

*Registrar's Office*

Official Publication  
of  
The University of Maryland

VOL. 16

No. 1

Catalogue and  
92nd Announcement of  
The School of Pharmacy  
(Maryland College of Pharmacy, 1841 to 1904)  
1935-1936



LOMBARD AND GREENE STREETS  
BALTIMORE, MD.



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## CALENDAR

(1935-1936)

1935

September 16 to 19—Examinations for the removal of conditions.

## FIRST SEMESTER

1935

September 24, Tuesday—\*Registration for first- and second-year students.

September 25, Wednesday—†Registration for all other students.

September 26, Thursday—Instruction begins with the first scheduled period.

November 27, Wednesday—Thanksgiving recess begins after the last scheduled period.

December 2, Monday—Instruction resumed with the first scheduled period.

December 21, Saturday—Christmas recess begins after the last scheduled period.

1936

January 6, Monday—Instruction resumed with the first scheduled period.

January 27 to February 1, Monday to Saturday inclusive—\*Registration for the second semester.

February 1, Saturday—First semester ends after the last scheduled period.

## SECOND SEMESTER

February 3, Monday—Instruction begins with the first scheduled period.

February 22, Saturday—Washington's Birthday. Holiday.

April 8, Wednesday—Easter recess begins after the last scheduled period.

April 15, Wednesday—Instruction resumed with the first scheduled period.

June 6, Saturday—Commencement.

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\* A student who neglects or fails to register prior to or within the day or days specified for his or her school will be called upon to pay a fine of five dollars (\$5.00). The last day of registration with fine added to regular fees is Saturday at noon of the week in which instruction begins following the specified registration period. (This rule may be waived only upon the written recommendation of the Dean.)

† The offices of the registrar and comptroller are open daily, not including Saturday, from 9:00 A.M. to 5:00 P.M., and on Saturday from 9:00 A.M. to 12:30 P.M., with the following exceptions: Monday, September 16, 1935, until 8:00 P.M.; Saturday, September 28, 1935, until 5:00 P.M.; and on Saturday, February 1, 1936, until 5:00 P.M.

Advance registration is encouraged.

## THE UNIVERSITY OF MARYLAND

Control of the University of Maryland is vested in a Board of nine Regents, appointed by the Governor and confirmed by the Senate for terms of nine years each. The general administration of the University is vested in the President. The University Senate is an advisory body, composed of the President, the Assistant to the President, the Director of the Agricultural Experiment Station, the Director of the Extension Service, and the Deans. The University Senate acts upon all matters having relation to the University as a whole and coordinates work between the constituent groups. Each school has its own Faculty Council, composed of the Dean and members of its faculty of professional rank. Each Faculty Council directs the policy of the group it represents.

The University is co-educational in all its branches and has the following educational organization:

School of Medicine.	College of Agriculture.
School of Law.	College of Arts and Sciences.
School of Dentistry.	College of Education.
School of Pharmacy.	College of Engineering.
School of Nursing.	College of Home Economics.
Graduate School.	Summer School.
Agricultural Experiment Station.	Extension Service.
Department of Military Science and Tactics.	
Department of Physical Education and Recreation.	

The Schools of Medicine, Law, Dentistry, Pharmacy, and Nursing are located in Baltimore in the vicinity of Lombard and Greene Streets, the others in College Park.

### BOARD OF REGENTS

GEORGE M. SHRIVER, <i>Chairman</i> .....	Term expires 1942
W. W. SKINNER, <i>Secretary</i> .....	Term expires 1936
MRS. JOHN L. WHITEHURST.....	Term expires 1938
JOHN E. RAINE.....	Term expires 1939
WILLIAM P. COLE, JR.....	Term expires 1940
JOHN M. DENNIS, <i>Treasurer</i> .....	Term expires 1941
CLINTON L. RIGGS.....	Term expires 1942
HENRY HOLZAPFEL, JR.....	Term expires 1943
J. MILTON PATTERSON.....	Term expires 1944

### PRESIDENT OF THE UNIVERSITY

RAYMOND A. PEARSON, M.S., D.Agr., LL.D.

### THE UNIVERSITY SENATE

(Baltimore Schools)

RAYMOND A. PEARSON, M.S., D.Agr., LL.D., *President of the University.*  
 H. C. BYRD, B.S., *Vice-President of the University.*  
 J. M. H. ROWLAND, M.D., *Dean of the School of Medicine.*  
 ROGER HOWELL, Ph.D., LL.B., *Dean of the School of Law.*  
 J. BEN ROBINSON, D.D.S., F.A.C.D., *Dean of the School of Dentistry.*  
 ANDREW G. DUMEZ, M.S., Ph.D., *Dean of the School of Pharmacy.*  
 T. H. TALIAFERRO, C.E., Ph.D., *Dean of the College of Arts and Sciences.*  
 ARTHUR J. LOMAS, M.D., D.P.H., *Superintendent of the Hospital.*  
 T. O. HEATWOLE, M.D., D.D.S., D.Sc., *Secretary of the Baltimore Schools.*

### OTHER ADMINISTRATIVE OFFICERS

(Baltimore Schools)

W. M. HILLEGEIST, *Registrar*  
 J. H. TUCKER, *Comptroller*

## SCHOOL OF PHARMACY

## Officers Of Administration

- RAYMOND A. PEARSON, M.S., D.Agr., LL.D., *President of the University.*  
 ANDREW G. DU MEZ, Ph.G., M.S., Ph.D., *Dean.*  
 E. F. KELLY, Phar.D., *Advisory Dean.*  
 B. OLIVE COLE, Phar.D., LL.B., *Secretary.*

## FACULTY COUNCIL

- ANDREW G. DU MEZ, Ph.D., *Dean and Professor of Pharmacy.*  
 E. F. KELLY, Phar.D., *Advisory Dean.*  
 B. OLIVE COLE, LL.B., *Secretary and Associate Professor of Economics and Pharmaceutical Law.*  
 GLENN L. JENKINS, Ph.D., *Professor of Pharmaceutical Chemistry.*  
 †.....*Professor of Botany and Pharmacognosy.*  
 MARVIN R. THOMPSON, Ph.D., *Professor of Pharmacology.*  
 H. E. WICH, Phar.D., *Associate Professor of Inorganic and Analytical Chemistry.*  
 J. CARLTON WOLF, Sc.D., *Professor of Dispensing Pharmacy.*

## FACULTY

## EMERITUS PROFESSOR

- DAVID M. R. CULBRETH, *Emeritus Professor of Botany and Materia Medica.*  
 Maryland College of Pharmacy, Ph.G. (1879); College of Physicians and Surgeons, M.D. (1883).

## PROFESSORS

- \*L. B. BROUGHTON.....*Professor of Chemistry*  
 University of Maryland, B.S. (1908), M.S. (1911); Ohio State University, Ph.D. (1926).  
 ANDREW G. DU MEZ.....*Professor of Pharmacy*  
 University of Wisconsin, Ph.G. (1904), B.S. (1907), M.S. (1910), Ph.D. (1917).  
 \*CHARLES G. EICHLIN.....*Professor of Physics*  
 Lafayette College, A.B. (1913), M.S. (1921).  
 †GLENN L. JENKINS.....*Professor of Pharmaceutical Chemistry*  
 University of Wisconsin, Ph.G. (1921), B.S. (1922), M.S. (1923), Ph.D. (1926).  
 C. J. PIERSON.....*Professor of Zoology*  
 Stanford University, A.B. (1898); State Normal School, Peru, Nebr., B.Ped. (1906); University of California, M.A. (1916).  
 ‡.....*Professor of Botany*  
 MARVIN R. THOMPSON.....*Emerson Professor of Pharmacology*  
 University of Minnesota, Ph.C. (1926); George Washington University, B.S. (1930); Johns Hopkins University, Ph.D. (1934).  
 J. CARLTON WOLF.....*Professor of Dispensing Pharmacy*  
 University of Maryland, Phar.D. (1905); American International Academy, Washington, D. C., B.S. (1921); Maryland Academy of Science, Sc.D. (1922), (Honorary).

## ASSOCIATE PROFESSORS

- B. OLIVE COLE....*Associate Professor of Economics and Pharmaceutical Law*  
 University of Maryland, Phar.D. (1913), LL.B. (1923).  
 \*A. W. RICHESON.....*Associate Professor of Mathematics*  
 University of Richmond, B.S. (1918); Johns Hopkins University, A.M. (1925), Ph.D. (1928).  
 HENRY E. WICH.....*Associate Professor of Inorganic and Analytical Chemistry.*  
 University of Maryland, Phar.D. (1909).

\* Teachers detailed from the College of Arts and Sciences to the Baltimore Branch of the University.

† Representative on the Graduate Council.

‡ Appointment pending.

