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BULLETIN OF SWARTHMORE COLLEGE

CATALOGUE
OF
SWARTHMORE
COLLEGE

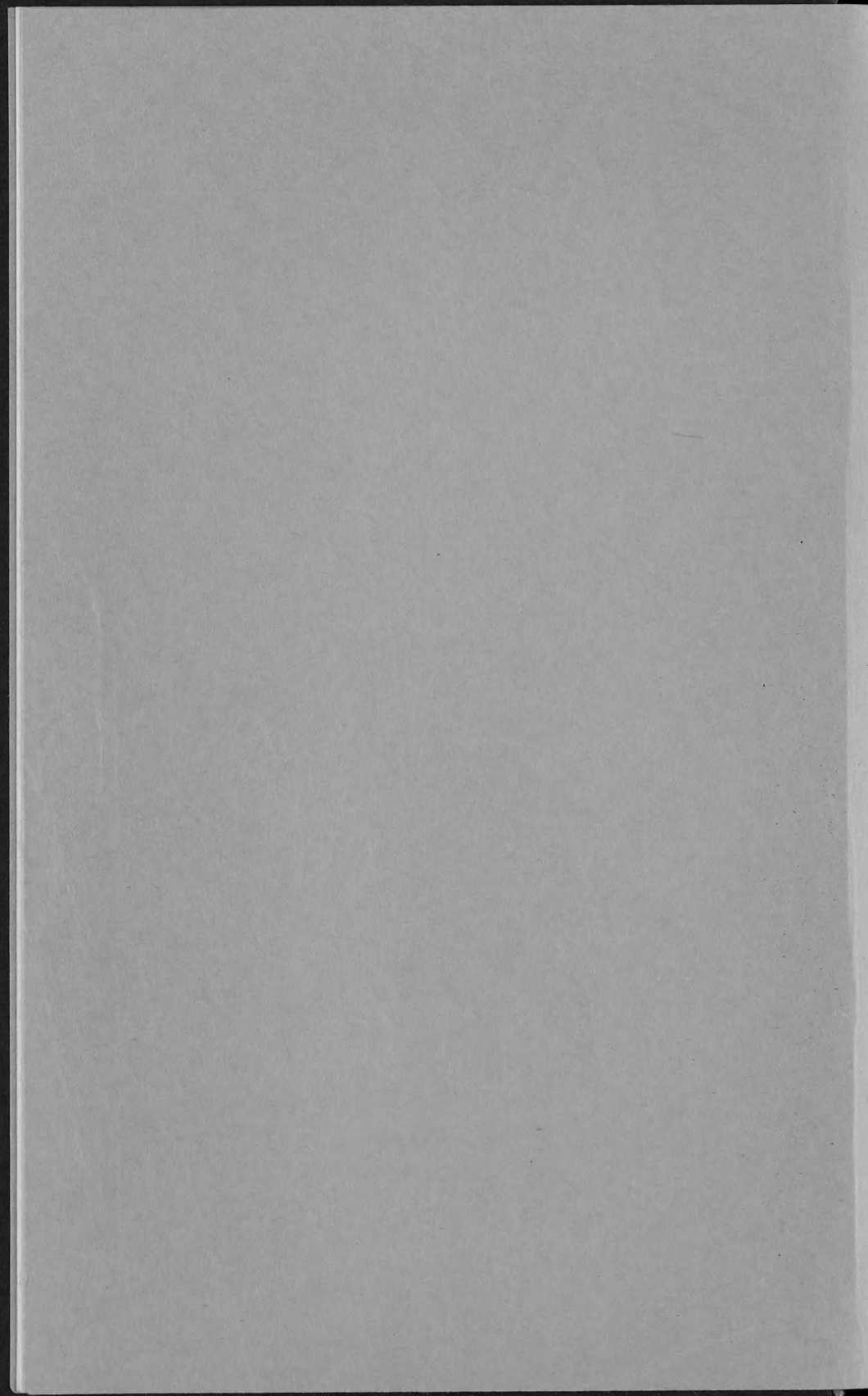
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SWARTHMORE, PA.

Volume XXXVIII, No. 3

Tenth Month, 1940







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BULLETIN

CATALOGUE NUMBER
SEVENTY-SECOND YEAR
1940-1941

SWARTHMORE, PENNSYLVANIA

Volume XXXVIII

Number 3

Tenth Month, 1940

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1941/43

CALENDAR FOR 1940

SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
I 2 3 4 5 6 7	I 2 3 4 5	I 2	I 2 3 4 5 6 7
8 9 10 11 12 13 14	6 7 8 9 10 11 12	3 4 5 6 7 8 9	8 9 10 11 12 13 14
15 16 17 18 19 20 21	13 14 15 16 17 18 19	10 11 12 13 14 15 16	15 16 17 18 19 20 21
22 23 24 25 26 27 28	20 21 22 23 24 25 26	17 18 19 20 21 22 23	22 23 24 25 26 27 28
29 30	27 28 29 30 31	24 25 26 27 28 29 30	29 30 31

CALENDAR FOR 1941

JANUARY	FEBRUARY	MARCH	APRIL
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
I 2 3 4	I	I	I 2 3 4 5
5 6 7 8 9 10 11	2 3 4 5 6 7 8	2 3 4 5 6 7 8	6 7 8 9 10 11 12
12 13 14 15 16 17 18	9 10 11 12 13 14 15	9 10 11 12 13 14 15	13 14 15 16 17 18 19
19 20 21 22 23 24 25	16 17 18 19 20 21 22	16 17 18 19 20 21 22	20 21 22 23 24 25 26
26 27 28 29 30 31	23 24 25 26 27 28	23 24 25 26 27 28 29	27 28 29 30
		30 31	

MAY	JUNE	JULY	AUGUST
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
I 2 3	I 2 3 4 5 6 7	I 2 3 4 5	I 2
4 5 6 7 8 9 10	8 9 10 11 12 13 14	6 7 8 9 10 11 12	3 4 5 6 7 8 9
11 12 13 14 15 16 17	15 16 17 18 19 20 21	13 14 15 16 17 18 19	10 11 12 13 14 15 16
18 19 20 21 22 23 24	22 23 24 25 26 27 28	20 21 22 23 24 25 26	17 18 19 20 21 22 23
25 26 27 28 29 30 31	29 30	27 28 29 30 31	24 25 26 27 28 29 30
			31

SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
I 2 3 4 5 6	I 2 3 4	I	I 2 3 4 5 6
7 8 9 10 11 12 13	5 6 7 8 9 10 11	2 3 4 5 6 7 8	7 8 9 10 11 12 13
14 15 16 17 18 19 20	12 13 14 15 16 17 18	9 10 11 12 13 14 15	14 15 16 17 18 19 20
21 22 23 24 25 26 27	19 20 21 22 23 24 25	16 17 18 19 20 21 22	21 22 23 24 25 26 27
28 29 30	26 27 28 29 30 31	23 24 25 26 27 28 29	28 29 30 31
		30	

CALENDAR FOR 1942

JANUARY	FEBRUARY	MARCH
S M T W T F S	S M T W T F S	S M T W T F S
I 2 3	I 2 3 4 5 6 7	I 2 3 4 5 6 7
4 5 6 7 8 9 10	8 9 10 11 12 13 14	8 9 10 11 12 13 14
11 12 13 14 15 16 17	15 16 17 18 19 20 21	15 16 17 18 19 20 21
18 19 20 21 22 23 24	22 23 24 25 26 27 28	22 23 24 25 26 27 28
25 26 27 28 29 30 31		29 30 31

APRIL	MAY	JUNE
S M T W T F S	S M T W T F S	S M T W T F S
I 2 3 4	I 2	I 2 3 4 5 6
5 6 7 8 9 10 11	3 4 5 6 7 8 9	7 8 9 10 11 12 13
12 13 14 15 16 17 18	10 11 12 13 14 15 16	14 15 16 17 18 19 20
19 20 21 22 23 24 25	17 18 19 20 21 22 23	21 22 23 24 25 26 27
26 27 28 29 30	24 25 26 27 28 29 30	28 29 30
	31	

COLLEGE CALENDAR

1940

- Ninth Month 19-23 Freshman Placement Days
Ninth Month 24..... Registration and Enrolment in Classes, 2:00 to
4:00 P. M.
Ninth Month 25..... Classes begin at 8:00 A. M.
Ninth Month 25..... Opening of Honors Work
Tenth Month 1..... Meeting of the Board of Managers
Eleventh Month 6..... Executive Committee of the Board of Managers
Eleventh Month 28..... Holiday: Thanksgiving
Twelfth Month 3..... Annual Meeting of the Board of Managers
Twelfth Month 20..... Christmas Recess begins at 6:00 P. M.

1941

- First Month 8..... Christmas Recess ends at 8:00 A. M.
First Month 14..... Executive Committee of the Board of Managers
First Month 17..... Registration and Enrolment in Classes for the
Second Semester, 10:30 A. M. to NOON
First Month 18..... First Semester ends for Courses and Honors
Seminars
First Month 20..... Second Semester begins for Honors Seminars
First Month 20, 21..... Review Period for Course Students
First Month 22..... Mid-Year Examinations begin
First Month 30..... Mid-Year Examinations end
Second Month 3..... Second Semester begins at 8:00 A. M.
Second Month 4..... Executive Committee of the Board of Managers
Third Month 4..... Meeting of the Board of Managers
Third Month 28..... Spring Recess begins at 6:00 P. M.
Fourth Month 8..... Spring Recess ends at 8:00 A. M.
Fourth Month 8..... Executive Committee of the Board of Managers
Fourth Month 12..... Somerville Day
Fifth Month 3..... Honors Seminars for Seniors end
Fifth Month 6..... Executive Committee of the Board of Managers
Fifth Month 10..... Courses for Seniors end
Fifth Month 14..... Honors Written Examinations begin
Fifth Month 16..... Enrolment in Classes for the First Semester,
1941-42
Fifth Month 17..... Courses end
Fifth Month 19, 20..... Senior Comprehensive Examinations
Fifth Month 19, 20..... Review Period for Course Students
Fifth Month 21..... Final Examinations begin
Fifth Month 22..... Honors Oral Examinations begin
Fifth Month 24..... Honors Oral Examinations end
Fifth Month 28..... Final Examinations end
Fifth Month 30..... Meeting of the Board of Managers
Fifth Month 30..... Class Day
Fifth Month 31..... Alumni Day
Sixth Month 1..... Baccalaureate Day
Sixth Month 2..... Commencement Day

- 10th 1-5
Ninth Month 18-22..... Freshman Placement Days
- 10th Ninth Month 23-~~24~~ 25..... Registration and Enrolment in Classes, 2:00 to 4:00 P. M.
- 10th Ninth Month 24..... Classes begin at 8:00 A. M.
- 10th Ninth Month 24-~~25~~ 26..... Opening of Honors Work
- Tenth Month 7..... Meeting of the Board of Managers
- Eleventh Month 5..... Executive Committee of the Board of Managers
- Eleventh Month 27..... Holiday: Thanksgiving
- Twelfth Month 2..... Annual Meeting of the Board of Managers
- Twelfth Month ~~18-20~~ 20..... Christmas Recess begins at 6:00 P. M. Noon

1942

- First Month 5..... Christmas Recess ends at 8:00 A. M.
- First Month 7..... Executive Committee of the Board of Managers
- First Month 16-~~17~~ 18..... Registration and Enrolment in Classes for the Second Semester, 10:30 A. M. to NOON
- First Month 17-~~21~~ 21..... First Semester ends for Courses and Honors Seminars
- First Month 19-~~20~~ 20..... Second Semester begins for Honors Seminars
- First Month 19-~~20~~ 20, 26, 27..... Review Period for Course Students
- First Month 21-~~22~~ 22..... Mid-Year Examinations begin
- 2nd First Month 29-~~30~~ 30..... Mid-Year Examinations end
- Second Month 2-~~3~~ 3..... Second Semester begins at 8:00 A. M.
- Second Month 3..... Executive Committee of the Board of Managers
- Third Month 3..... Meeting of the Board of Managers
- Third Month 27..... Spring Recess begins at 6:00 P. M.
- Fourth Month 7-~~8~~ 8..... Spring Recess ends at 8:00 A. M.
- Fourth Month 7..... Executive Committee of the Board of Managers
- Fourth Month 11..... Somerville Day
- Fifth Month 2-~~3~~ 3..... Honors Seminars for Seniors end
- Fifth Month 5..... Executive Committee of the Board of Managers
- Fifth Month 9-~~10~~ 10..... Courses for Seniors end
- Fifth Month 13-~~14~~ 14..... Honors Written Examinations begin
- Fifth Month 15-~~16~~ 16..... Enrolment in Classes for the First Semester,

1942-43

- Fifth Month 16-~~17~~ 17..... Courses end
- Fifth Month 18, 19-~~20~~ 20, 25, 26..... Senior Comprehensive Examinations
- Fifth Month 18, 19-~~20~~ 20, 25, 26..... Review Period for Course Students
- Fifth Month 20-~~21~~ 21..... Final Examinations begin
- Fifth Month 21-~~22~~ 22..... Honors Oral Examinations begin
- Fifth Month 23-~~24~~ 24..... Honors Oral Examinations end
- 6th Fifth Month 27-~~28~~ 28..... Final Examinations end
- Fifth Month 29..... Meeting of the Board of Managers
- 6th Fifth Month 29-~~30~~ 30..... Class Day
- 6th Fifth Month 30-~~31~~ 31..... Alumni Day
- 6th Fifth Month 31-~~1~~ 1..... Baccalaureate Day
- Sixth Month 1-~~2~~ 2..... Commencement Day

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- CHARLES F. JENKINS, *President*,
232 South Seventh Street, Philadelphia.
HOWARD COOPER JOHNSON, *Vice-President*,
801 Market Street, Philadelphia.
HETTY LIPPINCOTT MILLER, *Secretary*,
Riverton, N. J.
EDWARD B. TEMPLE, *Treasurer*,
Swarthmore, Pa.

BOARD OF MANAGERS

Emeritus

- CAROLINE H. WORTH, Coatesville, Pa.
PHILIP M. SHARPLES, 220 Orange Grove Avenue, South Pasadena, Cal.
ROBERT H. WALKER, 914 Fidelity Building, Baltimore, Md.
Term expires Twelfth Month, 1941
HOWARD COOPER JOHNSON, 801 Market Street, Philadelphia.
HETTY LIPPINCOTT MILLER, Riverton, N. J.
ELSIE PALMER BROWN, 1622 Twenty-ninth Street, N. W., Washington, D. C.
HENRY C. TURNER, 420 Lexington Avenue, New York.
ROBERT E. LAMB, 843 North Nineteenth Street, Philadelphia.
PHEBE UNDERHILL SEAMAN, Jericho, N. Y.
RUTH POTTER ASHTON, 409 Elm Avenue, Swarthmore, Pa.
NICHOLAS KELLEY, 70 Broadway, New York, N. Y.

Term expires Twelfth Month, 1942

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EDWARD B. TEMPLE, Swarthmore, Pa.
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EDWARD M. BASSETT, 1608 Walnut Street, Philadelphia.
HUGH F. DENWORTH, 211 Elm Avenue, Swarthmore, Pa.
HADASSAH MOORE LEEDS, 1025 Westview Street, Mt. Airy, Philadelphia.
ISABEL JENKINS BOOTH, 400 Delaware Street, New Castle, Del.
HELEN WILSON GAWTHROP, R. D. 2, Wilmington, Del.

Term expires Twelfth Month, 1943

- LUCY BIDDLE LEWIS, Lansdowne, Pa.
ISAAC H. CLOTHIER, JR., 801 Market Street, Philadelphia.
BARCLAY WHITE, 22 N. 36th Street, Philadelphia.
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CLAUDE C. SMITH, Baltimore Pike, Swarthmore, Pa.
THOMAS B. McCABE, 607 North Chester Road, Swarthmore, Pa.
EDWARD P. PALMER, 50 Church Street, New York, N. Y.

Term expires Twelfth Month, 1944

- CHARLES F. JENKINS, 232 South Seventh Street, Philadelphia.
T. STOCKTON MATTHEWS, South and Redwood Streets, Baltimore, Md.
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EDITH WILSON JACKSON, 317 North Chester Road, Swarthmore, Pa.
J. ARCHER TURNER, 420 Lexington Avenue, New York, N. Y.
ELISABETH HALLOWELL BARTLETT, 1922 Mt. Royal Terrace, Baltimore, Md.

COMMITTEES OF THE BOARD

The President is ex-Officio a Member of Every Committee

Executive

HENRY C. TURNER
HOWARD COOPER JOHNSON
LUCY BIDDLE LEWIS
MARY LIPPINCOTT GRISCOM
ISAAC H. CLOTHIER, JR.
ROBERT E. LAMB
J. ARCHER TURNER

ROBERT PYLE
ADA GRAHAM CLEMENT
BARCLAY WHITE
LYDIA FOULKE TAYLOR
EDWARD M. BASSETT
ELEANOR STABLER CLARKE
EDITH WILSON JACKSON
CLAUDE C. SMITH

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CLEMENT M. BIDDLE
RALPH J. BAKER

CLAUDE C. SMITH
HUGH F. DENWORTH
NICHOLAS KELLEY
EDWARD P. PALMER

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ROBERT PYLE
HETTY LIPPINCOTT MILLER
HENRY C. TURNER
PHEBE UNDERHILL SEAMAN

EDITH WILSON JACKSON
EDWARD M. BASSETT
RUTH POTTER ASHTON
HADASSAH MOORE LEEDS
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MARY LIPPINCOTT GRISCOM

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BARCLAY WHITE
THOMAS B. MCCABE

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HOWARD COOPER JOHNSON
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T. STOCKTON MATTHEWS
J. ARCHER TURNER
HUGH F. DENWORTH
EDWARD B. TEMPLE

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MARY LIPPINCOTT GRISCOM
LYDIA FOULKE TAYLOR
ADA GRAHAM CLEMENT

ELEANOR STABLER CLARKE
ELISABETH HALLOWELL BARTLETT
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M.E., M.S., M.A., Lehigh University.
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- ELIZABETH COX WRIGHT, *Assistant Professor of English*.....Moylan
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- HAROLD M. MARCH, *Assistant Professor of French*.....West House
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B.A. and M.A., Dartmouth College; Ph.D., Yale University.
- EDWIN B. NEWMAN, *Assistant Professor of Psychology*....College Campus
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- LUZERN G. LIVINGSTON, *Assistant Professor of Botany*.....339 Park Ave.
B.S., Lawrence College; Ph.D., University of Wisconsin.
- FRANK C. PIERSON, *Assistant Professor of Economics*.....525 Elm Ave.
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§Absent on leave.

*Absent on leave, first semester.

†Absent on leave, second semester.

- MERCEDES C. IRIBAS, *Instructor in Spanish*.....
106 S. Lansdowne Ave., Lansdowne
M.A., University of Pennsylvania.
- GEORGE A. BOURDELAIS, *Instructor in Engineering*.....Wallingford Hills
- FREDRIC S. KLEES, *Instructor in English*.....735 Harvard Ave.
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*Leave of absence, 4-6 months.

- JOSEPHINE TRUSLOW ADAMS, *Lecturer in Fine Arts*.....615 N. Chester Road
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*Leave of absence, 4-6 months.

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*On leave of absence.

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BARBARA MCCONE, *Alumni Recorder.*

B.A., Stanford University.

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MYRTLE KEENY, *Chief, Stenographic Bureau.*

B.A., Dickinson College.

MARY M. WILLOUGHBY, *Secretary to the Arts and Crafts Committee.*

BLANCHE DEVEREUX, R. N., *Nurse in the Men's Infirmary.*

MABEL RIGBY, R.N., *Nurse in the Women's Infirmary.*

FREDRIC S. KLEES, *Resident in Thomas House.*

B.A., Bowdoin College.

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SWARTHMORE COLLEGE

HISTORY AND LOCATION

Swarthmore College was founded in 1864 by members of the religious Society of Friends. In accordance with Friendly traditions, the purpose of the College has been to develop better individuals by the training of disciplined intelligence, the discovery of individual capacities, and the establishment of a sense of social responsibility. The College demands rigorous standards of scholarship and a responsible attitude toward the College and society as necessary means to a liberal culture.

The College is situated in the Borough of Swarthmore, eleven miles southwest of Philadelphia on the West Chester branch of the Pennsylvania Railroad, and close to the highway, Route 1, which leads to Baltimore. The Borough is primarily a residential suburb with a small business section. In addition to the Friends Meeting House there are four churches: the Episcopal, the Presbyterian, the Methodist, and the Christian Scientist. Churches of other denominations which also welcome Swarthmore students are to be found three miles away in the city of Chester.

The enrolment of the College is limited to approximately six hundred resident students. The endowment is seven and a half million dollars.

EDUCATIONAL EQUIPMENT

GROUNDS

THE ARBORETUM

Two hundred and thirty-seven acres are contained in the College property, including a large tract of woodland and the valley of Crum Creek. Much of this tract has been developed as an Arboretum through the provisions of the *Arthur Hoyt Scott Horticultural Foundation*, established in 1929 by Mrs. Arthur Hoyt Scott and Owen and Margaret Moon as a memorial to Arthur Hoyt Scott of the Class of 1895. The Arboretum is designed both to beautify the campus and to afford examples of the better kinds of trees, shrubs and herbaceous plants which are hardy in the climate of Eastern Pennsylvania and suitable for planting by the average gardener. There are exceptionally fine displays of Japanese cherries and tree peonies,

and a great variety of lilacs and chrysanthemums. Many donors have contributed generously to the collections. (For full information see *Bulletin of Swarthmore College*, Vol. xxxvii, No. 5.)

PLAYING FIELDS

There are two large tracts of playing fields for men, one overlooking Crum Woods and the other on the lower campus near the Field House. The former includes *Swarthmore Field* and *Alumni Field* which provide grounds for football, baseball and lacrosse, and a quarter-mile cinder track. A permanent grandstand, seating eighteen hundred persons, was the gift of Morris S. Clothier, 1890. The lower tract contains additional fields for lacrosse and soccer. There are also seven tennis courts near Wharton Hall.

Cunningham Field for women was given by students, alumnae, and friends of the College in memory of Susan J. Cunningham, for many years Professor of Mathematics and Astronomy. It includes hockey fields, tennis courts, practice golf course, and a riding ring. The Women's Athletic Association owns also an Outing Club cabin on a farm near Nottingham, Pennsylvania.

BUILDINGS

CLASS-ROOMS, LABORATORIES, AND OFFICES

Parrish Hall contains the offices of the President, Deans, Comptroller, House Director and Dietitian; the offices of the departments of classics, English, fine arts, French and mathematics, the mathematics library, and a number of class-rooms and seminar rooms.

The *Isaac H. Clothier Memorial* is the gift of Mrs. Isaac H. Clothier and members of her family in memory of Isaac H. Clothier, for forty-eight years one of the Board of Managers, and for seven years President of the Board. The Memorial is a quadrangle of buildings, including a bell tower connected by cloisters with a suite of seminar rooms and the Managers' Room, and a hall seating one thousand persons, equipped with stage and organ. The organ was the gift of Herbert J. Tily in memory of Isaac H. Clothier.

Trotter Hall, in its east wing, provides offices and class-rooms for the departments of economics, history, philosophy, and political science. The central section contains the laboratories, offices and lecture room of the department of physics. The west wing houses groups working in music, dramatics and art.

The *Hall of Chemistry* is equipped with laboratories, offices, a

lecture amphitheatre, and a library for instruction and research in chemistry.

The *Edward Martin Biological Laboratory*, given by Fred M. Kirby of Wilkes-Barre, in honor of Dr. Edward Martin, houses the departments of botany, zoölogy, and psychology. It provides classrooms, laboratories, and a library for both undergraduate instruction and advanced research.

The *Sproul Astronomical Observatory* houses the astronomical work of the department of mathematics and astronomy. The astronomical equipment has been purchased from a fund given by William C. Sproul, 1891, and is extensively used for advanced research. The *Students' Astronomical Observatory* occupies one wing of *Cunningham House*.

Hicks Hall and *Beardsley Hall* house the division of engineering. *Hicks Hall* was given by Frederick C. Hicks, 1893, in memory of the Hicks family of Long Island—Isaac Hicks, Elias Hicks, Benjamin Hicks, and Alice A. Hicks. The building provides civil, electrical and mechanical laboratories, class-rooms, offices, a library, and an auditorium. *Beardsley Hall* contains forge and foundry, machine shop and wood working equipment.

The *Bartol Foundation Building*, erected on the campus by The Franklin Institute for research in physics, is entirely independent of the College, but makes a contribution to Swarthmore life by bringing here a group of research physicists.

GYMNASIUMS

The *William J. Hall Gymnasium* for men contains offices, examining room, a main exercise hall, and hand ball courts.

The *Field House* for men was designed by Robert E. Lamb of the Board of Managers. Its dimensions are 315 feet by 115 feet; it includes two basketball floors, and a clay floor large enough for baseball, football, soccer, lacrosse, and other games normally played out of doors. The building also has a running track, tennis courts, and rooms for wrestling and boxing.

A *bowling alley* is provided in a building recently purchased from a former boys' preparatory school.

Somerville Hall, erected in 1893 by the Somerville Literary Society, is the gymnasium for women students.

Swimming pools for men and for women are connected with the Hall and Somerville Gymnasiums. Both were given by Philip M. Sharples, Emeritus member of the Board of Managers.

EDUCATIONAL RESOURCES

LIBRARIES

The *Swarthmore College Library*, in part the gift of Andrew Carnegie, contains reading rooms, offices, and a collection of 125,000 volumes. Some 6,000 volumes are added annually. About 600 periodicals are received regularly. The general collection, including all but the scientific and technical books and journals, is housed in the library building, situated on the front campus. An addition providing storeroom for 150,000 volumes was erected in 1935. Important special units of the main Library are the Appleton collection of classics and English literature and the Potter collection of legal material. The library is definitely a collection of books and journals for undergraduate use. The demands of honors work, however, make necessary the provision of large quantities of source material not usually found in collections maintained for undergraduates. It is a point of library policy to supply as fully as it can, either by purchase or through inter-library loan, the books needed by students or members of the faculty for their individual research.

One wing of the library was given by Clement M. Biddle, 1896, in memory of his father, Clement M. Biddle, to house the *Friends Historical Library*. This collection, founded in 1870 by Anson Lapham, contains a valuable and growing number of Friends' records, books, tracts, and early writings (many very rare), portraits of representative Friends, pictures of old meeting houses, objects and relics of personal and historic interest, and manuscripts relating to the Society and its history. The new wing is a fireproof structure of stone and steel; it is hoped that Friends and others will deem it a safe place in which to deposit books, papers, portraits, and other material in their possession which may throw light on the history of the Society. The library is accessible to all persons interested in the doctrines and history of Friends.

THE WILLIAM J. COOPER FOUNDATION

The William J. Cooper Foundation provides a varied program of lectures and concerts which enriches and supplements the academic work of the College. The Foundation was established by William J. Cooper, a devoted friend of the College, whose wife, Emma McIlvain Cooper, served as a member of the Board of Managers from 1882 to 1923. Mr. Cooper bequeathed to the College the sum of \$100,000 and provided that the income should be used "in bringing to the College from time to time eminent citizens of this and other countries who are leaders in statesmanship, education, the arts, sciences, learned professions and business, in order that the faculty, students and the College community may be broadened by a closer acquaintance with matters of world interest." Admission to all programs is without charge.

The Cooper Foundation Committee works with the departments and with student organizations in arranging single lectures and concerts, and also in bringing to the College speakers of note who remain in residence for a long enough period to enter into the life of the community. They not only give public addresses, but also attend seminars and classes, and meet students and members of the Faculty informally. Some of these speakers have been invited with the understanding that their lectures should be published under the auspices of the Foundation. This arrangement has so far produced 7 volumes:

Lindsay, Alexander Dunlop. *The Essentials of Democracy*. Philadelphia, University of Pennsylvania Press, 1929.

Lowes, John Livingston. *Geoffrey Chaucer and the Development of His Genius*. New York, Houghton Mifflin Co., 1934.

Weyl, Hermann. *Mind and Nature*. Philadelphia, University of Pennsylvania Press, 1934.

America's Recovery Program, by A. A. Berle, Jr., John Dickinson, A. Heath Onthank . . . and others, edited and with an introduction by Clair Wilcox, Herbert F. Fraser and Patrick Murphy Malin . . . London, New York, etc. Oxford University Press, 1934.

Madariaga, Salvador. *Theory and Practice in International Relations*. Philadelphia, University of Pennsylvania Press, 1937.

Streit, Clarence Kirshman. *Union Now; a proposal for a federal union of the democracies of the north Atlantic*. New York, Harper, 1939.

Krogh, August. *The Comparative Physiology of Respiratory Mechanisms*. University of Pennsylvania Press. (To appear in 1941.)

COLLECTIONS OF WORKS OF ART

The Benjamin West Society, an organization of alumni, members of the Faculty, and friends of the College, has built up a collection of 286 paintings, drawings, and etchings which are exhibited as space permits in various College buildings. The Society owes its name to the American artist of the eighteenth century who was born in a house which still stands on the Swarthmore Campus, and who became President of the Royal Academy.

The George Grey Barnard collection, the gift of the artist, contains 200 casts of his works, many of great size. It is not open to visitors, since the building in which it is temporarily stored for safe keeping is not suitable for exhibitions.

COLLECTION OF RECORDED MUSIC

The Bronson M. Cutting Memorial Collection of Recorded Music was established at Swarthmore College in 1936 by a gift of approximately four thousand phonograph records, a radio-phonograph, books and musical scores, from the family of Bronson Murray Cutting, late Senator from New Mexico. Its object is to make the best recorded music available to the undergraduates, faculty, and friends of Swarthmore College, in coöperation with the work of the College Department of Music.

HOUSING

Swarthmore is primarily a residential college, conducted on the assumption that an important element in education comes from close association of students and instructors. The College accepts a limited number of day students whose homes are within easy commuting distance. All other students live in dormitories and have their meals in the College Dining Room.

DORMITORIES

There are five dormitories for men: *Wharton Hall*, named in honor of its donor, Joseph Wharton, at one time President of the Board of Managers; three buildings on Chester Road purchased from the old Swarthmore Preparatory School, and *Thomas House* on Harvard Avenue.

The women's dormitories include the upper floors in the wings of *Parrish Hall*; *Worth Hall*, the gift of William P. Worth, 1876, and J. Sharpless Worth, ex-1873, as a memorial to their parents; *Woolman House*, at Elm Avenue and Walnut Lane, given by Emma C. Bancroft, for many years Chairman of the Household Committee of the Board of Managers; *Maison Française*, at 519 Walnut Lane, and *Foote House*, at Walnut Lane and Ogden Avenue.

DINING ROOMS

All students, both men and women, have their meals in two adjoining College Dining Rooms in Parrish Hall.

INFIRMARIES

The infirmary for men is in Section F of Wharton Hall. The women's infirmary is at the east end of Parrish Hall. Each is under the direction of the College Physician for men and for women respectively.

PROVISION FOR SOCIAL LIFE

COLLECTION HALL

A large recreation room, *Collection Hall*, is in the central section of Parrish Hall above the dining rooms. It provides space for dancing, tables for ping pong and bridge, and a program of formal and informal social events directed by the College Social Committee of men and women students.

BOND MEMORIAL HALL AND ACTIVITIES LODGES

Bond Memorial Hall, adjacent to Worth Hall, contains a large drawing room equipped for teas and class dances. On the upper floors are rooms for the use of the Women's Student Government Association, Mortar Board, and the Cutting Collection.

Bond Tower and the two *Activities Lodges* contain four College guest rooms. Each *Activities Lodge* provides also a room furnished as a living room for meetings of small groups and for informal entertaining.

MEN'S FRATERNITY LODGES

Five national fraternities for men maintain chapters at Swarthmore: Phi Kappa Psi, Kappa Sigma, Delta Upsilon, Phi Delta Theta, Phi Sigma Kappa. Each has a small lodge, used solely for informal social gatherings. About half the men students are members of fraternities, but all men, regardless of such affiliations, live in College dormitories and have their meals in the College dining rooms.

WOMEN'S CLASS LODGES

Four lodges, connected with Bond Hall, are assigned to the women members of each of the four classes. The lodge which a class takes over as freshmen remains a center of their informal social life throughout their College course.

Class and *Activities Lodges* were originally the property of six chapters of national women's fraternities. These chapters gave up their charters as the result of a decision by the Women's Student Government Association that they interfered with the development of general College social life.

STUDENT WELFARE

HEALTH

There are two part-time College physicians, one for men and one for women, each of whom holds daily office hours at the College. Students may consult them during office hours without charge. A student must report any illness to the College physicians, but is free to go for treatment to another doctor if he prefers to do so.

The College physicians give physical examinations to all students at the beginning of their freshman year, and arrange to see every student at least once in each subsequent year.

The infirmaries are open to resident students without charge unless the services of a special nurse are required. Students suffering from a communicable disease or from illness which makes it necessary for them to remain in bed must stay in the infirmaries for the period of their illness.

The psychiatrists of the Institute of the Pennsylvania Hospital are consulted when need arises.

STUDENT ADVISERS

The Deans and their assistants serve as student advisers. They rely also on the help of upper class men and women in work with Freshmen. Members of the Senior Honorary Societies of Book and Key and Mortar Board carry special responsibility for the Freshman Orientation Program.

VOCATIONAL ADVICE

The Alumni Secretary and an Assistant to the Dean provide information on vocations and arrange conferences to assist students in their choice of a career; they also attempt to help undergraduates and graduates find employment.

