kenneth M., B.E.S., New York University—School of Engineering and Science
 Rose, Malcolm R., A.B., University of Rochester
 Rosenbaum, David H., A.B., Brown University
 Rosenbloom, Alan A., A.B., University of Rochester
 Roses, Daniel F., A.B., Columbia University
 Rostkowski, John R., A.B., Rutgers—The State University
 Rothbaum, Stephen R., B.S., Antioch College
 Russo, Louis S., Jr., The Johns Hopkins University
 Saland, Fredric V., University of Chicago
 Sarubbi, Felix A., B.S., Manhattan College
 Schein, Jonah W., A.B., Columbia University
 Schiro, John E., B.S., Bucknell University
 Schwartz, Arthur A., A.B., Columbia University
 Shatsky, Stanley A., B.S., Rensselaer Polytechnic Institute
 Sher, Arthur M., A.B., Brooklyn College
 Simon, Michael R., A.B., State University of New York—Harpur College
 Skolnick, Matthew D., A.B., Queens College
 Smith, Thomas D., B.S., University of Pittsburgh
 Spatz, Stanley A., A.B., Queens College
 Stenswold, Gary A., B.S., Bucknell University
 Stern, Herbert D., A.B., Queens College
 Stewart, David M., A.B., Columbia University
 Tessler, Alan R., A.B., Harvard University
 Tikotsky, Alan D., A.B., New York University—University College
 Ungerleider, Richard S., A.B., State University of New York—Harpur College
 Walkow, Warren M., B.E., The Cooper Union—School of Engineering and Science
 Weiner, Donald A., A.B., University of Pennsylvania
 Weinstein, Mark E., A.B., Harvard University
 Weinstein, Rita, A.B., Queens College

Weitzman, Stephen P., A.B., Kenyon College
 Wetherbee, Roger E., A.B., The Johns Hopkins University
 Wilkinson, David M., B.S., Bucknell University
 Winer, Howard E., A.B., Columbia University
 Wiznia, Robert A., A.B., Yale University
 Yanof, Judith A., A.B., Brandeis University
 Yohai, Joel, A.B., Western Reserve University
 Ziegler, Amy B., B.S., New York University—University College
 Zykorie, David, A.B., Columbia University

Internship Appointments

Class of 1968

Acker, David (Med.), Baltimore City Hospitals, Baltimore, Md.
 Agus, Saul G. (Med.), Massachusetts General Hospital, Boston, Mass.
 Albert, Joel S. (Ped.), Bellevue Hospital Center, New York, N.Y.
 Alper, Edward I. (Med.), Bellevue Hospital Center, New York, N.Y.
 Aron, Ber (Surg.), Bellevue Hospital Center, New York, N.Y.
 Asnis, Maxine S. (Ped.), H. C. Moffitt—University of California Hospitals, San Francisco, Calif.
 Benjamin, Robert S. (Med.), Bellevue Hospital Center, New York, N.Y.
 Beraha, Dan (Surg.), Jackson Memorial Hospital, Miami, Fla.
 Berberich, Felix R. (Surg.), San Diego County—University Hospital, San Diego, Calif.
 Berl, Tomas (Med.), Bronx Municipal Hospital Center, Bronx, N.Y.
 Bernstein, Stanley M. (Surg.), University Hospitals, Columbus, Ohio
 Binder, Paula L. (Ped.), Boston City Hospital, Boston, Mass.
 Blum, Walter B. (Surg.), Bellevue Hospital Center, New York, N.Y.
 Brook, Joel E. (Rot.), Mountainside Hospital, Montclair, N.J.
 Brook, Marjorie A. (Rot.), Mountainside Hospital, Montclair, N.J.
 Brown, Jay (Mx.Med.), Harlem Hospital Center, New York, N.Y.
 Busky, Stephen M. (Surg.), Bellevue Hospital Center, New York, N.Y.
 Capozzoli, Nicholas A. (Mx.Med.), Montefiore Hospital and Medical Center, Bronx, N.Y.
 Cederbaum, Andrew I. (Med.), North Carolina Memorial Hospital, Chapel Hill, N.C.
 De Masi, Damien M. (Surg.), Mt. Sinai Hospital, New York, N.Y.
 Eisenbud, Elliott, (Med.), Bellevue Hospital Center, New York, N.Y.
 Engelstein, Joel M. (Med.), Johns Hopkins Hospital, Baltimore, Md.
 Faerstein, Saul J. (Med.), Mt. Sinai Hospital, Los Angeles, Calif.
 Ferman, Quentin (Surg.), Mt. Sinai Hospital, New York, N.Y.

Feinstein, Beverly K. (Ped.), Bellevue Hospital Center, New York, N.Y.
 Fink, Simon D. (Surg.), Bellevue Hospital Center, New York, N.Y.
 Freed, Michael D. (Ped.), Bellevue Hospital Center, New York, N.Y.
 Freireich, Ronald (Med.), Bellevue Hospital Center, New York, N.Y.
 Fried, Erica O. (Ped.), Bellevue Hospital Center, New York, N.Y.
 Galiero, Robert L. (Med.), D.C. General Hospital (Georgetown University Division), Washington, D.C.
 Galland, Leopold D. (Med.), Bellevue Hospital Center, New York, N.Y.
 Gilbert, Richard M. (Med.), Bellevue Hospital Center, New York, N.Y.
 Glassman, Morris I. (Med.), Bellevue Hospital Center, New York, N.Y.
 Glassner, Norman (Mx.Med.-Surg.), Hospital for Joint Diseases, New York, N.Y.
 Goodman, Harold F. (Surg.), Bellevue Hospital Center, New York, N.Y.
 Gottlieb, Marvin B. (Mx.Med.), Montefiore Hospital and Medical Center, Bronx, N.Y.
 Grebel, Karen (Ped.), Bronx Municipal Hospital Center, Bronx, N.Y.
 Grimes, Elena R. (Ped.), Children's Hospital of Buffalo, Buffalo, N.Y.
 Gross, Peter L. (Surg.), Beth Israel Hospital, New York, N.Y.
 Gross, Wendy A. (Med.), Roosevelt Hospital, New York, N.Y.
 Gurfield, William B. (Rot.), Philadelphia General Hospital (University of Pennsylvania Division), Philadelphia, Pa.
 Hannes, Andrew P. (Ped.), Montefiore Hospital and Medical Center, Bronx, N.Y.
 Holmes, Randall K. (Med.), Beth Israel Hospital, Boston, Mass.
 Horland, Allan A. (Med.), University Hospital, Boston, Mass.
 Hyman, Bruce M. (Surg.), Bronx Municipal Hospital Center, Bronx, N.Y.
 Ingis, David A. (Med.), Duke Hospital, Durham, N.C.
 Ingram, Douglas H. (Rot.), St. Vincent's Hospital, New York, N.Y.
 Jacobs, H. Barry (Surg.), D.C. General Hospital (George Washington University Division), Washington, D.C.
 Jacobs, Robert P. (Med.), Johns Hopkins Hospital, Baltimore, Md.
 Jaffe, Nancy M. (Ped.), Children's Hospital, Pittsburgh, Pa.
 Kalkut, Paul R. (Med.), Baltimore City Hospitals, Baltimore, Md.
 Kaplan, Joseph R. (Med.), Baltimore City Hospitals, Baltimore, Md.
 Kasofsky, Martin P. (Med.), Roosevelt Hospital, New York, N.Y.
 Kellman, Neil J. (Rot.), Public Health Service Kershner, Ann K. (Ped.), Children's Hospital, Los Angeles, Calif.
 Klausner, Steven C. (Med.), University of Chicago Hospitals and Clinics, Chicago, Ill.
 Kleinman, Jack G. (Med.), University Hospitals, Cleveland, Ohio
 Koretz, Donald S. (Med.), Albany Hospital, Albany, N.Y.