## ASSISTANT PROFESSORS

- MARVIN J. ANDREWS.....*Assistant Professor of Pharmacy*  
University of Maryland, Ph.G. (1922), Ph.C. (1923), B.S.in Pharm. (1928), M.S. (1931).
- ARTHUR H. BRYAN.....*Assistant Professor of Bacteriology*  
University of Pennsylvania, V.M.D. (1918); Washington State College, B.S. (1919);  
University of Maryland, M.A. (1934).
- \*J. HARRY SCHAD.....*Assistant Professor of Mathematics*  
Johns Hopkins University, B.S. (1917), M.A. (1921), D.Ed. (1931).
- \*EDGAR B. STARKEY.....*Assistant Professor of Organic Chemistry*  
University of Maryland, B.S. (1921), M.S. (1922), Ph.D. (1926).
- \*GUY P. THOMPSON.....*Assistant Professor of Zoology*  
West Virginia University, A.B. (1923), A.M. (1929).
- \*E. G. VANDEN BOSCHE.....*Assistant Professor of Inorganic and Physical  
Chemistry*  
Lebanon Valley College, A.B. (1922); University of Maryland, M.S. (1924), Ph.D. (1927).

## INSTRUCTORS

- WILLIAM B. BAKER.....*Instructor in Pharmacy*  
University of Maryland, Ph.G. (1930), B.S. (1932), M.S. (1933).
- JOHN CONRAD BAUER.....*Instructor in Pharmaceutical Chemistry*  
University of Maryland, Ph.G. (1926), B.S. in Pharm. (1928), M.S. (1930), Ph.D.  
(1933).
- \*GARDNER P. H. FOLEY.....*Instructor in English*  
Clark University, A.B. (1923), A.M. (1926).
- SAMUEL W. GOLDSTEIN.....*Instructor in Chemistry*  
University of Maryland, Ph.G. (1926), Ph.C. (1927), B.S. in Pharm. (1929), M.S.  
(1931).
- WILLIAM H. HUNT.....*Instructor in Bacteriology*  
University of Maryland, Ph.G. (1931), B.S. (1932), M.S. (1934).
- \*ARTHUR C. PARSONS.....*Instructor in Modern Languages*  
University of Maryland, A.B. (1926), A.M. (1928).
- \*M. A. PITTMAN.....*Instructor in Physics*  
The Citadel, B.S. (1925); University of South Carolina, M.S. (1929).
- W. ARTHUR PURDUM.....*Instructor in Pharmacy*  
University of Maryland, Ph.G. (1930), B.S. (1932), M.S. (1934).
- \*J. THOMAS PYLES.....*Instructor in English*  
University of Maryland, B.A. (1926), M.A. (1927).
- \*H. HEWELL ROSEBERRY.....*Instructor in Physics*  
Davidson College, B.S. (1926), M.A. (1928); University of Chicago, M.S. (1931).
- FRANK J. SLAMA.....*Instructor in Botany*  
University of Maryland, Ph.G. (1924), Ph.C. (1925), B.S. in Pharm. (1928), M.S.  
(1930).
- THOMAS GORSUCH WRIGHT.....*Instructor in Pharmacy*  
University of Maryland, Ph.G. (1930), B.S. in Pharm. (1931), M.S. (1934).

## ASSISTANTS

- \*CECIL R. BALL.....*Assistant in English*  
College of William and Mary, A.B. (1923).
- \*RACHEL LOUISE CARSON.....*Assistant in Zoology*  
Pennsylvania College for Women, A.B. (1929); Johns Hopkins University, M.A.  
(1932).
- GUSTAV EDWARD C WALINA.....*Assistant in Pharmaceutical Chemistry*  
University of Maryland, Ph.G. (1929), B.S. in Pharm. (1931), M.S. (1933).
- AMELIA C. DE DOMINICIS.....*Assistant in Botany*  
University of Maryland, Ph.G. (1930), B.S. (1931), M.S. (1932).
- MELVIN F. W. DUNKER.....*Assistant in Chemistry*  
University of Maryland, Ph.G. (1933), B.S. (1934).
- \*W. G. FRIEDRICH.....*Assistant in Modern Languages*  
Indiana University, A.B. (1920); Columbia University, M.A. (1923);  
Johns Hopkins University, Ph.D. (1934).

\* Teachers detailed from the College of Arts and Sciences to the Baltimore Branch of the University.

- CASIMER T. ICHNIOWSKI.....*Assistant in Pharmacology*  
University of Maryland, Ph.G. (1929), B.S. in Pharm. (1930), M.S. (1932).
- L. LAVAN MANCHEY.....*Assistant in Chemistry*  
University of Maryland, Ph.G. (1928), B.S. in Pharm. (1929), M.S. (1931).
- \*JOSEPH F. O'BRIEN.....*Assistant in Zoology*  
Boston University, S.B. (1925).
- †ROBB V. RICE.....*Assistant in Pharmacy*  
University of Montana, B.A. (1931), B.S. (1933), M.S. (1934).
- BERTRAN S. ROBERTS.....*Assistant in Pharmacology*  
University of Maryland, Ph.G. (1929), B.S. in Pharm. (1931), M.S. (1933).
- EMANUEL V. SHULMAN.....*Assistant in Botany*  
University of Maryland, Ph.G. (1925), Ph.C. (1928), B.S. in Pharm. (1929), M.S. (1931).
- MAX MORTON ZERVITZ.....*Assistant in Chemistry*  
University of Maryland, Ph.G. (1929), B.S. in Pharm. (1931), M.S. (1932).

## ASSISTING STAFF

- KATHLEEN HAMILTON, *Librarian.*  
ANN BEACH LEMEN, *Cataloger.*  
CLARA A. NOWAKOWSKA, *Senior Stenographer.*

\* Teachers detailed from the College of Arts and Sciences to the Baltimore Branch of the University.

† H. A. B. Dunning Research Fellow.

## SCHOOL OF PHARMACY

## HISTORY

The School of Pharmacy of the University of Maryland, formerly the Maryland College of Pharmacy, was organized on July 20, 1840, by a forward-looking group of apothecaries and physicians then practicing in the State of Maryland, who recognized the necessity for more thoroughly educated and better-trained pharmacists if this rapidly growing phase of medical service was to be properly developed. It was incorporated on January 27, 1841, and the first course of lectures was begun in November of the same year. The College continued to operate as an independent institution until 1904, when it amalgamated with the group of professional schools in Baltimore then known as the University of Maryland. It became a department of the State University when the old University of Maryland was merged with the Maryland State College in 1920. With but one short intermission just prior to 1856, it has continuously exercised its functions as a teaching institution.

## AIMS AND PURPOSES

The School of Pharmacy provides systematic instruction in pharmacy, the collateral sciences, and such other subjects as are deemed to be essential in the education of a pharmacist. Its chief aim is to prepare its matriculants for the intelligent practice of dispensing pharmacy, but it also offers the facilities and instruction necessary for the attainment of proficiency in the practice of the other branches of the profession and in pharmaceutical research.

## BUILDING AND EQUIPMENT

The School occupies the building erected for it by the State at the northwest corner of Lombard and Greene Streets, in Baltimore. This is a commodious six-story laboratory and classroom building especially designed to house the work of pharmacy. It is completely equipped throughout, and offers every facility for the undergraduate student to carry on the work necessary to acquire a thorough knowledge of pharmacy, and to the graduate student for the pursuit of research in the various fields of pharmacy, and the collateral sciences.

Four lecture rooms seating 116 to 145 students, and four recitation rooms with a seating capacity of 35 to 40 students are available in this building. These are equipped with modern tables for lecture demonstrations in the sciences, with lanterns and screens and the other devices commonly used in lecture and recitation work.

The building provides laboratory space for drug milling and the various courses in pharmacy; for the several courses in chemistry; for instruction in botany and pharmacognosy; for work in the biological sciences, zoology, bacteriology, physiology, and pharmacology; for the pursuit of research in any of these departments.

The building also provides library facilities. It contains a well-lighted reading-room which will accommodate 100 students, and stack-room space to accommodate 12,000 volumes. At the present time the library contains more than 5,000 books and periodicals pertaining to pharmacy and the collateral sciences. Additional library facilities are available at the Medical School Library, which is only a few doors away, the Enoch Pratt Free Library the Peabody Library, and the libraries of the various departments of the Johns Hopkins University.

## RECOGNITION

The school holds membership in the American Association of Colleges of Pharmacy. The object of this Association is to promote the interests

of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this Association, uniform and higher standards of education have been adopted from time to time, and the fact that several states, by law or by Board ruling, recognize the standards of the Association is evidence of its influence.

The school is registered in the New York Department of Education, and its diploma is recognized by all the states.

### COURSES AND DEGREES

A four-year course leading to the degree of Bachelor of Science in Pharmacy (B. S. in Pharm.) is offered. The first three years of the curriculum are the same for all students taking this course, but the work of the fourth year may be varied within the limits set forth on page 17, or as provided for in the combined curriculum in Pharmacy and Medicine, thus permitting a limited amount of specialization.

The degree of Master of Science (M.S.) is conferred upon graduates of the four-year course who have completed at least one year of graduate work and have presented a satisfactory thesis. Candidates for this degree may take all of the work in the School of Pharmacy. Candidates for the degree of Doctor of Philosophy (Ph.D.) may also take the major portion of the required work in the School of Pharmacy. All candidates for these degrees, however, must register in the Graduate School of the University and meet the requirements of that School. For detailed information concerning registration, requirements for admission, etc., see the catalogue of the Graduate School.

### COMBINED CURRICULUM IN PHARMACY AND MEDICINE

A combined curriculum has been arranged with the Medical School of the University of Maryland by which students may obtain the degrees of Bachelor of Science in Pharmacy and Doctor of Medicine in seven years. Students who successfully complete the first three years of the course in pharmacy, and in addition four semester hours in zoology, are eligible for admission to the Medical School of the University of Maryland, and upon the successful completion of the first three years of the medical course will be awarded the degree of Bachelor of Science in Pharmacy by the School of Pharmacy.