GENERAL COLLEGE ACTIVITIES

RELIGIOUS EXERCISES

COLLECTION

Required

There is an assembly of the College, called *Collection*, from 9:00 until 9:25 a. m., every Wednesday in the Clothier Memorial; attendance of students is required. The program is opened by a period of silence according to the Friendly tradition, followed by an address or music.

Voluntary

A meeting in the manner of the Society of Friends is held on Monday, Tuesday, Thursday and Friday, from 9:00 to 9:15 a. m., in the Friends Meeting House on the campus. No program is arranged. Members of the Faculty or students speak occasionally, but the period is frequently one of silent meditation. Attendance is voluntary.

VESPERS

A Vesper service is held at 6:45 p. m. on most Sundays from October until the spring vacation. The program is entirely musical. With the aid of the Cooper Foundation, outside artists are secured for a series of recitals. There are also programs by the College Chorus and Orchestra.

COLLEGE PUBLICATIONS

The *Swarthmore College Bulletin*, published quarterly by the Administration, includes as three of its numbers the *College Catalogue*, the *Annual Report of the President and Treasurer*, and the *Students' Handbook*. The fourth number is devoted to special reports.

The *Garnet Letter*, edited by the Alumni Secretary, carries news of the College to the Alumni. It appears four times a year.

Three publications are under student management: a weekly newspaper, the *Swarthmore Phoenix*; a literary magazine, the *Dodo*; and a year-book, the *Halcyon*, edited by the Junior Class. Students serve also as assistant editors of the *Students' Handbook*.

The releasing of College news to papers in Philadelphia and elsewhere is in the hands of a student group, the *College Press Board*, which works with the Administration in issuing official statements, and takes care of reporting all undergraduate activities.





ARTS AND CRAFTS

Work in the applied arts at Swarthmore is done chiefly in extra-curricular groups which do not involve academic credit. These are directed by professional artists and craftsmen, and include often both students and members of the Faculty. Students are encouraged to take part in at least one such activity as a valuable supplement to their academic work.

DRAMATICS

The Laboratory Workshop includes extra-curricular work open to all students in directing, acting, stage and costume design and construction, lighting, and classes in playwriting and make-up. These activities provide the groundwork for two or more public productions a year in the Clothier Memorial Auditorium. Responsibility for these performances is shared by the Director of Dramatics and an elective student organization, *The Little Theater Club*, whose members have shown distinction in the Workshop. In 1939-40, the public productions were *Patience*, by Gilbert and Sullivan, and the *Petrified Forest*, by Robert Sherwood.

THE GRAPHIC ARTS

Instruction in drawing and painting is provided through weekly meetings of the *Sketch Club*. A class in metal and wood working is conducted in the engineering shops. There is also a *Print Club* for typesetters. Students interested in photography work together in the *Camera Club*.

MUSIC

The *Swarthmore College Orchestra* and *Mixed Chorus* hold weekly meetings to prepare programs for presentation at the College and elsewhere. These groups study the best classical and modern music. The *Swarthmore College Glee Club*, a men's chorus, includes popular music in the concerts which it gives in various cities under alumni auspices.

An informal chamber music group plays weekly in the house of a member of the Faculty. There are also informal singing groups which gather from time to time in Faculty houses.

RADIO

The *Radio Club* operates Amateur Radio Station W3AJ and is affiliated with the American Radio Relay League.

PUBLIC SPEAKING

Groups for the study and practice of public speaking are organized at the request of students. This year there will probably be one such group for men and four for women.

The *Town Meeting* provides opportunities for all students to hear and participate in discussions of public questions.

Intercollegiate debates, radio broadcasts, and speeches to nearby clubs are arranged by the *Debate Board*, an undergraduate body including all students who have represented the College in public debate, in cooperation with the faculty adviser of debating.

Public Speaking Contests are open to all undergraduates including contests for the William Plumer Potter Prize (p. 39), the Delta Upsilon Prizes (p. 46), and the Ella Frances Bunting Extemporaneous Speaking Prizes (p. 46).

ATHLETICS

The College maintains a varied program of activities for men and women with a schedule of both extra-mural and intra-mural games. The aim of the athletic program is to develop the capacities of each individual student, and to give a large number of students the experience of representing the College on athletic teams. The proportion of men students who played on teams in 1939-40 was 70 per cent. The Departments of Physical Education for men and women work closely with the two student *Athletic Associations*. For information about the requirements in physical education, and the choice of possible ways of meeting them, see pages 114 and 116.

STUDENT ORGANIZATIONS

THE STUDENT COMMUNITY

STUDENT COUNCIL

The whole undergraduate community of men and women is represented by the *Student Council* which attempts to coordinate all student activities, and confers with the *Administrative Council* of the Faculty on College problems.

MEN'S EXECUTIVE COMMITTEE

The men students of the College are represented by the *Men's Executive Committee*, a group elected to take responsibility for specified problems which have to do primarily with dormitory life.

WOMEN'S STUDENT GOVERNMENT ASSOCIATION

All women students are members of the *Women's Student Government Association*, headed by an Executive Committee elected to promote a great variety of women's interests. This Committee includes the chairmen of certain important committees: *Conduct*, which maintains social regulations; *Personnel*, which has a special concern for helping freshmen; *Social* (see below); *Vocational*, which assists the women's Vocational Director; *Student-Alumnae Relationships*, which arranges the program for Somerville Day, on which alumnae are invited to return to the College; *Somerville Lectures*, which brings to the College popular speakers on subjects related to the Arts.

SOCIAL COMMITTEE

An extensive program of social activities is managed by the Social Committee, under the direction of two elected co-chairmen, a man and a woman. The program is designed to appeal to a wide variety of interests, and is open to all students.

SOMERVILLE FORUM

All women undergraduates and graduates are members of the *Somerville Forum*, an outgrowth of the Somerville Literary Society, which was established in 1871. The undergraduates hold open meetings devoted to music, art and literature; the alumnae maintain two fellowships for women for graduate work, the Lucretia Mott Fellowship and the Martha E. Tyson Fellowship. The final meeting in April, known as Somerville Day, is a gathering of alumnae and undergraduates.

SOCIETIES AND CLUBS

HONORARY SCHOLARSHIP SOCIETIES

Phi Beta Kappa, the national society for the recognition of scholarship, has had a chapter at Swarthmore since 1896. A chapter of *Sigma Tau*, the national society recognizing scholastic attainment in engineering, was established in 1917. A chapter of *Sigma Xi*, the national scientific society for the promotion of research, was granted a charter in 1922.

DEPARTMENTAL CLUBS

Departmental clubs which hold stated meetings during the academic year include: the *Cercle Français*, the *Chemistry Club*, the *Classical Club*, the *Engineers Club*, and the *German Club*. The programs of these clubs give the opportunity for the presentation of papers and addresses by undergraduates and frequently by visiting scholars and scientists.

SWARTHMORE STUDENT UNION

The *Swarthmore Student Union* is an organization of liberal students who have an active interest in public affairs. Committees devoted to work in peace, labor problems and education carry on programs in their special fields. The Union publishes a bulletin containing articles by students and faculty which appears quarterly, and sponsors study groups in social problems and public lectures by distinguished speakers in various fields. The Union is entirely independent and has no affiliation with any national organization.

INTERNATIONAL RELATIONS CLUB

The International Relations Club is an organization which studies the international situation from a non-partisan viewpoint. It holds meetings at which outside speakers on foreign affairs are frequently present. The club is under the supervision of two members of the faculty, and the membership is unlimited.

No student organization of the College may incur any financial obligation, or make any contract involving a monetary consideration without first obtaining the sanction of the Comptroller of the College, or of the proper faculty committee under whose supervision the organization is placed. Students contemplating a new organization must first consult the faculty committee on Student Affairs.

FELLOWSHIPS AND SCHOLARSHIPS

FELLOWSHIPS

There are six fellowships offered to graduates of Swarthmore College.

Three fellowships are awarded annually by the Faculty, on recommendation of the Committee on Fellowships, to graduates of the College for the pursuit of advanced work under the direction of the Faculty or with their approval. Applications for these fellowships for 1941-42 must be received by the committee before March 1, 1941.

These fellowships are:

The HANNAH A. LEEDOM FELLOWSHIP of \$500, founded by the bequest of Hannah A. Leedom.

The JOSHUA LIPPINCOTT FELLOWSHIP of \$600, founded by Howard W. Lippincott, of the Class of 1875, in memory of his father.

The JOHN LOCKWOOD MEMORIAL FELLOWSHIP of \$600, founded by the bequest of Lydia A. Lockwood, New York, in memory of her brother, John Lockwood. It was the wish of the donor that the fellowship be awarded to a member of the Society of Friends.

The LUCRETIA MOTT FELLOWSHIP, founded by the Somerville Literary Society and sustained by the contributions of its life members, has yielded an annual income since its foundation of \$525. It is awarded each year by a committee of the faculty (selected by the society), with the concurrence of the life members of the society, to a young woman graduate of that year who is to pursue advanced study at some other institution approved by this committee.

The MARTHA E. TYSON FELLOWSHIP, founded by the Somerville Literary Society in 1913, is sustained by the contributions of life members of the society and yields an income of \$500 or more. It is awarded biennially by a joint committee of the faculty and the society (elected by the society) with the concurrence of the life members of the society to a woman graduate of Swarthmore College, who has taught successfully for two years after her graduation and expects to continue teaching. The recipient of the award is to pursue a course of study fitting her for more efficient work in an institution approved by the Committee of Award. This fellowship will be awarded for 1941-42. Applications must be received by the Committee of Award not later than February 15, 1941.

SIGMA XI RESEARCH FELLOWSHIP. The Swarthmore Chapter of Sigma Xi has founded a fellowship known as the Swarthmore Sigma Xi Research Fellowship. The holder of this fellowship is usually an associate of the chapter who has become an advanced graduate student of outstanding ability. The fellowship is expected to carry a stipend of one thousand dollars and is awarded from time to time as funds are available.

SCHOLARSHIPS

1. Class Scholarships. Two scholarships are offered to the highest ranking student in the Freshman and in the Sophomore Classes: the Anson Lapham and the Samuel J. Underhill Scholarships. Each has the value of \$200, if won by a resident student; of \$100, if won by a day student.

2. Each of the following funds yields annually about \$225 and is awarded at the discretion of the College to students needing pecuniary aid:

- (a) The BARCLAY G. ATKINSON SCHOLARSHIP FUND.
- (b) The REBECCA M. ATKINSON SCHOLARSHIP FUND.
- (c) The WILLIAM DORSEY SCHOLARSHIP FUND.
- (d) The THOMAS L. LEEDOM SCHOLARSHIP FUND.
- (e) The SARAH E. LIPPINCOTT SCHOLARSHIP FUND.
- (f) The MARK E. REEVES SCHOLARSHIP FUND.
- (g) The JOSEPH T. SULLIVAN SCHOLARSHIP FUND.
- (h) The DEBORAH F. WHARTON SCHOLARSHIP FUND.
- (i) The THOMAS WOODNUTT SCHOLARSHIP FUND.

3. The SARAH KAIGHN COOPER SCHOLARSHIP, founded by Sallie K. Johnson in memory of her grandparents, Sarah Kaighn and Sarah Cooper, is awarded to a man in the Junior Class who is judged by the faculty to have had, since entering College, the best record for scholarship, character, and influence. The value of this scholarship is approximately \$225 annually.

4. The JOSEPH E. GILLINGHAM FUND, with an annual income of approximately \$2,250 was bequeathed to the College in 1907 with the stipulation, "I request but I do not direct that part of the income of this legacy may be used for free scholarships for meritorious students."

5. The GEORGE K. and SALLIE K. JOHNSON FUND provides \$450 a year, to be used, at the discretion of the President of the College, in granting financial aid to young women during their senior year,

it being the donor's desire that the President must be satisfied that the applicant is fitted to become a desirable teacher.

6. The income of the KAPPA ALPHA THETA SCHOLARSHIP FUND of \$3,126, given by members and friends of the Kappa Alpha Theta Fraternity at Swarthmore, is awarded annually to a woman student. One or more members of the fraternity who are on the Board of Managers serve on the Committee of Award.

7. The JAMES E. MILLER SCHOLARSHIP. Under the will of Arabella M. Miller, the sum of \$5,986 was awarded to the Cambridge Trust Company, Trustee under the will of James E. Miller, to be applied to scholarships in Swarthmore College. An annual income of approximately \$340 is available and may be applied toward the payment of board and tuition of students of Delaware County (preference to be given to residents of Nether Providence Township) to be selected by the Trustee in consultation with the Superintendent of Schools of Delaware County and of the City of Chester, and subject to the approval of Swarthmore College.

8. The HARRIET W. PAISTE FUND is limited by the following words from the donor's will: "the interest to be applied annually to the education of female members of our Society of Friends (holding their Yearly Meeting at Fifteenth and Race Streets, Philadelphia) whose limited means would exclude them from enjoying the advantages of an education at the College." The value of this scholarship is approximately \$360 annually.

9. The T. H. DUDLEY PERKINS MEMORIAL SCHOLARSHIP of \$600 is awarded annually to a young man selected by a committee of the faculty appointed by the President of the College for the purpose. The award will be made on the basis of qualities of manhood, force of character and leadership; literary and scholastic ability; physical vigor as shown by participation in out-of-door sports or in other ways.

10. The WILLIAM PLUMER POTTER FUND FOR THE ENCOURAGEMENT OF PUBLIC SPEAKING provides a scholarship of about two hundred and fifty dollars to be awarded to the Junior or Senior who shows the greatest ability in the discussion of public affairs. Competitors submit theses on public questions to a Faculty Committee and also present their main conclusions orally, after which they are cross-examined. Theses are due after spring vacation. Students interested in competing should register with Dean Everett Hunt.

11. The MARY COATES PRESTON SCHOLARSHIP FUND. A sum of money has been left by will of Elizabeth Coates to Josephine Beistle, of Swarthmore, as trustee, the annual interest of which will be about \$350. This amount is given by the trustee as a scholarship to a young woman student in Swarthmore College, preferably to a relative of the donor.

12. The WILLIAM G. AND MARY N. SERRILL HONORS SCHOLARSHIP is a competitive Honors Scholarship for Men, awarded to a candidate for admission to the College, based upon the general plan of the Rhodes Scholarships. It is tenable for four years, subject to the maintenance of a high standing in College. The annual stipend is \$375. Preference will be given to men who are residents of Abington Township, including Jenkintown and Glenside, Montgomery County, Pa., but if there is no outstanding candidate from this locality, the scholarship will be open to competition generally.

13. The ANNIE SHOEMAKER SCHOLARSHIP is granted annually to a young woman of the graduating class of Friends Central School, Overbrook, Philadelphia. The recipient must have been a student at Friends Central for at least two years, she must have good health, high grades, and must be the best all-around student in her class desirous of entering Swarthmore College. This scholarship, awarded by the faculty of Friends Central School, and subject to the approval of Swarthmore College, has the value of \$500 for a resident student and \$400 for a day student.

14. The HELEN E. W. SQUIER SCHOLARSHIP, originally one of the Anson Lapham Scholarships, is awarded annually by Mrs. Chester Roberts, of Swarthmore, to a student in need of financial aid.

15. SWARTHMORE COLLEGE OPEN SCHOLARSHIPS FOR MEN. Swarthmore College in 1922 established five annual open competitive scholarships for men, not confined to any particular school, locality, subject of study, or religious denomination. These scholarships, based upon the general plan of the Rhodes Scholarships, are given to candidates who, in the opinion of the Selection Committee, rank highest in scholarship and character.

The regulations under which these scholarships will be awarded in 1941 are as follows:

The stipend of an Open Scholarship is \$500 a year. Each Scholarship is tenable for four consecutive years, subject to the maintenance of a high standing in College. All holders of Open Scholarships must be resident students, living and taking their meals at the College.

A candidate to be eligible must:

- (1) Be more than fifteen and less than twenty years of age on September first of the year for which he is elected.
- (2) Meet the requirements for admission to Swarthmore College as prescribed in the college catalogue.
- (3) Not have attended another college or university.

Each candidate must secure the endorsement of the principal of his preparatory school.

Scholars will be selected on the basis of (1) their school record as shown by the material called for in the application blank; (2) an examination to be conducted on April 5, 1941, at one hundred and fifty places in the United States, consisting of the Scholastic Aptitude Test and achievement tests; and (3) a personal interview with the Selection Committee or its representatives. Whenever possible, candidates will come to the College for their interviews. It is expected, however, that these interviews can be arranged in various parts of the United States, so as to make it unnecessary for candidates to travel any considerable distance. Application blanks duly filled out and accompanied by the material specified must reach Dean Everett Hunt at Swarthmore College before March 1 of the year in which they are awarded. The awards will be announced about June first.

The records of all Open Scholars will be reviewed by the Committee each year, the record of the first two years being especially considered as a basis for continuing a scholarship. Open Scholars are expected to maintain a high standard throughout the College course. In re-awarding Scholarships vacated because of low academic standing or for any other reason, preference will be given to original competitors, who have since made outstanding records in Swarthmore College.

16. SWARTHMORE COLLEGE OPEN SCHOLARSHIPS FOR WOMEN. Mr. and Mrs. Daniel S. White, of the Class of 1875, on the occasion of the Fiftieth Reunion of that class, established three open competitive scholarships for women, in the names of Howard White, Jr., Serena B. White, and Walter W. Green. Each award normally carries a stipend of \$500 *per annum*, and is tenable for four consecutive years, subject to the holder's maintenance of high standing in college. These scholarships are not confined to any particular school, locality, subject of study, or religious denomination. They are based on the

general plan of the Rhodes Scholarships, and are given to candidates who show greatest promise in:

- (1) qualities of leadership;
- (2) literary and scholastic ability and attainments;
- (3) physical vigor, as evinced by interest in outdoor sports or in other ways.

To be eligible a candidate must:

- (1) be qualified for admission to the Freshman Class; (see College Catalogue, pages 48-49);
- (2) secure the endorsement of the Principal of her preparatory school;
- (3) expect to be a resident student.

Candidates will be asked to take the Scholastic Aptitude Test and special achievement tests, to be given by the College Entrance Examination Board on April 5, 1941, in 150 places in the United States. The nature of these tests is such as not to require any special preparation. A fee of \$10.00 is charged each candidate by the College Entrance Examination Board.

The scholarships will be awarded to the applicants who appear most promising, judged on the basis of

- (1) school record and recommendations;
- (2) personal interview with a representative of the College;
- (3) ratings in the Scholastic Aptitude Test and the special achievement tests of the College Entrance Examination Board.

The College makes arrangements to interview candidates of special promise either at Swarthmore or in the vicinity of their own homes.

Application blanks duly filled out and accompanied by the material specified must reach Dean Frances Blanshard on or before January 1, 1941. The awards will be announced about May 15, 1941.

17. The SWARTHMORE ALUMNÆ SCHOLARSHIP, established by the Philadelphia and New York Alumnæ Clubs, is awarded on the same basis as the Open Scholarships. It is awarded for one year and is valued at \$500.

18. The JONATHAN K. TAYLOR SCHOLARSHIP, in accordance with the donor's will, is awarded by the Board of Trustees of the Baltimore Monthly Meeting of Friends. This scholarship is first open to descendants of the late Jonathan K. Taylor. Then, while preference is to be given to members of the Baltimore Yearly Meeting of Friends, it is not to be confined to them when suitable persons in membership cannot be found. The value of this scholarship is approximately \$472.50 annually.

19. The PHEBE ANNA THORNE FUND provides an income of approximately \$2,250 for scholarships for students needing pecuniary assistance whose previous work has demonstrated their earnestness and their ability. This gift includes a clause of preference to those students who are members of the New York Monthly Meeting of Friends. These scholarships are awarded by the College under the regulations fixed by the Board.

20. The WESTBURY QUARTERLY MEETING, N. Y., SCHOLARSHIP, amounting to \$350, is awarded annually by a committee of that Quarterly Meeting.

21. Several scholarships are provided for men by Alumni clubs in cooperation with the College, on a regional basis. Applications should be addressed to the Dean of Men.

22. The SAMUEL WILLETS FUND yields an income of approximately \$4,500 annually, "to be applied to educate in part or in whole such poor and deserving children as the Committee on Trusts, Endowments and Scholarships of said college may from time to time judge and determine to be entitled thereto."

23. In addition to the above fund, Samuel Willets gave four scholarships in the name of his children, FREDERICK WILLETS, EDWARD WILLETS, WALTER WILLETS, and CAROLINE M. FRAME. These scholarships have the value of \$225 each. They are awarded by the respective parties, their heirs or assigns, or in the event that the heirs do not exercise their right, by the College authorities.

24. The I. V. WILLIAMSON SCHOLARSHIP FOR PREPARATORY SCHOOLS. Ten scholarships of the value of \$150 each for resident students, and \$75 each for day students, are offered to members of classes graduating in 1941 in the following schools:

- 1 to Friends Central School (Boys' Department).....Philadelphia.
- 1 to Friends Central School (Girls' Department).....Philadelphia.
- 1 to Friends SeminaryNew York, N. Y.

1 to Friends School	Baltimore, Md.
1 to Friends School	Wilmington, Del.
1 to Friends High School	Moorestown, N. J.
1 to Friends Academy	Locust Valley, N. Y.
1 to Sidwells Friends	Washington, D. C.
1 to Brooklyn Friends School	Brooklyn, N. Y.
1 to George School (Boys' Department).....	George School, Pa.
1 to George School (Girls' Department).....	George School, Pa.

These scholarships are awarded under the following conditions:

- (a) Students who wish to be considered as candidates for these awards should notify the College to this effect before March 1.
- (b) The candidates will be required to take the scholarship examinations given by the College Entrance Examination Board on April 5, 1941. The results of these examinations, together with other evidence of achievement and promise, will determine the award.
- (c) Every holder of such scholarship must pursue in College the studies leading regularly to the degree of Bachelor of Arts.

Any income not utilized in accordance with these conditions is used for free and working scholarships in accordance with the bequest of the donor.

25. The EDWARD CLARKSON WILSON SCHOLARSHIP. A scholarship with an annual value of \$125 has been established at Swarthmore by friends of Edward Clarkson Wilson, '91, formerly Principal of the Baltimore Friends School. It will be awarded each year to a former student of the Baltimore Friends School, who has been approved by the faculty of the School, on the basis of (1) high character; (2) high standing in scholarship. The scholarship is open both to Freshmen and to members of the upper classes, both to men and women of all denominations. In any year when there is no outstanding candidate from the students of the Baltimore Friends School, the scholarship will be awarded to another young man or woman who shall meet the required standards and who is approved by the School faculty and the College.

26. The MARY WOOD FUND is limited by the following words from the donor's will: "the income thereof to be, by the proper officers thereof, applied to the maintenance and education at said College of one female student therein, one preparing for the avocation of a teacher to be preferred as the beneficiary, but in all other respects the application of the income of said Fund to be in the absolute dis-

cretion of the College." The value of this scholarship is approximately \$75.00 annually.

27. The AARON B. IVINS SCHOLARSHIP is awarded annually to a young man of the graduating class of Friends Central School, Overbrook, Philadelphia. It is awarded under the following conditions: The recipient must have been a student at Friends Central for at least two years, he must have good health, high grades, and must be the best all-around student in his class desirous of entering Swarthmore College. This scholarship, awarded by the faculty of Friends Central School, and subject to the approval of Swarthmore College, has the value of approximately \$450 for a resident student and a maximum of \$400 for a non-resident student.

28. Additional honorary and "working scholarships" are awarded annually by the College from general funds. Students should apply for these scholarships before April 15 of the year before they wish to receive an award. Men should file their applications with Dean Everett Hunt; women, with Dean Frances Blanshard. *In making awards the Committee recognizes both high scholastic standing and definite financial need.*

"Working scholarships" are approximately half earned and half honorary. Recipients are asked to assist in one of the college offices, shops, or laboratories for the number of hours a week in which they could normally earn half their scholarships. An award of \$100 requires about four hours of work a week.

SPECIAL AWARDS

The IVY MEDAL FUND was created by a gift from Owen Moon, '94. The income of the fund is used to purchase a medal which is placed in the hands of the faculty for award on Commencement Day to a male member of the graduating class. The regulations governing the award are as follows:

(1) The qualifications for the Ivy Medal are similar to those for the Rhodes Scholarships and include (a) qualities of manhood, force of character, and leadership; (b) literary and scholastic ability and attainments. These have been phrased by the donor in the words "leadership based upon character and scholarship."

(2) It is the wish of the donor that the medal should not be awarded on a mere basis of averages. Instead, it is desired that the winner should be a man who gives promise of distinction either in character or in intellectual attainments, as opposed to a man who has merely made the most of mediocre abilities.

(3) On the other hand, it is the wish of the donor that the medal should not go to a man who, while showing excellence in some one respect, has fallen seriously below the standard in others.

The OAK LEAF MEDAL was established by David Dwight Rowlands of the Class of 1909. It was later permanently endowed in memory of him by Hazel C. Rowlands, '07, and Caroline A. Lukens, '98. The medal is placed in the hands of the faculty to be awarded each year to the woman member of the Senior Class who is outstanding for loyalty, scholarship and service.

The MCCABE ENGINEERING AWARD, founded by Thomas B. McCabe, 1915, is to be presented each year to the outstanding engineering student in the Senior Class. The recipient is chosen by a committee of the faculty of the Division of Engineering.

The A. EDWARD NEWTON LIBRARY PRIZE, endowed by A. Edward Newton, to make permanent the Library Prize first established by W. W. Thayer, is awarded annually to that undergraduate who, in the opinion of the Committee of Award, shows the best and most intelligently chosen collection of books upon any subject. Particular emphasis is laid in the award, not merely upon the size of the collection but also upon the skill with which the books are selected and upon the owner's knowledge of their subject-matter.

The KATHARINE B. SICARD PRIZE, endowed by the Delta Gamma Fraternity in memory of Katharine B. Sicard, ex '34, is awarded annually to the Freshman woman who, in the opinion of the department, shows greatest proficiency in English.

PUBLIC SPEAKING CONTESTS. Prizes for annual contests in public speaking are provided by two funds as follows: The ELLA FRANCES BUNTING EXTEMPORARY SPEAKING FUND awards \$45 in six prizes, three for men and three for women, for the best extemporaneous short speeches. The OWEN MOORE FUND provides the Delta Upsilon Speaking Contest prizes totalling \$25 for the best prepared speeches on topics of current interest.

The GEORGE FOX AWARD of \$100 is presented annually by an anonymous friend of the College to the undergraduate who writes the best essay on some phase of the history or testimonies of the Society of Friends.

The ELIZABETH FRY AWARD of \$50, together with an autographed copy of Janet Payne Whitney's biography of Elizabeth Fry, is presented annually by an anonymous friend of the College to the undergraduate who writes the best essay on some aspect of the social attitudes and activities of some Quaker individual or group, preferably of recent times.

The JOHN RUSSELL HAYES POETRY PRIZES are of a value of approximately \$30 for a first prize, and \$15 for a second prize, offered for the best original poem or for a translation from the Latin or Greek. Manuscripts should be ready by May 1 of each year.

LOANS

Several loan funds are administered by a committee to which application should be made through the Comptroller of the College.

The JOHN A. MILLER LOAN FUND was established by the Class of 1912 at their twenty-fifth reunion. Both principal and income are to be used to provide a loan fund for students in the three upper classes. Individual students may borrow up to \$200 in any one year, such loans to be repayable within five years with interest at four percent.

The SWARTHMORE COLLEGE STUDENT LOAN FUND was established by Mr. Clarence J. Gamble, who, feeling such a fund to be of unusual benefit to worthy students, gave a sum to the College on condition that the Board should set aside an equal amount to be added to the fund. Both principal and income may be used for loans to students, repayable not later than five years after graduation, with interest at the rate of four percent.

The ELLIS D. WILLIAMS FUND. By the will of Ellis D. Williams, a legacy of \$25,000 was left to the College, the income from which is to be used for loans to students, repayable not later than five years after graduation, with interest at the rate of four percent.

The CLASS OF 1913 LOAN FUND was established by the Class of 1913 at their twenty-fifth reunion. Both principal and income are to be used to provide a loan fund for students in the three upper classes. Individual students may borrow up to \$200 in any one year, the loans to be repayable within five years with interest at four percent.

ADMISSION

Applications for admission should be addressed to the Deans of the College: from men applicants, to Dean Everett L. Hunt; from women, to Dean Frances Blanshard.

GENERAL STATEMENT

An applicant for admission will be judged on the basis of the following evidence:

1. Record in secondary school.
2. Recommendation of the school principal or headmaster.
3. Rating in the Scholastic Aptitude Test, and in any other College Entrance Board examinations which may be required in special cases.
4. Personal interview with one of the Deans or an appointed representative (interviews are normally arranged only for applicants of promise).

For several years the number of qualified applicants has exceeded the limits of the Freshman class, putting admission on a competitive basis. In the selection of students, strong intellectual interests and excellence in some particular direction will receive more consideration than a record which shows a higher average without promise of unusual ability in any one field. In addition, the Admissions Committee will place emphasis upon the qualities of character which have been traditionally associated with the Society of Friends. First consideration will be given to children of Friends and Alumni of the College; those who rank high in their graduating class will be assured of admission; those who do not rank high will be considered under the terms of the selective process described above.

SUBJECTS OF PREPARATORY STUDY

In preparation for College work an applicant is expected to complete a four-year secondary school course which includes work in English, foreign language, mathematics, history, and usually a laboratory science. The table below shows the possible distribution of work among these subjects. A "unit" represents a course involving four or five periods a week throughout one school year except in the case of English where three units are assigned for four such courses.

Required Subjects, Ten and One-Half Units

	<i>Units</i>
Elementary and Intermediate Algebra.....	1½
Plane Geometry	1
English (4 years)	3
*Foreign Language	4
History	1

Elective Subjects, Four and One-Half Units

<i>Units</i>	<i>Units</i>		
Advanced Algebra	½	English History	1
**Solid Geometry	½	American History	1
**Plane Trigonometry	½	Civil Government	½
Latin	2, 3 or 4	Physics	1
Greek	2, 3 or 4	Chemistry	1
French	2, 3 or 4	Botany	½ or 1
German	2, 3 or 4	Zoölogy	½ or 1
Spanish	2, 3 or 4	Physical Geography	½ or 1
Ancient History	1	Freehand Drawing	½ or 1
Medieval and Modern History..	1	Mechanical Drawing	½ or 1
Modern History	1	Music or Art.....	1

*Five units, three of one language and two of another, are recommended whenever possible. Engineering students need offer only two units. Applicants who expect to concentrate in science are strongly advised to include German, and if possible also French, in their school program. This will permit a more flexible program in college.

**Required of engineering students.

PLAN OF ADMISSION

In general candidates are admitted on the basis of (1) high rank in school and in the Scholastic Aptitude Test; (2) evidence of sturdiness of character. Students who show special distinction in one line in spite of irregularities of preparation may be given the opportunity of qualifying for admission by taking certain content examinations of the College Entrance Examination Board.

IMPORTANT DATES FOR ADMISSION APPLICANTS

A formal application should be submitted during the Junior year, whenever possible, and must be filed for *women* by January 1 of the year in which admission is desired and for *men*, by April 1. Applicants are required to take the Scholastic Aptitude Test in April of their Senior year if they have not taken it at the end of their Junior year. Applicants normally receive notice of the action of the Admissions Committee during the first week in May. Provisional acceptance at this time must be ratified after a candidate's final grades have been submitted, together with a Health Certificate and evidence of successful vaccination.

SCHOLARSHIPS

The dates before which applications for scholarships should be filed are: for *women*, January 1; for *men*, March 1. All candidates for awards in the Freshman year are required to take special qualifying tests, consisting of the Scholastic Aptitude Test and the Scholastic Achievement Test administered by the College Entrance Examination Board.

SCHOLARSHIP EXAMINATIONS AND EARLY EXAMINATIONS FOR ADMISSION TO BE HELD ON APRIL 5, 1941

The College Entrance Examination Board will hold examinations at approximately 150 places in the United States on April 5, 1941, for applicants for scholarships and for admission to college. A list of these places and a detailed announcement regarding the April series of examinations will be ready for distribution on October 1.

Every candidate is required to file an application with the Executive Secretary of the College Entrance Examination Board, 431 West 117th Street, New York, N. Y., not later than March 15, 1941. (Candidates west of the Mississippi should file their applications by March 8, those outside of the United States, by February 8.) A candidate who takes the examinations in order to qualify for a scholarship should secure the blank form from the College. A candidate taking the Scholastic Aptitude Test for admission only may secure an application form directly from the College Board. In order to facilitate the making of arrangements for the proper conduct of the examinations, it is desired that all applications be filed as early as possible. The examination fee of ten dollars for *both tests*, or five dollars for the *Scholastic Aptitude Test alone* should accompany the application and should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

Inasmuch as no special preparation will be needed for this series of examinations, detailed information regarding them, with the exception of the practice booklet for the Scholastic Aptitude Test, will not be distributed to candidates.

The College Entrance Examination Board will report to the institution indicated on the candidate's application the results of his examinations. Candidates should not expect to receive from the Board reports upon their examinations.

ADVANCED STANDING

For favorable consideration, applicants for advanced standing must have had a high scholastic record in the institution from which they wish to transfer, and must present full credentials for both college and preparatory work and a letter of honorable dismissal. As a general rule, students are not admitted to advanced standing later than the beginning of the Sophomore year.