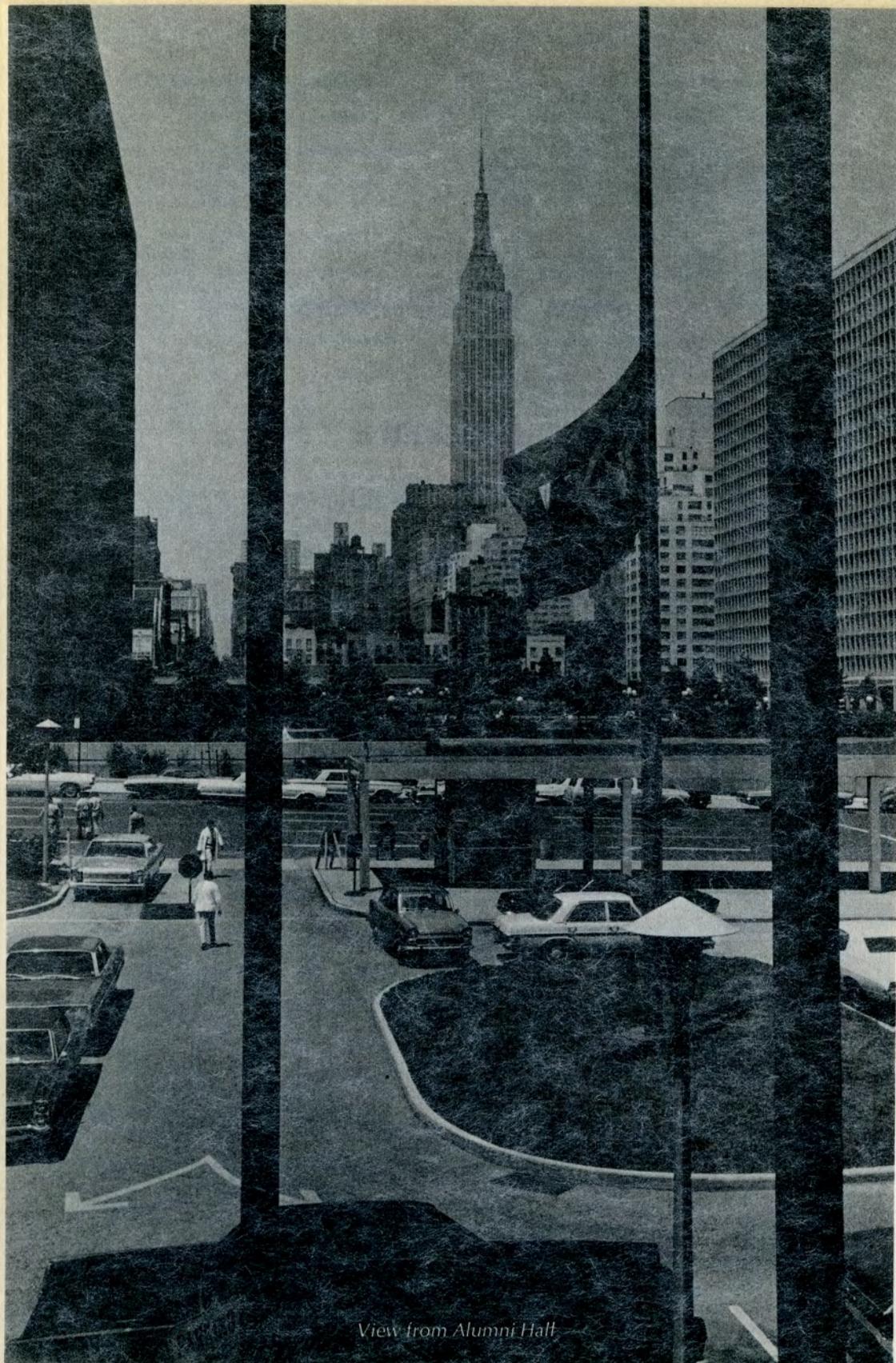
- Krassner, Robert L. (Ped.), *Children's Hospital, Philadelphia, Pa.*
 Krugman, Richard D. (Ped.), *Colorado Medical Center, Denver, Colo.*
 Lesser, Paul B. (Med.), *Jackson Memorial Hospital, Miami, Fla.*
 Levant, Jonathan A. (Med.), *Cleveland Metropolitan General Hospital, Cleveland, Ohio*
 Levine, Gary M. (Med.), *Duke Hospital, Durham, N.C.*
 Levine, Jane B. (Path.), *Louisville General Hospital, Louisville, Ky.*
 Lewis, Sylvan R. (Med.), *Mt. Sinai Hospital, New York, N.Y.*
 Lipner, Henry I. (Med.), *Jewish Hospital of Brooklyn, N.Y.*
 Lipson, Jeffrey (Surg.), *Mt. Sinai Hospital, New York, N.Y.*
 Lowy, Douglas R. (Med.), *Stanford University Affiliated Hospitals, Palo Alto, Calif.*
 Lucia, Helen L. (Rot.), *Ben Taub Hospital, Houston, Texas*
 Margolis, Carmi Z. (Ped.), *Yale-New Haven Medical Center, New Haven, Conn.*
 Meltz, David J. (Med.), *St. Luke's Hospital, New York, N.Y.*
 Miller, Aaron E. (Med.), *Bronx Municipal Hospital Center, Bronx, N.Y.*
 Morrell, Michael H. (Surg.), *Boston City Hospital (Boston University), Boston, Mass.*
 Musliner, Peter J. (Ped.), *Syracuse Medical Center, Syracuse, N.Y.*
 Nelson, Arnold S. (Med.), *New York Medical College Hospitals, New York, N.Y.*
 Noble, Kenneth G. (Mx.Med.), *Montefiore Hospital and Medical Center, Bronx, N.Y.*
 Nothmann, Bruce J. (Med.), *Baltimore City Hospitals, Baltimore, Md.*
 Oberkirch, Ann M. (Mx.Med.), *Lenox Hill Hospital, New York, N.Y.*
 Pallant, Bennett S. J. (Ped.), *Bronx Municipal Hospital Center, Bronx, N.Y.*
 Perlman, Michael J. (Med.), *Presbyterian-University Hospitals, Pittsburgh, Pa.*
 Pfeffer, Cynthia R. (Ped.), *Bellevue Hospital Center, New York, N.Y.*
 Ravreby, William D. (Med.), *Presbyterian-St. Luke's Hospitals, Chicago, Ill.*
 Reff, Albert A. (Surg.), *Mt. Sinai Hospital, New York, N.Y.*
 Reich, Chaim B. (Med.), *Bellevue Hospital Center, New York, N.Y.*
 Richter, Henry S. (Med.), *Bellevue Hospital Center, New York, N.Y.*
 Riechers, Roger N. (Surg.), *Mt. Sinai Hospital, New York, N.Y.*
 Robinson, Anthony H. (Ped.), *New York Medical College Hospitals, New York, N.Y.*
 Rosenfield, Arthur T. (Med.), *Presbyterian-University Hospitals, Pittsburgh, Pa.*
 Rubell, Donald (Mx.Med.), *Cedars of Lebanon Hospital, Los Angeles, Calif.*
 Rubin, Alan S. (Rot.), *Montefiore Hospital and Medical Center, Bronx, N.Y.*
 Rush, Steven J. (Med.), *Jewish Hospital of Brooklyn, Brooklyn, N.Y.*
 Sanders, Michael R. (Med.), *Buffalo General Hospital, Buffalo, N.Y.*
 Schachter, Edwin N. (Med.), *Bellevue Hospital Center, New York, N.Y.*
 Schatzberg, Alan F. (Mx.Med.-Ped.), *Lenox Hill Hospital, New York, N.Y.*
 Schiffer, Charles A. (Med.), *Bellevue Hospital Center, New York, N.Y.*
 Schoenberg, Mark (Ped.), *Cleveland Metropolitan General Hospital, Cleveland, Ohio*
 Schwartz, Elaine H. (Ped.), *Bronx Municipal Hospital Center, Bronx, N.Y.*
 Schwartz, Stephen A. (Ped.), *Bellevue Hospital Center, New York, N.Y.*
 Selzer, Michael E. (Med.), *Bellevue Hospital Center, New York, N.Y.*
 Siepser, Stuart L. (Med.), *Bellevue Hospital Center, New York, N.Y.*
 Simon, Frank A. (Ped.), *Johns Hopkins Hospital, Baltimore, Md.*
 Singsen, Bernhard H. (Ped.), *Children's Hospital, Los Angeles, Calif.*
 Slade, Michael S. (Surg.), *University of Minnesota Hospital, Minneapolis, Minn.*
 Slater, Garv I. (Surg.), *Mt. Sinai Hospital, New York, N.Y.*
 Slonim, Mark S. (Surg.), *University of Michigan Affiliated Hospitals, Ann Arbor, Mich.*
 Smith, Michael A. (Med.), *Stanford University Affiliated Hospitals, Palo Alto, Calif.*
 Smithline, Martin L. (Med.), *Jewish Hospital of Brooklyn, Brooklyn, N.Y.*
 Spindler, Henry A. (Med.), *Buffalo General-Meyer Memorial Hospitals, Buffalo, N.Y.*
 Steinberg, Michael G. (Med.), *Bronx Municipal Hospital Center, Bronx, N.Y.*
 Suffin, Arthur L. (Mx.Med.), *Montefiore Hospital and Medical Center, Bronx, N.Y.*
 Teller, Benjamin E. (Ped.), *Bronx Municipal Hospital Center, Bronx, N.Y.*
 Waldman, Richard A. (Ped.), *Mt. Sinai Hospital, New York, N.Y.*
 Warren, Robert F. (Mx.Med.-Surg.), *Hospital for Joint Diseases, New York, N.Y.*
 Weiss, Stephen F. (Mx.Med.-Surg.), *Hospital for Joint Diseases, New York, N.Y.*
 Weissberg, Daniel L. (Med.), *University of Chicago Hospitals and Clinics, Chicago, Ill.*
 Wertentheil, Alvin (Med.), *Jewish Hospital of Brooklyn, Brooklyn, N.Y.*
 Wolfson, Philip E. (Med.), *New York Medical College Hospitals, New York, N.Y.*
 Woolf, Nancy S. (Ped.), *Bellevue Hospital Center, New York, N.Y.*
 Woolf, Paul D. (Med.), *Bellevue Hospital Center, New York, N.Y.*
 Wroblewski, John A. (Surg.), *Cleveland Metropolitan General Hospital, Cleveland, Ohio*