This privilege will only be extended to students whose grades for the first three years of the course in pharmacy average "C" or better. Those who wish to avail themselves of this privilege must so advise the School of Pharmacy before entering upon the work of the third year in order that provision may be made for the required instruction in zoology.

### REQUIREMENTS FOR ADMISSION\*

The requirements for admission are those of the American Association of Colleges of Pharmacy, namely: graduation from an accredited high or preparatory school which requires for graduation in a four-year course not less than 15 units of high-school work grouped as shown under Units for Entrance. In case an applicant is not a graduate of a high or preparatory school, as defined above, the full equivalent of such education in each individual case must be established and attested by the highest public educational officer of the State.

\* The right is reserved to refuse admission to applicants with sufficient scholastic credit, whose presence in the School would in the judgment of the Faculty Council be detrimental to the best interests of the School.

UNITS FOR ENTRANCE: Required (7), elective (8), total (15).

REQUIRED: English, (I, II, III, IV), 3 units; algebra to quadratics, 1 unit; plane geometry, 1 unit; history, 1 unit; science, 1 unit. Total 7 units.

ELECTIVE: Agriculture, astronomy, biology, botany, chemistry, civics, drawing, economics, general science, geology, history, home economics, vocational subjects, languages, mathematics, physical geography, physics, zoology, or any other subject offered in a standard high or preparatory school for which graduation credit is granted toward college or university entrance. Eight (8) units must be submitted from this group.

An application blank for admission may be had by applying to the office of the Dean. The form must be filled out in full with names of *all* schools attended, signed by the applicant and returned to the Registrar's office with two dollars investigation fee. Do not send diplomas or certificates. The Registrar of the University of Maryland will secure all necessary credentials after the application has been received. Do not make application unless reasonably certain that preparation is sufficient, or unless intending to complete preparation if insufficient. Ample time should be allowed for securing credentials and investigating schools. If the applicant qualifies for the study of the profession, a certificate will be issued.

#### REQUIREMENTS FOR ADVANCED STANDING

Students who present in addition to high-school requirements credit for subjects taken in schools of pharmacy holding membership in the American Association of Colleges of Pharmacy will be given credit for corresponding courses of equal length and content scheduled for the first three years of the course, provided they present a proper certificate of honorable dismissal.

Credit for general educational subjects will be given to students presenting evidence of having completed work equal in value to that outlined in this catalogue.

Transferring students in either case must satisfy the preliminary educational requirements outlined under "Requirements for Admission."

#### SPECIAL STUDENTS

An applicant who cannot furnish sufficient entrance credit and who does not desire to make up the units in which he is deficient may enter as a special student and pursue all the branches of the curriculum, but will not be eligible for graduation and will not receive a diploma. The Faculty Council reserves the right to decide whether or not the preliminary training of the applicant is sufficient.

#### REGISTRATION WITH THE MARYLAND BOARD OF PHARMACY

The Maryland Pharmacy Law, as amended in 1931, requires all students entering upon the study of Pharmacy in the State to file application with the Maryland Board of Pharmacy. The law reads as follows:

"Any person enrolling as a student in pharmacy in any school or college of pharmacy in this State shall, not later than thirty days after enrolling, file with the secretary of the Maryland Board of Pharmacy an application for registration as a student of pharmacy in which said application he shall be required to furnish such information as the Board may deem appropriate, and simultaneously with the filing of said application, shall pay the Board a fee of one dollar; all such students of pharmacy shall, at the beginning of any subsequent school or college year, submit to the said Board a sworn statement of any and all actual drug store experience acquired during the preceding vacation months."

### MATRICULATION AND REGISTRATION

Each entering student must procure from the office of the School of Pharmacy a matriculation card before he will be permitted to register. The last day for matriculation is September 28, 1935.

All students must register at the office of the Registrar. Under no conditions will a student be permitted to enter classes who has not completed registration. The last days for registration without the payment of the penalty fee are as follows: First Semester, September 24, 1935, for first- and second-year students; September 25, 1935, for all other students; Second Semester, February 1, 1936 for all students. The last days for registration with the payment of the penalty fee are: First Semester, September 28, 1935; Second Semester, February 8, 1936.

#### FEES

For students who are residents of Maryland the fees are as follows:

Application fee (to accompany application for admission).....	\$2.00
Matriculation fee (payable when accepted for admission).....	10.00
Tuition fee (yearly).....	200.00
Laboratory fee (yearly).....	30.00
Locker fee and breakage deposit (yearly).....	10.00
Graduation fee (payable second semester of Senior Year).....	15.00
Penalty fee for late registration.....	5.00
Special examination fee.....	2.00

Students who are not following the regular schedule, but who are taking courses equivalent to one-half or more of a year's work, will be charged the full yearly fees. Students taking less than this amount of work will be charged on a subject basis. Students taking extra work will be charged an additional fee for each extra course.

In addition to the regular fees paid to the Comptroller, there are other expenses, such as those for the purchase of books, weights, dissecting instruments and incidentals, amounting to \$30.00 per year. Each student is required to pay annually \$9.00 (freshmen students \$8.00) to the "Students' Activity Fund" which is used to defray the cost of extra-curricular activities.

#### NON-RESIDENT STUDENTS

An additional tuition fee of \$50.00 per annum must be paid by students who are non-residents of the State of Maryland.

Students who are minors are considered to be resident students if, at the time of their registration, their parents\* have been residents of this State for at least one year.

Adult students are considered to be resident students if, at the time of their registration, they have been residents of this State for at least one year; provided such residence has not been acquired while attending any school or college in Maryland.

The status of the residence of a student is determined at the time of his first registration in the University and may not thereafter be changed by him unless, in the case of a minor, his parents\* move to and become legal residents of this State by maintaining such residence for at least one full calendar year. However, the right of the student (minor) to change from a non-resident to a resident status must be established by him prior to registration for a semester in any academic year.

#### PAYMENTS

The matriculation fee is payable at the time the applicant is accepted

\* The term "parents" includes persons who, by reason of death or other unusual circumstances, have been legally constituted the guardians of or stand *in loco parentis* to such minor students.

for admission and is not returnable. Registration of a student in any School or College of the University is regarded as registration in the University of Maryland, but when such student transfers to a professional school of the University or from one professional school to another, he will be required to pay the matriculation fee charged by that school.

One-half of the yearly tuition fee and the full amount of all other fees shall be paid to the Comptroller on September 24, 1935, by first- and second-year students; on September 25, 1935, by all other students. The remaining half of the yearly tuition fee and the graduation fee (in the senior year only) shall be paid on or before February 1, 1936, by all students.

A fee of Two Dollars (\$2.00) will be charged students for each examination given at other than scheduled periods. A receipt for the payment of this fee must be presented to the teacher before taking the examination.

A student who neglects or fails to register prior to or within the day or days specified will be charged a penalty fee of \$5.00.

The above requirements will be rigidly adhered to. Failure to meet any of the above conditions will automatically disbar a student from attendance upon classes and all other privileges of the University.

### REBATES

The matriculation fee is not subject to rebate. In cases of total withdrawal from the school prior to November first in the first semester, or March first in the second semester, the Dean may order the Comptroller to refund one-half the amount of the tuition paid for such semester. In the case of illness, or other unusual circumstances, the Dean may, with the approval of the President of the University, make such refund as seems just. In all cases of withdrawal from school, immediate notice in writing must be given to the Dean.

### ATTENDANCE REQUIREMENTS

In order to receive credit for a full session, students must have entered and be in attendance on the day the regular session opens and remain until the close of the session, the dates for which are given in the calendar of this catalogue.

Students may register and enter not later than six days after the beginning of the session, but such delinquency will be charged as absence from class. In cases of serious personal illness, as attested by a physician, students may register not later than the twentieth day following the announced opening of the regular session.

Regular attendance is demanded of all students. No student will be admitted to the final examination in any subject in which he or she has not attended at least 85 per cent. of the classes therein. Further absence will not be excused.

A tardiness of one-half or more of a lecture or laboratory period will be counted as an absence. Two tardinesses of less than one-half of a lecture or laboratory period will be counted as an absence.

### EXAMINATIONS

Written and oral tests are given at different intervals throughout the session and the ratings received are recorded. Final examinations are held at the close of each semester, and the standing of the student in each subject is determined by the average of all the ratings received therein.

Examinations for the completion of courses in which the student received a grade of "Incomplete" and for the removal of conditions will be held only on the dates scheduled in this catalogue and on the dates announced by the Dean. Students who are conditioned in the first semester must remove the conditions during that college year, but will not be per-

mitted to take an examination within thirty days from the date on which the conditional rating was received. Conditions received in the second semester must be removed before the end of the first semester of the succeeding session. Special examinations for the removal of these conditions will be held immediately preceding the opening of the regular yearly session. A condition which is not removed within one year from the date it is received will become a failure, and the course must be repeated to obtain a grade.

A student failing to present himself for examination in any course must report to the Dean as soon as the circumstances which caused the absence will permit. If the Dean is satisfied that the absence was justifiable (as if due to sickness or other exceptional circumstances) he will give permission for a deferred examination in place of the one missed.