Applications of women applicants must be filed by January 1.

REQUIREMENTS FOR GRADUATION

GENERAL STATEMENT

Swarthmore College offers the degree of Bachelor of Arts and the degree of Bachelor of Science. The latter is given only in the Division of Engineering; the former, in the Divisions of the Humanities, the Social Sciences, and Mathematics and the Natural Sciences.* Four years of resident study are normally required for the completion of the work leading to a Bachelor's degree.

The work of the first two years is marked off from that of the last two. During the first two years, all students are expected to complete general College requirements, to choose their major and minor subjects, and to prepare for advanced work in these subjects by taking certain prerequisites. A student's normal schedule comprises four *full courses* a year, each of which represents from ten to twelve hours of work a week, including class meetings and laboratory periods. The program for the last two years affords a choice between two methods of study: Honors Work, which may lead to a degree *with Honors*, and General Courses. An honors student concentrates upon three related subjects which he studies by the seminar method; the system will be explained more fully below. A student in General Courses may concentrate somewhat less, and continues to have a schedule of four full courses a year.

In addition to scholastic requirements for graduation, all students must meet certain standards of participation in Physical Education as set forth in the statement of that department (see pp. 112, 114) and must attend the Collection exercises of the College (see p. 32).

COURSE ADVISERS

The course advisers of freshmen and sophomores are the Deans, in cooperation with the departments in which the students are enrolled as majors. For juniors and seniors the advisers are the chairmen of their major departments or their representatives.

PROGRAM OF THE FIRST TWO YEARS

The general requirements for the first two years include:

(a) Two full courses selected from two of the three Divisions: Humanities, Social Sciences, Mathematics and the Natural Sciences.

*For groupings of departments see page 18.

(b) Prerequisites for the work of the last two years in major and minor subjects.

(c) Completion of the minimum foreign language requirement. An exceptionally well prepared freshman may demonstrate that he has completed this requirement before entering College by his achievement in a placement test which he takes at the beginning of his College course. The results of the test indicate, however, that most students need to devote from one to four semesters to further study of language.

The language requirement is explained as follows:

Each student will pursue one foreign language to a point equivalent to the completion of Course 2. Achievement in this course or its equivalent will be measured by a test given in September as an aid to placement, and in January and June at the regular examination periods. All students will be required to pass this test in the language which they are offering toward completing the requirement. The standard for admission to Course 2 is such as might reasonably be expected from a student who has had two years' preparation in the language; the standard for completion or equivalence of Course 2 is such as might be expected from a student who has had four years' preparation in the language.

PROGRAM OF THE LAST TWO YEARS

GENERAL COURSES

The work of the last two years in General Courses must include a major and one minor, both in the same Division, and electives. At the end of the sophomore year, a student's choice of his major and minor subjects must be approved by the departments concerned.

Each student in General Courses offers for graduation at least four full courses or their equivalent in his major subject and at least three full courses or their equivalent in his minor subject.

The completion of sixteen full courses, with a minimum average of C (see p. 60), normally constitutes the course requirement for a degree in General Courses. A student may carry extra work after the freshman year with the approval of his course adviser and of the Committee on Prescribed and Extra Work, provided that his record in the previous year has been satisfactory. In addition to completing his courses, the student at the end of his senior year must pass a comprehensive examination in his major subject, set by the faculty of the major department.

HONORS WORK

DESCRIPTION OF THE SYSTEM

Honors work is a system of instruction designed to free from the limitations of class-room routine those students whose maturity and capacity enable them to do independent work. Students who are chosen toward the end of their sophomore year to read for honors are exempt from the usual course requirements. Instead, during their junior and senior years they study a few subjects intensively and independently. They meet their instructors weekly in small seminars lasting about three hours. In these meetings it is customary for students to present frequent papers, although the methods of stimulating discussion vary greatly. In scientific subjects additional time is spent in the laboratory. The work is so planned that a student takes two seminars each semester, making a total of eight seminars during his last two years. Departments sometimes permit their major students to prepare a thesis instead of one seminar.

Honors work involves a concentration of the student's efforts upon a limited and integrated field of studies. He chooses seminars in three (or sometimes four) allied subjects, and, customarily devotes at least one half of his time to a single department in the line of his major interest, in which he is expected to demonstrate real achievement. Combinations of seminars are not governed by rigid rules but must be approved by the departments and divisions in which work is taken. Combinations involving seminars from two Divisions must be approved by the Instruction Committee. No examinations or grades are given from semester to semester.* At the end of the senior year honors students take written and oral examinations given by examiners from other institutions.†

The student should attain a degree of proficiency which will enable him to meet a rigorous and searching examination. This examination is designed to test his competence in a field of knowledge rather than his mastery of those facts which an instructor has seen fit to present in seminar. This is one of the chief ends for which the system of external examiners has been instituted. The examiners first set a three-hour written examination on the subject of each seminar, and after

*It is customary for honors students to take practice examinations at the end of the Junior year over the work covered thus far. These papers are read by the instructor concerned and are used as a basis for advice and guidance for the work of the Senior year.

†For list of examiners in May, 1940, see page 57.

reading the written examination have an opportunity to question each student orally, in order to clarify and enlarge the basis of their judgment of the student's command of his material.

Upon recommendation of the examiners, successful candidates are awarded the bachelor's degree with honors, with high honors, or with highest honors. Highest honors are awarded only to those who show unusual distinction. When the work of a candidate does not, in the opinion of the examiners, merit honors of any grade, his papers are returned to his instructors, who decide, under rules of the faculty, whether he shall be given a degree in course.

Students admitted to honors work who prove unable to meet the requirements or who for other reasons return to regular classes may receive proportional course credit for the work they have done while reading for honors.

Regulations governing possible combinations of major and minor subjects in the four divisions appear below. Lists of seminars offered in preparation for examinations follow departmental statements of general courses.

REGULATIONS

COMBINATIONS OF MAJORS AND MINORS

Division of the Humanities

Major subjects include English, French, German, Greek, History, Latin, Philosophy and Psychology: related minor subjects include those already listed, and Fine Arts. At least half of the student's time will probably be devoted to his major subject, the remainder being divided between two related subjects within the division.

Division of the Social Sciences

Major and minor subjects include Economics, History, Philosophy, Psychology, and Political Science. Students in this division may devote half their time to their major subject, dividing the remainder equally between two related subjects; or they may do an equal amount of work in two departments (one of which is to be designated as the major department) and spend a quarter of their time on another subject.

Division of Mathematics and the Natural Sciences

Major subjects include Botany, Chemistry, Mathematics, Physics, Psychology, Zoölogy; related minor subjects include the subjects listed,

and Astronomy and Philosophy. At least half of the student's time will probably be devoted to his major subject, with the remainder divided between two other related subjects within the division.

Division of Engineering

Major subjects for honors work in this division include Civil Engineering, Electrical Engineering and Mechanical Engineering; a minor may be taken in either or both of the engineering departments in which the student does not have his major, or in Chemistry, Mathematics, Physics or Economics. At least one-half of the student's time will be devoted to his major in engineering. The degree granted is the B.S. in Engineering.

The final examination will include papers on the fundamentals of the three professional departments of engineering, four papers on the seminars of the senior year, and one or two additional papers based upon the course which the student has taken, the number of the papers and their subjects to be determined by the faculty of the division. (See pp. 83, 85, 87.)

PROCEDURE FOR ADMISSION

A candidate for admission to an honors division must file his application in the spring of his sophomore year with the chairman of his division, and must indicate the particular combination of related subjects on which he wishes to be examined for his degree. His acceptance by the division depends in part upon the quality of his previous work as indicated by the grades he has received but mainly upon his seeming capacity for assuming the responsibility of honors work. The names of successful candidates are announced later in the spring. The major department will then arrange, in consultation with the student, a definite program of subjects to constitute the field of knowledge on which he will be examined at the end of his senior year. That department is responsible for drawing up the original plan of his work, for supervising his choice of seminars in all departments and for keeping in touch with his progress from semester to semester. The division is responsible for approval of the student's original program and for any subsequent changes in that program. Proposals for combinations of subjects or departments not provided for in the divisional arrangements must be submitted by the division to the Instruction Committee of the Faculty for final approval.

EXTERNAL EXAMINERS, 1940

DIVISION OF THE HUMANITIES

- Classics:*
Professor John W. Spaeth, Jr., Wesleyan University
- English:*
Professor Matthew W. Black, University of Pennsylvania
Dr. Clara Marburg Kirk, Rutgers University
Professor George F. Whicher, Amherst College
- French:*
Professor Jean-Albert Bédé, Columbia University
- German:*
Professor J. C. Blankenagel, Wesleyan University
Professor R. G. Kent, University of Pennsylvania
- History:*
Dr. Alice Beardwood, Wynnwood, Pa.
Dr. George Cuttino, University of Iowa
Dr. Josephine Fisher, Bryn Mawr, Pa.
Professor Walter C. Langsam, Union College
Professor Roger H. Wells, Bryn Mawr College
- Philosophy:*
Professor Theodore M. Greene, Princeton University
Professor Glenn Morrow, University of Pennsylvania
- Psychology:*
Professor Donald W. MacKinnon, Bryn Mawr College
Professor Carroll C. Pratt, Rutgers University

DIVISION OF THE SOCIAL SCIENCES

- Economics:*
Dr. Karl R. Bopp, University of Missouri
Professor Frank W. Fetter, Haverford College
Dr. Theodore J. Kreps, Stanford University
- History:*
Dr. Alice Beardwood, Wynnwood, Pa.
Dr. George Cuttino, University of Iowa
Dr. Josephine Fisher, Bryn Mawr, Pa.
Professor Walter C. Langsam, Union College
Professor Roger H. Wells, Bryn Mawr College
- Philosophy:*
Professor Theodore M. Greene, Princeton University
Professor Glenn Morrow, University of Pennsylvania
- Political Science:*
Dean Ernest S. Griffith, The American University
Professor Arthur MacMahon, Columbia University
Professor Arthur P. Whitaker, University of Pennsylvania
Dr. Benjamin Williams, University of Pittsburgh
- Psychology:*
Professor Donald W. MacKinnon, Bryn Mawr College
Professor Carroll C. Pratt, Rutgers University

DIVISION OF MATHEMATICS AND THE NATURAL SCIENCES

- Botany:*
Dr. Anna R. Whiting, University of Pennsylvania
- Chemistry:*
Professor Arthur J. Hill, Yale University
Professor Charles P. Smyth, Princeton University
Professor George H. Walden, Jr., Columbia University
- Mathematics and Astronomy:*
Professor Keivin Burns, University of Pittsburgh
Professor R. E. Gilman, Brown University
Professor C. G. Latimer, University of Kentucky
- Physics:*
Professor R. B. Lindsay, Brown University
- Psychology:*
Professor Donald W. MacKinnon, Bryn Mawr College
Professor Carroll C. Pratt, Rutgers University
- Zoology:*
Professor Fernandus Payne, Indiana University
Professor Alfred Redfield, Harvard University

DIVISION OF ENGINEERING

- Civil Engineering:*
Professor Harry L. Bowman, Drexel Institute of Technology
- Electrical Engineering:*
Professor George B. Hoadley, Massachusetts Institute of Technology
- Mechanical Engineering:*
Professor Edwin F. Church, Jr., The Polytechnic Institute of Brooklyn

COOPERATION WITH NEARBY INSTITUTIONS

Since 1933, Swarthmore College and three nearby institutions—the University of Pennsylvania, Bryn Mawr College, and Haverford College—have been developing a cooperative plan which involves some sharing of libraries and occasional interchange of instructors and students. By special arrangement students at Swarthmore may enroll for work in one of the other three institutions.

DEGREES

BACHELOR OF ARTS

BACHELOR OF SCIENCE

The degrees of Bachelor of Arts and Bachelor of Science are conferred upon students who have met the requirements for graduation as stated on pages 52 and 78.

MASTER OF ARTS

MASTER OF SCIENCE

1. The degrees of Master of Arts and Master of Science may be conferred upon graduates of Swarthmore College or of other institutions of satisfactory standing who spend at least a year in residence at this College, pursuing a course of study approved by the faculty. Each candidate for the Master's degree must prepare a satisfactory thesis on a subject assigned by the professor in charge of the major subject, and must pass a final oral examination before a committee of the faculty. In recent years the policy of the faculty has been opposed to accepting candidates for the Master's degree.

ADVANCED ENGINEERING DEGREES

The advanced degrees of Mechanical Engineer (M.E.), Electrical Engineer (E.E.), and Civil Engineer (C.E.), may be obtained by graduates who have received their Bachelor's degree in Engineering upon the fulfilling of the requirements given below:

1. The candidate must have been engaged in engineering work for *five* years since receiving his first degree.
2. He must have had charge of engineering work and must be in a position of responsibility and trust at the time of application.
3. He must make application and submit an outline of the thesis he expects to present, one full year before the advanced degree is to be conferred.
4. The thesis must be submitted for approval one calendar month before the time of granting the degree.
5. Every candidate shall pay a registration fee of \$5 and an additional fee of \$20 when the degree is conferred.

FACULTY REGULATIONS

ATTENDANCE AT CLASSES AND COLLECTION

Members of the Faculty will hold students responsible for regular attendance at classes.

When illness necessitates absence from classes the student should report at once to the nurses or to the College physicians.

The last meeting before vacation and the first meeting after vacation in each course must be attended. The minimum penalty for violation of this rule is probation: for absence at Thanksgiving, probation until the end of the semester; for absence at Christmas, probation until spring vacation; for absence at Washington's Birthday, probation until May 1; and for absence at spring vacation, probation for the rest of the year. The exact definition of probation in individual cases is left to the Deans with the understanding that it shall include attendance at all classes without cuts.

Absences from Collection are acted upon by the Deans as instructed by the Collection Committee of the Faculty. All students are allowed two absences from Collection each semester.

GRADES

Instructors report to the Dean's office at intervals during the year upon the work of students in Courses. Informal reports during the semester take the form of comments on unsatisfactory work. At the end of each semester formal grades are given in each course under the letter system, by which *A* means excellent work; *B* means good work; *C* means fair work; *D* means poor work, and *E* shows failure. *W* signifies withdrawn and *Cond.* signifies conditioned in the course.

Reports are sent to parents and to students at the end of each semester.

For graduation in General Courses, a *C* average is required; for graduation in Honors work, the recommendation of the external examiners. (See p. 54.)

CONDITIONS

The mark "conditioned" indicates either (1) that a student has done unsatisfactory work in the first half of a course, but by creditable work during the second half may earn a passing grade for the full course, and thereby remove his condition; (2) that a student's work is incomplete in respect to specific assignments or examinations; when he completes it, he will remove his condition.

Conditions of both types must normally be made up in the semester immediately following that in which they were incurred; for the removal of conditions of type (2), a date is set at the end of the first six weeks of each semester when make-up examinations must be scheduled and late papers submitted. Under special circumstances involving a use of laboratories or attendance at courses not immediately available, a student may secure permission to extend the time for making up a condition until the second semester following. Any condition not made up within a year from the time it is imposed shall thereafter be recorded as *E*, i. e., *complete failure*, which cannot be made up.

EXAMINATIONS

Any student who is absent from an examination, announcement of which was made in advance, shall be given an examination at another hour only by special arrangement with the instructor in charge of the course.

No examination *in absentia* shall be permitted. This rule shall be interpreted to mean that instructors shall give examinations only at the college and under direct departmental supervision.

SUMMER SCHOOL WORK

Students desiring to transfer credit from a summer school are required to obtain the endorsement of the chairman of the department concerned before entering upon the work, and after completing the work are required to pass an examination set by the Swarthmore department.

REGULATIONS GOVERNING RESIDENCE

All men students except freshmen choose their rooms in order determined by lot. All freshmen, both men and women, are assigned to rooms by the Deans in order of date of application for admission. Upper class women have a preferential system carried out by a committee of students and members of the administrative staff.

In September, students are not admitted to the dormitories before the day preceding registration except by special permission in advance from the Deans.

The College dining-room is closed during the Christmas and spring recesses. The College dormitories are closed during the Christmas recess. Students leaving property in any College building during the summer recess do so at their own risk.

All freshmen must leave the College immediately after their last examination in the spring in order that their rooms may be used by Commencement visitors.

REGULATION AGAINST MAINTENANCE OF AUTOMOBILES
AT SWARTHMORE

By action of the Faculty, approved by the Board of Managers, undergraduates are forbidden to maintain automobiles at the College or in the Borough of Swarthmore. The regulation is as follows:

Resident students are not allowed to keep automobiles on the campus or in the Borough of Swarthmore. The rule prohibits equally the keeping of automobiles owned by students and those owned by other persons but placed in the custody or control of students. Day students may use cars in commuting to college.

Under exceptional circumstances, a student may obtain permission from one of the Deans to keep an automobile in the Borough for a limited time.

Parents and students must realize that this regulation will be strictly enforced; students who do not observe it will be asked to withdraw from College.

EXCLUSION FROM COLLEGE

The College reserves the right to exclude at any time students whose conduct or academic standing it regards as undesirable, and without assigning any further reason therefor; in such cases the fees due or which may have been paid in advance to the College will not be refunded or remitted, in whole or in part, and neither the College nor any of its officers shall be under any liability whatsoever for such exclusion.

EXPENSES

The charge for tuition is \$400 a year, payable in advance. The charge for residence at the College is \$500 a year, of which half is payable at the beginning of each semester. There is a uniform laboratory and activities fee of \$25 per semester, which covers both academic and extra-curricular College activities and supersedes all separate fees formerly charged. A deposit of \$50 is required of each student, payable in advance, to cover incidental bills.

Charges for the year are therefore made as follows:

First semester:

Tuition	\$400	
Residence	250	
Deposit for incidental bills	50	
Fees	25	
Total first semester charges		\$725

Second semester:

Residence	\$250	
Fees	25	
Total second semester charges		275
		\$1000

The first payment by all students is due not later than Registration Day. Bills for the first payment are mailed before the opening of the College year, and for the second payment about the first of January. Payments should be made by check or draft to the order of SWARTHMORE COLLEGE. In case bills for the first semester are not paid by November 1, and bills for the second semester by March 1, students owing such bills may be excluded from all College exercises.

No reduction or refunding of the tuition charge can be made on account of absence, illness or dismissal during the year. If a student shall withdraw or be absent from College for any reason, there will be no reduction or refund because of failure to occupy the room assigned for that semester. In case of illness or absence for other reasons from the College for six weeks or more, there will be a proportionate reduction for board, provided that notice be given to the Comptroller

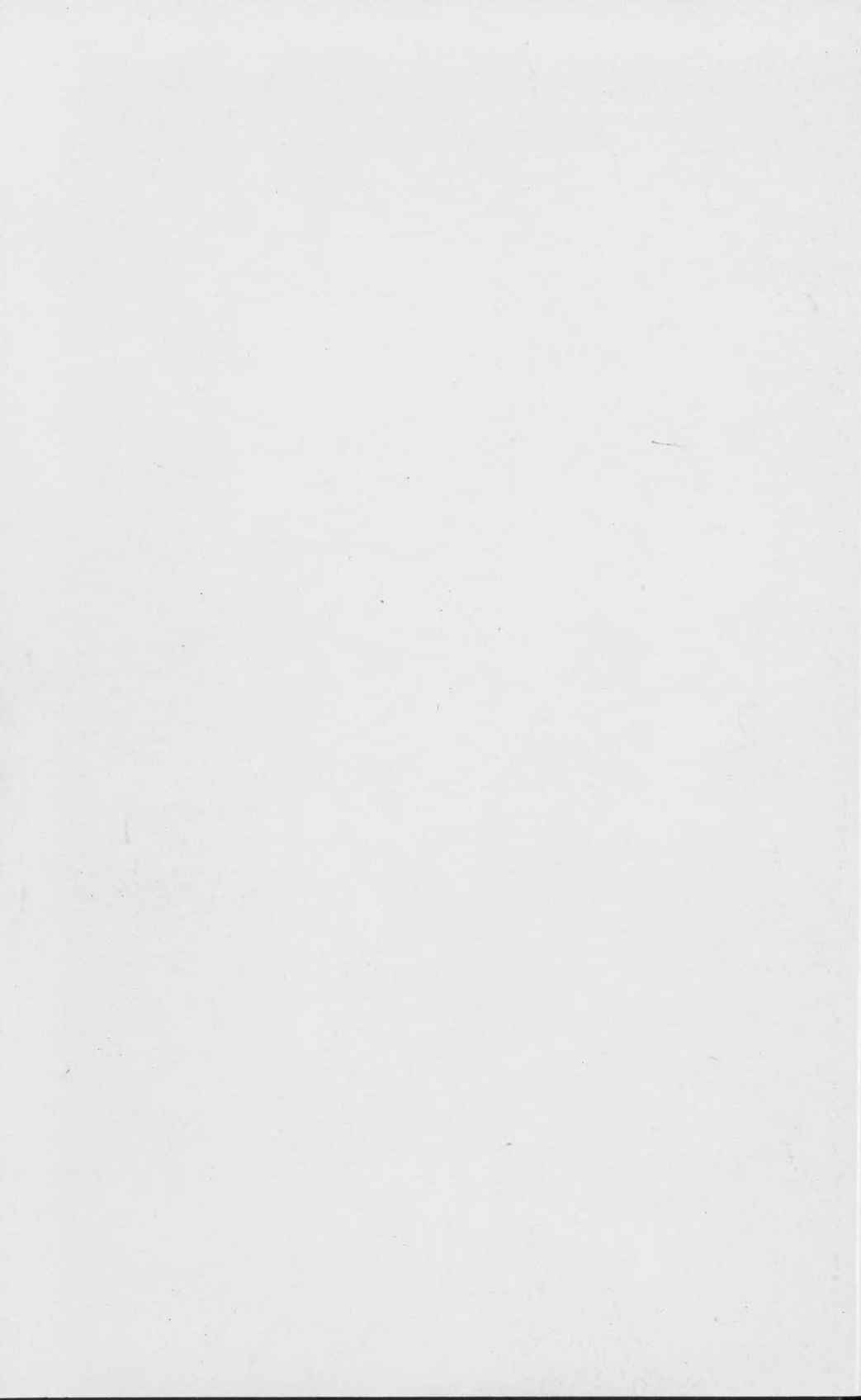
at the time of withdrawal. Fees cannot be refunded for any reason whatever.

Students may charge incidental bills, including purchases at the College bookstore, laundry, telephone and room breakage, against the \$50 deposit. When this deposit has been exhausted a new deposit will be required immediately. Any unused balance is returned at the end of the year.

The funds used in paying for scholarships are derived from the income of the endowment fund and are received from time to time during the year. Students receiving these benefits will have the amount deducted from their bill due on January 1. Should the amount of the scholarship exceed the amount of the January bill, it will be deducted from the bill for the entire year, the balance becoming due in September.

Special students who enroll for less than the prescribed number of courses will be charged \$50 per half course.





COURSES OF INSTRUCTION

BOTANY

PROFESSOR: SAMUEL COPELAND PALMER, *Chairman*

ASSISTANT PROFESSOR: LUZERN G. LIVINGSTON

INSTRUCTORS: RUTH McCLUNG JONES

NORRIS JONES

GENERAL COURSES

1. Biology. Mr. Livingston, Mr. Jones, Mr. Kille, Mrs. Jones, Mr. Scott.

Full course.

This introductory course is designed to present the fundamental aspects of biology. Wherever possible, principles will be illustrated by both plants and animals with particular reference to their interdependence and interrelationships. The topics for consideration during the first semester (Mr. Livingston, Mr. Jones) include: protoplasm, the cell, structure and function in the higher plant, plant reproduction, genetics, and a brief survey of the plant kingdom. The topics in the second semester (Mr. Kille, Mrs. Jones, Mr. Jones, Mr. Scott) include: principles of vertebrate structure and physiology, embryology, a comparative study of a few invertebrate phyla, ecology and evolution. The course is a prerequisite for advanced courses in botany and zoölogy.

Three lectures or conferences and one laboratory period per week.

2. Plant Physiology. Mr. Livingston.

Half course, second semester.

A course with laboratory work designed to give the student an insight into the fundamentals of plant function.

2b. Survey of the Plant Kingdom. Mr. Livingston.

Half course, first semester.

A comparative study of the structure and life habits of the Thallophytes, Bryophytes, and Tracheophytes (exclusive of the Angiosperms). Particular attention will be given to current concepts of evolutionary relationships from the standpoints of both comparative morphology and paleobotanical evidence.

3. Genetics and Eugenics. Mr. Palmer.

Half course, first semester.

A study of the fundamental principles of genetics. With the application of these principles to eugenics.

4. Taxonomy. Mr. Palmer.

Half course, second semester.

A course devoted to a study of the horticultural as well as native species and varieties of the campus and woods. A large number of species are available for comparison.

5. Microscopic Anatomy of Plants. Mrs. Jones.

Half course, second semester.

A course open to biology majors to introduce the technique of normal plant tissue preparation and the fundamentals of plant microscopic anatomy.

6. Cytology. Mrs. Jones.

Half course, second semester.

An advanced course including a study of both cytoplasmic and nuclear structures. Prerequisite either Botany 5 or Zoölogy (Histology).

7a. Scientific Drawing. Mr. Jones.

Half course.

An elementary course in freehand drawing for those who wish to learn the proper methods of graphic representation of biological forms.

7b. Scientific Drawing. Mr. Jones.

Half course.

A succeeding course with the same purpose as 7a, in which the elementary principles of water color painting are introduced. Prerequisite 7a.

8. Advanced Scientific Drawing. Mr. Jones.

Full course.

Special problems in biological illustrating. Prerequisite Botany 7a and 7b.

9. Plant Pathology. Mr. Livingston.

Half course, second semester.

A course designed to give the student an insight into the fundamental principles of the study of plant diseases.

10. Geology. Mr. Palmer and Mr. Jones.

Half course, second semester.

A lecture course in general geology designed to acquaint the student with the forces at work fashioning the earth into its present form. Some time given to the study of historical geology, with special reference to the problem of evolution.

11. Plant Ecology. Mr. Palmer and Mr. Livingston.

Half course.

Lectures and field work; closely related to course in Taxonomy.

12. Bacteriology.

Arrangements can be made for properly qualified Swarthmore students to study Bacteriology at the University of Pennsylvania. This arrangement can be made either for course or Honors students.

13. Special Topics. Mr. Palmer, Mr. and Mrs. Jones, and Mr. Livingston.

Half course.

Open to Seniors who wish to do special advanced work. Hours to be arranged with the instructor.

Numerous libraries, museums and parks in and around Philadelphia offer unusual opportunities to students to carry on investigations in the botanical sciences.

HONORS WORK

Prerequisites. The following regular courses, or their equivalents, are required for admission to Honors work in Botany: Biology (see Course 1 above) and General Inorganic Chemistry. Students are also urged to present additional preparation in Physics, Mathematics, and Chemistry whenever this is possible. Honors candidates should arrange a discussion of their course program in relation to future Honors work as early as possible in their freshman year.

1. Plant Physiology: An integrated study of the physical, chemical and biological aspects underlying plant function.
2. Plant Taxonomy and Distribution: A close study of the classification and distribution of our most important plant families. Laboratory and field work in plant identification, and a consideration of the effects of environmental factors on the distribution of plants.
3. Genetics: A study of the structure and development of the cell-theories of inheritance, Mendelism, Eugenics, etc.
4. Cytology: A detailed study of plant and animal cells from the point of view of morphology and function. Especial attention is given to cytogenetics.
5. Problems of Growth and Development: A morphological and physiological study of growth phenomena in plants.
6. Bacteriology. (See 12 above.)

CHEMISTRY

PROFESSORS: H. JERMAIN CREIGHTON, *Chairman*

EDWARD H. COX

ASSOCIATE PROFESSOR: DUNCAN G. FOSTER

ASSISTANT PROFESSOR: WALTER B. KEIGHTON, JR.

INSTRUCTOR: SAMUEL R. ASPINALL

GENERAL COURSES

1. Inorganic Chemistry. Mr. Creighton and Mr. Keighton.

Full course.

Lectures, demonstrations, written exercises, individual laboratory practice and weekly conferences on the general principles of inorganic chemistry. This course is primarily for students majoring in chemistry and the other sciences and is a prerequisite for Chemistry 2. It consists of two lectures, one four-hour laboratory period and a one-hour conference weekly. Text-books: Hildebrand, *Principles of Chemistry*; Bray and Latimer, *A Course in General Chemistry*.

2. Analytical Chemistry. Mr. Foster.

Full course.

First semester: Qualitative analysis. The theory and practice of the detection of the commoner chemical elements. Text-book, Hammett, *Solutions of Electrolytes*.

Second semester: Quantitative analysis: The principles and practice of volumetric analysis. Text-book, Talbot, *Quantitative Chemical Analysis*. Reference-book, Fales, *Inorganic Quantitative Analysis*.

One lecture, one recitation or conference and two laboratory periods per week. Prerequisite, Chemistry 1.

4. Analytical Chemistry. Mr. Foster.

Full course. Offered every other year alternately with Chemistry 5.

A laboratory course in the principles of gravimetric analysis, organic and gas analysis. Text-books, Talbot, *Quantitative Chemical Analysis*; Gattermann, *Praxis des Organischen Chemikers*; reference-books, Treadwell-Hall, *Analytical Chemistry* and Fales, *Inorganic Quantitative Analysis*. Nine hours' laboratory work with conferences when necessary, to be arranged at the beginning of the course. (Given in 1941-42.)

5. Physical Chemistry. Mr. Keighton.

Full course. Offered alternate years.

Three hours of conference and lectures and one four-hour laboratory period weekly. The fundamental principles of theoretical chemistry are studied and a number of numerical exercises are worked. In the laboratory work the student uses a wide variety of physical-chemical apparatus. Books recommended: Getman and Daniels, *Outline of Theoretical Chemistry*; Daniels, Mathews, and Williams, *Experimental Physical Chemistry*.

Prerequisites, Chemistry 1 and a course in General Physics. This course is offered to Juniors and Seniors and alternates with Chemistry 4. (Given in 1940-41.)

6. Organic Chemistry. Mr. Aspinall.

Half course, first semester.

Lectures, demonstrations, written exercises, and laboratory work. Two lectures, one conference, and one four-hour laboratory period a week. In the laboratory, the students carry out reactions and syntheses of various organic compounds, as given in Adams and Johnson, *Laboratory Experiments in Organic Chemistry*. The lectures follow such texts as Conant, *Organic Chemistry* (revised edition) and cover both the aliphatic and aromatic series. The course is designed for students majoring in zoölogy and pre-medical work. Prerequisite—Chemistry 1.

6a. Organic Chemistry. Mr. Aspinall.*Half course, second semester.*

This course is a continuation of course 6. In the laboratory, the students carry out some of the more difficult preparations as given in Adams and Johnson, Gilman, *Organic Syntheses*, and other laboratory manuals. In the lectures the aliphatic and aromatic series are reviewed from an advanced point of view, and follow such texts as Conant, *Chemistry of Organic Compounds*, and current review articles. This course is designed for students majoring in chemistry and for pre-medical students who desire more organic chemistry. Prerequisite—Chemistry 6.

HONORS WORK

The Department offers the following Honors Seminars:

1. Analytical Chemistry. Mr. Foster.*First semester.*

A laboratory seminar designed to give the student as thorough a groundwork in the principles and practice of quantitative analytical chemistry as the time will allow. Approximately eighteen hours a week are spent in the laboratory under the guidance, but not the supervision of the instructor, carrying out examples of gravimetric, organic, combustion and gas analytical methods.

2. Physical Chemistry. Mr. Creighton and Mr. Keighton.*Both semesters.*

Weekly seminar and laboratory. The work of the seminar includes the study of the states of aggregation of matter, elementary principles of thermodynamics, the relation between physical properties and molecular structure, equilibrium, the theory of solutions, electrochemistry and colloid chemistry. One day per week is spent in the laboratory.

A seminar is given in the first semester for minors and another in the second semester for majors.

3. Advanced Physical Chemistry. Mr. Creighton and Mr. Keighton.*Second semester.*

Weekly seminar and laboratory. The work of the seminar includes the study of thermodynamics, the activity concept and activity coefficients, the Debye-Hückel theory of strong electrolytes, and chemical kinetics including photochemistry and acid-base catalysis. One day per week is spent in the laboratory.

4. Organic Chemistry. Mr. Cox and Mr. Aspinall.*Second semester.*

For students majoring in Chemistry and others wishing to take Honors 6, Advanced Organic Chemistry. A four-hour conference and eight-hour laboratory period once a week. Conant's *The Chemistry of Organic Compounds* is preferred in covering the groundwork, although any good standard text may be substituted. The groundwork is covered in three months. The remaining part of the semester is given over to reviews of the text material and discussion on reaction mechanisms and advanced topics. Adams and Johnson's *Laboratory Experiments in Organic Chemistry* is used as the basis of laboratory work.

5. Organic Chemistry. Mr. Cox and Mr. Aspinall.

First semester.

For students taking Chemistry as their minor subject. A three-hour conference and six-hour laboratory period once a week. The groundwork for the conferences is taken from any one of the elementary organic texts (preferably Conant's *The Chemistry of Organic Compounds*). In the laboratory students prepare various organic compounds as given in Adams and Johnson's *Laboratory Experiments in Organic Chemistry*.

6. Advanced Organic Chemistry. Mr. Cox and Mr. Aspinall.

Second semester.