Symbols: Med.—Medicine; Mx.—Mixed; Path.—Pathology; Ped.—Pediatrics; Rot.—Rotating; Surg.—Surgery

New York University

Post-Graduate
 Medical School

The 87th Session • 1968-1969



View from Alumni Hall

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	Psychiatry and Neurology	680
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	Ophthalmology	570
	Otorhinolaryngology	590
	Psychiatry and Neurology	640
	Psychiatry and Neurology	680
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24	Obstetrics and Gynecology	564
October		
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November		
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January		
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February		
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March		
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April		
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15	Obstetrics and Gynecology	562-R
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ADMISSION REQUIREMENTS

Postgraduate Courses

Postgraduate courses are offered on a part-time or full-time basis in the various fields of medicine and surgery. These courses are designed to meet the needs of physicians in practice whether specialists or general practitioners. However, a number of courses are available to members of other professions, including engineering, law, nursing, and other paramedical groups.

The minimum requirements for admission to postgraduate courses are:

1. Graduation from an approved medical school in the United States or Canada. Graduates of foreign medical schools must present evidence of comparable academic training or of having attained the same level of professional competence as graduates of American schools.

2. Completion of an internship of not less than one year in a hospital approved by the Council on Medical Education and Hospitals of the American Medical Association. Foreign graduates are required to have an equivalent amount of hospital experience.

All applications and inquiries concerning admission to graduate and postgraduate courses should be addressed to the Office of the Recorder, Post-Graduate Medical School, 550 First Avenue, New York, N.Y. 10016.

Graduate Courses

Graduate courses of one year's duration are offered to provide advanced training in the medical and surgical specialties. They may be taken as part of a residency training program or in preparation for examinations of the various specialty boards. The minimum requirements for admission to these courses are:

1. Graduation from an approved medical school in the United States or Canada. Graduates of foreign medical schools must present evidence of comparable academic training or of having attained the same level of professional competence as graduates of American schools.

2. Completion of an internship of not less than one year in a hospital approved by the Council on Medical Education and Hospitals of the American Medical Association, or, in the case of foreign graduates, an equivalent amount of hospital training.

3. Approval by the head of the department in which the course is to be given.

Examinations, either written or oral or both, are required of student physicians before completion of the graduate courses.

The regulations governing examinations are subject to change at any time.

A certificate will be granted to those physicians who have fulfilled all the requisites of a graduate course of study, including the successful passing of required examinations.

The graduate courses are:	Number	Page
Forensic Medicine	530	82
Neurology	680	85
Otorhinolaryngology	590	85
Psychiatry	640	85
Radiology	650	86

Applicants with Foreign Credentials

Students with foreign academic credentials and those who are not citizens of the United States should write directly to the Office of the Recorder of the Post-Graduate Medical School for information about admission and course offerings.

Applicants must present a complete and accurate chronological outline of all previous medical education. Documents in languages other than English must be accompanied by certified English translations. All records should be sent to the Post-Graduate Medical School.

REGISTRATION AND PAYMENT OF FEES

All students must register in person at the Office of the Recorder before attending any course. Payment of tuition must be made at the time of registration.

To make a definite reservation, a deposit *may* be required in advance of the opening date of a course. This deposit will not be returned if the applicant fails to attend; however, he may attend a course within this or the following academic year, and the original deposit will be credited. No refund of tuition fees will be made to a matriculant who voluntarily leaves a course in which he has been enrolled except in case of serious illness of the matriculant or withdrawal to enter military service.

If it becomes necessary to cancel courses due to insufficient registration or other unforeseen circumstances, those physicians who have made reservations in such courses will be notified in writing of the cancellation two weeks in advance of the starting date.

Students accepted for *graduate courses* are required to make a deposit of \$100.00 within one month after notification of acceptance, which will be credited toward the first tuition payment. This deposit is not refundable after June 1.

Students enrolled in *graduate courses* may select either Plan I or II for payment of fees.

Plan I. Full-Payment Plan

Upon registration:
entire tuition, less matriculation deposit

Plan II. Two-Payment Plan

Upon registration:
one-half tuition, less matriculation deposit

January 15:
second half of tuition

Description of Courses

DERMATOLOGY

Faculty list appears on pages 36-37.

522. Symposium on Selected Aspects of Dermatology (For Dermatologists and Other Physicians Interested in the Cutaneous Aspects of Medicine)

A full-time seminar of three days' duration, to be given in the spring of 1969, exact dates to be announced. This symposium presents recent advances in basic science and clinical knowledge of selected aspects of dermatology. Among the participants are some of the most important contributors to progress in the areas covered. Each half-day session concludes with a panel discussion and question and answer period in which the speakers of the particular session participate.