### SCALE OF GRADING

The scholastic standing of the student is recorded in terms of the following symbols:

A, Excellent (93-100); B, Good (87-92); C, Fair (80-86); D, Passed (75-79); E, Conditioned (60-74); F, Failed (below 60); I, Incomplete.

Grade E, Conditioned, indicates a record below passing, but which may be raised to a passing grade, without repeating the course, by a subsequent examination on the subject-matter.

Grade F, Failed, obtained at the close of a course indicates insufficient attendance to take the final examination, discontinuance of the course without the consent of the Dean, or a record so poor that the student is required to repeat the work in class.

Grade I, Incomplete, is given only to those students who have a proper excuse for not presenting themselves for examination or for not completing the work of any course. It is not understood to signify work of an inferior quality. It will be replaced by a definite grade when all requirements for the course have been met.

### PROMOTION

A student to be promoted to the second or third year must pass courses amounting to at least 75 per cent. of the total scheduled work of the preceding years.

A student to be promoted to the fourth year must satisfactorily complete all of the work of the respective curriculum for the preceding years.

### DEPORTMENT

The profession of pharmacy demands, and the School of Pharmacy requires evidence of good moral character of its students. The conduct of a student in relation to his work and fellow students will be used by the faculty in determining the fitness of a student to enter into the confidence of the community as a professional man. Integrity, truthfulness, sobriety, temperate habits, respect for authority and associates, and honesty in the transaction of business affairs as a student will be considered as evidence of good moral character necessary to the granting of a degree.

Any offense against good conduct, in the ordinary meaning of the term, will render a student liable to disciplinary action, whether or not a formal rule against the offense has been published.

### REQUIREMENTS FOR GRADUATION

Candidates for the degree of Bachelor of Science in Pharmacy (B.S. in Pharm.) must be of good moral character and must have completed all of the work of the curriculum outlined on page 17, or its equivalent.

The work of the last year must be taken in this School.

The requirements for higher degrees are stated in the "Catalogue of the Graduate School."

## PRACTICAL-EXPERIENCE REQUIREMENT OF THE MARYLAND PHARMACY LAW

The Pharmacy Law of Maryland requires four years of practical experience for registration as a pharmacist. The time spent in a recognized college is credited towards the practical experience required to the extent of not more than three years.

In view of this requirement, prospective students are advised to secure employment, if possible, before entering the college.

### EMPLOYMENT

Students should come prepared, if possible, to sustain themselves financially during the entire period of attendance, as all of the time available may be profitably spent in the completion of the scheduled work and in the preparation of studies. Those who cannot meet this condition in full need not be dismayed, however, as Baltimore offers a number of opportunities to secure suitable employment. A register of positions available in drug stores is kept in the office of the Secretary of the School, where it may be consulted upon request.

### FELLOWSHIPS, SCHOLARSHIPS, AND LOAN FUNDS

#### THE H. A. B. DUNNING RESEARCH FELLOWSHIP

Dr. H. A. B. Dunning, the well-known retail and manufacturing pharmacist of Baltimore, who was for a number of years associate professor of chemistry in the School, and whose interest in his Alma Mater has always been manifested, has provided for the payment of \$1,000.00 annually for a period of five years to establish a research fellowship in pharmaceutical chemistry. At the end of the period an endowment will be made by Dr. Dunning to perpetuate the fellowship. This fellowship is awarded annually to a student in pharmacy who has completed four years of college work, and who gives evidence of a special aptitude for investigational work in pharmaceutical chemistry.

#### THE CHARLES LANDON HENRY MEMORIAL SCHOLARSHIP

In memory of her husband, Charles Landon Henry, who was for many years a loyal member of the Maryland Pharmaceutical Association, who was active in pharmaceutical affairs in Maryland and neighboring states, and who was especially interested in the welfare and progress of worthy young people, Mrs. Nora Howard Henry endowed a scholarship to be awarded annually by the Faculty to a student who has completed the third year of the course and who has shown superior proficiency in his or her work in practical and commercial pharmacy. The stipend is approximately \$100.00.

#### RESEARCH GRANT OF THE ALUMNI ASSOCIATION OF THE SCHOOL OF PHARMACY

The Alumni Association of the School of Pharmacy has agreed to deposit each year the sum of \$100.00 with the School of Pharmacy as a research grant, to be placed to the credit of a student selected by the Committee on the Research Grant of the Alumni Association to enable him to engage in pharmaceutical research in the School of Pharmacy during the next scholastic year. The research conducted shall be of general pharmaceutical interest, and shall be submitted for publication in one of the pharmaceutical journals when completed and accepted.

#### THE FAIRCHILD SCHOLARSHIP (NATIONAL)

Mr. Samuel W. Fairchild, of New York City, offers a scholarship annually, amounting to \$500.00 in cash, to pharmacy students of the United

States. The scholarship is awarded on the basis of a competitive examination to candidates who are high-school graduates and who have successfully completed at least three years' work in a school or college of pharmacy or department of pharmacy of a university, member of the American Association of Colleges of Pharmacy. Each school, college, or department of pharmacy is limited to two candidates. The examination will be held at the School of Pharmacy on the second Monday in June.

#### THE CHARLES CASPARI, JR., MEMORIAL LOAN FUND

In memory of Prof. Charles Caspari, Jr., a former dean of the School of Pharmacy, and in keeping with the modesty and lack of ostentation, and eagerness for service and helpfulness to others which were striking characteristics of Professor Caspari, a number of friends and alumni have made contributions to establish a fund in his name. Loans are made from this fund to members of the third-year class upon the recommendation of the Dean.

#### L. MANUEL HENDLER LOAN FUND

On March 7, 1932, there was established by Mr. L. Manuel Hendler of Baltimore, a fund to be loaned to needy students. This fund is available to junior and senior students only, and loans therefrom are made upon the recommendation of the Dean.

### HONORS AND AWARDS

#### SCHOOL AWARDS

*General.*—A gold medal will be awarded at each annual commencement to the candidate for the degree of Bachelor of Science in Pharmacy, whose department is creditable, and who has attained the highest general average, not below B.

Certificates of Honor will be awarded to the three students having the highest general average, next to the winner of the general prize, provided this does not fall below B.

*Third Year.*—Honorable Mention will be made of the first three students having the highest general average, provided this does not fall below B.

#### THE WILLIAM SIMON MEMORIAL PRIZE

In honor of the late Dr. William Simon, for thirty years professor of chemistry in the School of Pharmacy, a gold medal will be awarded by the faculty to a candidate for the degree of Bachelor of Science in Pharmacy for superior proficiency in the field of practical and analytical chemistry. The recipient must stand high in all subjects. In recommending a student for the prize, the professor of chemistry will be guided in his judgment of the student's ability as much by observation and personal contact as by grades made in examinations.

#### THE SIMON SOLOMON PRIZE

The sum of \$50.00 is given each year by Mr. Simon Solomon (Class of 1918) to be awarded by the Faculty of the School of Pharmacy to the student in the graduating class who has done the most satisfactory work in pharmacy in the third and fourth years of the course.

#### THE L. S. WILLIAMS PRACTICAL PHARMACY PRIZE

The late L. S. Williams (Class of 1909) placed in trust the sum of \$1000.00, the income therefrom to be awarded annually by the Faculty of the School of Pharmacy to the senior student having the highest general average throughout the course in this subject.

#### THE CONRAD L. WICH BOTANY AND PHARMACOGNOSY PRIZE

In appreciation of the assistance which the Maryland College of Pharmacy extended to him as a young man, Mr. Conrad L. Wich (Class of

1882), has placed in trust the sum of \$500.00, the income therefrom to be awarded annually by the Faculty of the School of Pharmacy to the senior student who has done exceptional work throughout the course in Botany and Pharmacognosy.

#### AMERICAN PHARMACEUTICAL ASSOCIATION MEMBERSHIP PRIZES

Membership in the American Pharmaceutical Association for one year is awarded annually to three students of the fourth year class, selected by the Faculty, who have attained high standing in both theoretical and practical pharmacy. One of these awards has been endowed by Dr. E. F. Kelly, and the other two by the Baltimore Branch of the American Pharmaceutical Association.

### STUDENT ORGANIZATIONS

#### STUDENT COUNCIL

The Student Council is an organization of students established for the purpose of supervising in a general way the social and extra-curricular activities of the student body, to assist in maintaining a proper decorum among students when in attendance upon instruction, and to foster and encourage a class spirit which will reflect honor on the splendid traditions of the School. The Council consists of 12 active members, three elected by each of the four classes, four *ex officio* members who are the presidents of the respective classes, and a faculty adviser.

#### RHO CHI HONORARY PHARMACEUTICAL SOCIETY

Omicron chapter of the Rho Chi, national honorary pharmaceutical society, was established at the University of Maryland in 1930. Chapters for chapters of this organization are granted only to groups in schools or colleges that are members in good standing of the American Association of Colleges of Pharmacy. Eligibility for membership in the Society is based on high attainment in scholarship, character, personality, and leadership. All candidates selected for membership must have completed 75 credit hours of college work, and they must be approved by the Dean of the School of Pharmacy.