A continuation of Honors 4. Students write thirteen weekly comprehensive papers on advanced subjects. These papers are gathered from Reviews, Monographs, and original journal articles. A four-hour conference and eight-hour laboratory period once a week. In the laboratory the students prepare more difficult compounds and pursue approximately five weeks of qualitative organic analysis. Prerequisite—Honors 4.

REQUIREMENTS FOR MAJOR AND MINOR

Students majoring in chemistry follow a course of study leading to the degree of A.B. This degree may be taken either in general courses or with Honors. In either case there must be completed, during the first two years the following: Two courses in chemistry, two courses in mathematics, one course in physics, and two courses in German (or their equivalent).

In the junior and senior years, students in general courses are required to complete courses 4, 5 and 6 in the department of chemistry and to complete the requirements in their minor subject. For students who have been accepted for Honors work there are offered Honors seminars preparing them for examination papers in: 1. Analytical Chemistry, 2. Physical Chemistry, 3. Advanced Physical Chemistry, 4. Organic Chemistry, 5. Advanced Organic Chemistry. At the end of their senior year, Honors students majoring in chemistry take (1) not less than four nor more than five examination papers in Chemistry; (2) one paper in Physics; (3) and the remaining papers in topics selected from the following: Mathematics, Physics, Philosophy, Physiology.

For admission to minor Honors work in chemistry, one *full* course in chemistry is a prerequisite.

Students intending to prepare for the medical profession will find it to their advantage to take as many as possible of the following courses in chemistry: Nos. 1, 2, 5, 6.

CLASSICS

PROFESSORS: E. H. BREWSTER, *Chairman*
L. R. SHERO

GREEK
GENERAL COURSES

1. Elementary Greek. Mr. Shero.

Full course.

Study of the essentials of Greek grammar and reading of easy selections from Greek literature, with collateral study of various aspects of Greek civilization.

2. Intermediate Greek. Mr. Shero.

Full course.

Selections from Homer and from Herodotus, Plato's *Apology*, and a tragedy are read. Students planning to read for honors will be permitted to do some of the reading for this course in Latin, if it is impossible for them to take Latin 4.

3. Greek Survey. Mr. Shero.

Full course.

A survey of Greek literature with reading of some of the masterpieces of prose and of poetry of the classical period.

4. Advanced Greek Reading. Mr. Shero.

Full course. (Omitted in 1940-41.)

The reading done in this course is determined by the interests and needs of the members of the class.

5. The History of Greece. Mr. Shero.

Half course, first semester. (Omitted in 1940-41.)

A study of Greek civilization in its most significant aspects to the time of the Hellenistic Kingdoms, preceded by a brief survey of the Oriental civilizations by which the Greeks were influenced. Special attention is given to the 6th and 5th centuries B.C.

6. Greek Literature in English. Mr. Shero.

Half course, second semester. (Omitted in 1940-41.)

Study in English translation of some of the masterpieces of Greek literature (the Homeric epics, several of the dramas, Plato's *Republic*, etc.) and of important texts in the special fields of interest of the various members of the class; part of the reading is individually assigned in accordance with the student's own particular requirements.

7. Greek Life and Thought. Mr. Shero.

Half course, second semester.

A general survey of those aspects of Greek civilization which have had special significance for the modern world, with detailed study of some of the masterpieces of Greek art and of Greek literature (in translation).

8. Introduction to Classical Archaeology. Miss Brewster, Mr. Shero.

Half course, first semester.

A study of the methods of archaeological investigation, with a survey of the development of Greek and Roman architecture, sculpture, painting, ceramics, numismatics, and town-planning. Special attention is given to the early Greek period.

LATIN

GENERAL COURSES

1. Sub-Freshman Latin.

Full course. (Offered as required.)

A study of grammar and selected readings. Designed for those who begin Latin in college or for those who are not prepared to enter Latin 2.

2. Intermediate Latin. Miss Brewster, Mr. Shero.

Half course, each semester.

Prose and verse (including Roman Law) selected according to the interests and needs of the members of the class. Designed for students who have had two or more years of preparatory Latin and are not prepared to enter Latin 3.

3. Latin Survey. Miss Brewster.

Full course or two half courses.

A survey of Latin literature with emphasis upon Comedy, Livy; Lucretius, Horace. The course aims to give students some conception of the Roman spirit as manifested in Latin literature and in the personality of Latin writers. Open to those whose Placement Tests indicate adequate preparation.

4. Advanced Latin Reading. Miss Brewster, Mr. Shero.

Full course or two half courses.

Catullus, Virgil's *Eclogues* and *Georgics*, Elegiac Poets; Letters of Cicero and of Pliny, Tacitus.

5. Roman Satire and Epigram. Miss Brewster.

Half course, first semester.

6. Latin Philosophical Writings. Miss Brewster.

Half course, second semester.

7. Latin Language. Miss Brewster.

Half course, first semester.

A study of the development of the Latin language. Practice in reading Latin, in writing Latin prose, and in translating Latin (including mediaeval Latin) at sight.

8. Comprehensive Survey. Miss Brewster.

Half course. (Offered as required.)

Review readings and supplementary reading in Latin authors and in modern authorities on Roman history, public and private life, art, literature, and religion. Designed to enable students, through independent study and occasional conferences, to prepare themselves for final comprehensive examinations. Open to Seniors with a major in Latin.

9. The History of Rome. Miss Brewster.

Half course, first semester, 1940-41.

Survey of the history of Rome from the earliest times to the accession of Marcus Aurelius, with emphasis upon the Republic and the Augustan principate. The course stresses the Roman genius for organization and administration.

10. European Backgrounds. Miss Brewster.

Half course, second semester. (Omitted in 1940-41.)

A study of the Roman Empire as it figures in modern Europe. Lectures, reading, and reports supplemented by a variety of illustrative material and visits to collections of antiquities.

11. Pagan-Christian Centuries. Miss Brewster.

Half course, second semester, 1940-41.

A study of the development of Christian forms and ideas in the Roman Empire before the Edict of Constantine. Lectures and reports supplemented by readings, in translation, from pagan and Christian sources.

12. Latin Literature—in Latin and in English. Miss Brewster.

Half course. (Offered as required.)

Designed for non-classical majors who may desire a classical background for their special fields. The Loeb Series of texts and translations of classical authors will be used.

HONORS WORK

I. General prerequisites:

For a major in Greek or Latin: Elementary Greek (1), Intermediate Greek (2), Latin Survey (3).

For a minor in Greek: Elementary Greek (1), Intermediate Greek (2).

For a minor in Latin: Latin Survey (3).

II. Supplementary preparation advised: History of Europe (1), Introduction to Philosophy (2), French or German literature.

III. Seminars offered:

1. History of Ancient Greek and Roman Civilization, a survey concentrating upon political institutions, art, and religion. Mr. Shero.

First semester.

2. Intensive Study of a Special Period of Greek or Roman History: Solon to the End of the Peloponnesian War. Mr. Shero.

First semester.

The Gracchi to Nero. Miss Brewster.

First semester.

3. Plato. (See p. 110 under Department of Philosophy.)

4. Greek or Latin Language: an introduction to classical philology, epigraphy, palæography; practice in reading and writing in Greek or in Latin. Mr. Shero, Miss Brewster.

First semester.

5. Prose Authors: Greek—Thucydides, Plato, the Attic Orators. Mr. Shero.

Second semester, 1940-41.

Latin, with emphasis upon Cicero and the Historians. Miss Brewster.
Second semester.

6. Poets: Greek, with emphasis upon Epic and Tragedy. Mr. Shero.
Second semester.

Latin, with emphasis upon Epic (including Lucretius) and Satire.
Miss Brewster.

Second semester, 1940-41.

7. Greek and Roman Archaeology.

First semester, 1940-41.

8. Greek and Roman Political Thought.

Offered as required.

Required for a major in Greek or Latin: Nos. 5, 6, either 3 or 4, and one elective from the group above.

Required for a minor in Greek or Latin: Nos. 5 and 6 above and an additional paper testing Translation at Sight.

IV. A thesis may be substituted for No. 1 or No. 2 above if students have adequate preparation in History, Ancient Art, and Modern Languages.

ECONOMICS

PROFESSORS: CLAIR WILCOX, *Chairman*
HERBERT F. FRASER

ASSISTANT PROFESSORS: *PATRICK MURPHY MALIN
FRANK C. PIERSON

INSTRUCTOR: JOHN SEYBOLD

GENERAL COURSES

Economics 1 and 2 are open to all students, the former being prerequisite to all other work in the department except the latter, and being the only course so required. Economics 9 and 10 are open to all students who have had Economics 1; all other advanced courses are open only to Juniors and Seniors. Economics 1, 2 and 3 are offered annually; other courses are generally offered in alternate years.

1. Introduction to Economics.

Messrs. Wilcox, Fraser, Pierson and Seybold.

Full course.

The structure and functioning of modern economic society. Natural resources and population. Corporate organization. The determination of prices and the distribution of incomes. Problems in finance and international economics. The rôle of labor and government.

2. Methods of Economic Analysis. (*See Engineering 10 and 11.*)

3. Money and Banking. Mr. Seybold.

Full course.

General significance of money and credit. Commercial banking: individual bank operations, banking systems, central banking and liquidity, American banking history since 1919; continuing problems. Prices and standards. American monetary history since 1919, with special reference to national debt and inflation. General monetary policy and methods.

Required of all economics majors in course. Should be taken during the Junior year.

4. Economics of Business. Mr. Fraser.

Full course. (Offered in 1940-41.)

Corporate organization and finance. Investment banking and the securities exchanges. Marketing problems and price policies. Risk, speculation and insurance. The economic problems which confront the business executive.

5. International Economics. Mr. Fraser.

Half course, first semester. (Offered in 1941-42.)

The economic aspects of foreign trade. Analysis of the theory of international trade; the practical problems: financing, marketing, transportation, etc. The relation of governments to trade, protective tariffs, international debts and economic imperialism.

*On leave of absence, 1940-41.

6. Public Finance. Mr. Fraser.*Half course, second semester. (Offered in 1941-42.)*

A study of government expenditures, revenues and indebtedness, with particular emphasis upon the economics of taxation.

7. Public Control of Business. Mr. Wilcox.*Full course. (Offered in 1941-42.)*

A study of federal anti-trust policy, railroad regulation, public utility regulation, the National Recovery Administration, the public control of extractive industries, the Agricultural Adjustment Administration, public regulation of corporate financial practices, and federal control of the securities exchanges.

8. Social Economics. Mr. Wilcox.*Full course. (Offered in 1940-41.)*

An examination of the extent, consequences and causes of economic inequality. An appraisal of the institutions of modern capitalism and of possible methods of economic reform.

9. Labor. Mr. Pierson.*Full course. (Offered in 1941-42.)*

The position of the industrial worker, with special reference to wage-hour legislation and unemployment and relief. Employer approaches to labor relations; labor organization; governmental participation in employer-employee relations. Hired farm labor; the tenant farmer and the share-cropper. International aspects of labor economics.

10. Economic and Social Change. Mr. Pierson.*Full course. (Offered in 1940-41.)*

A survey of major changes in rural and urban American life during the twentieth century. The following topics are examined with special reference to the viewpoints and welfare of business, farmer, or worker groups. Population and migration. The use of natural resources. Depressed areas in agriculture. Problems in urban life. Effects of the machine process and technological change. Topics of business management; the business man's viewpoint. General conclusions regarding sources of instability and change.

HONORS WORK

Prerequisite—Economics 1. For majors, Economics 2 is recommended.

1. Money and Banking. Mr. Pierson.*Each semester.*

The subject matter includes the material covered in Course 3 above. In addition, the problems of investment, saving and government deficits are examined. The method consists of systematic seminar discussion on the basis of specifically assigned readings, oral reports, and a term paper. Required of all students taking three or four seminars in economics; should be taken during the junior year, preferably the first semester.

2. Private and Public Finance. Mr. Pierson.*Second semester.*

Corporation finance, investment banking, the security exchanges. Investment and insurance, savings banks and trust companies, real estate and agricultural credit. Government expenditures, borrowing and taxation—federal, state, and local.

Seminar discussion on the basis of directed readings, frequent oral reports, and a term paper.

3. Economic Theory and Business Cycles. Mr. Fraser.*Each semester.*

A study of the application of scientific method and analysis in economics. The theory of value, price and distribution, with its application to practical problems. Business cycle theory and the control of industrial fluctuations.

Directed reading, seminar discussion, and written reports. Strongly recommended for all students taking four seminars in economics. Should usually be taken during the junior year, preferably the second semester.

4. International Economics. Mr. Fraser.*First semester.*

The subject matter is identical with that of Course 5 above, but the topics are considered at greater length. The method of directed reading is used, supplemented by systematic seminar discussion. Each student is expected to write papers on four topics.

5. Public Control of Business. Mr. Wilcox.*First semester.*

Problems of competition, monopoly, and public control in agriculture, the extractive industries, manufacturing, the distribution trades, transportation, and public utilities. Each student is required to engage in independent research and present a written report.

6. Social Economics. Mr. Wilcox.*Each semester.*

An appraisal of the institutions of modern capitalism. An examination of the extent, consequences and causes of economic inequality. A study of economic reform, with particular reference to social insurance, socialism, the labor movement and the social use of the taxing power. Independent reading under guidance in an extensive bibliography. No written reports.

7. Thesis.

A thesis may be substituted for one of the honors examinations, under exceptional circumstances, by special arrangement.

ENGINEERING

PROFESSOR: SCOTT B. LILLY, *Chairman*

ASSOCIATE PROFESSORS: CHARLES G. THATCHER
HOWARD M. JENKINS

ASSISTANT PROFESSORS: *ANDREW SIMPSON
GEORGE B. THOM
SAMUEL T. CARPENTER

INSTRUCTORS: GEORGE A. BOURDELAIS
JOHN D. MCCRUMM

INSTRUCTORS, PART TIME: S. W. JOHNSON
T. H. JOHNSON

There are three departments of Engineering: Civil, Electrical and Mechanical. These departments cooperate in a program of (1) introductory courses, taken normally by Freshman and Sophomore engineers; (2) general courses, open to all students in the College. Each department offers also its own separate program of advanced work.

An engineering student devotes about half his time to engineering courses; the other half he divides between basic sciences, such as physics and mathematics, and the non-technical fields useful for a liberal education.

During their first three years, all engineering students follow the schedule of courses outlined below. During the sophomore year students may elect Course 8, Principles of Electrical Engineering. Those who propose to major in electrical engineering should take this course. Those students whose ability in the field of mathematics and the natural sciences is marked, and those who intend to go on into graduate work, should take an additional course in mathematics in the junior year; those students whose greatest interest lies in administration, operation, or management of engineering enterprises should choose their fourth course in the field of economics or industrial management.

All students devote their last two years: (1) to developing their special interests; (2) to fulfilling the major requirements of one of the departments of Engineering; (3) to certain basic courses required of all engineers. (For details see pp. 83, 85, 87.)

Engineering students qualify for the degree of Bachelor of Science in Engineering.

*Absent on leave.

OUTLINE OF THE CURRICULUM IN ENGINEERING

Freshman Year—Four Courses

Humanities or Social Science elective
 Mathematics 1, 2
 Chemistry 1
 Engineering 1, 2, 3
 Summer Session Engineering 4, 5

Sophomore Year—Four Courses

Humanities or Social Science elective
 Mathematics 11, 12
 Physics 1
 Engineering 6, 7
 in addition, students who plan to major in electrical engineering
 should take
 Principles of Electrical Engineering 8 (Second semester only)

Junior Year—Four Courses

Humanities, Social Science or Natural Science elective
 Mechanics of Fluids, consisting of
 22—Elementary Fluid Mechanics
 40—Thermodynamics
 Mechanics of Solids, consisting of
 20—Analytic Mechanics
 21—Strength of Materials
 Electrical Engineering 30-A or
 Electrical Machinery 30-B

The courses taken in the Senior year are described under the headings Civil, Electrical and Mechanical Engineering.

HONORS WORK

In the Division of Engineering, since so much of the prescribed work is of a fundamental nature, honors work is limited to the Senior year. For a general statement, see page 56 *et seq.*, and for details see statements of the Departments of Civil, Electrical and Mechanical Engineering, pages 83, 85, 87.

COURSES OF INSTRUCTION

INTRODUCTORY COURSES

1. Surveying. Mr. Carpenter.

One-quarter course, first semester.

Surveying instruments and their adjustment; practice in taping, leveling, running traverses, taking topography, stadia work, preparation of profiles and maps from field notes. Required course for freshman engineers. Open to all students who have had trigonometry in high school or college.

2. Freshman Drawing and Shop Practice. Mr. Bourdelais.

Half course, all year.

Woodworking, pattern making, principles of foundry practice, forging and welding and machine shop. Industrial trips. Orthographic projection and modern drafting practice. Sketching with emphasis on accurate visualization.

Required course for freshman engineers; open to all students.

3. Descriptive Geometry. Mr. Carpenter.

One-quarter course, second semester.

A continuation of the principles of orthographic drawing as applied to problems of location and description of bodies in space. It is concerned with the solutions of problems that arise in connection with the determination of distances, angles, and intersections. Emphasis is placed upon the application to practical engineering problems.

Two three-hour laboratory periods.

Required course for freshman engineers; open to all students.

4. Long Survey. Mr. Carpenter.

One week during the summer following the freshman year.

Supplementary to Engineering 1. One week of continuous work in surveying and mapping, including running of levels and of a topographical survey by the stadia method.

Required course for freshman engineers; open to all students who have taken Engineering 1.

5. Advanced Drawing and Shop Practice. Mr. Bourdelais.

Two weeks during the summer.

Machine shop practice. Industrial trips. Sketching of original ideas. Limited number of carefully made drawings.

Required course for sophomore engineers; open to all students who have taken Engineering 2.

Given in June after closing of college; 2 weeks of work, 8 hours a day.

6. Kinematics. Mr. Thom.

Half course, first semester.

A comprehensive study of the relative motions of links in a mechanism; the determination of the velocities and accelerations of these members; the development of cams, of gears and transmission machinery from the standpoint of motion. Drawing room solutions of problems of a practical nature.

Required course for sophomore engineers; open to all students.

7. Materials of Engineering. Mr. Thatcher.

Half course, second semester.

Study of the chemistry and metallurgy, physical properties, practical and economic uses of the common metals and alloys, wood, cement, and concrete. Laboratory exercises and written reports. Trips to nearby plants.

Required course for sophomore engineers; open to all students who have had chemistry in high school or college.

8. Principles of Electrical Engineering. Mr. Jenkins.

One-quarter course, second semester.

This course is open to all who are taking General Physics and Calculus. This is an introductory course to further work in Electrical Engineering in the junior year. It includes

the study of fundamental electrical quantities and the solution of typical problems of electrostatics and simple electrical apparatus.

Required course for sophomore engineers who plan to major in Electrical Engineering; open to students who have taken Physics 1.

GENERAL COURSES

10.* Accounting. Mr. S. W. Johnson.

Half course, first and second semesters.

Theory of corporate accountancy; the terminology, the functions and the interpretation of financial statements, including credit analysis and financial and operating ratios.

Open to all students.

11.* Business Statistics. Mr. Jenkins.

Half course, first and second semesters.

Study and applications of fundamental statistical methods which can be used in an analysis of business conditions and changes, and which aid in a clearer understanding of economic data.

Open to all students.

12. Industrial Management. Mr. Thom.

Full course, all year.

A survey study of the organization and management of industrial activities, including historical background, organization, physical plant, standardization, job standardization, wages, personnel and control.

Open to all students.

14. Art Metal and Wood Working. Mr. Bourdelais.

One afternoon a week, all year. No credit.

Designed to give the student a chance to express himself with his hands. The medium is usually wood or metal, the project varying with the desire of the student. Emphasis is placed on both the artistic and the practical side, and on developing powers of observation of detail.

Open to all students.

15. Contemporary Engineering Topics. Mr. Thom.

One hour per week, alternate weeks, all year. No credit.

This course includes the preparation of at least three carefully written papers on contemporary engineering topics, and the oral presentation of the subject matter involved from notes. The program is varied by extemporaneous speeches by students, or talks by outside speakers.

Required of all seniors majoring in engineering.

16. Analysis of Physical Problems. Mr. McCrumm.

Half course, first semester.

The origin, meaning, and method of solution of differential equations especially those arising from the behavior of physical systems; emphasis on linear differential equations with constant coefficients. Also hyperbolic functions, Fourier series, Graeffe's general theory, dimensional analysis, theory of determinants, or other special topics.

Open to students who have had Mathematics 12 and Physics 1.

*Courses No. 10 and No. 11, combined, are known as "Methods of Economic Analysis" (Economics No. 2).

CIVIL ENGINEERING
SCOTT B. LILLY, *Chairman*
GENERAL COURSES

20. Analytic Mechanics. Mr. Lilly.

Half course, first semester.

Composition and resolution of forces; center of gravity; moments; acceleration; velocity; collision of bodies; the integration of simple equations of motion. This course is a study of the behavior of particles and solid bodies, when acted upon by forces, assuming that the solid bodies do not change form under such action.

Open to students who have taken Mathematics 12 and Physics 1.

21. Strength of Materials. Mr. Carpenter.

Half course, second semester.

This course treats of the internal stresses and changes of form which always occur when forces act upon solid bodies. The mechanics involved in the design of simple engineering structures is presented, so that the student may realize the problems which must be solved in order to secure the required strength and stiffness in such structures.

Open to students who have taken Engineering 20.

22. Fluid Mechanics. Mr. Lilly.

Half course, first semester.

Properties of fluids; statics of fluids; flotation; accelerated liquids in relative equilibrium; dynamics of fluids; impulse and momentum in fluids; dynamic lift and propulsion; the flow of viscous fluids, flow of fluids in pipes; flow with a free surface; flow through orifices and tubes; the resistance of immersed and floating bodies; dynamics of compressible fluids; thermodynamics of compressible viscous fluids; dynamic similarity.

23. Structural Theory and Design. Mr. Carpenter.

Full course, all year.

Analysis of determinate and indeterminate structures; design of structural members and connections; design of reinforced concrete. The work of the first semester is arranged to meet the requirements of mechanical and electrical engineers.

Open to students who have taken Engineering 20 and 21.

Required of seniors majoring in civil engineering; Credit given for first semester to seniors majoring in electrical or mechanical engineering.

24. Engineering Economy. Mr. Lilly.

Half course, second semester.

A study of the methods which the engineer uses when he investigates a proposed course of action in order that he may decide whether it will prove to be economical in the long run.

Open to all students.

25. Civil Engineering Option. Mr. Lilly, Mr. Carpenter.

Full course.

This course is designed to give the student an opportunity to apply the fundamental principles of the mechanics of solid bodies or of the mechanics of fluids to some particular field. This further training will include more fundamental theory. Especial emphasis will be placed on the methods of attacking problems in engineering rather than a minute application of the theory to practical problems. The subjects to be studied will be decided upon by the student and the instructor. In 1940-41 the students will spend approximately one-third of their time on each of the following subjects: soil mechanics and foundations; water supply; sewerage systems and sewage disposal. These subjects will be studied in series.

29. Thesis. Mr. Lilly, Mr. Carpenter.

Half course, second semester.

MAJOR IN CIVIL ENGINEERING

The curriculum for the first three years for a student who plans to major in civil engineering is given on page 79.

The courses which must be taken in the Senior year are:

23. Structural Theory and Design
25. Civil Engineering Option
41. Heat Power Engineering
24. Engineering Economy

Since Heat Power Engineering and Engineering Economy are half courses, one-quarter of the student's time in the Senior year is open, and he may elect any course in the Division of Engineering, Division of the Social Sciences, or Division of Mathematics and the Natural Sciences to complete his program. This elective must receive the approval of his course adviser and must be related to his course as a whole.

The fundamental theory of the Four Course Plan, under which the college is operating, is that the student shall confine his efforts to not more than four subjects at the same time. Therefore the two courses, Structural Theory and Design, No. 23, and Civil Engineering Option, No. 25, are broad in scope. Course 23 includes a review of fundamental mechanics and continues with the computation of stresses, and the design of structures in steel, wood and concrete. Course 25 may include highway engineering, soil mechanics and foundations, hydrology, water supply, sewage disposal and sewerage systems. The subject matter is varied in content and emphasis to meet the needs and interests of different groups. The subjects mentioned are taken up in series, making it possible to avoid repetition and increase the efficiency of the teaching.

HONORS IN CIVIL ENGINEERING

Senior students, having completed their junior year as outlined above, may apply to read for honors. The topics of final examinations in civil engineering are:

1. Analytic Mechanics and Strength of Materials
2. Structural Theory
3. Municipal Engineering
4. Reinforced Concrete
5. Soil Mechanics and Foundations

The fundamental ideal of the work in honors is to encourage each student to go as far as he is capable in some one phase of civil engineering. He is urged to make himself familiar with all the latest developments in that field so that he may realize that engineering science is a

living, growing profession, and that he may well spend his best energies to further that growth.

A major in civil engineering will take eight honors examinations, at least three of which shall be from the above list; at least one in electrical engineering; at least one in mechanical engineering, and the remainder in engineering, mathematics, physics, chemistry or the social sciences.

ELECTRICAL ENGINEERING

HOWARD M. JENKINS, *Chairman*

GENERAL COURSES

- 30A. Electrical Machinery. Mr. Jenkins and Mr. McCrumm.
30B. Electrical Engineering. Mr. Jenkins and Mr. McCrumm.

Full courses.

It is expected that majors in electrical engineering and others who have taken Course 8 will take course 30A; all other engineering majors, 30B.

These courses cover the laws, principles, and operation of large-power electrical apparatus; direct and alternating current. The laboratory work will consist of two parts: (a) the testing of typical machines and the preparation of adequate reports based on the tests, (b) a computation period to solve some of the more routine problems involved in the preparation of the reports.

Course 30A is open to students who have taken Engineering 8.

Electrical Engineering Options. Mr. Jenkins and/or Mr. McCrumm.

Full courses for one or two semesters.

These optional courses are to be taken in the senior year by those majoring in electrical engineering and others interested in some fundamental phase of electrical engineering. The courses listed below may be chosen by properly qualified students as determined by a personal interview. These courses may or may not require laboratory work and may extend through the year or be terminated at the end of a single semester as the needs of the individual student demand.

31. Transients. Mr. Jenkins.
32. Vacuum Tubes. Mr. Jenkins.
33. Alternating Current Machinery. Mr. McCrumm.
34. Transmission and Distribution. Mr. McCrumm.
35. Circuit Analysis. Mr. McCrumm.
39. Thesis. Electrical Engineering Department Staff.

Open to those who have taken Engineering 30A or 30B, 8, or General Physics and Calculus.

MAJOR IN ELECTRICAL ENGINEERING

The general plan is that from the subjects listed above, and by courses offered elsewhere in the college, the student will work out a logically integrated, cognate, intensive study of one or more phases of the theory of electrical engineering.

It is expected that a student majoring in electrical engineering will have taken Engineering 8 in the second semester of his sophomore year. Other courses which must be taken to fulfill the requirements

for the Bachelor of Science with major in electrical engineering include:

(1) General science subjects as listed under the general statement of the Division of Engineering, pages 78 ff. These subjects are pursued in the first three years in classes with the students in other branches of engineering, and are considered the essential foundation for all studying applied science.

(2) Subjects in the Divisions of the Humanities or Social Sciences. At least three subjects not offered in the scientific division must be taken over the period of the four college years. The choice is optional, the only requirement being that the three courses should form a rational whole.

(3) Additional subjects in allied scientific departments. Advanced calculus and differential equations are required for electrical engineering majors; in addition all or part of the following courses will be recommended for certain students:

- 41. Heat Power Engineering
- 24. Engineering Economy
 - Electricity and Magnetism
 - Atomic Physics

(4) Major studies in electrical engineering. According to the time available and the needs of the individual, one, at least, of the following "options" will be taken in the senior year:

- 31. Transients
- 32. Vacuum Tubes
- 33. Alternating Current Machinery
- 34. Transmission and Distribution
- 35. Circuit Analysis.

HONORS IN ELECTRICAL ENGINEERING

For senior engineering students who have been accepted for honors work, there are offered honors seminars preparing them for examination papers in:

- 1. Electric Circuit Analysis
- 2. Electronics
- 3. Alternating Current Machines

Honors students majoring in electrical engineering take:

(1) Not less than three nor more than four papers in electrical engineering,

(2) At least one paper each in civil and mechanical engineering.

(3) Papers in other departments in which honors work has been taken in the junior or senior years, to make a total of at least eight examinations.

MECHANICAL ENGINEERING
 CHARLES G. THATCHER, *Chairman*
 GENERAL COURSES

40. Thermodynamics. Mr. Thom.

Half course, second semester.

Fundamental thermodynamics. Properties of gases and vapors. Gas and vapor cycles. Applications to modern power plants. Class, problem and laboratory work.
 Open to students who have had Mathematics 12 and Physics 1.

41. Heat Power. Mr. Thatcher.

Half course, first semester.

Theoretical and practical considerations of steam plants and internal combustion engines, Class and laboratory work, written reports. Calibration of instruments, testing of fuels and lubricants, engines, boilers, pumps and hydraulic equipment.
 Open to students who have had Engineering 40.

42. Internal Combustion Engines. Mr. Thatcher.

Half course, first semester.

Application of the fundamental principles of thermodynamics and mechanics to the design of internal combustion engines; combustion of actual mixtures; analysis of cycles; carburetion and fuel injection; mixture distribution; balancing. Principles of machine design and practical design methods are introduced where applicable. Class and drawing room work supplemented by laboratory exercises.
 Open to students who have had Engineering 20, 21 and 40.

43. Refrigeration and Air-Conditioning. Mr. Thom.

Half course, second semester.

A comprehensive study of refrigerants, cycles and performance of refrigerating equipment; principles of air-vapor mixtures; humidification, dehumidification; and distribution of air; analysis of heating and cooling systems and apparatus. Principles of machine design and practical procedure are introduced where applicable. Class and drawing room work are supplemented by laboratory exercises.
 Open to students who have had Engineering 20, 21 and 40.

44. Metallography. Mr. Thatcher.

Half course, second semester.

The use of the microscope in study of structures and properties of metals and alloys, with emphasis on the ferrous metals. Class and laboratory work.
 Open to students who have had Engineering 7 or Introduction to Physical Chemistry 3.

45. Administrative Engineering. Mr. Thom.

Half course, second semester. (Not offered in 1940-41.)

The purpose of this course is to provide further training of a broad and practical nature for those whose interests and capabilities point toward executive participation in the operation of an industrial enterprise. Representative problems of equipment selection, plant layout, job analysis, production control and personnel relationship are evaluated: however, no attempt is made to provide specialized training in these fields. Although classroom work is supplemented by inspection trips to nearby plants, students planning to take this course are strongly urged to secure summer industrial employment for experience and background.

Open to students who have had Engineering 12.

49. Thesis. Mr. Thatcher, Mr. Thom.

Half course, second semester.

MAJOR IN MECHANICAL ENGINEERING

Students in this group, having completed the first three years as outlined on page 79 under the Division of Engineering, are required to take in their Senior year:

41. Heat Power
24. Engineering Economy
42. Internal Combustion Engines
43. Refrigeration and Air-Conditioning

The above courses, all being half courses, leave half of the Senior student's time for electives. He may choose these from any division of the college.

HONORS IN MECHANICAL ENGINEERING

Senior students, having completed the first three years as outlined above, may apply to read for honors. The topics of final examinations in mechanical engineering are:

1. Thermodynamics
2. Heat Power
3. Internal Combustion Engines
4. Refrigeration and Air-Conditioning
5. Industrial Management

A major in mechanical engineering will take eight honors examinations, at least three of which shall be from the above list; at least one in civil engineering; at least one in electrical engineering; and the remainder in either engineering, mathematics, physics, chemistry or the social sciences.

ENGLISH

PROFESSORS: HAROLD C. GODDARD, *Chairman*

EVERETT L. HUNT

*PHILIP MARSHALL HICKS

ROBERT E. SPILLER

ASSOCIATE PROFESSOR: TOWNSEND SCUDDER, 3RD

ASSISTANT PROFESSOR: ELIZABETH COX WRIGHT

INSTRUCTOR: FREDRIC S. KLEES

PART-TIME INSTRUCTOR: ALICE K. BRODHEAD

ASSISTANT: BEATRICE BEACH MACLEOD

RESEARCH ASSOCIATE: KEITH W. CHALMERS

GENERAL COURSES

1. Introduction to English Studies.

Full Course, made up of two of the following:

Elizabethan Literature. Mr. Klees. *Half Course, first semester.*

The Eighteenth Century. Mr. Scudder. *Half Course, each semester.*

The Romantic Movement. Mrs. Wright. *Half Course, each semester.*

Victorian Literature. Mr. Klees. *Half Course, each semester.*

American Literature. Mr. Spiller. *Half Course, each semester.*

Contemporary Literature. Mr. Hicks. *Half Course, each semester.*

Great Books. Mr. Hunt. *Half Course, each semester.*

The study of significant literature of selected periods, with critical writing and speaking.

2. Chaucer. Mr. Klees.

Half course, second semester.

3. Shakespeare. Mr. Goddard and Mrs. Wright.

Full course.

4. Milton and the Seventeenth Century. Mr. Hunt.

Half course, first semester.

Poetry of the Old Testament, John Donne, Milton.

5. English Poetry. Mr. Scudder.

Full course.

A study of a selected period or aspect of English poetry. In 1940-41: Nineteenth Century Poetry.

6. The English Novel. Mr. Hicks.

Full course. (Omitted in 1940-41.)

7a. Comedy. Mr. Klees.

Half course, first semester.