Given under the direction of Professor Rudolf L. Baer. Tuition \$100.00.

ENVIRONMENTAL MEDICINE

Faculty list appears on pages 37-38.

484. Occupational Health for Nurses

A one-week full-time course, November 11 through 15, 1968. Selected topics designed for nurses in industrial medical departments. The objectives and scope of an occupational health program, the relationship between doctor and nurse, employer and employee, and management and the medical department are given as an introduction. Special emphasis is given to interviewing and counseling and the role of the nurse in psychiatric problems. Environmental hazards, retirement and the problems of the older workers, legal aspects of medicine and nursing in an occupational health service, and legal aspects of workmen's compensation are covered.

Course limited to registered, professional nurses working in an occupational health setting with five years or less of experience. Given under the direction of Dr. David H. Goldstein. Tuition \$125.00.

The following courses, numbers 487 through 4821, are available to nonphysicians and physicians. Credit is available to matriculants of the Graduate Division of the School of Engineering and Science for all courses. They will be given at University Valley in Sterling Forest near Tuxedo, New York, at the Anthony J. Lanza Research Laboratories for Environmental Medicine. The University Valley campus of New York University is approximately 40 miles from New York City and includes housing for a limited number of students in residence.

487A,B. Environmental Hygiene Laboratory

A course of thirty weekly four-hour sessions offered from September 1968 to June 1969. Lectures, field trips, and laboratory exercises. Evaluation and control of exposure to dusts, fumes, mists, vapors, gases, radiations, noise, and abnormal temperatures. Consideration is given to environmental control methods, including ventilation and local exhaust systems.

Given under the direction of Professor Sidney Laskin. Tuition \$348.00.

488. Environmental Contamination

A course of fifteen weekly two-hour lectures starting in September 1968. The physical environment of man is discussed in terms of its structure and capacity to assimilate, transport, and neutralize natural and man-made contaminants. Contamination sources are considered in terms of their mode of generation, their physical and chemical composition, and their effects on the quality of the air or water into which they are discharged. The storage reservoirs, possible concentration in food chains, modes and kinetics of degradation, and ambient concentration levels of the various contaminants in the environment are evaluated in terms of their effects on man and of the establishment of emission and concentration limits or other forms of social action. Sampling, analysis, and control of environmental contaminants are discussed.

Given under the direction of Dr. Morton Lippmann. Tuition \$174.00.

489. Biological Effects of Environmental Toxicants

A course of thirty two-hour lectures starting in February 1970. Fundamentals of the modes of toxic action of physical and chemical factors on biological systems with emphasis on health effects of environmental agents. Toxic metals, irritant gases, organic compounds are among the chemical agents covered, and physical factors include nonionizing radiation, extremes of temperature and pressure, and noise. The biochemical and physiological modes of action and requisite fundamentals of anatomy and physiology are developed. Attention is devoted to both chronic and acute effects, including carcinogenesis. *Prerequisite:* organic chemistry or consent of instructor.

Given under the direction of Dr. Edward D. Palmes. Tuition \$174.00.

4812. Radiological Health

A course of fifteen weekly two-hour lectures, beginning in September 1968. Fundamentals of safe practice in the control of radiological hazards from the industrial and medical use

of radioactive material and X-ray equipment. For industrial physicians, industrial hygiene engineers, public health officials, and individuals in industrial and university research laboratories responsible for radiological safety.

Given under the direction of Professor Hanson Blatz. Tuition \$174.00.

4813A. Radiation Hygiene Measurements

A course of fifteen two-hour lectures starting in February 1970. Theory, procedures, and instrumentation for measurement of ionizing radiations including X rays, gamma rays, alpha particles, beta particles, neutrons, and cosmic rays. Nuclear detector techniques emphasizing gas ionization, scintillation counters, and semiconductor detectors. Systematic surveys of the more important dosimetric considerations. *Prerequisites:* 4812, 4820 or the equivalent.

Given under the direction of Dr. McDonald E. Wrenn. Tuition \$174.00.

4813B. Radiation Hygiene Laboratory

A series of fifteen four-hour sessions beginning in February 1970. Laboratory work involving the use of the instruments covered in 4813A in practical situations to determine radiation levels. Includes surveys of diagnostic X-ray and cobalt teletherapy machines, measurement of environmental samples using gamma spectrometers, whole body counting, calibration of gamma survey instruments, film badge dosimetry techniques, and thermoluminescent dosimetry. *Prerequisite:* 4813A (can be taken concurrently).

Given under the direction of Dr. McDonald E. Wrenn. Tuition \$174.00.

4814. Radiochemical Analysis

A course of fifteen weekly four-hour sessions, beginning in September 1969. Laboratory techniques in radiochemistry and counting for the determination of radioisotopes in biological, environmental, and laboratory samples. Chemical separation techniques including solvent extraction, chromatography, ion exchange, precipitation, and electrodeposition; parent-daughter relationships in isotope analysis. *Prerequisites:* 4812 and 4820 or the equivalent.

Given under the direction of Dr. John H. Harley. Tuition \$174.00.

4817A. Environmental Radioactivity

A lecture course of fifteen two-hour weekly sessions, starting in February 1970. A comprehensive evaluation of the radiological health problems in an environment contaminated with radioactivity. Sources and transport in the atmosphere, hydrosphere, and biosphere. Natural radioactivity, reactor fuel

and products, fallout from nuclear weapons. *Prerequisites:* 4812, 4818, 4820, T69.2227, or the permission of the instructor.

Given under the direction of Dr. Merrill Eisenbud. Tuition \$174.00.

4817B. Seminar in Environmental Radioactivity

A series of fifteen two-hour weekly seminar sessions, starting in February 1969, dealing with selected advanced topics in the fields covered in 4817A. *Prerequisite:* 4817A or consent of instructor.

Given under the direction of Dr. Merrill Eisenbud. Tuition \$174.00.

4818. Radiobiology

A lecture course of fifteen two-hour sessions, beginning in February 1969. A detailed examination of the acute and chronic biological effects of ionizing radiation, including such topics as the following: chemical effects and linear energy transfer, target theory, chromosomal and genetic effects, acute cellular responses, physiological and hematological effects, carcinogenesis and life-span shortening, treatment of radiation damage, and biological basis for radiation safety practices.

Given under the direction of Dr. Roy E. Albert. Tuition \$174.00.

4819A,B. Probability and Statistical Inference for Environmental Health

A lecture course of thirty three-hour sessions from September 1969 to June 1970. Principles of modern probability and statistical theory. Axiomatic treatment of probability. Univariate and multivariate, marginal and conditional distributions. Moment-generating functions. Laws of large numbers and central limit theorems. Model building and associated distributions: binomial, Poisson, normal, etc. Sampling theory; distributions of functions of random normal variables—chi-square, *t*, and *F*. Maximum likelihood estimations. Neyman-Pearson theory of hypothesis testing applications. One year of calculus is a prerequisite.

Given under the direction of Dr. Bernard S. Pasternack. Tuition \$348.00.

4820. Radiological Physics

A lecture course of fifteen two-hour sessions, beginning in September 1968. Principles of atomic and nuclear physics stressing those subjects having particular relevance to radiation protection problems: atomic and nuclear structure, interaction of ionizing radiation with matter, fission and fusion processes, fundamentals of measuring ionizing radiation.

Given under the direction of Dr. McDonald E. Wrenn. Tuition \$174.00.