### ALUMNI ORGANIZATIONS

#### ALUMNI ASSOCIATION OF THE SCHOOL OF PHARMACY OF THE UNIVERSITY OF MARYLAND

A meeting of the graduates of the School of Pharmacy of the University of Maryland, then the Maryland College of Pharmacy, was held on May 15, 1871. At this meeting there was organized the Society of the Alumni of the Maryland College of Pharmacy. This Society continued its separate existence as such or as the Alumni Association of the Maryland College of Pharmacy until 1907, when the General Alumni Association of the University of Maryland was formed. Following the organization of the General Alumni Association, the Society remained dormant until June 4, 1926, when it was reorganized as the Alumni Association of the School of Pharmacy of the University of Maryland. The active membership of the Association is now approximately 600 and is growing steadily. The following are its present officers:

#### EXECUTIVE COMMITTEE

Honorary President—FRED W. SULTAN (*Ex-Officio*).

President of the Association—ALVIN N. HEWING,  
701 N. Lakewood Avenue, Baltimore, Md.

First Vice-President—HYMAN DAVIDOV,  
900 N. Charles Street, Baltimore, Md.

Second Vice-President—JOHN F. WANNENWETCH,  
Augusta and Frederick Avenues, Baltimore, Md.

Secretary—B. OLIVE COLE,  
32 S. Greene Street, Baltimore, Md.

Treasurer—SIMON SOLOMON,  
631 W. Lexington Street, Baltimore, Md.

Members at Large—FRANK L. BLACK,  
DAVID B. GETZ,  
ALBERT G. LEATHERMAN,  
T. E. RAGLAND.

COMMITTEE ON SCHOOL OF PHARMACY OF THE MARYLAND  
PHARMACEUTICAL ASSOCIATION

When the School of Pharmacy became a part of the State University in 1920, the Maryland Pharmaceutical Association, in order to assist in the advancement of pharmaceutical education, appointed a standing committee, known as the Committee on School of Pharmacy. This Committee is composed of seven members, whose duty it is to represent the Association in all matters pertaining to the School of Pharmacy and pharmaceutical education. The following are the present members of this committee:

R. E. L. WILLIAMSON,	} Baltimore, Md.
<i>Chairman</i>	
A. R. L. DOHME	
H. A. B. DUNNING	
CHARLES L. MEYER	
JOHN C. MUTH	
L. M. KANTNER	
GEORGE A. BUNTING	

**CURRICULUM**  
**COURSES, HOURS AND CREDITS**

FIRST SEMESTER      SECOND SEMESTER

TITLE AND NUMBER OF COURSE	Hrs. Per Wk.				Credits	Hrs. Per Wk.				Credits
	Didactic	Lab'y	Total	Credits		Didactic	Lab'y	Total	Credits	
<b>FIRST YEAR</b>										
*Botany 1s, Structural.....						3	3	6	3	
†Chemistry 1y, Inorganic and Qualitative Analysis.....	3	4	7	4		3	4	7	4	
†English 1y, Composition and Rhetoric.....	3		3	3		3		3	3	
†Mathematics 1f, Algebra.....	3		3	3						
†Mathematics 2s, Trigonometry.....						3		3	3	
†Modern Language 1y or 3y, French or German.....	4		4	4		4		4	4	
†Zoology 1f, General (1).....	3	6	9	4						
				18						17
<b>SECOND YEAR</b>										
Botany 2f, Pharmacognosy.....	2	4	6	4						
Botany 3s, Vegetable Histology.....						4			2	
†Chemistry 2y, Organic.....	3	4	7	4		3	4	7	4	
†English 2y, Public Speaking.....	1		1	1		1		1	1	
Pharmacy 1y, Galenical.....	3	4	7	4		3	4	7	4	
†Physics 1y, General.....	3	2	5	4		3	2	5	4	
Physiology 1s, General.....						3		3	3	
				17						18
<b>THIRD YEAR</b>										
*Bacteriology 1f, General.....	2	4	6	4						
*Bacteriology 2s, Serology and Immunology.....						2		2	2	
Chemistry 101f, Medicinal Products.....	3	4	7	4						
*Chemistry 4s, Quantitative Analysis.....						2	4	6	4	
Economics 1s, Principles of.....						3		3	3	
Pharmacology 1y, Pharm., Toxicology and Therapeutics.....	3		3	3		3		3	3	
Pharmacy 2y, Dispensing.....	3	4	7	4		3	4	7	4	
Pharmacy 3y, History of.....	1		1	1		1		1	1	
Pharmacy 4f, Pharmaceutical Mathematics.....	2		2	2						
				18						17
<b>FOURTH YEAR (Required)</b>										
Bacteriology 3s, Hygiene and Sanitation.....						1	2	2	2	
Chemistry 5f, Pharmaceutical Assaying and Testing ..	2	6	8	4						
Economics 2f, Pharmaceutical.....	2	3	5	3						
Law 3s, Pharmacy Laws and Regulations.....						3		3	3	
Pharmacy 101y, Manufacturing.....	2	2	4	3		2	2	4	3	
Pharmacy 6y, Pharmaceutical Practice (2).....	½	1½	2	1		½	1½	2	1	
Electives.....				7						8
				18						17
<b>FOURTH YEAR (Electives)</b>										
Botany 102y, Advanced Vegetable Histology.....	2	4	6	4		2	4	6	4	
*Chemistry 102y, Physical.....	2	3	5	3		2	3	5	3	
*Chemistry 103y, Physiological.....	2	4	6	4		2	4	6	4	
Chemistry 101s, Food and Drug Analysis.....						2	4	6	4	
Pharmacology 101f, Biological Assaying and Testing..	2	4	6	4						
†Zoology 2s, Vertebrate Zoology.....						3	4	7	4	
Thesis.....				1						1

†Instruction in these courses is given by the College of Arts and Sciences.

\*Additional courses approved by the College of Arts and Sciences for credit toward the fulfillment of medical school entrance requirements.

(1) Students preparing to enter medical school are required to take Zoology 2s in addition to this course.

(2) A total of 32 hours of hospital pharmacy practice is required. The laboratory periods are in reality two or more hours in length.

**CURRICULUM**  
**SUMMARY OF HOURS AND CREDITS**

COURSE	Di- dactic	Labor- atory	Total	Credit Hours
<b>FIRST YEAR</b>				
Botany 1s.....	48	48	96	3
Chemistry 1y.....	96	160	256	8
English 1y.....	96	---	96	6
Mathematics 1f.....	48	---	48	3
Mathematics 2s.....	48	---	48	3
Modern Language 1y or 3y.....	128	---	128	8
Zoology 1f.....	48	96	144	4
Total.....	512	304	816	35
<b>SECOND YEAR</b>				
Botany 2f.....	32	64	96	4
Botany 3s.....	---	64	64	2
Chemistry 2y.....	96	128	224	8
English 2y.....	32	---	32	2
Pharmacy 1y.....	96	128	224	8
Physics 1y.....	96	64	160	8
Physiology 1s.....	48	---	48	3
Total.....	400	448	848	35
<b>THIRD YEAR</b>				
Bacteriology 1f.....	32	64	96	4
Bacteriology 2s.....	32	---	32	2
Chemistry 101f.....	48	64	112	4
Chemistry 4s.....	32	64	96	4
Economics 1s.....	48	---	48	3
Pharmacology 1y.....	96	---	96	6
Pharmacy 2y.....	96	128	224	8
Pharmacy 3y.....	32	---	32	2
Pharmacy 4f.....	32	---	32	2
Total.....	448	320	768	35
<b>FOURTH YEAR—(Required)</b>				
Bacteriology 3s.....	32	---	32	2
Chemistry 5f.....	32	96	128	4
Economics 2f.....	32	48	80	3
Law 3s.....	48	---	48	3
Pharmacy 101y.....	64	64	128	6
Pharmacy 6y.....	16	32	48	2
Electives.....	128†	224†	352†	15
Total.....	352	464	816	35
<b>FOURTH YEAR (Electives)</b>				
Botany 102y.....	64	128	192	8
Chemistry 102y.....	64	96	160	6
Chemistry 103y.....	64	128	192	8
Chemistry 101s.....	32	64	96	4
Pharmacology 101f.....	32	64	96	4
Zoology 2s.....	48	64	112	4
Thesis.....	---	---	64	2
<b>SUMMARY</b>				
First Year.....	512	304	816	35
Second Year.....	400	448	848	35
Third Year.....	448	320	768	35
Fourth Year.....	352	464	816	35
Total.....	1712	1536	3248	140

† Average.

## DESCRIPTION OF COURSES\*

## BACTERIOLOGY

1f. **General Bacteriology**—Classification and general characteristics of micro-organisms and the common protozoa, including the study of culture media and methods of isolation and cultivation.

*Third year, first semester, two lectures or recitations, two laboratory periods. Bryan and Hunt.*

2s. **Serology and Immunology**—A study of the principles of immunity and of the preparation of serums and vaccines. Prerequisite—Bacteriology 1f.

*Third year, second semester, two lectures or recitations. Bryan and Hunt.*

3s. **Hygiene and Sanitation**—Practical applications of bacteriology as applied to public-health problems, with special reference to prophylaxis and control of infectious diseases. The last two months will be devoted entirely to practical work in first aid.

*Fourth year, second semester, two lectures or demonstrations. Bryan and Slama.*

## BOTANY

1s. **Structural Botany**—A course in structural botany (organography), including classification and physiology of plant structures.