7b. Tragedy. Mr. Klees.

Half course, second semester.

8a. The Essay and Social Criticism. Mr. Klees.

Half course, first semester.

8b. Travel and Biography. Mr. Klees.

Half course, second semester. (Omitted in 1940-41.)

9. Modern Literature. Mr. Goddard.

Full course.

A study of modern comparative literature.

*Absent on leave.

10. World Literature. Mr. Goddard.

Full course. (Omitted in 1940-41.)

11. American Literature. Mr. Spiller.

Full course.

In 1940-41: first semester, American Fiction; second semester, American Poetry.

13. Criticism. Mr. Hunt.

Half course, second semester.

Classical background of English criticism in Plato, Aristotle, Longinus and Horace; representative essays of the major English critics from Philip Sidney to Walter Pater; brief survey of problems and writers in contemporary criticism.

15. Mediaeval Poetry and Romance. Mrs. Wright.

Full course. (Omitted in 1940-41.)

English Composition. Mrs. Brodhead.

*Half course, throughout the year.*Greek Literature in English. (Greek 6.) Mr. Shero. *Half course, second semester.*

Study in English translation of some of the masterpieces of Greek literature (the Homeric epics, several of the dramas, Plato's *Republic*, etc.) and of important texts in the special fields of interest of the various members of the class; part of the reading is individually assigned in accordance with the student's own particular requirements. No knowledge of Greek is required.

Latin Literature—in Latin and in English. (Latin 12.) Miss Brewster.

Half course, first semester.

Designed for non-classical majors who may desire a classical background for their special fields. The Loeb Series of texts and translations of classical authors will be used.

Writing and Speaking. Students who are reported by any member of the College faculty as deficient in written English are advised to take "English Composition" or such parts of it as may be necessary for the removal of the deficiency. Written work in courses and in honors seminars takes the place of advanced courses in composition. Student organizations and informal groups for practice in creative writing, acting drama, extempore speaking, and debating meet with members of the English faculty.

HONORS WORK

Prerequisites. For admission to Honors work with a major in English, the requirements are at least one-half course in the Introduction to English Studies; and either Chaucer, Shakespeare, or Milton and the Seventeenth Century. Students are advised to take also *The History of Europe or The History of England.*

For admission with a minor in English, the requirement is one year in English, including at least one-half course in the Introduction to English Studies.

SCHEDULE OF HONORS SEMINARS, 1940-41

GROUP I

- Chaucer. Mr. Scudder. *Second semester.*
A study of Chaucer's poetry and age.
- Shakespeare. Mr. Goddard and Mr. Hicks. *Either semester.*
A study of Shakespeare's principal plays, with a rapid reading of the rest of his work.
- Milton and the Seventeenth Century. Mr. Hunt. *First semester.*
Donne, Milton, and the poetry of the Bible.

GROUP II

- Poetry.
- A. Mr. Scudder. *First semester.*
The nature and function of poetry; Wordsworth, Keats or Shelley, and Arnold.
- B. Mrs. Wright. *Second semester.*
Tennyson, Browning, and Christina Rossetti, with studies in Hopkins, Housman, and one or two contemporary writers.
- Drama. Mr. Hicks and Mr. Klees. *Second semester.*
Representative plays from different periods; the comic and tragic spirits.
- Novel. Mrs. Wright. *First semester.*
The novel as a literary form; Fielding, Meredith, Hardy, and Conrad.
- Literary Criticism. Mr. Hunt. *Second semester.*
English literary criticism from Sidney to Pater, with some study of classical backgrounds and contemporary developments.

GROUP III

- Modern Literature. Mr. Goddard. *First semester.*
Masterpieces of English and European writers of the past 75 years, with emphasis on the Russians.
- American Literature. Mr. Spiller. *First semester.*
The American mind as expressed in the writings of Emerson, Melville, Whitman, Mark Twain, and Henry Adams.
- Social Criticism. Mr. Spiller. *Second semester.*
Social theory in English and American literature.
- Problems of Literary Study. Mr. Spiller. *Either semester.*
The methods of literary research and criticism as applied to the study of a single problem, usually the work of a major author, resulting in a thesis.

Linguistic Science. Mr. Reuning.

Admitted as a seminar in English for majors who concentrate on English or American language problems; may also be considered as a minor for students majoring in English.

Thesis.

Students who wish to write theses not properly within the scope of the seminar on Problems of Literary Study may apply to the Chairman of the Department for permission to substitute such projects for the fourth seminar of major work.

Candidates for honors with a major in English must take at least one seminar from the first group and at least one from the second. Shakespeare shall be chosen from the first group if not previously elected in course. Four seminars are required for a major in English.

Candidates for honors with a minor in English may enroll in any two or three of the above seminars upon the recommendation of their major department.

MAJOR AND MINOR IN COURSE WORK

Major: The work of the major in General Courses normally consists of at least four full courses, including Introduction to English Studies in the first year, either Chaucer, Shakespeare, or Milton and the Seventeenth Century in the second year, and during the last two years Shakespeare, if not elected in the second year, and a course in one of the types. The comprehensive examination at the close of the senior year is based on this work, but also includes questions on the other courses offered by the department for those prepared in these fields.

Minor: The work of the minor in General Courses normally consists of three full courses elected upon the recommendation of the major department, including at least one-half course in Introduction to English Studies.

DEPARTMENTAL LANGUAGE REQUIREMENTS

The foreign language requirement may be fulfilled by a reading knowledge of one or more of the following: French, German, Latin or Greek. Students planning to continue English studies in graduate school are advised to acquire a reading knowledge of Latin, French, and German.

FINE ARTS

INSTRUCTOR: ETHEL STILZ, *Acting Chairman*

LECTURERS: JOSEPHINE ADAMS

DIMITRIS TSELOS

GENERAL COURSES

1. History of Architecture. Mr. Tselos.

Full course.

The history and development of architecture from earliest times to the present.

2. Art Survey. Miss Adams.

Full course.

A general course on the significance and history of art, covering architecture, sculpture, painting, and the allied arts.

5. Interior Decoration. Miss Stilz.

Full course.

Principles of color and design as applied to the planning and furnishing of houses, with lectures on the historic development of domestic architecture.

6. History of Painting. Miss Adams.

Full course.

HONORS WORK

I. General prerequisites:

History of Architecture

Art Survey

Aesthetics

II. Supplementary preparation recommended:

Introduction to Archaeology or a course in Ancient Civilization

III. Seminars offered:

1. French Gothic Architecture

2. Mediaeval English Architecture

3. Modern Architecture. Mr. Tselos.

First semester, 1940-41.

4. Origins of Modern Painting.

GERMAN LANGUAGE AND LITERATURE

PROFESSOR: WALTER SILZ, *Chairman*

ASSISTANT PROFESSORS: KARL REUNING

LYDIA BAER

GENERAL COURSES

1. Elementary German. Mr. Silz.

Full course.

Training in grammar, composition, conversation, and reading aloud. Pope, *Einführung ins Deutsche*, and several elementary texts.

1s. Elementary German for Science Students. Miss Baer and Mr. Reuning.

Full course.

The purpose of this course is to develop as rapidly as possible a thorough reading knowledge on the basis of the necessary training in grammar. Pope, *Einführung ins Deutsche*, and several elementary texts, including some simplified science texts.

2. German Prose and Poetry, Grammar and Composition. Miss Baer and Mr. Reuning.

Full course.

Reading of recent short stories and novels, representative modern and classical plays, lyrics and ballads, and other suitable material. Review of grammar, practice in written and oral German.

Prerequisite, Course 1 or equivalent.

2s. Second Year German for Science Students. Miss Baer and Mr. Reuning.

Full course.

Reading of a limited number of novels, plays and lyrics throughout the year. First semester: Reading of edited science selections. Second semester: Special readings arranged individually with each student in collaboration with his science department. Review of grammar with special emphasis on developing familiarity with German syntax.

Prerequisite, Course 1 or 1s or equivalent.

3. Introductory Studies in German Literature. Mr. Silz.

Full course.

A study of representative German authors from the classical period to the present; reading and discussion of dramas, stories, and lyric poems.

Prerequisite, Course 2 or equivalent.

4. Great Periods in German Literature.

Full course.

5. The Romantic Movement in Germany.

Half course.

6. German Literature in the Second Half of the Nineteenth Century.

Half course.

7. Goethe's Life and Works.

Full course.

8. Schiller and His Age.

Full course.

9. Eighteenth Century German Literature and Thought.

Half course.

10. German Literature in the Twentieth Century.

Half course.

11. German Authors in English Translations.

Full course.

This course may be taken by students who do not know German. Students who have a reading knowledge of German may read the texts in the original.

12. Writing and Speaking German. Mr. Silz.

Half course.

Intensive practice in writing and speaking German. The subject matter is taken from German literature and *Kulturgeschichte*.

The objective in Courses 1 and 2 is an ability to read German of moderate difficulty, to enjoy and to appreciate German literature of an easier type, and to speak and write simple German. To attain this end it is necessary to have a thorough knowledge of grammar and a reasonably large active and passive vocabulary. These courses are also recommended to science students who have a genuine interest in German language and literature. Science students who are mainly interested in acquiring a reading knowledge of German should take Courses 1s and 2s.

The more advanced courses are intended to add knowledge and appreciation of literature, and a command of the written and spoken idiom. Major and Honors students are encouraged to spend some time in Germany. Practically all courses, with the exception of 1s and 2s (and 11), are conducted in German.

Special arrangements are made for students who begin with German in college to enable them to choose German as a major or minor subject in their Junior and Senior years.

HONORS WORK

Prerequisites. For admission to Honors work in German, one course in college beyond Course 2 is required. Qualified students who begin German in college may take Course 3 in their Sophomore year by special arrangement. Other preparation is not required. The German Department may, however, in individual cases, recommend special work during the summer vacations or courses in American or German summer schools.

Topics of Final Examinations. Honors seminars are offered preparing students for examination papers in:

1. Middle High German Literature and Philology. Mr. Reuning.

Second semester.

Introduction into Indo-European and Germanic philology and phonetics. Outline of development of the German language. Middle High German grammar. Brief survey of Old and Middle High German literature. Reading of MHG texts in the original, especially *Nibelungenlied*, Wolfram's *Parzival*, and Walther von der Vogelweide.

2. The Age of Luther. Mr. Reuning.

First semester.

Study of literary, historical, sociological and religious problems of the sixteenth century. Reading of outstanding authors of the period, such as Luther, Hans Sachs, Brant, Hutten, Fischart. A course or a seminar in History of the Reformation is recommended as preparation for this seminar.

3. Baroque Literature. Miss Baer.

Semester undecided.

A study of German literature in the seventeenth century: The reforms of Opitz, the poetry of Weckherlin, Fleming, and the Volkslied, the mysticism of Angelus Silesius and Jakob Böhme, the influence of the English Players on the German theatre, and the plays of Gryphius and the second Silesian School.

4. Classical Literature. Mr. Silz.

Second semester.

The humanism of Lessing, Goethe and Schiller.

5. The Romantic Movement. Mr. Silz.

First semester.

Romanticism as the dominant movement in German literature of the first half of the nineteenth century.

6. Poetic Realism. Mr. Silz.

Second semester.

Study of the works of Grillparzer, Hebbel, Ludwig, Keller, Meyer, and Storm, and other writers of the drama, novel, and "Novelle" in the second half of the nineteenth century.

7. German Literature Since 1900. Miss Baer.

First semester.

Gerhart Hauptmann, Thomas Mann, Rainer Maria Rilke, Hugo von Hofmannsthal.

8. Linguistic Science (in cooperation with other departments in the Division of the Humanities). Mr. Reuning.

Second semester.

The most important problems of Linguistics, e.g. sound-change, changes in accent and syntax, semantic changes, geographical distribution and relation of languages. Indo-European, English and American language problems. Relationship between linguistics and psychology. Some knowledge of German, French, Latin, or Greek is desirable, reading knowledge of at least one foreign language required. Students who know non-Indo-European languages are especially welcome. The seminar is conducted in English. (See also schedules of Honors Seminars in English and Psychology.)

THESIS

Students who wish to write a thesis may apply to the Department for permission to substitute such a project for the fourth seminar of major work.

HISTORY

PROFESSOR: FREDERICK J. MANNING, *Chairman*

ASSOCIATE PROFESSORS: MARY ALBERTSON

TROYER S. ANDERSON

ACTING ASSISTANT PROFESSOR: FOSTER RHEA DULLES

GENERAL COURSES

1. The History of Europe. All members of the department.

Full course.

A general survey of the origins and development of European civilization from the decline of the Roman Empire to the present day. Especially designed for Freshmen but open to all classes. Prerequisite to other courses or Honors seminars in European or English history, with certain exceptions.

2. The History of England. Mr. Anderson.

Half course, second semester.

A survey of the history of the British people with the main emphasis on the period since 1485. Required of students planning to take Honors seminars in English history. To be taken after History 1.

3. The History of the United States. Mr. Dulles and Mr. Manning.

Half course, first semester.

A study of the political, economic, and social history of the American people from the seventeenth century to the present time. Required of students planning to take Honors seminars in American history. Not open to Freshmen.

4. The History of Greece (Greek 5). Mr. Shero (Department of Classics).

Half course, first semester.

A study of Greek civilization in its most significant aspects to the time of the Hellenistic kingdoms, preceded by a brief survey of the Oriental civilizations by which the Greeks were influenced. Special attention given to the 6th and 5th centuries B.C.

5. The History of Rome (Latin 9). Miss Brewster (Department of Classics).

Half course, first semester. (Offered in 1940-41.)

The history of Rome from the earliest times to the accession of Marcus Aurelius. The course stresses the Roman genius for organization and administration.

6. The Italian Renaissance. Miss Albertson.

Half course, first semester.

Lectures, readings and reports on the history of the Italian Renaissance. To be taken after History 1.

7. The History of France. Miss Albertson.

Half course, second semester.

The history of France from Roman times to the present day. To be taken after History 1 unless with special permission of the instructor.

8. The History of Europe in the Nineteenth Century. Mr. Anderson.

Half course, first semester. Offered in 1940-41 and alternate years.

The development of Europe from the period of the French Revolution to the outbreak of the World War. To be taken after History 1.

9. The History of Europe Since 1900. Mr. Anderson.

Half course, first semester. (Offered in 1941-42 and alternate years.)

A study of the origins and outcome of the First World War, the attempts to stabilize Europe after Versailles, and the coming of the Second World War.

10. The History of American Foreign Policy. Mr. Dulles.

Half course, second semester, 1940-41.

From 1776 to the present day. For Juniors and Seniors, preferably after History 3.

11. The History of the Labor Movement. Mr. Manning.

Half course, first semester, 1940-41.

The social backgrounds and the economic, political, and legal problems of English and American labor, with emphasis on the importance of English precedent for the American story. For Juniors and Seniors.

12. Special Topics. All members of the department.

Half course, second semester.

For Seniors with the Major in History.

HONORS WORK

The survey course in European history, the only course open to Freshmen (except by special permission from the department), is prerequisite to any other courses or seminars in European or English history. Students who expect to major in history, either in honors seminars or in regular courses, should elect European history in the Freshman year, American and English history in the Sophomore year. Students who expect to include history as a minor subject in honors work should elect European history in Freshman year, and either American or English history in Sophomore year if possible. Course 2, the History of England, is required for admission to honors seminars in Modern England, and Course 3, the History of the United States, is required for admission to Honors seminars in American history, unless special permission is obtained in advance.

Unless otherwise noted, the following seminars are offered by the department each year. Although an endeavor will be made to offer in either semester any seminar desired by a sufficient number of students, this will occasionally prove impossible and the department cannot guarantee in advance the semesters in which some seminars will be given.

EUROPEAN HISTORY

1. Fifteenth and Sixteenth Century Europe. Miss Albertson.

Topics in European history in these centuries with special attention to social and economic as well as political factors.

2. Eighteenth and Nineteenth Century Europe. Mr. Anderson.

The period from 1713 to 1914, with main stress on the 19th century.

3. Twentieth Century Europe. Mr. Anderson.

Europe from 1914 to the present time. Preference will be given to Seniors who have taken Eighteenth and Nineteenth Century Europe or Modern England.

4. The Origins of the First World War. Mr. Anderson.

Offered in the second semester for Seniors only. Largely devoted to a close study of the crucial days in 1914 with the purpose of introducing the student to the critical use of documents.

ENGLISH HISTORY

5. Mediaeval England. Miss Albertson.

The period from 1066 to 1485.

6. Tudor and Stuart England. Miss Albertson.

The period from 1485 to 1688.

7. Modern England. Mr. Anderson and Mr. Manning.

The period from 1688 to the present time, with main stress on the 19th century.

AMERICAN HISTORY

8. Problems in American History. Mr. Dulles and Mr. Manning.

Considerable attention is given to bibliography and the critical use of source materials important for any work in the social sciences or literary criticism in the American field.

9. American Foreign Policy. Mr. Dulles.

From 1776 to the present day, with appropriate emphasis on contemporary problems. Preferably for Seniors.

10. The Supreme Court. Mr. Manning.

For Seniors in the second semester. Based on the printed Reports, with emphasis on recent developments and on the Common Law background for constitutional cases. The work in this seminar is not designed to anticipate or overlap the courses in constitutional law offered in the law schools.

ANCIENT HISTORY

Honors seminars in Greek and Roman history, conducted by the Classics department, are open to students who major in history. For prerequisites see the statement of that department.

HISTORY THESIS

For students with the major subject in history. The topic should be selected and approved by the end of the junior year. Whenever possible, the thesis should be based upon original source materials.

REQUIREMENTS FOR WORK IN COURSE

Requirements for students who elect major or minor work in history do not turn on any particular total of courses, but rather upon the completion of such courses in history, together with related courses in the social sciences, literature, philosophy, the fine arts, etc., as, in the opinion of the department, will facilitate a well-rounded preparation for their comprehensive examinations. A reading knowledge of French and some acquaintance with the principles of economic and political theory are essential for an intelligent appreciation of history. Most graduate schools require a reading knowledge of French, German, and Latin for any advanced degree in history.

The comprehensive examinations for major students at the end of the senior year are not based on particular courses taken at Swarthmore. They include questions on (1) European history; (2) English history; (3) American history; (4) Ancient history. Major students are expected to answer general questions in each of these fields, the standard being based on the work of any survey course offered in the College or independent reading in books recommended by the department. In at least two of the fields students should be able to answer more specific questions, based either on special courses taken in the College or on special reading undertaken with the department's approval. Course 12, Special Topics, is designed to help major students in their final preparation for these examinations.

MATHEMATICS AND ASTRONOMY

PROFESSORS: ARNOLD DRESDEN, *Chairman*
 ROSS W. MARRIOTT
 PETER VAN DE KAMP
Director of Sproul Observatory

ASSOCIATE PROFESSORS: HEINRICH BRINKMANN
 JOHN H. PITMAN

INSTRUCTOR: JEAN WALTON (part time)

RESEARCH ASSOCIATES: GUSTAV LAND
 K.AA. STRAND

ASSISTANTS: VIRGINIA BURGER
 ROY W. DELAPLAINE (part time)
 *JANET M. DEVILBISS
 ARMSTRONG THOMAS
 MARION E. WOLFF (part time)

GENERAL COURSES IN MATHEMATICS

- 1, 2. First Year Mathematics. Mr. Brinkmann, Mr. Marriott, Miss Walton.
Full course.

The courses are designed to deal with the material previously covered by the separate courses in College Algebra, Trigonometry and Analytical Geometry (courses 1, 3 and 4 of the 1933 catalogue), and to introduce some of the concepts of the Differential Calculus. Topics belonging to each of these subjects are introduced in natural sequence so as to form a more closely knit whole.

Classes normally meet four times a week.

Fine, *College Algebra*; Smail, *College Algebra*; Dresden, *Plane Trigonometry*; Palmer and Leigh, *Plane Trigonometry*; Osgood and Graustein, *Plane and Solid Analytic Geometry*; Eisenhart, *Coordinate Geometry*.

3. Invitation to Mathematics. Mr. Dresden.

Half course, second semester. (Omitted in 1940-41.)

This course is intended for students who have a non-technical interest in mathematics. It does not take the place of the usual college courses, but aims to be an introduction to some of the important concepts of modern mathematics, to emphasize the fundamental ideas of the science rather than its technical processes, to provide a background for the study of its philosophical aspects, and to furnish a basis for an appreciation of its wider significance. Dresden, *Invitation to Mathematics*.

The class normally meets three times a week; occasionally a fourth hour will be used. Prerequisite, a good high school course in mathematics.

5. Mathematics of Investment and Insurance. Mr. Dresden.

Half course, second semester. (Omitted in 1940-41.)

The theory of compound interest; annuities; sinking funds; interest rates; theory of probability; mortality tables. Completion of this course, courses Nos. 12 and 14, and an introduction to the Theory of Finite Differences should enable the student to proceed with the examinations for admission to the Actuarial Society of America. Skinner, *Mathematical Theory of Investment*.

Prerequisite, a good high school course in algebra.

*First semester only.

11, 12. Differential and Integral Calculus. Mr. Brinkmann, Mr. Dresden and Mr. Marriott.

Full course.

These courses carry forward the work begun in courses 1, 2 and are intended to give the student a sufficient introduction to mathematics to serve as a basis for more advanced work in analysis and its applications. Classes normally meet three times a week; students are expected to keep a fourth hour free from standing engagements so as to make it available for occasional quizzes or special exercises. Dresden, *Introduction to the Calculus*.

Prerequisite, courses 1, 2.

14. Theory of Equations. Mr. Dresden.

Half course, first semester.

Operations on complex numbers. Solutions of cubic and quartic equations. General properties of polynomials. Separation and calculation of roots of numerical equations. Weisner, *Theory of Equations*.

Together with course 15 (below), this course supplies a year's work for students who pursue mathematics as a major or minor subject in course, usually to be taken in the junior year; classes normally meet three times a week.

Prerequisite, courses 1, 2, 11, 12.

15. Solid Analytical Geometry. Mr. Dresden.

Half course, second semester.

Metric theory of planes, lines and quadric surfaces in Euclidean three-dimensional space, emphasis on the use of determinants and matrices. Dresden, *Solid Analytical Geometry and Determinants*.

Together with course 14 (above), this course supplies a year's work for students who pursue mathematics as a major or minor subject in course, usually to be taken in the junior year. Classes normally meet three times a week.

Prerequisite, courses 1, 2, 11, 12, 14.

16. Advanced Calculus. Mr. Brinkmann.

Half course, first semester. (Omitted in 1940-41.)

Total and partial derivatives; theory of infinitesimals; definite integrals; approximations. The aim of the course is three-fold: to ground the student in the elementary work which has preceded it; to give an introduction to more advanced topics; and to develop skill in the application of the principles of the Calculus to Geometry and Mechanics. Osgood, *Advanced Calculus*; Osgood, *Mechanics*.

Together with course 17 (below) this course makes possible a year's work for students who pursue mathematics as a major or minor subject in course, to be taken in the junior or senior year. Classes normally meet three times a week.

Prerequisites, courses 1, 2, 11, 12.

17. Differential Equations. Mr. Brinkmann.

Half course, second semester. (Omitted in 1940-41.)

A study of ordinary and partial differential equations, with their applications to geometrical, physical, and mechanical problems. Osgood, *Advanced Calculus*; Osgood, *Mechanics*.

Together with course 16 (above) this course makes possible a year's work for students who pursue mathematics as a major or minor subject in course, to be taken in the junior or senior year. Classes normally meet three times a week.

Prerequisite, courses 1, 2, 11, 12, 16.

31. Undergraduate Reading Course in Mathematics.*Half course or full course.*

This course is to provide an opportunity for students to do special work in fields not covered by the undergraduate courses, listed above. The work consists in the preparation of papers requiring extensive and detailed examination of the literature of a problem.

Courses of graduate character are offered from time to time, in accordance with the needs of graduate and advanced undergraduate students. Normally advanced undergraduate students will do such work in honors seminars (see below). The subjects of these courses are Projective Geometry, Theory of numbers, Theory of functions of a real variable, Theory of functions of a complex variable.

GENERAL COURSES IN ASTRONOMY**1, 2. Descriptive Astronomy. Mr. Pitman.***Full course.*

A study of the fundamental facts and laws of Astronomy, and of the methods and instruments of modern astronomical research. In the laboratory sessions, the class will learn to use various types of instruments. The study of the text book will be supplemented by lectures, some of which will be held in the Planetarium. The treatment of the subject is non-mathematical. The technical details of many problems are investigated in advanced courses.

Baker, *Astronomy*.

Three class periods, one laboratory period each week.

3. Practical Astronomy. Mr. Pitman.*Half course, second semester.*

Theory and use of the transit instruments; determination of time; the latitude of Swarthmore; determination of longitude. Intended for students of Astronomy and Engineering and those desiring to take the civil service examinations for positions in the United States Coast and Geodetic Survey.

Classes normally meet three times each week.

Prerequisites, Mathematics 1, 2 and Astronomy 1, 2.

4. Laboratory Astronomy. Mr. Pitman.*Half course, first semester.*

Theory and practice of micrometric measures of double stars, comets and asteroids. Visual and photographic photometry. Photography of selected objects. Since much of this work is dependent upon the weather, the class will adjust its program to conditions. Normally two class sessions and one laboratory period per week.

Prerequisites, Mathematics 1, 2 and Astronomy 1, 2.

31. Undergraduate Reading Course in Astronomy.*Half course or full course.*

Undergraduate students may, under direction, prepare papers upon subjects requiring a rather extensive examination of the literature of a problem. Courses 32 and 51 to 55 are half courses, offered from time to time to meet the needs of graduate students and of advanced undergraduates.

32. Spherical Astronomy. Mr. Pitman.**51. Orbit Computation. Mr. Pitman.****54. Statistical Astronomy. Mr. van de Kamp.****55. Celestial Mechanics. Mr. Strand.**

HONORS SEMINARS IN MATHEMATICS

Honors Students whose major or minor is in mathematics normally take the following seminars, during the first and second semesters of the junior year respectively:

1. Advanced Calculus. This seminar deals with the differential calculus for functions of several variables and its geometric applications, with double and triple integrals, improper integrals, line and surface integrals, the elements of vector analysis.

2. Differential Equations. In this seminar the principal topics are the following: ordinary differential equations of the first order, linear differential equations, with particular attention to special cases of the equation of second order; some aspects of the theory of partial differential equations, of Fourier series, of the calculus of variations and of functions of a complex variable.

For senior honors students two or more of the following seminars are offered each year, according to the needs and interests of the students.

3. Theory of Equations. This seminar is devoted to the study of algebraic equations. The topics covered are the following: Properties of polynomials, solution of cubic and quartic equations, numerical solution of equations, Sturm's theorem and related theorems, symmetric functions, resultants, application to geometrical problems.

4. Solid Analytic Geometry. In this seminar the analytic geometry of 3-dimensional space is studied, along with the algebraic tools that are necessary for that purpose. The subjects taken up are: Determinants, matrices, systems of linear equations, lines and planes, transformation of coordinates, quadric surfaces, classification of the general equation of the second degree, special properties of quadric surfaces, such as rulings and circular sections, system of quadric surfaces.

5. Theory of Functions of a Complex Variable. A fairly detailed study of the linear fractional transformation in the complex plane. Derivatives and integrals of analytic functions. Expansion in series. Contour integrals.

6. Foundations of Mathematics. Postulational treatment of mathematics. The problem of consistency. Relation of logic and mathematics. Some of the systematic treatments of the foundation of logic. Modern developments.

7. Advanced Geometry. An introduction to differential geometry, projective geometry, and more-dimensional geometry. Use of elementary matrix calculus; group theoretical concepts.

8. Mathematics of Economics. A study is to be made of elementary mathematical theories which are finding application in economics. The elements of statistical theory are to be included.

9. Theory of Numbers. Among the subjects treated in this seminar are: Elementary properties of integers, the congruence relation, continued fractions, quadratic residues, simple examples of fields of algebraic numbers.

10. Analytic Mechanics. The main subject matter of this seminar is the study of the motion of particles and rigid bodies when acted upon by forces. The equilibrium of such forces will be studied briefly. Many examples will be worked to illustrate the fundamental principles.

HONORS SEMINARS IN ASTRONOMY

Seminars in the following topics will be arranged for those desiring to take one or more papers in Astronomy.

1. Spherical Astronomy: A mathematical discussion of the reduction of visual and photographic observations of position; solution of visual and spectroscopic binary orbits.

Prerequisites, Astronomy 1, 2; Mathematics 11, 12.

2. Statistical Astronomy: Fundamental data. Stellar motions and parallaxes. Distribution of objects in space. The galactic system.

Prerequisites: Mathematics, 11, 12.

3. Theory of Orbits and Computation of Orbit of an Asteroid or Comet.

Prerequisites, Astronomy 1, 2; Mathematics 11, 12.

4. Celestial Mechanics.

Prerequisites, Astronomy 1, 2; Mathematics 11, 12.

5. Photographic Astrometry.

Prerequisites, Astronomy 1, 2; Mathematics 11, 12.

REQUIREMENTS FOR WORK IN COURSE

For students who intend to major in mathematics in course the normal sequence of courses is the following: Freshman year, courses 1, 2; Sophomore year, courses 11, 12; Junior year, courses 14, 15; Senior year, courses 16, 17. Those who intend to pursue astronomy as a major subject in course should have in addition courses 1, 2 in that subject during the Freshman or Sophomore year; advanced courses selected from the list given above combined with work in mathematics constitute the further requirement.

For students who select mathematics or astronomy as their minor, the minimum of three courses should be selected from the following: Mathematics 1, 2; 11, 12; 14, 15; 16, 17; Astronomy 1, 2, 3. Completion of course 12 is the minimum requirement.

Prerequisites for admission to honors seminars in mathematics either as a major or as a minor are the completion of courses 1, 2; 11, 12; the completion of the course in General Physics; a thorough reading knowledge of French or German. For honors work in Astronomy, completion of courses 1, 2 in that subject is necessary in addition to the requirements indicated above.

LIBRARIES AND OBSERVATORY

The astronomical part of the departmental library is located on the first floor of the Observatory; the mathematical section on the fifth floor of Parrish Hall. The Library contains complete sets of nearly all the American mathematical and astronomical periodicals, and sets (some of which are complete, some of which are not) of the leading English, German and French periodicals. This library receives the publications of many of the leading observatories in exchange for the publication of the Sproul Observatory.

The equipment of the observatory is best suited for astrometric and photometric problems. The various eclipse expeditions from the Observatory have yielded many eclipse data.

The observatory staff is at present devoting time to studies in photographic astrometry with the 24-inch telescope, to photography with the 9-inch doublet, and to the study of the eclipses of the sun. Students interested in any of these problems may work with advantage in conjunction with one of the professors. Results of departmental studies are published in the Sproul Observatory publications and in various scientific journals.

The Observatory is open to visitors on the second and fourth Tuesday nights of each month, except those Tuesday nights that fall in a vacation period. Visitors thus have an opportunity of seeing, in the course of a year, many celestial objects of various types.

MUSIC

ASSOCIATE PROFESSOR: ALFRED J. SWAN, *Chairman*

ASSISTANT: LINDSAY A. LAFFORD

1. Introduction to Music, Analysis of Musical Forms, and Historical Survey.
Mr. Swan.

As indicated above, the purpose of the course is a three-fold one: to define and clarify the scope of music for the average listener, to attain to a knowledge of the rudiments of music that will enable the student to analyze such classical forms as the fugue, sonata, or rondo, and to present the material in historical order, pointing out the place of music and the rôle of individual composers in the successive epochs of the Christian era (up to Beethoven).

2. Music Since Beethoven. Mr. Swan.

As with Music 1, the purpose of this course is the establishment of a method of criticism, the development of thought as well as the excitation of emotion in listening to music; but since the training is here done on such complex works as the symphonies of Brahms and Tschaikowsky, the music dramas of Moussorgsky and Wagner, etc., a limited acquaintance with the musical forms of the Viennese classics is presupposed.

3. The Theory of Music. Mr. Lafford.

Introduction to Musical Theory, comprising the mechanics of notation, time, and of written music generally. Harmony, from two part and figured Harmony to unfigured Harmony in any form, and Counterpoint to fifth species in three parts, with an introduction to Fugue.

4. The Swarthmore College Chorus. Mr. Swan, Mr. Lafford.

The Chorus is composed of 55-60 men and women. Entrance requirements are: a good voice, a good ear, and an ability to read music. The annual concert is held in March. The a cappella music for the Chorus is chosen from the older masters (from the later Middle Ages to Bach), with some modern settings of folk-songs and religious chants thrown in. In conjunction with the college Orchestra the Chorus performs large works of the classic masters, and opera. The major productions of the past ten years have been one act from Vaughan Williams' "Hugh the Drover," three scenes from Rimsky-Korsakoff's "Sadko," the B flat major Mass of Haydn, and the Passion Music of Schütz. The last two have been recorded by Victor and Columbia, respectively. Members of the Chorus are expected to sing freely in Latin and several modern languages. Rehearsals are held once a week with additional work before the concerts.

5. The Swarthmore College Orchestra. Mr. Swan, Mr. Lafford.

The Orchestra is composed of 30-35 men and women. Its activities are closely tied to those of the Chorus, its main function being to accompany the Chorus and soloists. However, at the annual concert the Orchestra performs also at least one purely orchestral work, usually an overture. Rehearsals are held at specified times.