4821. Statistical Methods for Environmental Health

A lecture course of fifteen two-hour weekly sessions, beginning in September 1968. An introduction to statistical methods utilized in the analysis and interpretation of experimental data presenting statistical techniques associated with the binomial, Poisson, normal, t, F, and chi-squared distributions.

Given under the direction of Dr. Bernard S. Pasternack. Tuition \$174.00.

Programs of graduate study leading to advanced degrees can be arranged for non-physicians by the Institute of Environmental Medicine. Teaching emphasis is in the field of radiological health, but individual graduate programs can also be arranged in toxicology, industrial hygiene, and radiobiology. The didactic part of the program is made up of courses offered by the Department of Environmental Medicine as listed above, supplemented by other graduate offerings in the University. Research to meet the thesis requirement is done under the supervision of a faculty member of the Department of Environmental Medicine. It is expected that about two years' full-time study will be required in the master's program and not less than three for work leading to a doctorate. Candidates must meet the general requirements for admission to the Graduate Division of the School of Engineering and Science or the Graduate School of Arts and Science and in addition must have preparation appropriate to the intended courses of study. Fellowship support is available to qualified students.

Inquiries should be directed to Dr. Bernard Altshuler, coordinator of graduate studies in the Department.

FORENSIC MEDICINE

Faculty list appears on page 39.

530. Forensic Medicine (Graduate Course)

Opportunity is provided for a few physicians to undertake advanced training in the field of forensic medicine. This study covers a period of not less than one academic year, full-time, or an equivalent period on a part-time basis, beginning September 9, 1968.

The course is given in the laboratories, including those of pathology, toxicology, serology, and microbiology of the Office of the Chief Medical Examiner of the City of New York. Students work in both the laboratory and the field and may undertake independent research. The first part of the period of study is spent chiefly in the basic medical sciences as related to forensic medicine; the latter is largely given over to applied work in the necropsy room, the laboratories, the field, and the courts.

Tuition \$1,200.00.

MEDICINE

Faculty list appears on pages 39-43.

544. Electrocardiography

A full-time course of three days' duration, Monday through Wednesday, January 27 through 29, 1969. Deals with modern electrocardiography and stresses the basic electrophysiology of the heart rather than the pattern diagnosis. There is full coverage of unipolar leads and an introduction to vectorcardiography. Special electronic equipment and audio-visual aids are utilized. This course is suitable for both elementary and advanced students.

Given under the direction of Dr. J. Scott Butterworth. Minimum registration 10. Tuition \$75.00.

547. Diagnostic Cardiac Auscultation

This two-day, full-time course, Monday and Tuesday, October 21 through 22, 1968, is the result of several years' experience in teaching auscultation of the heart by modern methods. In recent years, auscultation has been neglected in favor of other diagnostic and laboratory methods, yet many cardiac diagnoses depend solely on auscultation. This course is designed to stress particularly the types of heart disease in which important diagnostic findings are present on physical examination. The correlation of auscultatory findings with valvular action and haemodynamic phenomena is stressed both in rheumatic and congenital heart disease and in other conditions where changes in the heart sounds are important.

Given under the direction of Dr. J. Scott Butterworth. Tuition \$75.00.

This course is repeated as 547-R, Monday and Tuesday, April 14 and 15, 1969.

548. Symposium on Arthritis and Related Disorders

A full-time course of five days' duration March 3 through 7, 1969. Of primary interest to the internist well versed in these disorders and to those doing research in their clinical and basic scientific aspects, it is designed for those who will find value in basic data known about these disorders even though there may not at present be any direct application. Emphasis is placed on information that is relatively new or on old viewpoints that may need restatement. No attempt will be made to present a complete survey of fundamentals necessary for routine diagnoses and treatment.

Given under the direction of Dr. Edward F. Hartung and Dr. Edward C. Franklin. Tuition \$125.00.

OBSTETRICS AND GYNECOLOGY

Faculty list appears on pages 45-46.

562. Culdoscopy

A full-time course of one day's duration, 9 a.m. to 5 p.m., Tuesday, November 12, 1968. Consists of two hours of didactic presentation of the mechanical principles of the instrument, instruction in technique, indications, and contraindications. The remaining time is devoted to examination of patients and demonstration of technique.

Given under the direction of Dr. Wayne H. Decker. Maximum class 4. Tuition \$60.00.

This course is repeated as 562-R, April 15, 1969.

564. Gynecological Cytology (For Specialists)

A part-time course of sixteen sessions, 12 m. to 1 p.m., Tuesdays, and 9 a.m. to 12 m., Thursdays, September 24 through November 7, 1968. Consists of lectures and laboratory periods dealing with the technique of taking, preparing, and examining vaginal smears. Subjects of study include the normal vaginal cells, changes observed during the menstrual cycle, the amenorrheas, pregnancy, the menopause, and other physiological and pathological gynecological conditions, as well as the diagnosis of malignancy of the genital tract.

Given under the direction of Dr. Elliott D. Blumenthal, Jr. Maximum class 6. Tuition \$115.00.

This course is repeated as 564-R, April 1 through May 22, 1969.

OPHTHALMOLOGY

Faculty list appears on pages 46-47.

570. Basic Sciences of Ophthalmology

A full-time course of five months' duration, September 9, 1968, through February 14, 1969, in the basic sciences as applied to ophthalmology, the successful completion of which must be followed by an approved residency.

Includes 130 hours of optics and refraction, 95 hours of anatomy, 65 hours of pathology, 50 hours of extraocular motility, 42 hours of neuro-ophthalmology and perimetry, 40 hours of physiology including biochemistry and the physiology of glaucoma, 30 hours of microbiology and 18 hours of embryology.

In addition, there are pertinent lectures in radiodiagnosis, therapeutics, genetics, and ophthalmoscopy.

It is suggested that students provide themselves with microscopes and dissecting instruments. Microscopes are available to those without them.

Given under the direction of Professor Goodwin M. Breinin. Tuition \$800.00.

571. Histopathology

A part-time course of five days' duration, 9.30 a.m. to 12.30 p.m., March 3 through 7, 1969. Consists of lectures, demonstrations, and microscopic study of exemplary material covering the following subjects: intraocular inflammation, pyogenic, granulomatous, and nongranulomatous; glaucoma and hypotension; trauma; intraocular tumors; fibroblastic states; vascular-metabolic states. It is introduced with a lecture on general principles of ophthalmic pathology and a system for reading ophthalmic pathology slides.

Given under the direction of Dr. A. Marvin Gillman. Maximum class 12. Tuition \$100.00.

573. Surgery of the Cornea

A full-time course of five days' duration, April 7 through 11, 1969. Designed to offer thorough coverage of current concepts and practices in the field of corneal surgery. Afternoons from 2 to 5 p.m. are devoted to didactic lectures, illustrated by lantern slides and motion pictures. During the mornings, as patient material is available, opportunity is offered to observe surgical procedures in the operating room. On the last morning of the course, students perform surgical procedures on animal eyes.

Given under the direction of Dr. Ramón Castroviejo. Tuition \$300.00.

574. Theory and Practice of Contact Lenses

A full-time course of two days' duration, April 24 and 25, 1969, considering all phases dealing with corneal contact lenses. A brief review of their development and the optics involved is presented. Accent is placed on basic fitting procedures utilizing keratometer and slit lamp. Consideration is given to complications, keratoconus, bifocal contacts, toric lenses, and other recent developments. Several patients will be available both for demonstration and student fitting to provide the actual clinical feel.

Given under the direction of Dr. Donald A. Fonda. Tuition \$75.00.