*First year, second semester, three lectures or recitations, one laboratory period. Slama, Shulman and De Dominicis.*

2f. **General Pharmacognosy**—A study of the physical characteristics of drugs, with special reference to the identification and purity of vegetable drugs. Prerequisite—Botany 1s.

*Second year, first semester, two lectures or recitations, two laboratory periods. Slama, Shulman and De Dominicis.*

3s. **Vegetable Histology**—A microscopic study of the structure of medicinal plants, including powdered drugs. Prerequisite—Pharmacognosy 2f.

*Second year, second semester, two laboratory periods. Slama, Shulman and De Dominicis.*

101y. **Taxonomy of the Higher Plants**—A study of the kinds of seed plants and ferns, their classifications, and field work on local flora. Emphasis will be placed on official drug plants. Instruction will be given in the preparation of an herbarium. Elective for students who contemplate taking advanced work in pharmacognosy.

*One lecture, one laboratory period.*

102y. **Advanced Course in Vegetable Histology**—Lectures and laboratory work covering advanced plant anatomy, embedding of material in celloidin and paraffin, section cutting, etc., leading to research.

*Throughout the year, two lectures and two laboratory periods.*

\* Courses for undergraduates are designated by numbers 1-99; courses for advanced undergraduates and graduates by numbers 100-199, and courses for graduates, by numbers 200-299.

The letter following the numbers of a course indicates the semester in which it is offered; thus, course 1f is offered in the first semester; 1s, in the second semester. The letter "y" indicates a full-year course.

The semester hour, which is the unit of credit, is the equivalent of a subject pursued one period a week for one semester. A laboratory period is equivalent to one lecture or recitation period.

201y. **Advanced Course in Study of Vegetable Powders**—A study of powdered vegetable drugs and spices from the structural and micro-chemical standpoints, including practice in identification and the detection of adulterants.

*Throughout the year, two lectures and two laboratory periods.*

202y. **Advanced Taxonomy of Vascular Plants**—Credit dependent on work done. Prerequisite—Pharmacognosy 101y.

203y. **Research in Pharmacognosy**—Credit according to amount and quality of work performed. Open to graduate students only.

#### CHEMISTRY (BASAL COURSES)

1y. **General Inorganic Chemistry and Qualitative Analysis**—The first semester is devoted to a study of the chemistry of the non-metals and the fundamental concepts of inorganic chemistry. During the second semester the metallic elements are studied from the standpoint of systematic qualitative analysis.

*Throughout the first year, three lectures or recitations, two laboratory periods. Vanden Bosche, Wich, Goldstein, Manchey, and Zervitz.*

2y. **Organic Chemistry**—General organic chemistry, including aliphatic and aromatic derivatives. Compounds of special interest to pharmacy are also prepared. Prerequisite—Chemistry 1y.

*Throughout the second year, three lectures or recitations, two laboratory periods. Starkey, Goldstein, Manchey, and Zervitz.*

#### CHEMISTRY (PHARMACEUTICAL)

4s. **Quantitative Analysis**—A study of quantitative methods. Prerequisites—Chemistry 1y and 2y.

*Third year, second semester, two lectures or recitations and two laboratory periods. Jenkins, Wich Cwalina, Zervitz and Dunker.*

5f. **Pharmaceutical Assaying and Testing**—A study of the quantitative tests for the standardization of drugs and medicines, with special reference to the methods of the United States Pharmacopoeia and National Formulary. Prerequisites—Chemistry 2y and Pharmacy 3y.

*Fourth year, first semester, two lectures or recitations, three laboratory periods. Jenkins, Bauer, and Cwalina.*

101f. **Chemistry of Medicinal Products**—A study of the more important medicinal plant products and of synthetic compounds. The laboratory work will include the isolation and identification of plant principles and the preparation of the simpler organic compounds used in medicine. Prerequisites—Chemistry 1y and 2y.

*Third year, first semester, three lectures or recitations, two laboratory periods. Jenkins, Bauer, and Cwalina.*

101s. **Food and Drug Analysis**—A study of the methods employed by public health laboratories to control food and drug products.

*Fourth year, second semester, two lectures or recitations, and two laboratory periods. Jenkins.*

201y. **Advanced Survey of Pharmaceutical Chemistry**—A study of practical methods of isolation, separation, identification, and analysis of the complex active principles of crude drugs.

*Throughout the year, two lectures and two laboratory periods. Given every other year. Jenkins.*

**202y. Advanced Pharmaceutical Syntheses**—A study of the application of synthetic reaction methods to the synthesis of complex medicinal substances, and a study of the properties and structure of the products obtained by physical, chemical, and physiological methods.

*Throughout the year, two lectures and two laboratory periods. Given every other year. Jenkins.*

**203y. Pharmaceutical Chemistry Seminar**—Reports of progress and discussion of the problems encountered in research and the presentation of papers which survey the recent developments of pharmaceutical chemistry reported in the current literature.

*Two to four credits. Jenkins.*

**204y. History of Pharmaceutical Chemistry**—A study of the development of pharmaceutical chemistry in relation to the history of other sciences, industry, and civilization.

*One lecture. Jenkins.*

**205y. Research in Pharmaceutical Chemistry**—Credit to be determined by the amount and the quality of the work performed.

*Open to graduate students only. Jenkins.*

#### CHEMISTRY (PHYSICAL)

**102y. Physical Chemistry**—Fundamental concepts of physical and colloidal chemistry. Prerequisites—Chemistry 1y, 2y, and 4s.

*Throughout the fourth year, two lectures or recitations, one laboratory period. Vanden Bosche.*

#### CHEMISTRY (PHYSIOLOGICAL)

**103y. Physiological Chemistry**—A study of the chemistry of metabolism, body fluids and secretions. Prerequisites—Chemistry 1y, 2y, and 4s.

*Throughout the fourth year, two lectures or recitations and two laboratory periods. Bauer.*

#### ECONOMICS AND LAW

**1s. Principles of Economics**—A study of the general principles of economics—production, exchange, distribution, and consumption of wealth.

*Third year, second semester, three lectures or recitations. Cole and Hunt.*

**2f. Pharmaceutical Economics**—Business forms and practices applicable to pharmacy, including contracts, agency, insurance, with practice in bookkeeping, banking, and financial statements.

*Fourth year, first semester, two lectures or recitations, one laboratory period. Cole and Hunt.*

**3s. Pharmacy Laws and Regulations**—Fundamentals of law of importance to pharmacists, with special reference to the regulation of the practice of pharmacy; laws and regulations pertaining to the dispensing of poisons, narcotics, and alcoholic liquors and preparations.

*Fourth year, second semester, three lectures or recitations. Cole.*

#### ENGLISH

**1y. Composition and Rhetoric**—The course embraces parts, principles, and conventions of effective thought communication; reading, study, and analysis of standard contemporary prose specimens; original exercises and themes.

*Throughout the first year, three lectures or recitations. Pyles, Foley, and Ball.*

**2y Reading and Speaking**—Principals and technique of oral expression; enunciation, emphasis, inflection, force, gesture, and general delivery of short original speeches. Impromptu speaking. Theory and practise of parliamentary procedure.

*Throughout the second year, one recitation. Foley and Ball.*

#### MATHEMATICS

**1f. Algebra**—Quadratics, simultaneous quadratic equations, graphs, progressions, and logarithms.

*First year, first semester, three lectures or recitations. Schad and Richeson.*

**2s. Trigonometry**—Trigonometric functions, including deduction of formulas and their application to the solution of triangles, trigonometric equations, etc. Prerequisite—Mathematics 1f.

*First year, second semester, three lectures or recitations. Schad and Richeson.*

#### MODERN LANGUAGES

**1y. German**—Grammar, dictation, oral and written translation from English into German, reading of prose selections and short stories.

*Throughout the first year, four lectures or recitations. Parsons and Friedrich.*

**3y. German**—Review of grammar and reading of prose selections during the first semester; reading of scientific texts during the second semester.

*Throughout the first year, four lectures or recitations. Parsons and Friedrich.*

**1y. French**—Elements of grammar, drill upon pronunciation, composition, conversation, reading of prose selections and short stories.

*Throughout the first year, four lectures or recitations. Parsons and Friedrich.*

**3y. French**—Review of grammar and reading of prose selections during the first semester; reading of scientific texts during the second semester.

*Throughout the first year, four lectures or recitations. Parsons and Friedrich.*

Students will be assigned to one of the two languages by the department. The assignment will ordinarily be made on the basis of the student's previous training.

No credit will be given for the first semester until the second semester has been completed.

Eight hours credit in Spanish will be accepted in lieu of the foregoing.

#### PHARMACOLOGY

**1y. Pharmacology, Toxicology, and Therapeutics**—A study of the physiological action, toxicity, and therapeutic uses of medicinal substances, with special reference to the drugs and preparations of the United States Pharmacopoeia and the National Formulary. Prerequisite—Physiology 1s.

*Throughout the third year, three lectures or recitations. Thompson, Ichniowski, and Roberts.*

**101f. Biological Assaying and Testing**—A course in physiological drug assaying, with special reference to the methods of the United States Pharmacopoeia and the National Formulary. Prerequisites—Physiology 1s. and Pharmacology 1y.

*Fourth year, first semester, two lectures and two laboratory periods. Thompson, Ichniowski, and Roberts.*

**201y. Advanced Biological Assaying and Testing**—A study of modern unofficial methods of physiological assaying applied to the evaluation of medicinal substances. Prerequisite—Pharmacology 101f.