6. Chamber Music.

No formal instruction in the playing of chamber music is offered, but for years the undergraduates have been given the opportunity of gathering once a week at the home of Professor Arnold Dresden for the purpose of playing the best classic and romantic works of chamber music. The best players and groups are picked to perform on certain public occasions.

7. Informal Singing.

In the same way as chamber music, informal group singing has been carried on at the houses of Professors Hunt and Wilcox once every fortnight.

8. The Bronson Cutting Collection.

This highly valuable collection (see p. 28) is resorted to all along in class work. Furthermore students are expected to use it in the preparation of their assignments, and request programs are played at specified hours.

PHILOSOPHY AND RELIGION

PROFESSOR: BRAND BLANSHARD, *Chairman*

*ASSISTANT PROFESSOR: MAURICE H. MANDELBAUM

INSTRUCTORS: RICHARD B. BRANDT

HERBERT SPIEGELBERG (part time)

GENERAL COURSES

1. Logic. Mr. Blanshard, Mr. Brandt.

Half course, first semester.

A study of the forms of reasoning, inductive and deductive. Special attention is given to the application of logical rules in the analysis of arguments and the detection of fallacies.

2. Introduction to Philosophy. All instructors.

Half course, both semesters.

A survey of the principal problems of philosophy and the alternative answers to them. Stress is laid on the writing of philosophical essays.

4. Ethics. All instructors.

Half course, both semesters.

An introduction to ethical theory, with a brief consideration of the various types of ethics and of the application of ethical principles in practice.

5. The Philosophy of Science. Mr. Brandt.

Half course, second semester.

The logic, methods, and limitations of science, its philosophical presuppositions, and an examination of some of the concepts that dominate its more important fields, e.g., the theory of relativity and of quanta, of mechanism and vitalism, and of biological evolution.

6a. Greek and Mediaeval Philosophy. Mr. Mandelbaum.

Half course, first semester. (Omitted in 1940-41.)

The pre-Socratics, Plato, Aristotle, Stoics and Epicureans, Neoplatonists and Sceptics, early Christianity and the Scholastics. Readings in the sources.

6b. History of Modern Philosophy. Mr. Brandt.

Half course, second semester.

A review of the principal systems of thought from Descartes on. The greater philosophers are studied through selections from their works; these readings are coordinated through a standard history of philosophy.

7. Aesthetics. Mr. Mandelbaum.

Half course, first semester.

A historical and critical study of the theory of beauty and of standards of literary and artistic criticism. Recommended for students majoring in literature or the fine arts.

8a. Contemporary Philosophy. President Nason.

Half course, second semester. (Omitted in 1940-41.)

A critical study and discussion of various outstanding philosophic positions held in the 20th century. Special emphasis is put on contemporary idealism, realism, and pragmatism.

*Absent on leave, second semester.

12. The Philosophy of Religion. Mr. Brandt.

Half course, first semester.

Open to upper classmen, and to freshmen on approval. The first part of the course is devoted to a brief survey of theories of the origin of religion, of lines of its historical development, of psychological studies of religious experience, especially mysticism, and its philosophic implications. The second part is devoted to a critical analysis of representative religious philosophies, with special attention to the idea and proofs of God, the problems of evil, freedom, and immortality.

HONORS WORK

Philosophy is a subject that has proved particularly well adapted to study by the honors method, and advanced work in it is done chiefly through honors seminars.

Prerequisites: For admission to honors study in philosophy, the requirement is at least two semester courses in the field. It is strongly recommended that one of these be the Introduction to Philosophy (course 2). Students who do not take this course should consult their instructors to make sure that their combinations will be acceptable as prerequisites for honors work.

HONORS SUBJECTS IN PHILOSOPHY:

1. Moral Philosophy. Mr. Blanshard, Mr. Brandt.

Second semester.

A seminar in ethics, systematic and historical. Rashdall's *Theory of Good and Evil* (2 vols.) is covered in detail. A printed syllabus (75 pp.), containing lists of readings in the sources, references in recent literature, topics for papers, and questions for self-examination, has been prepared for this seminar.

2. Plato. President Nason.

Second semester.

An examination of all the major and some of the minor dialogues of Plato in an effort to understand his contributions to ethics, politics, and metaphysics and to appreciate his importance for Western thought. Attention will be paid both to his historical setting and to his significance for contemporary problems. Recommended for students of classics and literature.

3. History of Modern Philosophy. Mr. Brandt.

Both semesters.

The development of modern thought from Bacon and Descartes to Kant. If the group so desires, it may, with the approval of the instructor, exchange a study of certain of the pre-Kantian philosophers for a study of more recent philosophical movements. This seminar may appropriately be combined with work in any of the three divisions.

4. Classic Problems in Philosophy. Mr. Blanshard.

Both semesters.

The first half of the study is devoted to the theory of knowledge; Montague's *Ways of Knowing* is used as a common basis and is supplemented by readings in contemporary philosophy. In the second half of the semester, selected problems in metaphysics are taken for discussion, including usually the mind-body problem, the issue between the mechanist and the vitalist, the nature of the self, the problem of freedom, and the relation between philosophy and religion. Limited to Seniors except for Juniors with special permission.

5. Aesthetics. Mr. Mandelbaum.

First semester.

A study, partly historical, partly systematic, of the philosophies of beauty and of art, including theories of tragedy and comedy, of the sublime, and of standards of criticism. Readings in the sources, ancient and modern; occasional visits to the art collections of Philadelphia. Recommended for students of literature and the fine arts.

6. Philosophy of Science. Mr. Brandt.

As required.

A consideration of the nature and scope of science and scientific method; and of the logical foundations of science, including the theories of induction and meaning, and the relation of epistemology to the interpretation of science. Examination of such concepts as space, time, causality, mechanism, vitalism, explanation, and other scientific concepts of importance for the student of philosophy.

7. Social Philosophy. Mr. Blanshard.

Both semesters.

A study of the ethical basis of the state, and of rights and duties within it; of the current conflict between Fascist, Marxist, and democratic views of the state; of the ideas of equality, liberty, law, property, and justice. Recommended for students in the social sciences.

8. Concepts of Social Science. Mr. Mandelbaum.

First semester.

A critical analysis of the organic and atomistic views of society, the idea of a group mind, of law and custom, of theories of progress, of the Hegelian and Marxian views of social change, and other cardinal notions of social theory. Recommended for students of the social sciences.

9. Thesis.

A thesis may be substituted by majors in the department for one of the honors subjects, upon application by the student and at the discretion of the department.

PHYSICAL EDUCATION FOR MEN

SAMUEL C. PALMER, *Director of*
Physical Education and Athletics

ASSISTANT PROFESSOR: ROBERT H. DUNN, *Assistant Director*

INSTRUCTORS: AVERY F. BLAKE

E. J. FAULKNER

ASSISTANTS: ALBERT M. BARRON

WILLIS J. STETSON

JAMES J. MCADOO

HENRY FORD

LEW ELVERSON

WALTER SHINN

REX THOMKINS

CHARLES H. CROTHERS

JOHN R. HUHNS

TOWNSEND SCUDDER, III

COLLEGE PHYSICIAN FOR MEN: DR. PAUL STRONG

Sports Education.

This course is required of all first- and second-year men.

The minimum requirement is one hour of sports participation on each of two days per week, with at least one team sport each week.

It is the aim of the department to offer every student an opportunity to participate in a variety of activities regularly; to broaden his social contacts with other students and receive the valuable benefits of sports, such as training in leadership, self-discipline, morale, unselfishness, and health habits; and to develop carry-over sports that he will continue to enjoy after he leaves college.

A student who has not satisfied his requirement in Physical Education, will be refused admission to the Junior class. Juniors and Seniors who have fulfilled Freshman and Sophomore requirements may elect to continue participation in the Sports Education program.

FALL ACTIVITIES

Opening of College to Thanksgiving Recess

Badminton	Handball
*Cross-Country	*Soccer
*Football	Tennis
Golf	Touch Football

Hygiene (Required of all Freshmen.)

*Intercollegiate varsity and freshman schedules are played in these sports.

WINTER ACTIVITIES

Thanksgiving Recess to Spring Recess

Apparatus	Life Saving
Badminton	Paddle Tennis
*Basketball	Squash
Boxing	*Soccer
*Fencing	*Swimming and Diving
Golf	*Tennis
Handball	*Track
Lacrosse	Volley Ball

Wrestling

SPRING ACTIVITIES

Spring Recess to May 15

*Baseball	Softball
*Golf	*Tennis
*Lacrosse	*Track

Corrective Physical Education: A student who is unable to follow the regular program in physical education because of a physical handicap will be given special activities to meet his needs.

* Intercollegiate varsity and freshman schedules are played in these sports.

PHYSICAL EDUCATION FOR WOMEN

ASSISTANT PROFESSOR: VIRGINIA RATH, *Chairman*

INSTRUCTORS: ALICE GATES

MAY E. PARRY

ASSISTANT IN GOLF: GRETCHEN WATSON

ASSISTANT IN FENCING: DOROTHY MACY

RIDING: BETTY WALKER

COLLEGE PHYSICIAN FOR WOMEN: DR. DOROTHY ASHTON

REQUIREMENTS FOR WOMEN

A wide experience in recreational, rhythmic and developmental activities is an important factor in human well-being and happiness. Therefore this department aims to provide opportunities for instruction and participation in sports and dancing; to encourage appreciation of rhythm and design, of sportsmanship, of good coordination and poise and of outdoor activity; and finally to lay the foundations of a program that can be continued after graduation.

Classes are kept small to insure individual attention, and students are grouped according to ability. Ample opportunities are given for intramural and intercollegiate competition, as well as for public performances and demonstrations.

Freshmen, Sophomores and Juniors take three periods of activity each week. These may be elected from the list below, with the exception that Freshmen are required to take one period of swimming in the fall. Seniors may take two hours of any activity each week without signing up for instruction classes. All Seniors are required to pass a safety test in swimming before graduation.

Regulation costumes should be ordered before college opens. Blanks for this purpose will be sent out from the Office of the Dean to all incoming students.

COURSES FOR WOMEN

SPORTS

1. Hockey. Miss Parry, Miss Rath.

Class and Varsity.

Fall term.

2. Archery. Miss Rath.

Class and Varsity.

Fall and Spring.

3. Tennis. Miss Parry, Miss Rath, Miss Gates, Mr. Faulkner.

Class and Varsity. Spring.

Fall, Winter and Spring.

4. Golf. Miss Watson.
Class and Varsity. *Fall and Spring.*
5. Swimming. Miss Rath, Miss Gates, Miss Parry.
Fall, Winter and Spring.
Required of all Freshmen in the fall term. Seniors are required to pass a standard swimming test before graduation. Sophomores and Juniors may pass this test in advance.
Beginner, intermediate and advanced classes in strokes, safety, diving and Red Cross Life Saving, senior and Instructors' tests.
Class and Varsity.
6. Horseback Riding. Miss Walker.
Fall, Winter and Spring.
7. Basketball. Miss Parry, Miss Rath.
Class and Varsity. *Winter.*
8. Fencing. Miss Macy.
Class and Varsity. *Fall, Winter and Spring.*
9. Badminton. Miss Rath, Miss Parry, Miss Gates.
Class and Varsity. *Winter and Spring.*

RHYTHMIC ACTIVITIES

Miss Gates.

10. Dancing.
Class and Club. *Fall, Winter and Spring.*
11. Tap Dancing.
Winter.
12. Folk Dancing.
Class and Club. *Fall, Winter and Spring.*

DEVELOPMENTAL AND HEALTH ACTIVITIES

14. Tumbling. Miss Rath.
Winter.
15. Individual Gymnastics. Miss Rath.
Winter.
For those students who need special exercises because of incorrect posture or minor orthopedic defects.
16. Body Mechanics. Miss Rath.
Required of all first-year students. *Winter.*

PHYSICS

PROFESSOR: WINTHROP R. WRIGHT

ASSOCIATE PROFESSOR: MILAN W. GARRETT

INSTRUCTOR: WILLIAM C. ELMORE

GENERAL COURSES

1. General Physics. Messrs. Wright, Garrett and Elmore.

Full course.

Three lectures and one laboratory period weekly together with such conferences as prove desirable. This course is a prerequisite for all other work in physics whether in course or in honors. It is also required for students majoring in engineering and for students expecting to study medicine.

2. Advanced General Physics. Mr. Elmore.

Full course.

Three conferences and one laboratory period weekly. The material for this course is drawn from the fields of mechanics, hydrodynamics, the kinetic theory, thermodynamics, and modern physics. It is recommended for physics majors and should also meet the needs of students in course who are majoring in the engineering and the science divisions.

HONORS WORK

1. Physical Optics. Mr. Wright.

First semester.

Based on Robertson's *Introduction to Physical Optics*. The laboratory work includes the measurement of thin and thick lenses, the intercomparison of wave lengths by prism, grating, and interference spectrographs both visually and photographically, the computation of series constants, and the measurement of various interference and diffraction patterns.

2. Electricity and Magnetism. Mr. Garrett.

First semester.

Based principally on Page and Adams' *Principles of Electricity*. It covers electrostatics, magnetism, electro-magnetic phenomena, electronics and some applications. It is accompanied by laboratory measurements involving direct, alternating, and electronic currents, static charges and permanent magnets. Prerequisite—Mathematics seminars in advanced calculus and differential equations.

3. Atomic Physics. Messrs. Wright, Garrett, and Elmore.

Second semester.

Readings in the fields of gaseous conduction, photoelectricity, thermionic emission, X-rays, radioactivity and atomic structure with accompanying quantitative experiments. This seminar must be preceded by the one in electricity and magnetism.

4. Theoretical Physics. Mr. Elmore.

Selected readings and problems from the texts on theoretical physics by Page and by Slater and Frank.

Prerequisites:

The following courses or their equivalent are prerequisite to honors work in physics, whether major or minor:

- General Physics 1
- Freshman Mathematics 1, 2
- Calculus 11, 12
- German 1, 2

Students majoring in physics are expected to take Advanced Physics 2 and General Chemistry 1. Major students in general read for honors, but in special circumstances they may work toward a degree in course.

POLITICAL SCIENCE

PROFESSOR: ROBERT C. BROOKS, *Chairman*

ASSISTANT PROFESSOR: J. ROLAND PENNOCK

INSTRUCTOR: FRANCES REINHOLD FUSSELL

GENERAL COURSES

1. Introduction to Political Science. Mr. Brooks and Mrs. Fussell.

Full course.

Nature, content, and applications of political science, its relation to other social sciences, illustrated by an outline study of the framework of government and the organization, methods, and aims of leading political parties in England, Switzerland, Germany, Italy, and Russia. Comparisons between the political institutions of the countries named and those of the United States.

Open to all students.

2a. American Political Parties and Issues. Mr. Brooks.

Half course, first semester.

Party activities, present-day issues, the legal status of parties in the United States, detailed study of the presidential campaigns of 1932, 1936, and 1940.

Open to all students except Freshmen.

2b. Public Opinion. Mr. Brooks.

Half course, second semester.

Public opinion, propaganda, pressure groups, particularly in the United States. Open to all students except Freshmen.

3. American Federal Government. Mr. Pennock.

Half course, first semester.

A study of the present structure, functions, and operation of American Government, with special emphasis upon the National Government, and upon recent developments in the field. Open to all students except Freshmen.

4. American State and Municipal Government. Mrs. Fussell.

Half course, second semester.

Theory and practice of these spheres of local government. The Commission Plan, the City Manager Plan, Proportional Representation. Recent trends in administration—correction, charity, education, health, highways, natural resources.

6. Political Motives. Mr. Brooks.

Half course, first semester.

A detailed study of the personal development, motives and careers of several leaders, such as Theodore Roosevelt, Woodrow Wilson, Jane Addams, and Franklin D. Roosevelt; also in somewhat less detail of the careers of William H. Taft, Warren G. Harding, Calvin Coolidge, and Herbert Hoover.

Open to all students except Freshmen.

7. Political Problems of Today. Mr. Pennock.

Half course, second semester.

Reconsideration of the bases of representative government in the light of changed economic and social conditions in the modern State; examination of such alternative principles as those offered by Communism and Fascism; investigation of the possibilities of "planning" in a democracy; and an appraisal of present tendencies in political development.

Prerequisite, Course 1 or Course 3.

8. Special Readings in Political Science. Mrs. Fussell.

Half course, second semester.

Intensive readings on special phases of politics—types of governments, executives, legislatures, judiciaries, administrative systems, and the like, throwing into high relief the most controversial questions in each field. Preparation for the final comprehensive examinations. Open only to Seniors with the major in Political Science.

9. American Constitutional Law. Mr. Pennock.

Half course, second semester.

The Constitution as developed by the Court; and the Court as seen through the cases. Stressing (a) the extent of national power, (b) constitutional limitations upon state legislation, and (c) the Supreme Court and the New Deal. Analysis of proposals to modify the Court.

Prerequisite, Course 1 or Course 3.

10. Public Administration. Mr. Pennock.

Half course, first semester.

An analysis of the principles of administrative organization in modern governments with illustrative material drawn chiefly from the national government of the United States and with particular reference to the implication of recent changes. Problems to be dealt with include: delegation of power, administrative integration, conduct of regulatory and managerial activities, personnel, administrative legislation and adjudication.

Open to Juniors and Seniors. Course 3 is normally a prerequisite.

11. American Political Oratory. Mr. Hunt.

Half course, second semester. (Omitted in 1940-41.)

An application of the doctrine of Plato's *Phaedrus* and *Gorgias* and Aristotle's *Rhetoric* and *Politics* to American political oratory. Analysis of Lincoln-Douglas debates, selected speeches of Lincoln, Bryan, Theodore Roosevelt, Woodrow Wilson, and contemporary molders of public opinion. Reports, briefs, and speeches before the class.

Open to all students.

12. Latin American Relations. Mrs. Fussell.

Half course, first semester.

Political, historical, cultural, commercial relationships between the United States and Mexico, Central America, the Caribbean area, and South America. Discussions of Pan-Americanism, the Monroe Doctrine, boundary disputes, trade agreements, the Good Neighbor Policy. American diplomatic history as seen by Latin America.

13. International Law and Relations. Mrs. Fussell.

Half course, second semester. (Omitted in 1940-41.)

Principles of international law. Foreign policies of Europe, the United States, the Far East and the Near East. The League of Nations, The Hague Tribunal, World Court, and Pan-American Union. Not a course in current events, but rather a discussion of principles on which current events are based.

Students with a major in political science should select as much collateral work as possible in economics; also in modern history and philosophy.

HONORS WORK

Prerequisites: The prerequisite for Honors work in Political Science is the full course Political Science 1, Introduction to Political Science. Students may substitute for this two of the half courses: Political Science 3, American Federal Government; Political Science 2a, American Political Parties and Issues, and Political Science 9, American Constitutional Law.

Topics of Final Examinations: Seminars are offered preparing students for honors examinations as follows:

1. Political Theory. Mr. Pennock.

A study of the nature of the state, of forms of government, and of the dynamics of political development, with special reference to the theories set forth by writers on these subjects from Plato to the present.

2. Political Institutions of the United States. Mr. Brooks.

Second semester.

General framework of American government, national, state and local, particular attention being given to Congress, the Presidency, political parties and public opinion.

3. Contemporary Democracies and Dictatorships. Mr. Brooks.

First semester.

A detailed study of the principal forms of government of each type, the theories on which they rest and the economic and social conditions that form their background.

4. Problems in Government and Administration. Mr. Pennock.

A detailed study of major problems of government, particularly on the administrative side, and especially as they manifest themselves in this country. Topics studied include: public budgeting and financial control, administrative legislation and adjudication, governmental reorganization, administrative areas, governmental corporations, and problems of public service personnel administration.

6. International Law and Organization. Mrs. Fussell.

First semester.

Principles of law operative among members of the "community of nations"—state's jurisdiction over land, air, water, citizens, aliens; state's immunities and obligations; rules of land, sea, and air warfare; rights and responsibilities of neutrals. Also a study of international organizations—The Hague Tribunal, the International Labor Office, and the Pan-American Union.

7. Latin-American Relations. Mrs. Fussell.

Second semester.

Political, historical, cultural, commercial relationships between the United States and Mexico, Central America, the Caribbean Area, and South America. Discussions of Pan-Americanism, the Monroe Doctrine, boundary disputes, trade agreements, The Good Neighbor Policy. American diplomatic history as seen by Latin-America.

8. Thesis. Mr. Brooks, Mr. Pennock, and Mrs. Fussell.

Approval of the instructor immediately concerned must be secured at the beginning of the student's junior year.

PSYCHOLOGY AND EDUCATION

ASSOCIATE PROFESSOR: ROBERT B. MACLEOD, *Chairman*

PROFESSOR: WOLFGANG KÖHLER

ASSISTANT PROFESSOR: EDWIN B. NEWMAN

INSTRUCTORS: RICHARD S. CRUTCHFIELD
HELEN M. CAMPBELL

RESEARCH ASSOCIATES: HANS WALLACH

MARY HENLE

WILLIAM D. NEFF

GENERAL COURSES

1. Introduction to Psychology. Mr. MacLeod, Mr. Newman.

Full course.

A study of the structure and organization of the mental life of the normal, human adult.
Not open to Freshmen.

2. Experimental Psychology. Mr. Köhler, Mr. Newman.

Half course, each semester.

A laboratory course on problems in human psychology.
Prerequisite, Course 1.

3. Animal Behavior. Mr. Newman.

Half course, first semester.

A presentation of those facts in animal psychology which contribute to our present knowledge of general psychology.
Prerequisite, Course 1.

4. Social Psychology. Mr. Crutchfield.

Half course, second semester.

A psychological study of relationships between individual and individual and between group and individual.
Prerequisite, Course 1.

5. Systematic Psychology. Mr. Köhler.

Half course, second semester.

Observations and problems in different fields of modern psychology treated as parts of a developing system, with a consideration of the basic principles inherent in this development.
Prerequisite, Course 1.

6. Advanced Experimental Psychology. Mr. MacLeod, Mr. Newman.

Half course, each semester.

Prerequisite, Courses 1 and 2.

7. Educational Psychology. Miss Campbell.

Half course, first semester, alternate years.

Psychology of individual differences, learning, motivation, and personality adjustment; special problems related to teaching.
Prerequisite, Course 1.

8. Child Psychology. Miss Campbell.

Half course, second semester.

Intellectual, social and emotional development from birth through adolescence.
Prerequisite, Course 1.

9. Human Motivation. Mr. Crutchfield.

Half course, first semester.

A study of the directive and the regulative aspects of human behavior.
Prerequisite, Course 1.

10. Psychological Tests and Measurements. Miss Campbell.

Half course, first semester, alternate years.

Construction, administration and interpretation of tests, with special emphasis on clinical techniques.
Prerequisite, Course 1.

11. Psychological Tutorial. The Staff.

Half course, second semester.

Supervised reading in fields that have not been adequately covered in courses. Open only to seniors majoring in psychology.

COURSES IN EDUCATION

12. Introduction to Education. Miss Campbell.

Half course, first semester.

A survey of the aims, organization and procedures of education; the opportunities and requirements in education as a profession.

13. History of Education. Miss Campbell.

Half course, second semester, alternate years.

An historical survey of educational procedures from the period of the Greeks to the present, including a comparison of present-day systems in Europe and America.

14. Philosophy of Education. Miss Campbell.

Half course, second semester, alternate years.

A study of the fundamental principles of education viewed in dynamic relation with our culture; special emphasis on the rôle of education in a democratic society.

REQUIREMENTS FOR WORK IN COURSE

Students intending to elect psychology as major subject are advised to take a course in philosophy and a course in biological or physical science, preferably during the freshman year, and to acquire a reading knowledge of German. Major students in course are expected to take Introduction to Psychology, Experimental Psychology, Psychological Tutorial, and the equivalent of two further courses in psychology. Minor students are expected to take Introduction to Psychology and the equivalent of two further full courses in psychology. Courses in education will not be credited toward a major or minor in psychology.

Education alone may not be elected as a major or minor subject,

and not more than two full courses in education will be accepted for credit toward the bachelor's degree. The Pennsylvania requirements for the certification of secondary school teachers include 21 hours of psychology and education. With the exception of 6 hours of practice teaching, which must be taken elsewhere, Swarthmore students may fulfill these requirements by taking Courses 1, 7, 12, 13 and 14.

HONORS WORK

Prerequisites: Introduction to Psychology (1) is the normal prerequisite for all honors work. This may be waived, however, in cases of candidates who have done advanced work in zoölogy and physiology, and who propose to concentrate in the field of physiological psychology. All major students are advised to take introductory work in zoölogy or physics and in philosophy, and to acquire a reading knowledge of German.

Honors seminars:

1. Systematic Psychology. Mr. Köhler.

First semester.

A short historical survey of empirical psychology, followed by a discussion of (1) basic questions of methodology and (2) such psychological observations as tend to unite themselves into systematically related groups of facts. Particular attention is paid to the relations between psychology and other fields of knowledge. Major students are expected to take this seminar during the first semester of the junior year.

2. Perception. Mr. Köhler, Mr. MacLeod.

Second semester, alternate years.

Deals systematically and experimentally with problems in the field of perception, no attempt being made to cover the whole field in any one semester; open to all qualified honors students, but especially recommended for students of the natural sciences and of philosophy.

3. Learning. Mr. Köhler, Mr. Newman.

Second semester, alternate years.

The experimental study of memory and learning, both with a view to finding optimal conditions of motivation, the nature and arrangement of material, temporal relations and the like, as well as formulating hypotheses about the nature of the learning process; open to all qualified honors students.

4. Human Development. Mr. Newman.

Second semester.

The growth and development of psychological processes; the nature of learning and of intelligence; the world of the child contrasted with that of the adult. Open to all qualified honors students, but may not be combined with Learning.

5. Motivation. Mr. MacLeod, Mr. Crutchfield.

First semester.

A systematic and experimental approach to the dynamics of behavior, based on material drawn both from the laboratory and from the clinic; open to all qualified honors students, but of particular interest to students of ethics and of the social sciences.

6. The Individual in Society. Mr. MacLeod, Mr. Crutchfield.

Second semester.

The relationship between man and his society, approached from the points of view of social psychology, sociology and cultural anthropology; open to all qualified honors students, but especially designed for students of the social sciences.

7. Language and Thinking. Mr. MacLeod.

Second semester.

The psychological bases of communication, with special reference to the origin and development of language, the nature of linguistic symbolism, the disorders of linguistic behavior, creative imagination, and rational and irrational thinking; open to all qualified honors students, but especially designed for students of literature, and recommended in conjunction with the seminar on Linguistics.

8. Animal Behavior. Mr. Newman.

A comparative study of animal behavior, with laboratory work. Recommended for students with a background in biology.

9. Psychophysiology. Mr. Newman.

First semester.

An introductory study, roughly parallel to Psychology 1, designed for selected students in the natural sciences who have been unable to take the regular course. With permission, this seminar may be offered as a fourth seminar in zoology.

10. Thesis.

May be presented as a substitute for one seminar, provided the student is doing major work in psychology with four seminars, and provided some member of the department is willing to undertake the direction of the thesis.

ROMANCE LANGUAGES

PROFESSOR: EDITH PHILIPS, *Chairman*
 ASSOCIATE PROFESSOR: LÉON WENCELIUS
 ASSISTANT PROFESSOR: HAROLD MARCH
 INSTRUCTORS: MERCEDES C. IRIBAS
 MARIAN MONACO
 PART-TIME INSTRUCTOR: JAMES D. SORBER

FRENCH

1. Elementary French. Miss Philips.

Full course.

For students who begin French in college. Equivalent of two years' secondary school preparation.

2a. Reading, Grammar and Composition. Members of the department.

Half course, each semester.

Prerequisite, French 1 or two years' secondary school preparation and a placement test.

2b. Reading, Grammar and Composition. Continued. Members of the department.

Half course, each semester.

Prerequisite, French 2a or three years' secondary school preparation and a placement test.

3a. Introduction to French Literature. Members of the department.

Half course, each semester.

Prerequisite, French 2b or four years' secondary school preparation and a placement test. Representative texts of modern French prose writers. Conducted in French with frequent written work in French.

3b. Introduction to French Literature. Members of the department.

Half course, each semester.

Prerequisite, French 3a.

Representative texts from the French theater from the classical period through the nineteenth century.

*10. Le roman avant 1800. Mr. March.

Half course, first semester.

11. Le roman du dix-neuvième siècle. Mr. March.

Half course, second semester.

12. Prosateurs et moralistes de la Renaissance et de la Réforme. Mr. Wencelius.

Half course, first semester.

13. La prose classique. Mr. Wencelius.

Half course, second semester.

14. Les origines philosophiques de la révolution. Miss Philips.

Half course, first semester.

*The French department is changing the arrangement and distribution of its course beginning with the academic year 1941-42. All students electing courses numbered from 10 to 21 should consult members of the department before registering, whether or not they are majors or minors in French.

15. Mouvement des idées au dix-neuvième siècle. Mr. Wencelius.
Half course, second semester.
16. La poésie lyrique jusqu'à l'époque classique. Mr. March.
Half course, first semester.
17. La poésie lyrique moderne. Miss Philips.
Half course, second semester.
18. Origines et développement du théâtre classique. Miss Monaco.
Half course, first semester.
19. Le théâtre moderne. Miss Monaco.
Half course, second semester.
20. Histoire de la littérature française. Miss Philips.
Full course.
21. Advanced Composition. Miss Philips.
Half course, second semester.

SPANISH

1. Elementary Spanish. Miss Iribas, Mr. Sorber. *Full course.*
A course aimed to give a knowledge of the essentials of Spanish grammar, the ability to read ordinary Spanish with ease, and some practice in conversation. Tests: (a) Hills and Ford, *Spanish Grammar for College*; (b) Castills, *Lecturas Introductorias*; (c) *Tales of Spanish America*.
2. Second-year Spanish. Miss Iribas. *Full course.*
Reading, grammar and composition; reading of six modern novels and plays and conversation based on texts.
3. Introduction to Spanish Literature. Miss Iribas. *Full course.*
Collateral reading and reports in Spanish.

ITALIAN

1. Elementary Italian. *Full course*
A course aimed to give the student ability to read ordinary Italian with ease, and to write and speak simple Italian.
2. Second-year Italian. *Full course.*
Grammar review and composition. Readings from Dante's *Inferno*.
3. Introduction to Modern Italian Literature. *Full course.*
Representative texts of Modern Italian writers.

All students offering French or Spanish for entrance take a placement test. The results of this test, taken into consideration with the number of years of preparation, determine the student's assignment to Course 2 or Course 3.

The department does not offer a major in Spanish or Italian.

HONORS WORK

French may be offered as a major or minor subject in the division of the Humanities.

Prerequisites for majors: French 3, Latin 1, or its equivalent, History of Europe or History of France, History of Philosophy or Introduction to Philosophy.

Majors are expected to speak French with sufficient fluency to conduct a discussion in French with the examiner in the oral examination. Some indulgence is shown by the examiners to minors in respect to their spoken French, although all seminars are conducted in French.

Seminars are offered as follows:

1. La renaissance en France. Mr. Wencelius.
Rabelais, Calvin, Montaigne, Ronsard.
2. Le théâtre classique. Miss Monaco.
Corneille, Racine, Molière.
4. La pensée française au dix-huitième siècle. Miss Philips.
Montesquieu, Voltaire, Diderot, Rousseau.
5. La poésie lyrique au dix-neuvième siècle. Miss Philips.
The Romantic, Parnassian and Symbolist movements. Modern tendencies.
6. Le roman français depuis Flaubert. Mr. March.
Realism, naturalism, modern tendencies.
7. Le mouvement des idées depuis taine. Mr. March.
8. Littérature médiévale.
Chansons de geste et romans.
9. Le développement des idées politiques au dix-neuvième siècle. Mr. Wencelius.

The seminars in French are planned with reference to the choices of the students and the convenience of the department, and the semester in which they are given varies from year to year. Majors are urged to elect four seminars which cover the four modern centuries.

ZOOLOGY

PROFESSOR: LAURENCE IRVING, *Chairman*

ASSOCIATE PROFESSOR: ROBERT K. ENDERS

ASSISTANT PROFESSORS: *FRANK R. KILLE
WALTER J. SCOTT

INSTRUCTORS: RUTH MCCLUNG JONES
C. BROOKE WORTH

RESEARCH ASSOCIATES: **EDGAR C. BLACK
STUART W. GRINNELL
†PER F. SCHOLANDER

ASSISTANTS: **VIRGINIA SAFFORD BLACK
SUSAN IRVING
HENRIETTA SAFFORD

GENERAL COURSES

1. Biology. Mr. Livingston, Mr. Jones, Mr. Kille, Mrs. Jones, Mr. Scott.

Full course.

This introductory course is designed to present the fundamental aspects of biology. Wherever possible, principles will be illustrated by both plants and animals with particular reference to their interdependence and interrelationships. The topics for consideration during the first semester (Mr. Livingston, Mr. Jones) include: protoplasm, the cell, structure and function in the higher plants, genetics; and a brief survey of the plant kingdom. The topics in the second semester (Mr. Kille, Mrs. Jones, Mr. Scott) include: principles of vertebrate structure and physiology, embryology, a comparative study of a few invertebrate phyla, ecology and evolution. The course is a prerequisite for advanced courses in botany and zoology.

Three lectures or conferences and one laboratory period per week.

2. Comparative Vertebrate Anatomy. Mr. Enders.

Half course, first semester.

A course of lectures, laboratory conferences and dissection presented from the comparative viewpoint. Dissection of several vertebrate types including the monkey is undertaken.

Two lectures, two laboratory periods per week with occasional conferences. Prerequisite, 1.