575. Ophthalmoscopy

A full-time course of five days' duration, 9 a.m. to 5 p.m., April 28 through May 2, 1969. A study of the normal fundus, congenital anomalies, diseases of the vitreous, retina, choroid, and optic nerve head. Includes didactic lectures with kodachrome slides and ophthalmoscopic case presentations the latter part of each afternoon. Students are required to bring their own ophthalmoscopes.

Given under the direction of Dr. George N. Wise. Tuition \$100.00.

576. External Diseases of the Eye

A part-time course of four days' duration 2.30 to 5 p.m., May 5 through 8, 1969. The course deals with practical aspects in the diagnosis and treatment of the more important and most commonly encountered entities involving the lids, conjunctiva, cornea, and ocular adnexae. A clinical approach is correlated with laboratory aids in the management of external diseases.

Given under the direction of Dr. Frederick H. Theodore. Tuition \$50.00.

ORTHOPEDIC SURGERY

Faculty list appears on page 48.

583. Anatomy for Orthopedic Surgeons

A full-time course of five days' duration, January 6 through 10, 1969, providing the students with the opportunity to dissect personally the extremities and the spine. The instruction is given by qualified orthopedic surgeons actively engaged in clinical work and particularly experienced in anatomy. Students are to bring dissecting instruments and gowns.

Given under the direction of Dr. Alvin Hulnick. Maximum class 20. Tuition \$175.00.

584. Orthopedic Pathology

A part-time course of eight sessions, Tuesdays and Thursdays, 7.30 to 9.30 p.m., April 1 through 24, 1969. Designed for residents in orthopedic surgery for the study of benign and malignant tumors of bone. Each lesion is illustrated by kodachrome slides and discussed from the aspects of historical review, clinical features, X-ray appearance, gross and microscopic pathology, differential diagnosis, treatment and prognosis.

Given under the direction of Dr. Raphael R. Goldenberg. Tuition \$50.00.

The following short-term intensive courses in prosthetics and orthotics are offered. For detailed information and applications, communicate with the Coordinator, Prosthetics and Orthotics, New York University Post-Graduate Medical School, 317 East 34th Street, New York, N.Y. 10016.

741. Lower-Extremity Prosthetics

A full-time course of six days' duration, Monday through Saturday. Four sessions scheduled. Includes principles of normal locomotion, biomechanics, prescription, fitting, alignment, and suspension of above-knee and below-knee prostheses. Major emphasis is on the quadrilateral socket, for the above-knee amputee and the patellar-tendon-bearing prosthesis for the below-knee amputee. Hip disarticulation, Syme's and fluid-controlled prostheses are also covered. Instruction and laboratory practice with amputee subjects are provided in immediate and early postopera-

tive fitting procedures, prosthetic components, gait analysis, and evaluation of prostheses.

Tuition \$150.00. Laboratory fees \$30.00.

744. Upper-Extremity Prosthetics and Orthotics

A full-time course of five days' duration, Monday through Friday. Two sessions scheduled. Includes biomechanics, prosthetic components, fabrication, harness systems, prescription, and evaluation of upper-extremity prostheses. Consideration is given to all levels of amputation as well as bilateral and juvenile amputees. An introduction to upper-extremity orthotics is also presented. Laboratory sessions provide prescription, checkout, and clinical practice with amputee patients.

Tuition \$125.00.

7411. Immediate and Early Postsurgical Prosthetics

A full-time course of three days' duration, Monday through Wednesday. One session scheduled. Includes the rationale of immediate and early prosthetic fitting procedures, the application of rigid dressings, immediate postsurgical, and preparatory prostheses for lower-extremity amputations, as well as recent developments in surgical techniques.

Laboratory practice in wrapping rigid dressings and preparing immediate postsurgical prostheses is provided with amputee subjects. *Prerequisite:* Course 741 or its equivalent.

Tuition \$100.00.

751. Lower-Extremity Orthotics

A full-time course of five days' duration, Monday through Friday. Three sessions scheduled during the academic year. Includes normal locomotion, pathomechanics, shoe modifications, orthotic components and materials, brace layout and fitting, prescription, evaluation, and training considerations as applied to the management of lower motor neuron disorders, hemiplegia, spinal cord injuries, cerebral palsy, arthritis, fractures, hemophilia, and muscular dystrophy. Laboratory sessions provide prescription, checkout, and clinical practice with orthopedically disabled patients.

Tuition \$125.00.

755. Spinal Orthotics

A full-time course of three days' duration, Monday through Wednesday. Three sessions scheduled. Includes components, design, fit, and functions of braces for the lumbar, thoracic, and cervical spine in relation to the management of various pathological conditions. A review of the basic biomechanics, kinesiology, and pathomechanics of the spine is also included. Laboratory sessions provide practice in evaluating the fit and function of spinal orthoses for a variety of patients.

Tuition \$100.00.

OTORHINOLARYNGOLOGY

Faculty list appears on pages 48-49.

590. Basic Sciences of Otorhinolaryngology (Graduate Course)

A full-time course of nine months' duration, September 9, 1968, through May 16, 1969, designed particularly for those who intend to specialize in otorhinolaryngology and who will complete their training with a residency. Emphasis is placed on the basic sciences and the allied clinical subjects of otorhinolaryngology, such as allergy, neurology, diseases of the chest, bronchoscopy, and head and neck surgery, the basic sciences, the fundamentals of diagnosis, and microsurgery of the ear. These are covered in detail in their relationship to problems of otorhinolaryngology. The course is planned to give the student a foundation in the basic sciences as applied to otorhinolaryngology.

Given under the direction of Professor John F. Daly. Tuition \$1,200.00.

591. Advanced Course in Functional Ear Surgery Including Stapes Surgery and Tympanoplasty

A full-time course of ten days' duration, November 4 through 15, 1968. Training and experience in endaural surgery is a prerequisite for this course.

The modern surgical procedures of stapes surgery, middle ear surgery, and tympanoplasty are covered in lectures, seminars, and clinical demonstration. All procedures are demonstrated and carried out in cadaver sessions. Each student has the opportunity of performing various procedures with the operating microscope.

Given under the direction of Professor John F. Daly. Maximum class 6. Tuition \$300.00.

This course is repeated as 591-R, February 3 through 14, 1969.

592. Surgery of the Head and Neck with Special Emphasis on Laryngology

A ten-day, full-time course, January 6 through 17, 1969. An intensive presentation of modern head and neck surgery, in all its aspects, anatomy, physiology, and pathology as well as diagnosis and management. Instruction in the modern surgical techniques used in head and neck surgery is covered in lectures and laboratory sessions. The basic principles of management of tumors of the head and neck are presented. The course covers chemotherapy, radiation therapy, surgery, and combined therapy. Surgical procedures are performed by the student on cadaver material.

Given under the direction of Professor John F. Daly. Maximum class 8. Tuition \$275.00.

PSYCHIATRY AND NEUROLOGY

Faculty list appears on pages 55-58.

640. Psychiatry (Graduate Course)

Training in psychiatry is given beginning July 1 or September 9, 1968, through June 30, 1969. This program for qualified physicians includes residency training in psychiatry and in the psychodynamic aspects of medicine. Includes study of (1) clinical psychiatry, (2) the basic psychiatric sciences (study of social, cultural, environmental, and personal psychodynamic factors in health and illness), (3) the basic neurologic sciences, (4) psychosomatics, (5) measurement methods in psychiatry (both psychologic and physiologic), (6) child psychiatry, (7) techniques and methodology of interview and therapy, and (8) medicolegal aspects of psychiatry. Participation is required in case presentations, seminars, clinical conferences, and survey of pertinent literature. Each candidate is required to participate in some clinical or laboratory investigation. A full-time course designed to cover one year; two additional years devoted to a psychiatric residency in an approved hospital are recommended. However, second, third, and fourth years of graduate training are available.