*Two lectures and two laboratory periods. Thompson.*

**202y. Special Studies in Pharmacodynamics**—Chiefly a study of the stability of drugs and their corresponding pharmaceutical preparations by physiological assay methods. Prerequisite—Pharmacology 101f.

*Two lectures and two laboratory periods. Thompson.*

**203y. Physiological Assay Methods**—The development of physiological assay methods for drugs for which no satisfactory chemical or physiological methods are known, involving both library and experimental studies. Prerequisite—Pharmacology 101f.

*Two lectures and two laboratory periods. Thompson.*

**204y. Research in Pharmacology and Therapeutics**—Credit in proportion to the amount and quality of the work performed.

*Open to graduate students only. Thompson.*

#### PHARMACY

**1y. Galenical Pharmacy**—A study of the theory of pharmaceutical manipulations and the practical application of the theory to the manufacture of galenical preparations.

*Throughout the second year, three lectures or recitations, two laboratory periods. DuMez, Andrews, Baker, and Wright.*

**2y. Dispensing Pharmacy**—A study of the compounding and dispensing of prescriptions. Prerequisite—Pharmacy 1y.

*Throughout the third year, three lectures or recitations, two laboratory periods. Wolf, Andrews, Purdum, and Rice.*

**3y. History of Pharmacy**—A study of the history of pharmacy from its beginning, with special emphasis on the history of American pharmacy.

*Throughout the third year, one lecture. DuMez.*

**4f. Pharmaceutical Mathematics**—A study of weights and measures, and the mathematical calculations employed in pharmacy.

*Third year, first semester, two lectures or recitations. Andrews, Baker, Purdum, and Wright.*

**6y. Pharmaceutical Practice**—Practical work in drug-store arrangement; the handling of drugs, medicines, and drug sundries, and in dispensing in hospital pharmacies. Prerequisite—Pharmacy 1y.

*Throughout the fourth year, lectures, demonstrations, and 30 hours of practical work in a hospital pharmacy. Wolf and Andrews.*

**101y. Manufacturing Pharmacy**—A continuation of the course given in the second year, with special reference to the methods employed in the manufacture of pharmaceuticals on a commercial scale.

*Throughout the fourth year, two lectures or recitations, one laboratory period. DuMez and Andrews.*

**201y. Advanced Pharmaceutical Technology**—A study of pharmaceutical manufacturing processes from the standpoint of plant; crude materials used, their collection, preservation, and transformation into forms suitable for therapeutic use.

*Throughout the year, two lectures and two laboratory periods. DuMez.*

**202y. Survey of Pharmaceutical Literature**—Lectures and topics on the literature pertaining to pharmacy, with special reference to the origin and development of the works of drug standards and the pharmaceutical periodicals.

*Throughout the year, one hour. DuMez.*

**203y. History of Pharmacy**—Lectures and topics on the development of pharmacy in America and the principal countries in Europe.

*Throughout the year, two hours. DuMez.*

**204y. Research in Pharmacy.**

*Credit and hours to be arranged. DuMez.*

#### PHYSICS

**1y. General Physics**—The laws, principles, and theories that govern the various physical phenomena in sound, light, magnetism, electricity, mechanics, and heat.

*Throughout the second year, three lectures or recitations, one laboratory period. Roseberry and Pittman.*

#### PHYSIOLOGY

**1s. Physiology**—Elementary anatomy and histology of the body, including a study of the functions of the various organs and of dietetics.

*Second year, second semester, three lectures or recitations. Thompson, Ichniowski, and Roberts.*

#### ZOOLOGY

**1f. General Zoology**—A study chiefly of invertebrate animals, with laboratory work on typical specimens of each of the various phyla.

*First year, first semester, three lectures or recitations, two laboratory periods. Thompson, O'Brien, and Carson.*

**2s. Vertebrate Zoology**—Introduction to the Chordata; study of the functions or organs and anatomy of several vertebrate types, with special emphasis on the cat.

*Second semester, three lectures or recitations, two laboratory periods. Required only of students preparing for medicine. Thompson, O'Brien, and Carson.*

#### TEXT-BOOKS

The books required in each course will be announced at the beginning of each semester by the teacher in charge. Each student will be required to have his own text-books.

#### IMPORTANT NOTICE

*The rules and conditions stated in this prospectus will govern students until the next succeeding issue, after which time they will be governed by the conditions stated in the latter.*

## ROLL OF STUDENTS

## SESSION OF 1934-35

## † GRADUATE STUDENTS

Baker, William B.....	Md.	Manchey, L. Lavan.....	Pa.
Bruening, Charles Frederick.....	Md.	Purdum, William Arthur.....	Md.
Cwalina, Gustav Edward.....	Md.	Rice, Robb Vernon.....	Mont.
DeDominicis, Amelia Carmel.....	Md.	Roberts, Bertran S.....	Md.
Dunker, Melvin Frederick William.....	Md.	Rosen, Harry.....	D. C.
Goldstein, Samuel William.....	Md.	Sherman, Louis Lazar.....	Md.
Grove, Donald Cooper.....	Md.	Shulman, Emanuel V.....	Md.
Hoshall, Edward Melchior.....	Md.	Slama, Frank James.....	Md.
Hunt, William Howard.....	Md.	Vogel, Louis, Jr.....	Md.
Ichniowski, Casimer Thaddeus.....	Md.	Zervitz, Max Morton.....	Md.

## FOURTH-YEAR CLASS

Blitz, Louis.....	Md.	*Lusco, Santi Vincent.....	Md.
Bricle, Henry Alison.....	Md.	Mandrow, Mary Annie.....	Md.
Ciurca, Joseph Charles.....	Md.	Noel, Harriett Ruth.....	Md.
Cohen, Bernard Carlton.....	Md.	Ogrinz, Alexander John.....	Md.
Healey, William George, Jr.....	Md.	Prostic, Harry.....	Md.
*Horwitz, Isadore.....	Md.	Sperandeo, Frank Joseph.....	Md.
Kirk, Catherine Evans.....	Md.	Stain, Dorothy.....	Md.

## THIRD-YEAR CLASS (Three Year Course)

Drennen, James Holly.....	Md.	Molinari, Salvatore.....	Md.
Euzent, Hannah.....	Md.	Pressman, Harry.....	Md.
Feret, Julius Walter.....	Md.	Sister Mary Adamar Mess.....	Md.
Glass, Abraham L.....	Md.	Sister Mary Theodosia Pruner.....	Md.
Honkofsky, Jerome.....	Md.	Steel, Harold.....	Md.
Leibowitz, Benjamin.....	Md.	Walman, Morris.....	Md.
Levin, Israel.....	Md.		

## THIRD-YEAR CLASS (Four-Year Course)

Baylus, Herman.....	Md.	Moskey, Thomas Andrew, Jr.....	D. C.
Bellman, Frank Albert.....	Md.	Muskatt, Edith.....	Md.
Berkowich, Melvin Irwin.....	Pa.	Nuttall, James Baker.....	Md.
Bernstein, Aaron.....	Md.	Ogurick, Alex.....	Md.
Cherry, Bernard.....	Md.	Paul, Frank Ronald.....	Md.
Cohen, Frank Samuel.....	Md.	Peretz, Harry.....	Md.
Cohen, Sammie Herbert.....	Md.	Platt, William.....	Md.
David, Irvin.....	Md.	Rachuba, Lawrence William.....	Md.
Foster, Carroll Pross.....	Md.	Reamer, Sidney Harold.....	Md.
Freed, Arnold Ulysses.....	Md.	Reimann, Dexter Leroy.....	Md.
Freedman, Albert.....	Md.	Richter, Conrad Louis.....	Md.
Gaver, Leo Junior.....	Md.	Robinson, Harry Bernard.....	Md.
Goldberg, Sylvan David.....	Md.	Robinson, Raymond Clarence Vail.....	Md.
Goumaris, Themistocles N.....	Md.	Rodney, George.....	Md.
Hartman, Oscar.....	Md.	Sadove, Max Samuel.....	Md.
Hewing, Ada Chamberlain.....	Md.	Sause, Milton Philip.....	Md.
Hoffman, Asher.....	Md.	Shochet, Sidney.....	Md.
Jankiewicz, Frank Joseph.....	Md.	Silberg, Harvey Gerald.....	Md.
Kamber, Bertram.....	Md.	Silverman, Sylvan.....	Md.
Kandel, Leonard Elliot.....	Md.	Smith, William Harry, Jr.....	Md.
Kappelman, Melvin Daniel.....	Md.	Survil, Anthony Adolph.....	Md.
Kleczynski, Thomas Carter.....	Md.	Tenberg, David Paul.....	Md.
Kobin, Benny.....	Md.	Thompson, Paul Howard.....	S. D.
Kurland, Albert Alexander.....	Pa.	Tramer, Arnold.....	Md.
Laken, Benjamin Bernard.....	Md.	*Tublin, Solomon.....	Md.
Levin, Benjamin.....	Md.	Vondracek, John Wesley.....	Md.
Levin, Nathan.....	Md.	Wilder, Milton Jay.....	Md.
Marks, Irving Lowell.....	Md.	Winakur, Arthur.....	Md.
McGinity, F. Rowland.....	Md.	Youch, Charles Anthony.....	Md.
McNamara, Bernard Patrick.....	Md.		