3. Elementary Physiology. Mr. Scott.

Half course, first semester.

A consideration of the physiology of muscle, nerve, circulation, respiration, central nervous system, special senses, and digestion; the treatment is designed to give a broad understanding of the mechanism of the vertebrate body. In the laboratory standard experiments on living tissue are performed.

Two lectures, one conference, and one laboratory period per week. Prerequisite, 1.

4. Embryology. Mr. Kille.

Half course, first semester.

A study of the developmental processes in vertebrates. Laboratory periods are devoted to the developmental anatomy of amphioxus, frog, chick, and pig. Experimental analysis of development is introduced in the lectures and conferences.

Two lectures or conferences and two laboratory periods per week. Prerequisite, 1.

*Absent on leave, first semester.

**Absent on leave, four to six months.

†Fellow of the Rockefeller Foundation.

5. Invertebrate Zoölogy. Mr. Kille.

Half course, first semester in alternate years.

A comparative study of the invertebrates exclusive of protozoa and insects. Special attention is given to the topics of regeneration, analysis of development, and invertebrate hormones. The living material used in the laboratory is collected by the class during field studies of marine, fresh water and land habitats.

One laboratory period and one three-hour discussion period per week with additional field trips. Prerequisite, 1.

6. Microscopic Anatomy. Mrs. Jones.

Half course, second semester, in alternate years. (Offered in 1940-41.)

This course is concerned with the microscopic structure of vertebrates and invertebrate animals. Whenever possible the tissues are examined in the living condition. The student makes enough preparations to familiarize himself with the principal methods of modern microtechnique.

Two lectures and two laboratory periods per week. Prerequisite, 1.

7. Mammalian Physiology. Mr. Scott.

Half course, second semester, every year.

A laboratory course of experiments illustrating the more important features of the circulatory, respiratory and nervous systems.

One lecture, one conference, and one laboratory period per week. Prerequisites, 1, 2, 3.

8. Special Topics. The staff.

For advanced students. Open only to those who have secured the consent of the department.

REQUIREMENTS FOR WORK IN COURSE

Students in general course must complete during their four years the following: Two courses in chemistry, one course in mathematics, one course in physics, two courses in German (or their equivalent), four courses in zoölogy. Genetics (Botany Department) or botany may be offered as one advanced zoölogy course. With permission of the department a second course in physics, a second course in mathematics or a third course in chemistry may be substituted for the fourth course in zoölogy providing such a course is not being offered as part of the minor requirement.

The departmental requirements of two courses in chemistry and one in physics constitute a minor for zoölogy majors.

HONORS WORK

Students who plan to enter Honors work as majors in zoölogy should complete during their first two years: one and one-half courses in zoölogy (1, 2), one and one-half courses in chemistry (1), one course in mathematics (1, 2), one course in physics (1), two courses in German (1, 2) or their equivalent.

For admission to minor Honors work Zoölogy 1 is a prerequisite. In addition seminars in Physiology require one course in physics and two courses in chemistry.

Additional preparation in chemistry is desirable (2, 6). Further work in mathematics is recommended for those who have ability in the subject (11, 12). The additional courses in chemistry and mathematics are necessary for taking seminars in those departments.

Honors students usually select four seminars in zoölogy and four seminars divided between two other subjects within the Division. Genetics or Psychology for Pre-medical Students may be offered in place of one seminar in zoölogy.

Honors seminars offered:

Comparative Anatomy. Mr. Enders.

Second semester.

Comparative anatomy of the Chordates. The types used for dissection vary to meet the needs of each group.

Embryology. Mr. Kille.

Second semester.

The nature of the germ cells, experimental analysis of development and reproduction, and the developmental anatomy of vertebrates with laboratory emphasis on the chick and the pig.

Microscopic Anatomy. Mrs. Jones.

First semester.

A study of the minute structure of animals by the examination of living cells and tissues, and by the analysis of prepared slides; most of these slides are prepared by the student who thus acquires a working knowledge of microscopical technique.

Neurology. Mr. Scott.

First semester.

A preliminary consideration of the evolution of the nervous system is followed by a detailed study of the anatomy of the human brain with special emphasis upon the internal structure and its physiological implications. Frequent reference is made to corresponding features of the brains of lower vertebrates.

Physiology I. Mr. Irving.

First semester.

General and comparative physiology, considering the action of muscles and nerves, the penetration and distribution of dissolved substances through the animal and the composition of animals.

Physiology II. Mr. Irving.

Second semester.

Respiration, considering the utilization of oxygen and the production of carbon dioxide, their transport and exchange with the atmosphere.

Work at summer biological stations may be substituted for certain seminars and courses, permitting more choice in the student's college program.

The attention of the student preparing for the medical profession is directed to the admission requirements of the medical school which he plans to attend.

STUDENTS, 1940-41

UNDERGRADUATE STUDENTS

Name	Major Subject	Address
ACHTERMANN, GERALD ERNEST, '44	<i>Engineering,</i>	47 Forrest Road, Springfield, Pa.
ACKERMAN, EUGENE, '41	<i>Physics,</i>	285 Garfield Place, Brooklyn, N. Y.
ACKERMAN, ROBERT ALLEN, '43	<i>Engineering,</i>	404 Yale Ave., Morton, Pa.
ADAMS, ARTHUR KINNEY, '42	<i>Zoölogy,</i>	231 Little Falls St., Falls Church, Va.
ADLER, JOHN CRAIGE, '43		245 E. Highland Ave., Philadelphia, Pa.
ALBRITTON, ROGERS GARLAND, '43	<i>Philosophy,</i>	518 Cumberland Ave., Chevy Chase, Md.
ALBURGER, DAVID E., '42	<i>Physics,</i>	350 Meadow Lane, Merion, Pa.
ALDEN, JACQUELINE, '44		333 E. 43rd St., New York, N. Y.
ALEXANDER, ELLIOT RITCHIE, '41	<i>Chemistry,</i>	702 E. Marks Street, Orlando, Fla.
ALFORD, FRANCES LYDIA, '44		314 S. Homewood Ave., Pittsburgh, Pa.
ALLEN, JOHN ALEXANDER, '43		5914 Cedar Parkway, Chevy Chase, Md.
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ANDERSON, ROSE VIRDEN, '44		17 Oak Ave., Rehoboth Beach, Del.
APPLETON, FRANK WIRT, '41	<i>Economics,</i>	30 Rockridge Road, Mt. Vernon, N. Y.
APPLETON, RUTH, '43	<i>Zoölogy,</i>	35 Taber Ave., Providence, R. I.
ARDIS, GERTRUDE LOUISE, '43	<i>Mathematics,</i>	717 Alexander Ave., Drexel Hill, Pa.
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AYER, FRANK ROOT, '44	<i>Engineering,</i>	662 Wolf's Lane, Pelham Manor, N. Y.
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BANY, IRENE DOROTHY, '43	<i>History,</i>	47 W. Stratford Ave., Lansdowne, Pa.
BARBANO, DORIS ESTELLE, '42	<i>French,</i>	229 Edgewood Terrace, S. Orange, N. J.
BARBOUR, IAN GRAEME, '44		340 Thrall St., Cincinnati, Ohio
BARNES, RICHARD FREEMAN, '44	<i>Engineering,</i>	1309 Yellowstone Rd., Cleveland Heights, Ohio
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BASSETT, MARJORIE ANN, '43		3000 Sheridan Road, Chicago, Ill.
BAZETT, HAZEL, '41	<i>English,</i>	629 Haydock Lane, Haverford, Pa.
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- BOWDITCH, BENSON ALVORD, '41
 BOWEN, BETTY MORGAN, '42
- BOWER, EDWARD SEYMOUR, '42
 BOWMAN, LOIS BARBARA, '42
 BOYAJIAN, ARAM HERBERT, '44
 BRAATEN, THEODORE EDDY, '44
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 BREWSTER, MARY CORNELIA, '44
 BRINTON, LYDIA SHIPLEY, '44
 BRITT, SARAH, '44
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 BUCKMAN, FRANKLIN PRESTON, '41
 BUDD, WILLIAM BEETLE, '44
 BURGER, VIRGINIA, Special
 BURT, BARBARA ANNE, '44
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English,
Economics,
Psychology,
English,
French,
Philosophy,
History,
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English,
Economics,
Zoölogy,
Botany,
English,
Economics,
Psychology,
Chemistry,
Zoölogy,
Mathematics,
English,
English,
Economics,
Zoölogy,
History,
French,
English,
English,
Zoölogy,
English,
Economics,
English,
English,
Economics,
Astronomy,
- 397 Ridge Ave., Kingston, Pa.
 422 Brown St., Iowa City, Iowa
 Spring Hill Farm, McLean, Va.
 429-9th St., Wilmette, Ill.
 2112 S. Broad St., Philadelphia, Pa.
 6 Rural Lane, Cincinnati, Ohio
 30 Remsen St., Brooklyn, N. Y.
 4836 Conduit Road, N. W., Washington, D. C.
 Woodstock, N. Y.
 617 Zollinger Way, Merion, Pa.
 408 Baltimore Ave., Towson, Md.
 27 College Ave., Upper Montclair, N. J.
 221 Rock Creek Church Road, N. W., Washington, D. C.
 32 College Avenue, Swarthmore, Pa.
 3558 Albemarle St., N. W., Washington, D. C.
 3603 Quesada St., Washington, D. C.
 6432 Kimbark Ave., Chicago, Ill.
 55 Stratford Ave., Pittsfield, Mass.
 17 Youngs Road, Dedham, Mass.
 734 N. Mentor Ave., Pasadena, Calif.
 1855 Meridian Ave., Miami Beach, Fla.
 129 Maple Terrace, Merchantville, N. J.
 33 Washington Square, West, New York, N. Y.
 Cooperstown, N. Y.
 637 Arlington Place, Chicago, Ill.
 57 Princeton Ave., Princeton, N. J.
 New Hope, Pa.
 70 East 270th St., Cleveland, Ohio
 223 Dickinson Ave., Swarthmore, Pa.
 Mountain Road, Farmington, Conn.
 Pendle Hill, Wallingford, Pa.
 83 Church St., Newton, Mass.
 Parsonage Hill Road, Short Hills, N. J.
 1338 Park Ridge Place, Cincinnati, Ohio
 429 W. Stafford St., Philadelphia, Pa.
 335 King's Highway, Swedesboro, N. J.
 393 Ridgefield Ave., Bridgeport, Conn.
 1139 Oak Ave., Evanston, Ill.
 148 Dickerman Road, Newton Highlands, Mass.
 196 S. Willard St., Burlington, Vt.
 George School, Pa.
 1407 Baird Ave., Camden, N. J.
 2971 Brighton Road, Shaker Heights, Ohio
 808 Ohio St., Urbana, Ill.

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 CANEDY, WALTON FRANKS, '44
 CAPEHART, MARY TOWNSEND, '42
 CAPRON, WILLIAM MOSHER, '42
 CARPENTER, JANET LOUISE, '42
 CARR, RICHARD ASHTON, '42
 CARTER, WILLIAM JOHN, '44
 CAVERT, MARY RUTH, '41
 CAVIN, FRANCIS EDWARD, '41
 CAVIN, GEORGE HUNTZINGER, '44
 CHAPMAN, JOHN WILLIAM, JR., '43
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 CHASINS, EDWARD ARTHUR, '41
 CHESKIS, JOSEPHINE, '44
 CHEYNEY, JULIA, '42
 CIBELIUS, CHARLES ANTHONY, '44
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 CLARK, JEAN, '41
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 CLEAVER, HOLSTEIN DEHAVEN, JR., '41
 CLEAVINGER, MARTHA BEARCE, '41
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 COLLET, JOAN MARY, '43
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 COOK, ELIZABETH E., '42
 COOLEY, EDWARD HANES, '44
 COOPER, DAVID BYRON, '41
 COPE, STANTON E., '42
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 CORNFELD, HELEN E., '42
 CORSE, JOHN MONTGOMERY, '44
 CORYA, PATRICIA, '42
 COTTEN, PATRICIA, '44
 COUNCILL, JAMES PAUL, JR., '44
 COURANT, GERTRUDE ELISABETH, '44
 COWDEN, DAVID S., '42
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- Pol. Science,*
Psychology,
Pol. Science,
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Economics,
Engineering,
History,
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Economics,
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Philosophy,
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- 4 Sage Terrace, Scarsdale, N. Y.
 3312 Rowland Place, Washington, D. C.
- Gambier, Ohio
 26 Chester St., Mt. Vernon, N. Y.
 7110 Oxford Road, Baltimore, Md.
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 Robinhurst, Glen Head, L. I., N. Y.
 41 Bradford Ave., Upper Montclair, N. J.
 3108 Green St., Harrisburg, Pa.
 304 Taplow Road, Baltimore, Md.
 323 Melbourne Road, Great Neck, N. Y.
 1 Glen Washington, Rd., Bronxville, N. Y.
 1628 21st St., N. W., Washington, D. C.
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 242 Rounds St., New Bedford, Mass.
 160 Prospect St., East Orange, N. J.
 315 E. 68th St., New York, N. Y.
 22 Evans Way, Boston, Mass.
 R. F. D. 3, Media, Pa.
 831 Overlook Road, Rockford, Ill.
 Westwoods, Minersville, Pa.
 38 Boulder Trail, Bronxville, N. Y.
 18 Burbury Lane, Great Neck, N. Y.
 50 Morningside Drive, New York, N. Y.
- 695 Pine St., Manchester, N. H.
 39 Claremont Ave., New York, N. Y.
 46 Prospect St., Madison, N. J.
 139 Franklin Ave., Morton, Pa.
 R Fernandez 255, Montevideo, Uruguay
 Wormsloe, Savannah, Ga.
 22 Homesdale Road, Bronxville, N. Y.
 416 S. Cook Ave., Trenton, N. J.
 Château Lorraine, Scarsdale, N. Y.
 129 Meadbrook Road, Garden City, N. Y.
 242 Culver Road, Rochester, N. Y.
 110 Columbia Ave., Swarthmore, Pa.
 4871 Jefferson St., Bellaire, Ohio
 R. F. D. 2, Winchester, Ind.
 22276 Parnell Rd., Shaker Heights, Ohio
 267 Clark St., Westfield, N. J.
 2109 N. 33rd St., Philadelphia, Pa.
 411 Yale Ave., Swarthmore, Pa.
 224 Park Ave., Swarthmore, Pa.
 76 Remsen St., Brooklyn, N. Y.
 Franklin, Va.
 142 Calton Road, New Rochelle, N. Y.
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 Jacksonwald, Reading, Pa.
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 106 W. 69th St., New York, N. Y.
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 171 7th St., Salem, N. J.
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 GLOSSBRENNER, EMILY LOUISE, '43 *English,*
 GOCHER, JEANNETTE EVANS, '44 *Psychology,*
 GOLDSTEIN, VIVIAN ROSE, '43 *Psychology,*
 GOLDWATER, DANIEL LEON, '43 *Engineering,*
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 GOODMAN, THEODORE WYNKOOP, '43 *Pol. Science,*
 GOODRICH, JANET CARTER, '43 *Economics,*
 GOULD, BARBARA, '41 *Psychology,*
- GRAEF, EDITH ANN, '44 *Chemistry,*
 GRANT, ISABELLA HORTON, '44 *English,*
 GRAYDAHL, LILLIAN EDITH, '43
 GRAWOLS, MARTHA ELLEN, '43 *English,*
 GREEN, ELEANORE MAYO, '42 *Zoölogy,*
 GREEN, HORACE P., '42 *Economics,*
 GREEN, LOIS ANGELL, '43 *History,*
 GREENFIELD, EDNA RUTH, '43 *Philosophy,*
 GREENHILL, IRA J., '43
 GRIEST, ELINOR PRESTON, '43 *English,*
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 GULICK, CLARENCE SWIFT, '41 *Pol. Science,*
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 HAINES, ELIZABETH C., '43 *History,*
 HAND, JANE SPENCER, '43 *English,*
 HANNAY, NORMAN BRUCE, '42 *Chemistry,*
 HANNUM, EDWARD ELLIS, '41 *Engineering,*
 HARE, ALEXANDER PAUL, '44 *Zoölogy,*
- HARMAN, ALICE SPIER, '43 *Economics,*
 HARMAN, ARTHUR, '41 *Pol. Science,*
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 Yorktown Heights, N. Y.
 4915 16th St., N. W., Washington, D. C.
 64 Forest Road, Springfield, Pa.
 278 Linden Place, Decatur, Ill.
 Sharpley School Road, Wilmington, Del.
 "Manor Shores," Chestertown, Md.
 5000 Cornell Ave., Chicago, Ill.
 65 N. Main St., Woodstown, N. J.
 46 Castle Shannon Road, Pittsburgh, Pa.
 4 Surrey Road, Melrose Park, Pa.
 1262 E. 32nd St., Brooklyn, N. Y.
 6507 Germantown Ave., Philadelphia, Pa.
 1107 N. Front St., Harrisburg, Pa.
 R. D. 12, Indianapolis, Ind.
 214 Wynnewood Ave., Lansdowne, Pa.
 300 Central Park, W., New York, N. Y.
 2701 Grand Concourse, New York, N. Y.
 31 S. Main St., Shenandoah, Pa.
 124 W. Sixth Ave., Roselle, N. J.
 448 Riverside Drive, New York, N. Y.
 251 Farrington Ave., North Tarrytown, N. Y.
 650 E. 164th St., New York, N. Y.
 5521 Amestoy Ave., Encino, Calif.
 7224 Hazel Ave., Upper Darby, Pa.
 2312 Ewing Ave., Evanston, Ill.
 407 New Broadway, Brooklawn, N. J.
 1 E. Jefferson St., Media, Pa.
 70 Cleveland St., Holyoke, Mass.
 6501 N. 8th St., Philadelphia, Pa.
 46 W. 83rd St., New York, N. Y.
 90 E. Church St., Washington, N. J.
 2102 Timlin Road, Portsmouth, Ohio
 314 E. Central Ave., Moorestown, N. J.
 14 Sussex Ave., Bronxville, N. Y.
- 8 Evans St., Franklin, N. J.
 94 Juniper Road, Belmont, Mass.
 1 Holmcrest Road, Jenkintown, Pa.
 2 Hartley Ave., Princeton, N. J.
 18 Oberlin Ave., Swarthmore, Pa.
 4332 Garfield St., N. W., Washington, D. C.
 440 W. 24th St., New York, N. Y.
 338 White Horse Pike, Oaklyn, N. J.

- HARRISON, GRAHAM OLIN, '44
 HARRISON, VERNA, '43
 HART, NANCY ELLEN, '42
 HARTER, ROGER KARR, '42
 HAUGAARD, NEILS, '42
 HAVILAND, ESTHER UNDERHILL, '42
 HAYS, SAMUEL PERIMMER, '44
 HEACOCK, EDWARD LANCASTER, '43
 HEAD, MARSHALL, '44
- HECHT, ROBERT C., '43
 HEGNER, FRANK ARNOLD, JR., '41
 HEILMAN, MARLIN GRANT, '41
 HENDERSON, EDITH GUILD, '42
 HENLE, GUY, '41
 HERZBERG, HELENE, '41
 HEWITT, DAVID LEWIS, '44
 HILL, ERNEST HAMPSHIRE, JR., '41
 HILL, JOANNA, '41
 HIRST, SHIRLEY MARIE, '44
 HOFMANN, CHARLOTTE MARIE, '42
 HOLBROOK, MARJORIE ELIZABETH, '42
 HOLBROOK, MARY LOUISE, '41
 HOLLINGER, WILLIAM CARPENTER, '44
 HOLLINGSWORTH, IRENE ELIZABETH,
 '43
 HOSBACH, LOIS JANE, '43
 HOWARD, HELEN LOUISE, '41
 HUDSON, RICHARD CARROLL, '43
 HUGANIR, WILLIAM LEONARD, '42
 HUNTER, JAMES ROBERT, '43
 HUNTINGTON, ANNA SLOCUM, '43
- JABINE, JANE CAROLINE, '44
 JACKSON, ELIZABETH HARWELL, '41
- JARCHOW, WILLARD RUNYON, '44
 JAY, JOHN ELLIOTT, '43
 JENKS, BARTON L., JR., '44
 JOHNSON, BATES, '42
 JOHNSON, ETHEL MAY, '42
 JOHNSON, GAAR WILLIAMS, '43
 JOHNSON, MARGARET ZEL, '41
 JOHNSON, MARION DOROTHY, '43
 JONES, ANNE COMFORT, '42
- JONES, FRANCES SMILEY, '43
 JONES, HENRY WALTER, JR., '43
 JONES, JOHN LAUER, JR., '41
 JONES, OLWEN, '44
- Philosophy,*
Zoölogy,
Mathematics,
Chemistry,
History,
Philosophy,
Pol. Science,
Zoölogy,
- Economics,*
History,
Economics,
Economics,
English,
Mathematics,
Economics,
History,
Botany,
Zoölogy,
Philosophy,
Philosophy,
English,
Pol. Science,
- Zoölogy,*
Psychology,
English,
Economics,
Botany,
Fine Arts,
- Economics,*
- Economics,*
Economics,
Pol. Science,
- Botany,*
- English,*
- History,*
Zoölogy,
Engineering,
French,
- 204 Lorraine Ave., Montclair, N. J.
 Mulhocaway Farm, Clinton, N. J.
 35 Middlefield Drive, W. Hartford, Conn.
 Wenona, Ill.
 66th St. and York Ave., New York, N. Y.
 14 Martling Ave., Pleasantville, N. Y.
 604 N. Market Street, Corydon, Ind.
 County Line Road, Hatboro, Pa.
 4176 Ingraham Highway, Coconut Grove,
 Fla.
 240 Hansberry St., Philadelphia, Pa.
 513 Hill St., Sewickley, Pa.
 1025 Carlisle St., Tarentum, Pa.
 70 Francis Ave., Cambridge, Mass.
 W. Hartsdale Road, Hartsdale, N. Y.
 227 S. Blake Road, Norfolk, Va.
 1650 Harvard St., Washington, D. C.
 95 E. First North St., Salt Lake City, Utah
 Rose Hill Farm, Richmond, Ind.
 2357 E. Cumberland St., Philadelphia, Pa.
 4340 N. Capitol Ave., Indianapolis, Ind.
 9 Beach St., Maplewood, N. J.
 25 West Kirke St., Chevy Chase, Md.
 Madison Hotel, Atlantic City, N. J.
- 223 S. East Ave., Oak Park, Ill.
 1700 Asbury Ave., Ocean City, N. J.
 514 W. 114th St., New York, N. Y.
 4412 Sansom St., Philadelphia, Pa.
 R. D. 2, Norristown, Pa.
 Tunghsien, near Peiping, China
 38 Killdeer Road, Hamden, Conn.
- 145 E. 35th St., New York, N. Y.
 421 King George Ave., S. W., Roanoke,
 Va.
 1222 Chestnut Ave., Wilmette, Ill.
 110 Livingston St., Brooklyn, N. Y.
 66 Vreeland Ave., Rutherford, N. J.
 4115 N. Illinois St., Indianapolis, Ind.
 301 E. Wharton Ave., Glenside, Pa.
 4115 N. Illinois St., Indianapolis, Ind.
 204 Avon Road, Narberth, Pa.
 Casilla 327, Santiago, Chile
 Hotel Glaslyn-Chatham, Atlantic City,
 N. J.
 400 Strathmore Road, Brookline, Pa.
 227 Haverford Ave., Swarthmore, Pa.
 214 Rutledge Ave., Rutledge, Pa.
 219 Palisade Ave., Dobbs Ferry, N. Y.

- JONES, ROBERT PAUL, '43
 JONES, WILLIAM ROBINSON, '42
 JOSE, VICTOR RUDOLPH, '44
- KAISER, PETER WILLIAM, '44
 KARLOW, SERGE PETER, '41
 KEELER, KATHERINE BURTON, '42
 KEELER, MARGARET ELLIS, '44
 KEEN, DOROTHY JEAN, '44
 KEHOE, KATHLEEN, '43
 KELLER, ROBERT BOBRINK, '44
 KELLY, JOHN FRANK, '42
 KEMPTON, MARTIN HARVEY, '44
 KENNEDY, ROBERT PHELPS, JR., '44
 KENT, CONSTANCE RYDER, '42
 KETTNER, FRED, '42
 KIESS, MARGARET FLORENCE, '41
- KIMMEL, JOSEPH DEHAVEN, '44
 KING, BLEECKER, '44
 KIRBY-SMITH, SELDEN, '44
- KIRN, HENRIETTA GROMME, '41
 KISTLER, WILLIAM HENRY, '43
 KLAU, FELICE JEAN, '44
 KLINE, EVELYN JONES, '44
- KLYCE, DOROTHY, '43
 KNIER, HILDA RACHEL, '43
 KNOTT, RUTH GILLMORE, '41
 KNOX, NORMAN DAVIS, '44
 KNUD-HANSEN, JAMES A. F., '41
 KNUD-HANSEN, JOHN, '41
 KROM, EDWIN HERMAN, JR., '42
 KUECHLE, JOHN DANIEL, '41
 KUECHLE, MARY ANN, '43
 KUH, PETER G., '43
 KUHN, ANNA MARGARET, '42
 KUHN, RENE LEILANI, '44
- LABARRE, RUTH MADELEINE, '44
 LACY, CREIGHTON BOUTELLE, '41
 LADD, ANTHONY THORNTON, '43
 LAMSON, BARBARA ALICE, '43
 LAND, HANS ALAN, '43
 LANGER, RUTH ESTHER, '43
 LANGSDALE, LORAN BONSALE, '41
 LAPORTE, MARGUERITE AUGUSTA, '43
 LAX, STEPHEN GIRARD, '41
 LEADER, HENRY B., '42
- Economics,*
Engineering,
- Engineering,*
Pol. Science,
English,
- Chemistry,*
English,
Economics,
Engineering,
- Engineering,*
Botany,
Pol. Science,
Mathematics,
- English,*
- History,*
Engineering,
- Chemistry,*
English,
- Pol. Science,*
Zoölogy,
History,
Engineering,
French,
Economics,
German,
English,
- Pol. Science,*
Zoölogy,
- Chemistry,*
Chemistry,
Economics,
Psychology,
Pol. Science,
Pol. Science,
- Stanwich Road, Greenwich, Conn.
 6324 N. 21st St., Philadelphia, Pa.
 410 N. Audubon Road, Indianapolis, Ind.
- 73 N. Evergreen Ave., Woodbury, N. J.
 201 W. 54th St., New York, N. Y.
 252 Boulevard, Scarsdale, N. Y.
 Elizabeth St., Chappaqua, N. Y.
 424 Main St., Parkesburg, Pa.
 345 Resor Ave., Cincinnati, Ohio
 Bielby Road, Lawrenceburg, Ind.
 709 Baltimore Ave., E. Lansdowne, Pa.
 712 Ashland Ave., Secane, Pa.
 1 Knollwood Drive, Rochester, N. Y.
 20 Brighton Road, Springfield, Ohio
 1001 Sixth Ave., Jersey City, N. J.
 2928 Brandywine St., N. W., Washington,
 D. C.
 25 St. Clair Drive, Pittsburgh, Pa.
 229 Lake Shore Drive, Chicago, Ill.
 1817 Willow Branch Terrace, Jackson-
 ville, Fla.
 320 E. Main St., Lancaster, Ohio
 333 Woodlawn Ave., Glenside, Pa.
 993 5th Ave., New York, N. Y.
 554 Madison St., S. E., Grand Rapids,
 Mich.
 4 Bushcliff Road, Winchester, Mass.
 Wilbrae Farm, Downingtown, Pa.
 R. F. D., Georgetown, Conn.
 3017 Jenney Lind St., McKeesport, Pa.
 17 Kongens Gade, St. Thomas, V. I.
 17 Kongens Gade, St. Thomas, V. I.
 117 Malba Drive, Whitestone, N. Y.
 910 Adams St., Wausau, Wis.
 910 Adams St., Wausau, Wis.
 134 Ravina Drive, Highland Park, Ill.
 547 W. Olney Ave., Philadelphia, Pa.
 45 Christopher St., New York, N. Y.
- 42 Ben Lomond, Uniontown, Pa.
 450 Park Ave., New York, N. Y.
 25 East 83rd St., New York, N. Y.
 422 W. Broad St., Bethlehem, Pa.
 211 Rutgers Ave., Swarthmore, Pa.
 56 Browne St., Brookline, Mass.
 4 Middleton Court, Baltimore, Md.
 430 E. 86th St., New York, N. Y.
 6609 N. 10th St., Philadelphia, Pa.
 Route 2, York, Pa.