Given under the direction of Professor S. Bernard Wortis. Tuition \$1,200.00.

680. Neurology (Graduate Course)

Training in neurology is given starting July 1 or September 9, 1968, through June 30, 1969. This program for qualified physicians includes residency training in neurology and neurological aspects of medicine. Includes (1) clinical neurology; (2) the basic neurologic sciences (neuroanatomy, neurophysiology); (3) measurement methods in neurology—including X-ray diagnosis, neuro-ophthalmology, and psychometric testing methods; (4) child neurology; (5) techniques and methods of examination and treatment; and (6) rehabilitation procedures for neurologic disabilities. Participation is required in case presentations, seminars, clinical conferences, and survey of pertinent literature. Each candidate is required to participate in some clinical or laboratory investigation. Designed to cover one year; two additional years devoted to a neurologic residency in an approved hospital are recommended. However, second, third, and fourth years of graduate training are available.

Given at Bellevue and University Hospitals, under the direction of Professor S. Bernard Wortis. Tuition \$1,200.00.

RADIOLOGY

Faculty list appears on pages 59-60.

650. Graduate Course in Basic Radiology

A full-time course of nine months' duration, September 9, 1968, through June 6, 1969. It includes roentgen anatomy, radio-physics, radiobiology, in addition to diagnostic radiology, X-ray and radium therapy, and the medical application of isotopes. Students may elect to limit their study to any one of the above aspects.

Given under the direction of Professor Maxwell H. Poppel. Tuition \$1,200.00.

652. Radiobiology

A part-time course, 5.30 to 7.30 p.m., Wednesdays, January 22, 1969, through May 21, 1969. Open to postgraduate students in radiation therapy and also to practicing radiologists.

Consists of lectures and seminars and is designed to bridge the gap between radiation physics and clinical radiation therapy by giving the student a background of the biological as well as physical effects of irradiation. After a review of the biological, physical, chemical, and histological effects of radiation on tissue, the application of these basic phenomena to practical radiation therapy is discussed. Radiation genetics, recovery phenomena, time-dose studies, and gamma roentgen dosage system for radiation therapy are reviewed. Problems are assigned which

entail directed outside reading to amplify the lectures.

Given under the direction of Dr. Milton Friedman. Maximum class 20. Tuition \$75.00.

653. Clinical Radiation Therapy

A part-time course of four months duration, 2 to 5 p.m., Wednesdays, October 2, 1968, through January 22, 1969. Consists of lectures and seminars emphasizing the practical aspects of clinical radiation therapy. Includes isotopes and their medical application.

Given under the direction of Dr. Sidney Rubinfeld. Tuition \$100.00.

SURGERY

Faculty list appears on pages 62-63.

662. Surgery of the Hand

A full-time course of five days duration, April 7 through 11, 1969. Dissection of hand and forearm followed by lectures and demonstrations based on the practical clinical viewpoint toward management, soft tissue defects, fractures, infections, burns, crush injuries, tendon repair, grafts and transplants, vasomotor and trophic lesions, rehabilitation and reconstruction. Specially invited authorities on hand surgery and members of the faculty participate in instruction and a seminar which concludes the course.

Given under the direction of Dr. Robert W. Beasley. Maximum class 100. Tuition \$225.00.

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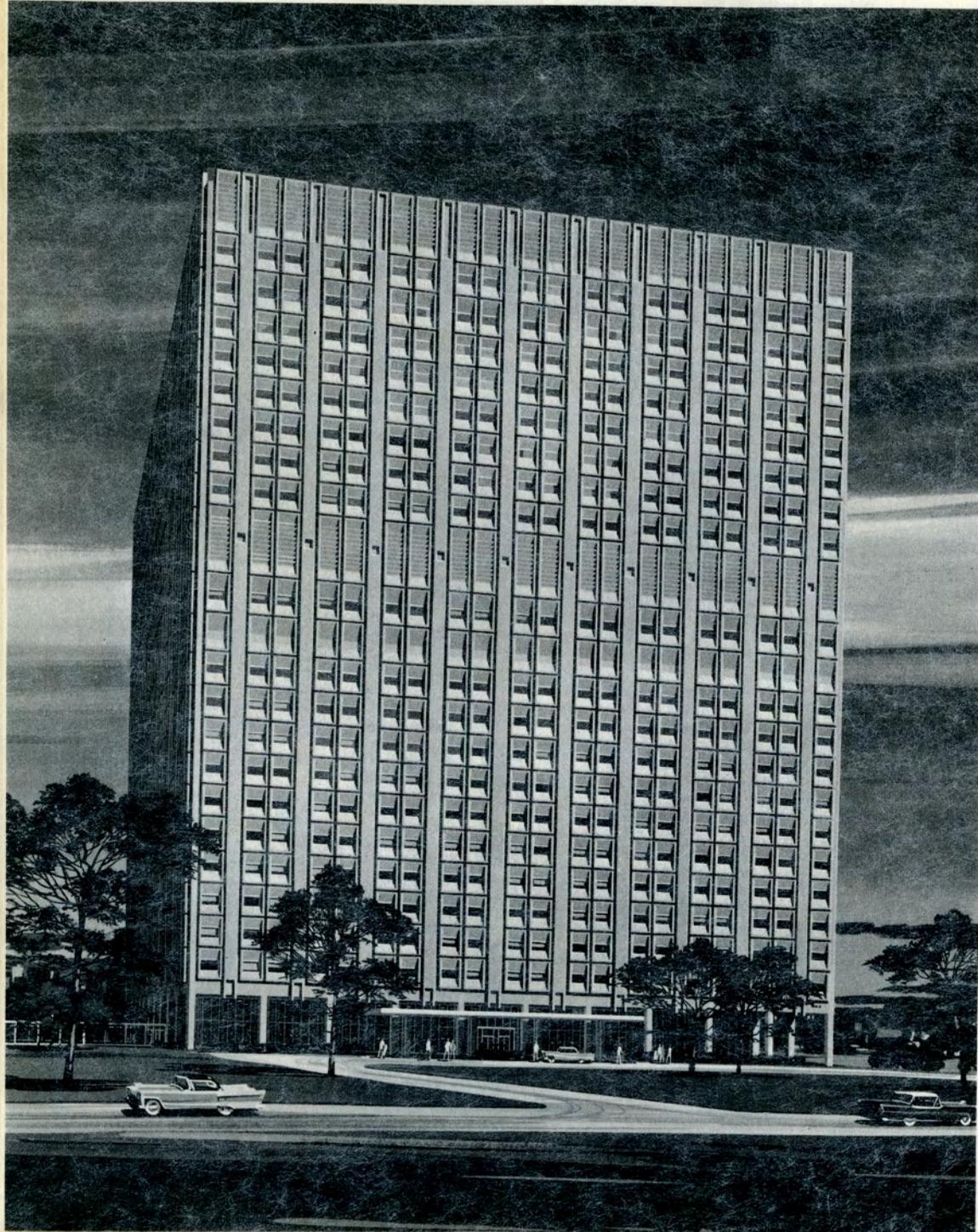
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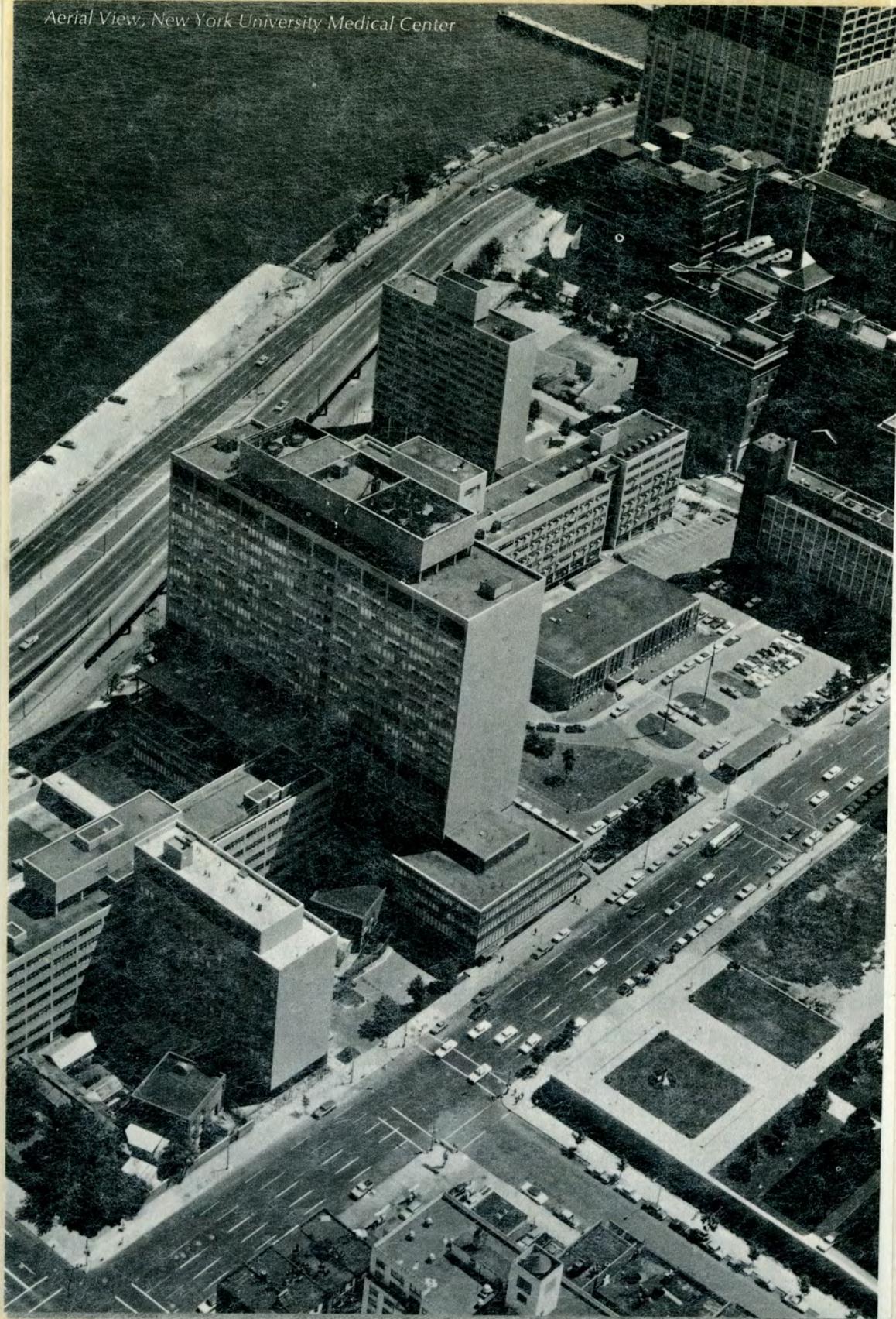