\* Did not attend entire session.

† Registered in Graduate School.

## SECOND-YEAR CLASS

Allen, Benjamin Frank	Md.	Mindell, Charles	Md.
Alliker, Morris Joshua	Md.	Morgenstern, Emma Louise	Md.
Alperstein, Reuben R.	Md.	Mouat, Gordon Anthony	Md.
*Aumiller, William Nicholas	Md.	Musacchio, Leo Milton	Md.
Beck, Sylvan E.	Md.	Myers, Irvin Louis	Md.
Bliden, Abraham	Md.	Neutze, John Frederick	Md.
Brune, Richard C.	Md.	Novak, Arthur Francis	Md.
Cermak, Jerome Jerry	Md.	Nurkin, Bernice Vivian	Md.
*Cichetti, Licio Thomas	Md.	Pierpont, Ross Zimmerman	Md.
Cohen, Hershel	Md.	Purdum, Frank Lewis	Md.
*Conner, Elmer Smith, Jr.	Md.	Rabinowitz, Irving Wolf	Md.
Crane, Warren Eugene	N. J.	Rapoport, Leonard	Md.
Damico, Samuel	Md.	Raudonis, John Anthony	N. H.
Dawson, Leroy Oldham	Md.	Rosenfeld, Israel Aaron	Md.
Einbinder, Sylvan Phillip	Md.	Rutkowski, Edward Paul Vincent	Md.
Ellerin, Albert Abraham	Md.	Santoni, Daniel Anthony	Md.
Enten, Harry	Md.	Sapperstein, Edward	Md.
Fish, Herman Jesse	Md.	Sborofsky, Isadore	Md.
Friedman, Charles S.	W. Va.	Scherr, Melvin Gerald	Md.
Friedman, Leonard	Md.	*Schulte, William Albert	Md.
Giller, Morris	Md.	Schumm, Frederick Albert	Md.
Ginaitis, Alphonsus Stephen	Md.	Seechuk, William Walter	Md.
Glickman, Shirley	Md.	Semer, Gerald Melvin	Md.
Hanna, William Melvin	Md.	Silverman, Irvin Israel	Md.
Heyman, Albert	Md.	Stone, Harry	Md.
Hoffman, Sylvan Allen	Md.	Supik, William Joseph	Md.
Hope, Daniel, Jr.	Md.	Tompakov, Sylvan	Md.
Inloes, Benjamin Harrison, Jr.	Md.	Traband, Millard Tolson, Jr.	Md.
Karns, James Roscoe	Md.	Turner, Albert Franklin	Md.
Karpa, Jerome Jay	Md.	Valle, Philip Joseph	Md.
Kosakowski, Chester George	Md.	Walb, Winfield Alexander	Md.
*Laken, Joshua	Md.	Wasilewski, Theodore John	Md.
Levy, Frank Ferdinand	Md.	Waxman, Milton	Md.
Lieb, Frank J.	Md.	Weiner, David	Md.
Martin, Clarence Wilbur	Md.	Weisberg, Ruth R.	Md.
Mayer, Alexander Maass	Md.	Winn, Solomon	Md.
Merkel, Henry	Md.	Yaffee, Morris Robert	Md.
Meusel, Jerome Andrew	Md.	Zenitz, Bernard Leon	Md.
Miller, Solomon	Md.		

## FIRST-YEAR CLASS

Aaronson, Alfred Irving	Md.	Hamlin, Kenneth E., Jr.	Md.
Abrams, Arnold	Md.	Harrison, Kenneth Leo, Jr.	Md.
Alessi, Rudolph Edgar	Md.	Hayes, Louis E. Jr.	Md.
Amorky, Herman Maurice	Va.	Heyman, Bernice	Md.
Appel, Andrew	Md.	Hopkins, Carville Benson	Md.
Azzara, Lucy Rita	Md.	*Ingraham, Harold Charles	Md.
Barry, John Gordon	Md.	Jarowski, Charles	Md.
Beam, Merlin Ayler	Md.	Jones, Cyrus Francis	Md.
Bixler, Richard Stevenson	Md.	Kaminkow, Joseph	Md.
Bloom, Morton I.	Md.	*Kaminkow, Joseph Hyman	Md.
Boyd, Frank E.	Md.	Kardash, Theodore	Md.
Bundick, William Ross	Md.	Katz, Emanuel Oscar	Md.
Cohen, Bernard Isaac	Md.	Katz, Morton	Md.
Colvin, Ralph	Md.	*Katzen, Isador	Md.
*Combs, Joseph Lee	Md.	Kelley, Gordon William	Md.
Creeger, Julius Leon	Md.	Kellough, Elmer Robert Jr.	Md.
DiGristine, Charles Lawrence	Md.	*Kessler, Jerome	Md.
Edlavitch, Sam	Md.	Kovitz, Armand	Md.
*Ewell, John Wardlaw	Md.	Kramer, Bernard	Md.
Feldman, Jack	Md.	Krieger, Edgar	Md.
Floyd, Melvin Luther	Md.	Levin, Benjamin Samuel	Md.
Fribush, Sidney	Md.	Levin, Jacob Benny	Md.
*Friedman, Aaron	Md.	Levin, Norman Jack	Md.
Friedman, Marion	Md.	Levy, Bernard	Md.
*Furman, Alphonse Charles	Md.	Loftus, Howard Edmond	Md.
Gakenheimer, Walter Christian	Md.	Matelis, Olga Pauline	Md.
Galley, Roland Paul	Md.	Mazer, Robert	Md.
Gendason, Harry Benjamin	Md.	*Mecinski, Thaddeus Joseph	Md.
*Gertz, Rubin	Md.	Mendelsohn, Daniel	Md.
Green, Bernard	Md.	Morgenstern, William August, Jr.	Md.
Gregorek, Frank Julius	Md.	Muehlhause, Ruth Virginia	Md.
Gude, William Diffenderfer	Md.	Oleszczuk, Melvin Joseph	Md.
Hager, George Philip	Md.	Pressman, Isadore	Md.
Hamburger, Morton Leonard	Md.	Pearlman, Albert	Md.

\* Did not attend entire session.

## FIRST-YEAR CLASS (Continued)

Pucklis, Frank Stanley.....	Md.	Swearer, Conrad.....	Md.
Rasinsky, Milton.....	Md.	*Thaler, Albert C.....	Md.
Rhode, John George.....	Md.	*Thompson, Charles Pannett, Jr.....	Md.
Richman, Jacob Louis.....	Md.	Thompson, Robert Edward.....	S. D.
Rochlin, Martin.....	Md.	Vadala, Eugene.....	Md.
Rosenberg, Morris.....	Md.	Wachsman, Irvin Louis.....	Md.
Schade, Joseph Hollis.....	Md.	Webb, Eilene Cecelia.....	Md.
Schneyer, Herbert David.....	Md.	Webster, Thomas Clyde.....	Md.
Schwartz, Harry.....	Md.	Wich, Joseph Carlton.....	Md.
Shuman, Louis Harry.....	Md.	*Wilson, George Kerr, Jr.....	Md.
Siff, Jeannette Mildred.....	Md.	Wojtezuk, John Albert.....	Md.
Silverstein, Bernard.....	Md.	Woody, Earl Leslie.....	Md.
*Stang, Marvin.....	Md.	Zerofsky Harold.....	Md.
Stoler, Myer.....	Md.	Zetlin, Henry Paul.....	Md.
Sussman, Bernard.....	Md.		

## SPECIAL STUDENTS

Bernstein, Leonard Samuel.....	Md.	Hamilton, Kathleen.....	Md.
Brauer, M, Harry.....	Md.	Miller, Milton.....	Md.
Dobbs, Edward Clarence.....	Md.	*Thompson, Norman Benjamin.....	Md.

## ROLL OF GRADUATES, JUNE 2, 1934

## † DOCTOR OF PHILOSOPHY

Greenberg, Harry Lee.....	Md.
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## ‡ MASTER OF SCIENCE

Dyott, William Heller.....	Md.	Purdum, William Arthur.....	Md.
Hunt, William Howard.....	Md.	Wright, Thomas Gorsuch.....	Md.
Millett, Sylvia.....	Md.		

## BACHELOR OF SCIENCE IN PHARMACY

Alessi, Edward James.....	Md.	Myerovitz Joseph Robert.....	Md.
†Czekaj, Leo Michael.....	Md.	Nusinow, Samuel.....	Md.
Dausch, Michael Joseph.....	Md.	Parr, William Andrew.....	Md.
Dittrich, Theodore Thomas.....	Md.	Preston, Bernard John, Jr.....	Md.
Droz, Joseph.....	Md.	Rotkovitz, William.....	Md.
Dunker, Melvin F. W.....	Md.	Shimanek, Lawrence Joseph.....	Md.
Fox, Lester Mitchel.....	Md.	Stecher, Joseph Louis.....	Md.
Gareis, Louis Calvin.....	Md.	Vogel, Louis, Jr.....	Md.
Grollman, Jaye Jacob.....	Md.	Wehner, Daniel George.....	Md.
Landsberg, J. Walter.....	Md.	Weinstein, Jacob Joseph.....	Md.
Moses, Benjamin Bernard.....	Md.		

\* Did not attend entire session.

† Degree conferred by Graduate School.

‡ Degree conferred September 1934.