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HOW TO REACH THE NEW YORK UNIVERSITY MEDICAL CENTER

Lexington Avenue (*Interborough*) Subway (IRT)

Local to 33d Street Station. Walk east to First Avenue.

Seventh Avenue (*Interborough*) Subway (IRT)

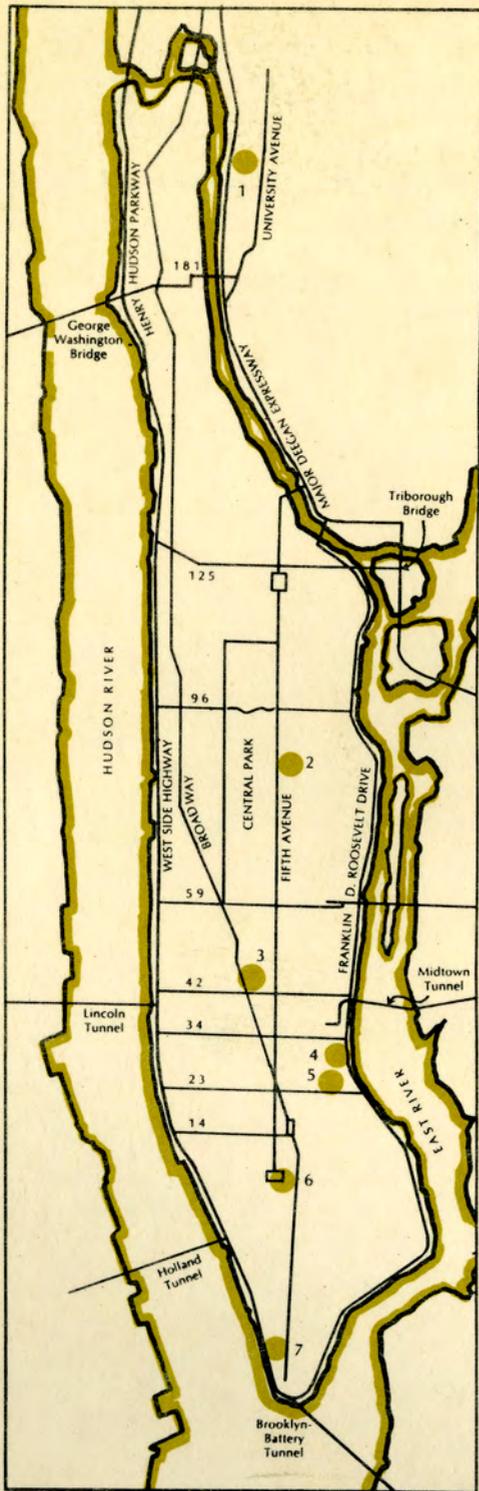
Express to 33d Street Station. Walk east or take crosstown bus to First Avenue.

Broadway (*Brooklyn-Manhattan*) Subway (BMT)

Express to 34th Street Station. Walk east or take crosstown bus to First Avenue.

Sixth or Eighth Avenue (*Independent*) Subway (IND)

Express to 34th Street Station. Walk east or take crosstown bus to First Avenue.



NEW YORK UNIVERSITY
IN NEW YORK CITY

1. UNIVERSITY HEIGHTS CENTER
181st Street and University Avenue
University College of Arts and Science
School of Engineering and Science
2. INSTITUTE OF FINE ARTS
1 East 78th Street
3. THE TOWN HALL
123 West 43d Street
4. NEW YORK UNIVERSITY MEDICAL CENTER
550 First Avenue
School of Medicine
Post-Graduate Medical School
University Hospital
Institute of Rehabilitation Medicine
5. DENTAL CENTER
421 First Avenue
College of Dentistry
Dental Clinic
The Murry and Leonie Guggenheim Foundation Institute for Dental Research
6. WASHINGTON SQUARE CENTER
School of the Arts
School of Commerce
School of Education
School of Continuing Education and Extension Services
Graduate School of Arts and Science
Graduate School of Public Administration
Graduate School of Social Work
School of Law
Washington Square College of Arts and Science
Courant Institute of Mathematical Sciences
Institute of Retail Management
7. GRADUATE BUSINESS CENTER
100 Trinity Place
Graduate School of Business Administration
C. J. Devine Institute of Finance

New York University

School of Medicine • Post-Graduate Medical School

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