- LEICH, JOHN FOSTER, '42 *Pol. Science,*
 LEIMBACH, HERBERT JOHN, JR., '43 *Engineering,*
 LETTS, ELIZABETH JEAN, '42 *Psychology,*
 LEVANDER, RENA LOIS, '43 *History,*
 LEVINTHAL, CYRUS C., '44 *Physics,*
 LEWARS, KENNETH BRUMBAUGH, '44 *English,*
 LEWIS, ALBERT HARRY, '42 *Economics,*
 LIEBERMAN, WILLIAM SLATTERY, '43 *English,*
 LIGHTWOOD, ALICE FAFIENA, '44
 LILLIE, ROBERT JONES, '44 *History,*
 LINDLEY, LAWRENCE ELDEN, JR., '44 *Engineering,*
 LINDLEY, SARAH RUTH, '42 *English,*
 LINDSTROM, EUGENE SHIPMAN, '44
 LOEB, VIRGIL, JR., '42 *Zoology,*
 LOESCHER, SAMUEL MEGAW, '44 *Pol. Science,*
 LOGAN, ISABEL ANN, '42 *English,*
 LOHMAN, LAURENCE, '42 *Economics,*
 LOHR, MARY PHYLLIS, '44 *Mathematics,*
 LONGAKER, WILLIAM DOWNS, '42 *Zoology,*
 LOOK, ARNOLD EVERT, '44
 LOOMIS, MALCOLM LINDSAY, '43 *Economics,*
 LORD, MARION, '43 *Mathematics,*
 LORENZ, PHILIP BOALT, '41 *Chemistry,*
 LOVE, WARNER EDWARDS, '44 *Chemistry,*
 LUBS, KATHRYN RUTH, '42 *French,*
 LUCKIE, SAMUEL BLAIR, III, '42 *Engineering,*
 LUM, PATRICIA BENTLEY, '44 *French,*
 LYMAN, FRANK LEWIS, '43 *Zoology,*
 LYMAN, RICHARD WALL, '44
 LYON, LAURA LOU, '42 *English,*
 LYONS, ALMA VIRGINIA, '42 *Pol. Science,*
- 620 Sunset Avenue, Evansville, Ind.
 215 Ridgemeded Road, Baltimore, Md.
 Irving Ave., Bridgeton, N. J.
 923 Fifth Ave., New York, N. Y.
 Garden Court Apt., Philadelphia, Pa.
 42 W. Albermarle Ave., Lansdowne, Pa.
 1185 Park Ave., New York, N. Y.
 161 W. 75th St., New York, N. Y.
 930 N. Front St., Reading, Pa.
 35 Berwick Road, Philadelphia, Pa.
 719 N. Olive St., Media, Pa.
 5201 Park Ave., Indianapolis, Ind.
 3313 Oakland St., Ames, Iowa
 727 Radcliffe Ave., St. Louis, Mo.
 5848 Pine St., Philadelphia, Pa.
 Candler, N. Car.
 224 Lawrence St., Mt. Vernon, N. Y.
 64 Ely Place, East Orange, N. J.
 41 E. Montgomery Ave., Ardmore, Pa.
 Newtown Square, Pa.
 3904 Jocelyn St., Washington, D. C.
 424 Woodland Ave., Wayne, Pa.
 2320 Ridgeway Road, Dayton, Ohio
 142 East Oak Ave., Moorestown, N. J.
 1900 Greenhill Ave., Wilmington, Del.
 391 Girard Ave., E. Aurora, N. Y.
 3428 34th St., N. W., Washington, D. C.
 113 Penarth Road, Bala-Cynwyd, Pa.
 20 Wilkins St., Hamden, Conn.
 47 Gorham St., Canandaigua, N. Y.
 4305 Marble Hall Road, Baltimore, Md.
- 917 W. Wildwood Ave., Fort Wayne, Ind.
 513 Birch St., Boonton, N. J.
 4428 Waldo Ave., Fieldston, N. Y.
 1221 Wakeling St., Philadelphia, Pa.
 236 W. Garfield Ave., Norwood, Pa.
 913 Hillcrest, Fort Worth, Texas
 3818 T St., N. W., Washington, D. C.
 900 Richmond Road, Joplin, Mo.
 2007 Forest Park, Fort Wayne, Ind.
 19 W. Walnut Lane, Philadelphia, Pa.
 119 N. Church St., Hazleton, Pa.
 1 Beekman Place, New York, N. Y.
 109-01 72nd Road, Forest Hills, N. Y.
 104 W. 70th St., New York, N. Y.
- 56 Salter Place, Maplewood, N. J.
 7 Baily Road, Lansdowne, Pa.
- MCALISTER, DALTON CLIVE, '42 *Pol. Science,*
 MCCAIN, MARGARET MARY, '43 *English,*
 MCCLOSKEY, JANET ANN, '44
 MCCONNELL, BRUCE BOWER, '42 *Economics,*
 MCCORMICK, HOMER BARKER, JR., '43 *Engineering,*
 MCGURK, MARY ANNE, '43
 MCCLAUGHLIN, WILLIAM FRANCIS, '44 *Economics,*
 MCMULLEN, JEAN, '41 *Pol. Science,*
 MCNAGY, WILLIAM FORGY, '44
 MCNEILL, EDWARD ALLEN, '41 *Pol. Science,*
 MACDONALD, MARY DOLORES, '43 *English,*
 MACPHAIL, WILLIAM CURTIS, '41 *English,*
 MAHLER, HENRY RALPH, '43 *Chemistry,*
 MAIER, ROBERT VENDIG, '43 *Engineering,*
 MALCOLM, ELIZABETH GARTHWAITE, '41
 MANLEY, LENORE, '43 *Economics,*
 '41 *English,*

- MANNING, CAROLINE WOODS, '42 *Psychology,*
 MARSHALL, JOHN FORBES, '41 *Physics,*
 MARSHALL, ROBERT BRUCE, JR., '41 *Zoölogy,*
 MARSHALL, WILLIAM JACKSON, '44 *Engineering,*
 MARTIN, CHARLES COPELAND, '42 *Chemistry,*
 MASSEY, RUTH LYLE, '41 *English,*
 MATHESON, GORDON FORD, '42 *Philosophy,*
 MATSCHECK, HAROLD, '44
 MAXWELL, HAZEL ELLEN, '42 *Greek,*
 MAXWELL, JOANNA HAZEL, '44
 MAYFIELD, RICHARD HEVERIN, '43
 MECARTNEY, MARJORY SMITH, '44
 MEENAN, DAVID BOWKER, '43 *Engineering,*
 MEGONIGAL, WILLIAM SHAIN, JR., '43 *Economics,*
 MELDRUM, PHILLIPA LESTELLA, '44
 MELLETT, SUE, '44
 MELVILLE, EDITH JANE, '41 *English,*
 MENNIC, JOHN BERNHARD, '42 *Pol. Science,*
 MERRITT, JEAN WENDY, '41 *Pol. Science,*
 METZ, WILLIAM STAFFORD, '41 *English,*
 MILLER, ANNE WALTON, '44
 MILLER, GLENN EARLE, '41 *History,*
 MILLER, JOHN ANTHONY, '41 *Engineering,*
 MILLER, MARCIA JEAN, '42 *History,*
 MILLER, MILO KIRK, JR., '44 *Zoölogy,*
 MILLS, JOHN ROSS, '44
 MILLS, MARJORIE, '44
 MILLS, MARJORIE RUTH, '43 *French,*
 MILLS, SARAH DOROTHY, '41 *English,*
 MILLS, VICTOR MOORE, '41 *History,*
 MILLS, WILLIAM HAROLD, '43 *Mathematics,*
 MILNE, MARY LYDIA, '42 *French,*
 MOCHEL, JACK BOND, '44 *Chemistry,*
 MOODY, WILBERTA CARTLAND, '43 *Zoölogy,*
 MOORE, EDWIN THOMAS, '43 *Engineering,*
 MOORE, MARY, '43 *English,*
 MOOREHEAD, BARBARA HAVILAND, '41 *English,*
 MORGAN, MARGARET ANNE, '42
 MORGAN, NANCY OLWAN, '44
 MORGAN, RUTH THOMPSON, '44
 MORRELL, DORIS JANE, '44
 MORRIS, PETER ANDREW, '43
 MORSS, JANE, '44
 MOTT, BARBARA WALTON, '44
 MOYER, MARGARET JEAN, '42
 MURCH, ELIZABETH ROBINSON, '41
 MURRAY, PAUL COOPER, '41
 MUSTIN, GILBERT B., JR., '42
- 99 Lydale Place, Meriden, Conn.
 373 Bleecker St., New York, N. Y.
 229 N. Heights Ave., Youngstown, Ohio
 7337 Miller Ave., Upper Darby, Pa.
 926 Buchanan Ave., Lancaster, Pa.
 6441 Overbrook Ave., Philadelphia, Pa.
 35 Brompton Road, Garden City, N. Y.
 2869 Beechwood Circle, Arlington, Va.
 3824 Waldo Ave., New York, N. Y.
 Slingerlands, N. Y.
 104 Sycamore St., Chevy Chase, Md.
 414 N. Washington St., Hinsdale, Ill.
 16 Mitchell Ave., Morton, Pa.
 903 E. 20th St., Chester, Pa.
 747 College Ave., Haverford, Pa.
 336 Riddle Road, Indianapolis, Ind.
 314 Park Ave., Swarthmore, Pa.
 733 W. Delavan Ave., Buffalo, N. Y.
 30 Merritt Road, Farmingdale, N. Y.
 30 Windemere Ave., Lansdowne, Pa.
 6 Bartol Ave., Ridley Park, Pa.
 6 Bartol Ave., Ridley Park, Pa.
 411 Thayer Road, Swarthmore, Pa.
 6949 Waverly St., Bethesda, Md.
 1109 E. Donmoyer Ave., South Bend, Ind.
 20 Maritta Road, Glen Cove, N. Y.
 314 Bryn Mawr Ave., Cynwyd, Pa.
 5046 Oberlin Blvd., Cincinnati, Ohio
 314 Bryn Mawr Ave., Cynwyd, Pa.
 322 Claremont Ave., Montclair, N. J.
 492 Engle St., Englewood, N. J.
 11 Greenough Place, Newport, R. I.
 606 Thayer St., Ridley Park, Pa.
 Lakeview Drive, Concord, N. H.
 118 E. Biddle St., West Chester, Pa.
 44 W. 77th St., New York, N. Y.
 410 Lodges Lane, Elkins Park, Pa.
 31 Warren Way, Watertown, Conn.
 2605 E. Overlook Rd., Cleveland Heights, Ohio
 31 Warren Way, Watertown, Conn.
 222 N. Grove Ave., Oak Park, Ill.
 142 Vassar St., Rochester, N. Y.
 654 Logan St., Elmira, N. Y.
 Greentown, Pa.
 215 Old Lancaster Road, Cynwyd, Pa.
 Hilltop Manor, Wilmington, Del.
 R. F. D. 1, Vienna, Va.
 Herford Place, Lansdowne, Pa.

- MYERS, PHILIP, '43
MYERSCOUGH, MARY ANN, '43
- NELSON, PHYLLIS ANN, '44
NEUMANN, FAITH, '44
NEWBORG, BARBARA, '42
NEWTON, FRANCES MAY, '41
NICHOLSON, KATHLEEN J., '42
NOEHREN, BEATRICE CAROLINE, '41
NOEHREN, VIRGINIA GRAVES, '44
NORTHUP, ELIZABETH VAUGHAN, '43
NORTHUP, JANE BRADLEY, '41
- O'BRIEN, AUDREY MARIE, '44
OGDEN, JOHN MAHLON, '44
O'HARROW, LOIS ANN, '44
OLESEN, DONALD GIDDINGS, '43
OLIVER, DAVID ROBERT, '41
ORTON, ROBERT EDWIN, JR., '44
OSMUN, HELEN EDITH, '41
OUSLEY, PAUL STOCKDALE, '44
OVERTON, BRUCE, '44
OWENS, GWINN FARDON, '44
- PAGE, LAURAMA, '43
PAINE, CAROLINE ELIZABETH, '44
PAINE, RICHMOND S., '41
PAINTER, MARY SMALLRIDGE, '42
PAPAZIAN, PAUL, '43
PARKER, DORIS ELLEN, '44
PARKER, MARY ANN, '41
PAXSON, RICHARD FRANCIS, '44
PEABODY, ELIZABETH, '44
PEARCE, DANIEL MARTIN, '43
PEASE, RICHARD BURNETT, '41
PEASLEE, DOROTHY W., '42
PEELLE, HENRY EDMUND, JR., '44
PEIRCE, ELIZABETH GILE, '42
PELZ, DONALD CAMPBELL, '42
PEMBERTON, ALBERT HOGELAND, '44
PENDLETON, PHILIP COLEMAN, '43
PENNOYER, VIRGINIA, '44
PENNICH, CARL, '42
PERKINS, GEORGE R., '44
PERLZWEIG, JUDITH MARGARET, '41
PETTIT, CHARLES ALBERT, '43
PIKE, ANN ELISABETH, '44
PIKE, ANNE HOLLINGSWORTH, '42
PIKE, JANE SMEDLEY, '43
PIRNIE, MORGAN, '41
- Engineering,*
Pol. Science,
- Mathematics,*
Economics,
Economics,
Psychology,
- Psychology,*
Pol. Science,
- Mathematics,*
Pol. Science,
Economics,
Mathematics,
French,
- Psychology,*
- Zoölogy,*
Economics,
Economics,
English,
Pol. Science,
- Engineering,*
Physics,
History,
- English,*
Psychology,
Zoölogy,
Economics,
- Engineering,*
Economics,
Greek,
Pol. Science,
English,
Zoölogy,
- Pol. Science,*
- 5 Maryland Ave., Towson, Md.
Westbrook Hotel, Fort Worth, Texas
- 704 W. 9th St., Newton, Iowa
32 E. 26 Place, Tulsa, Okla.
175 W. 72nd St., New York, N. Y.
Portion Road, Lake Ronkonkoma, N. Y.
218 Ellis Ave., Wheaton, Ill.
88 Morris Ave., Buffalo, N. Y.
Orange, Va.
2114 Abbotsford Ave., Duluth, Minn.
2114 Abbotsford Ave., Duluth, Minn.
- 638 Wyoming Ave., Elizabeth, N. J.
300 Park Ave., Swarthmore, Pa.
Gray Rock Lane, Chappaqua, N. Y.
U. S. Quarantine Station, Rosebank, N. Y.
Beverly Road, Burlington, N. J.
5312 Pine St., Philadelphia, Pa.
722 Clarendon Road, Narberth, Pa.
34 N. Whistler St., Freeport, Ill.
154-20 Bayside Ave., Flushing, N. Y.
Riderwood, Md.
- 2424 Lincoln St., Evanston, Ill.
149 Bellevue Ave., Springfield, Mass.
6401 Beechwood Drive, Chevy Chase, Md.
4817 Fremont Ave., S., Minneapolis, Minn.
1420 Dean St., Schenectady, N. Y.
524 Laurel Road, Yeadon, Pa.
1218 Campbell Ave., S. W., Roanoke, Va.
524 Hamilton St., Norristown, Pa.
362 Clyde St., Brookline, Mass.
Sparks, Md.
1719 Becker St., Schenectady, N. Y.
Clarksboro, N. J.
29 Euclid St., Forest Hills, N. Y.
150 Everit St., New Haven, Conn.
3555 Netherland Ave., New York, N. Y.
930 8th St., S. W., Rochester, Minn.
Bryn Athyn, Pa.
3329 70th St., Jackson Heights, N. Y.
8510 34th Ave., Jackson Heights, N. Y.
Bradley Lane, Bethesda, Md.
Durham, N. Car.
Arden, Del.
105 S. Parkview Ave., Columbus, Ohio
Woodward Ave., Moylan, Pa.
Woodward Ave., Moylan, Pa.
34 Tanglewylde Ave., Bronxville, N. Y.

- PIXTON, JOHN ERWIN, JR., '44
 POPKINS, PAUL BURTON, '43
 POTTER, DAVID HAYS, '43
 POTTS, JAMES WEBB, '42
 POWERS, SAMUEL RALPH, JR., '41
 PRESTON, CATHERINE ELEANOR, '44
 PRICE, HENRY LOCHER, JR., '44
 PRICE, WILLIAM TUDOR, JR., '43
 PRINZ, ANDRIE MALLY, '41
 PULVERMAN, MARY WALTER, '41
 PURDY, THOMAS ELLISON, '43
 PYLE, ROBERT LAWRENCE, '44
- QUADOW, JACQUELINE MARIE, '42
- RADFORD, JOSEPH, JR., '43
 RAFF, MORTON SPENCER, '43
 RAKESTRAW, DOROTHY KINKADE, '41
 RAMSEY, ELIZABETH ANN, '42
- RAMSEY, HAROLD ARTHUR, '41
 RANDALL, MARGRETHE ELISABET, '42
- RANDALL, ROLLAND ROBERT, JR., '44
 RAYMOND, SAMUEL M., JR., '41
 RAYNER, PEARCE TYLER, '41
 REED, FRED THORNTON, '41
 REED, JOHN DAVID, '41
 REESIDE, CORINNA, '43
 REID, JAMES WILLIAM, '43
 REID, MARJORIE RAMSAY, '41
 REINHEIMER, JANE CONSTANCE, '44
 REITINGER, ROBERT HUSTON, '43
 REPERT, ELEANOR JANE, '44
 REUNING, ERNST GÜNTHER, Special
 RHEAMS, CHARLES J. B., '42
 RICE, MARY A., '42
 RICHARDS, ARTHUR SANFORD, JR., '44
 RICHARDS, HENRY REINEKE, '43
 RICHARDS, WILLIAM HENRY, '43
 RICHARDSON, JANE STRODE, '41
 RICHARDSON, RUTH ANNE, '41
 RICKMAN, LUCY, '42
 RIDPATH, ESTHER WILSON, '44
 RIEMER, JOSEPH W. T., '43
 RIKER, BARBARA HARRISON, '43
 RILEY, DAVID WAEGAR, '43
 RINGO, ELIZABETH FAY, '43
 RITTMAN, ELEANOR ANNE, '43
 ROBB, JANICE ELIZABETH, '42
- Engineering,*
Mathematics,
Pol. Science,
Psychology,
Zoölogy,
- Zoölogy,*
- Economics,*
English,
- History,*
- German,*
Physics,
Chemistry,
Latin,
- Engineering,*
Pol. Science,
- Zoölogy,*
Chemistry,
Economics,
Chemistry,
Psychology,
French,
Economics,
English,
- Economics,*
- Astronomy,*
Mathematics,
History,
Zoölogy,
Economics,
Engineering,
Philosophy,
Botany,
Economics,
- Botany,*
English,
Chemistry,
- Latin,*
- 638 Childs Ave., Drexel Hill, Pa.
 424 Church Lane, Philadelphia, Pa.
 40 Bush Ave., Greenwich, Conn.
 1013 Westview St., Philadelphia, Pa.
 106 Morningside Drive, New York, N. Y.
 531 E. Tulpehocken St., Philadelphia, Pa.
 86 E. Stewart Ave., Lansdowne, Pa.
 36 Edgewood Ave., New Haven, Conn.
 8 rue de la Neva, Paris, France
 21 Hedge Place, Kingston, Pa.
 96 Sherman St., Hartford, Conn.
 504 E. Clayton St., Wilmington, Del.
 1338 26th St., North, St. Petersburg, Fla.
 144 Cuyler Ave., Trenton, N. J.
 245 Cedar Ave., Highland Park, Ill.
 1064 Maplecliff Drive, Lakewood, Ohio
 620 E. Willow Grove Ave., Philadelphia, Pa.
 Big Stone Gap, Va.
 Hudson View Gardens, W. 183rd St., New York, N. Y.
 501 East Ave., Rochester, N. Y.
 410 Haverford Place, Swarthmore, Pa.
 3502 30th St., N. W., Washington, D. C.
 12 Lafayette Road, Carney's Point, N. J.
 R. F. D. 5, Norwich, Conn.
 5 Luttrell Ave., Hyattsville, Md.
 296 Morris Ave., Inwood, L. I., N. Y.
 3315 St. Paul St., Baltimore, Md.
 647 Carpenter Lane, Philadelphia, Pa.
 657 Shadowlawn Drive, Westfield, N. J.
 642 Sheridan Ave., Plainfield, N. J.
 47 Amherst Ave., Swarthmore, Pa.
 5313 Atlantic Ave., Ventnor, N. J.
 Black Mountain, N. Car.
 4376 Woodland Ave., Drexel Hill, Pa.
 3820 Albemarle Ave., Drexel Hill, Pa.
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 71 Church St., Winchester, Mass.
 Montreal, Wis.
 6112 Alder St., Pittsburgh, Pa.
 317 Broxton Road, Baltimore, Md.

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 ROBINSON, JOHN MARK, '41
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 ROWE, PHILIP CLYDE, '43
 RUNNELS, RUTH ANNE, '44
- English,*
English,
English,
- Psychology,*
Economics,
- English,*
Chemistry,
- Zoölogy,*
Psychology,
Economics,
- English,*
Pol. Science,
- SABINI, JOHN ANTHONY, '42
 SAMMAN, GEORGIA LOUISE, '43
- English,*
Chemistry,
- Pol. Science,*
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 SATTERTHWAITE, HENRY FLETCHER,
 '42
 SAUTTER, CARL CHRISTIAN, JR., '42
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 SCHEUER, WALTER, '44
 SCHMUCK, SCHUYLER F., VON, '43
 SCHOENBROD, JAMES TIGER, '43
 SCOTT, WALTER JAMES, JR., '42
 SEABURY, PAUL, '44
 SEARS, FRANCES GRIGSBY, '43
 SEILER, NORMA JEAN, '44
 SELIGMAN, LUCY, '42
 SETLOW, RICHARD BURTON, '41
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 SEYBOLD, GERTRUDE BLOOD, Special
 SHAW, ROBERT J., '41
 SHEFFER, CHARLOTTE ANNE, '44
 SHEPARD, RUTH HOYT, '44
 SHERO, FRANCES LIVIA, '41
 SHERO, LUCY ADRIENNE, '41
 SHIELDS, KATHRYN ANN, '44
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- Pol. Science,*
Pol. Science,
Chemistry,
Engineering,
- Economics,*
- History,*
Psychology,
Physics,
Pol. Science,
Mathematics,
English,
Pol. Science,
Physics,
English,
- Economics,*
- English,*
Psychology,
Psychology,
- English,*
- 67 Heights Road, Ridgewood, N. J.
 317 N. Euclid Ave., Oak Park, Ill.
 Rankin Ave., Basking Ridge, N. J.
 885 Eighth Ave., S., St. Petersburg, Fla.
 84 Dennison Ave., Framingham, Mass.
 435 Stellar Ave., Pelham Manor, N. Y.
 411 College Ave., Swarthmore, Pa.
 3215 Highland Ave., Drexel Hill, Pa.
 734 Jackson Place, Washington, D. C.
 150-68 Sixth Ave., Whitestone, N. Y.
 58 Park Place, Geneva, N. Y.
- Route 5, West Chester, Pa.
 265 Gypsy Lane, Youngstown, Ohio
 701 Park Ave., Goldsboro, N. Car.
 1112 Park Ave., New York, N. Y.
 1540 Lake Shore Drive, Chicago, Ill.
 125 E. 72nd Street, New York, N. Y.
 419 Steward Ave., Jackson, Mich.
 2645 Dartmoor Road, Cleveland Heights,
 Ohio
- 2238J Kalia Road, Honolulu, T. H.
 2736 Derbyshire Road, Cleveland Heights,
 Ohio
 825 Standish Ave., Westfield, N. J.
- 4 Green Ave., Lawrenceville, N. J.
 129 Maplewood Ave., Philadelphia, Pa.
 2407 Pine St., Philadelphia, Pa.
 76 Bank St., New York, N. Y.
 115 Central Park West, New York, N. Y.
 115 Central Park West, New York, N. Y.
 421 W. Broadway, Cedarhurst, N. Y.
 37 Beverly Road, Great Neck, N. Y.
 104 Park Ave., Swarthmore, Pa.
 119 N. Franklin St., Hempstead, N. Y.
 1927 Potomac Drive, Toledo, Ohio
 3342 Stephenson Place, Washington, D. C.
 1416 Willow Ave., Louisville, Ky.
 1420 Grand Concourse, New York, N. Y.
 262 Kingsley Ave., Palo Alto, Calif.
 Swarthmore, Pa.
 5 Whittier Place, Swarthmore, Pa.
 Whitford Road, West Chester, Pa.
 151 Oxford Road, New Rochelle, N. Y.
 651 N. Chester Road, Swarthmore, Pa.
 651 N. Chester Road, Swarthmore, Pa.
 11 Cherry Ave., Larchmont, N. Y.
 510 Riverview Road, Swarthmore, Pa.

- SHOR, DOROTHY HATHAWAY, '43
SIEFKIN, MARTHA ELEANOR, '43
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SIMONS, FREDERICK M., '44
SIMSON, JEROME, '41
SINNOTT, MILDRED SHAW, '42
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SLATER, MORTON LINCOLN, '41
SLOCUM, WILLIAM W., JR., '43
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SMITH, ELLSWORTH CHURCH, '43
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SMITH, ROBB VAN S., '41
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SPARKS, RUTH MATTHEWS, '43
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SPITZER, CHARLES FREDRICK, '42
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STEWART, DORA FAYE, '44
- Mathematics,*
Mathematics,
Pol. Science,
Engineering,
Zoology,
Botany,
Pol. Science,
- Mathematics,*
Economics,
- Economics,*
Mathematics,
- English,*
- French,*
- Pol. Science,*
Zoology,
Zoology,
Chemistry,
- English,*
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Psychology,
Philosophy,
- Economics,*
Pol. Science,
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Economics,
- Psychology,*
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3576 Bedford Ave., Brooklyn, N. Y.
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150 W. Penn St., Philadelphia, Pa.
1243 Vine St., Philadelphia, Pa.
1487 President St., Brooklyn, N. Y.
Farmington, Mich.
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334 Clinton St., Brooklyn, N. Y.
640 W. 238th St., New York, N. Y.
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4518 Woodlawn Ave., Chicago, Ill.
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71 Brewster Road, Scarsdale, N. Y.
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Bolton, Mass.
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R. D. 2, Newton Road, Clarks Summit, Pa.
Wallingford, Pa.
468 Gerhard St., Philadelphia, Pa.
4, Stollgasse, Vienna, Austria
Westtown, Pa.
395 Pequot Ave., New London, Conn.
342 Hillcrest Road, Ridgewood, N. J.
106 Holmecrest Road, Jenkintown, Pa.
207 Shore Road, Old Greenwich, Conn.
114 E. 84th St., New York, N. Y.
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Rose Tree Road, Media, Pa.
1002 Prospect Ave., Melrose Park, Pa.
405 Morton Ave., Ridley Park, Pa.
475 Fifth Ave., New Kensington, Pa.
E. Summit Ave., West Trenton, N. J.

- STEWART, MARY, '43
 STIX, DONALD, '41
 STRAUSS, GEORGE JOSEPH, '44
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 SWETT, MARTHA, '43
 SWIFT, HEWSON HOYT, '42
 SZEKELY, GUSTAV W. T. O., '44
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 TAIT, PHYLLIS ANN, '42
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 TAPPAN, DAVID STANTON, JR., '44
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 TARR, MARTHA MADELEINE, '42
 TAYLOR, CATHARINE REBECCA, '44
 TAYLOR, IRVING HENRY, '44
 TAYLOR, KATHARINE PAGE, '43
 TAYLOR, ROBERT BURNS, JR., '41
 TAYLOR, THOMAS OSGOOD, '43
 TEMPLE, WILLIAM ARTHUR, '44
 TEN BROECK, JANE, '44
 TERRELL, DAILEY BURNHAM, '44
 TEUTSCH, ERIKA ELISABETH, '44
 THATCHER, ALBERT GARRETT, '41
 THATCHER, DAVID AUDOUN, '44
 THOMAS, ALAN BUTLER, '44
 THOMAS, ARMSTRONG, Special
 THOMAS, JOHN NEILSON, '44
- THOMAS, RANDAL H., '43
 THOMPSON, ELLEN, '44
 THOMSON, JOHN SEABURY, '43
 THORN, ELISABETH ANN, '43
 THORP, ARTHUR GEORGE, II, '43
 TILLYARD, STEPHEN, '42
- TIMMIS, ELEANOR PATRICIA, '44
 TIMMIS, WILLIAM WALTER, JR., '42
 TODD, MARJORIE CLARA, '41
 TOMLINSON, HELEN M., '41
 TOMPKINS, HOWARD EDWARD, '42
 TRAINER, RICHARD MORSE, '44
 TRAUTMAN, WILLIAM DEAN, '42
- TRUDEL, ALLEN ROBERT, '43
 TURNER, DOROTHY ELIZABETH, '41
 TURNER, DOROTHY JEAN, '41
- English,*
Pol. Science,
- Zoölogy,*
- Zoölogy,*
Chemistry,
- Zoölogy,*
English,
English,
- English,*
Chemistry,
English,
- English,*
Economics,
Chemistry,
Economics,
- Chemistry,*
- Engineering,*
- Chemistry,*
Astronomy,
- Mathematics,*
History,
Pol. Science,
History,
Engineering,
French,
- Psychology,*
Philosophy,
Psychology,
Zoölogy,
Physics,
- Chemistry,*
- Engineering,*
Psychology,
Psychology,
- 178 Pleasant Ave., Hamburg, N. Y.
 Underhill Road, Scarsdale, N. Y.
 230 Hamilton Ave., Staten Island, N. Y.
 4701 Connecticut Ave., Washington, D. C.
 916 E. Rittenhouse St., Philadelphia, Pa.
 714 Franklin Ave., River Forest, Ill.
 99 Claremont Ave., New York, N. Y.
 327 W. 22nd St., New York, N. Y.
- R. R. 6, Louisville, Ky.
 5415 Overbrook Ave., Philadelphia, Pa.
 5801 Roland Ave., Baltimore, Md.
 1008 N. Hudson Ave., Pasadena, Calif.
 301 Northfield Place, Baltimore, Md.
 5025 Schuyler St., Philadelphia, Pa.
 182 Western Way, Princeton, N. J.
 457 Lancaster Ave., Haverford, Pa.
 6302 Delaware St., Chevy Chase, Md.
 2706 Virginia St., Berkeley, Calif.
 627 Noble St., Norristown, Pa.
 3905 Jocelyn St., N. W., Washington, D. C.
 88 Northumberland Road, Pittsfield, Mass.
 94 Battle Road, Princeton, N. J.
 20 W. Stewart Ave., Lansdowne, Pa.
 1515 Windsor Road, W. Englewood, N. J.
 613 Ogden Ave., Swarthmore, Pa.
 Lookout Mountain, Tenn.
 31 Howard Ave., Grymes Hill, N. Y.
 1605 Bolton St., Baltimore, Md.
 2931 Legation St., N. W., Washington,
 D. C.
 301 E. Durham St., Philadelphia, Pa.
 Woodbridge, Va.
 99 Claremont Ave., New York, N. Y.
 7822 Spring Ave., Elkins Park, Pa.
 Westtown, Pa.
 Lower Farm House, Hadstock, Cam-
 bridgeshire, England
 Woodland Drive, Pleasantville, N. Y.
 Woodland Drive, Pleasantville, N. Y.
 6941 Perrysville Ave., Pittsburgh, Pa.
 114 Yale Ave., Swarthmore, Pa.
 6701 Colonial Road, Brooklyn, N. Y.
 Maple Road, Chester, Pa.
 2584 Fenwick Road, University Heights,
 Ohio
 1019 Greenmount Rd., Haddonfield, N. J.
 1137 Phoenix Ave., Schenectady, N. Y.
 2600 Payne St., Evanston, Ill.

- TURNER, RANSOM HUDSON, JR., '44
 TWADDELL, ELIZABETH SPILMAN, '44 *English*,
 46-19 260th St., Great Neck, N. Y.
 707 S. Duke St., Durham, N. Car.
- ULLMAN, DAVID ULRICH, '43 *Engineering*,
 UNDERWOOD, CAROLINE DOWDELL, '41 *Economics*,
 213 Harvard Ave., Swarthmore, Pa.
 Linden Lane, Wallingford, Pa.
- VANDEMARK, ROBERT LEWIS, '42 *Engineering*,
 VANKLEECK, MARTHA LOUISE, '42 *English*,
 VAN NAME, FREDERICK WARREN, '42 *Physics*,
 VANNEMAN, ELIZABETH HIRES, '43 *Psychology*,
 VANSICKLE, CAROLINE ELIZABETH,
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 1291 Plumtree Road, Springfield, Mass.
 Benton Harbor, Mich.
 1421 State St., Alton, Ill.
 815 27th St., Cairo, Ill.
 1710 Hermitage Road, Ann Arbor, Mich.
 18 Stratford Place, Binghamton, N. Y.
 2428 N. Washington Ave., Scranton, Pa.
- WALKER, GORDON PETERSEN, '44
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 835 P. O. & C. H. Bldg., Los Angeles,
 Calif.
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 WEDEMAN, MILES GEORGE, '43
 WEINBERGER, FRANCES BABETTE, '44 *English*,
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 WEMYSS, COURTNEY TITUS, '44 *Zoölogy*,
 WENAR, CHARLES, '43 *English*,
 WENSINK, CAROLYN ELIZABETH, '43
 WESCOTT, HOPE HAMMOND, '41 *English*,
 WEST, MARY LOOCKERMAN, '41 *English*,
 WHEATON, ROBERT GARTH, '43 *Engineering*,
 WHEELER, DOROTHY JANE, '41 *Zoölogy*,
 WHIPPLE, BARBARA, '43 *Pol. Science*,
 WHIPPLE, DAVID COLLINS, '43 *Engineering*,
 WHIPPLE, JAMES RUTLEDGE, '44
 WHITCOMB, ARTHUR WILLIAM, '44 *Zoölogy*,
 WHITCOMBE, JOANNE EAGAR, '43
 WHITE, BARCLAY, JR., '44
 WHITE, BENJAMIN WARD, '42 *Psychology*,
 WHITE, ELIZABETH SUZANNE, '43 *English*,
 WHITE, LUCINDA HILLS, '44
 WHITE, MARGARET JOAN, '44
 WHITE, PRISCILLA, JEAN, '43
 3 Pine Grove, Bristol, Pa.
 200 Lathrop St., Lansing, Mich.
 Moylan, Pa.
 334 Lake Ave., Highland Park, Ill.
 199 Barrington St., Rochester, N. Y.
 164 S. Main St., Woodstown, N. J.
 280 Jefferson Ave., Haddonfield, N. J.
 738 Mason Ave., Drexel Hill, Pa.
 19 Central Drive, Bronxville, N. Y.
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 27 Washington Ave., Arlington, N. J.
 Bay St. Louis, Miss.
 7736 Rogers Ave., Wauwatosa, Wis.
 710 Potomac Ave., Buffalo, N. Y.
 3 Davis Road, Port Washington, N. Y.
 1042 S. Linden Ave., Alliance, Ohio
 4455 Tibbett Ave., Fieldston, N. Y.
 320 Westminster Road, Rochester, N. Y.
 25 Cushman Road, Scarsdale, N. Y.
 128 W. 11th St., New York, N. Y.
 5474 N. Lake Drive, Milwaukee, Wis.
 3108 St. Paul Blvd., Rochester, N. Y.
 120 Hilldale Road, Lansdowne, Pa.
 4629 Hunt Ave., Chevy Chase, Md.
 Ringwood, N. J.
 Marlboro-Blenheim, Atlantic City, N. J.
 416 Sharp Ave., Glenolden, Pa.
 2023 Carey Ave., Davenport, Iowa

- WHITEMAN, MARGARET GRAHAM, '41 *French,*
 WHITFORD, ANN ELIZABETH, '42 *Psychology,*
 WHITNEY, ANNE MARIE, '42 *Mathematics,*
 WILBUR, RUTH ELIZABETH, '41 *English,*
 WILLIAMS, CAREY, '41 *Economics,*
 WILLIAMS, ELLEN LEWIS, '41 *French,*
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 WILLIAMS, ORA LOUISE, '44 *English,*
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 WILLIAMS, SUZANNE ELIZABETH, '43
 WILLIS, CLYDE ARNOLD, '44
- WINDLE, ANNE MOORE, '42 *Philosophy,*
 WINNE, BARBARA JEAN, '41 *English,*
 WIRTH, ANNE PFARR, '43
 WOLF, ETHEL, '41 *History,*
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 WOLFE, LINDSAY HARPER, '42 *Engineering,*
 WOLFF, ALINE LOUISE, '42 *English,*
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 WOODRUFF, MARGARET, '43 *English,*
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 WRIGHT, GERTRUDE HUNTINGTON, '44 *History,*
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 WYNNE, MILDRED ELIZABETH, '43
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 YOST, LAURA MILLER, '44
 YOUNG, ROBERT LIVINGSTON, '43 *Mathematics,*
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 ZIMMERMAN, LOUISE MARSH, '44 *English,*
 ZIMMERMANN, MARY JANE, '42 *English,*
 ZIPFEL, ROBERT NEIL, '42 *Pol. Science,*
- Swarthmore Apts., Swarthmore, Pa.
 441 Ocean Ave., Brooklyn, N. Y.
 40 Westminster Rd., W. Hempstead, N. Y.
 1300 Ethel Ave., Lakewood, Ohio
 The Meadows, Mt. Pleasant, Texas
 608 University Place, Swarthmore, Pa.
 880 N. Evans St., Pottstown, Pa.
 Lehigh Campus, Bethlehem, Pa.
 127 Grays Ave., Glenolden, Pa.
 220 Osborn St., Sewickley, Pa.
 Gorham Hotel, 136 W. 55th St., New York, N. Y.
 "Dellwyn," West Chester, Pa.
 1394 Dean St., Schenectady, N. Y.
 Gulf Farms, Elyria, Ohio
 47 Sunshine Road, Upper Darby, Pa.
 47 Sunshine Road, Upper Darby, Pa.
 410 Walnut Road, Ben Avon, Pa.
 300 Central Park, West, New York, N. Y.
 110 Park Ave., Swarthmore, Pa.
 110 Park Ave., Swarthmore, Pa.
 814 Main St., Manchester, Conn.
 110 W. Broadway, Salem, N. J.
 42 E. Madison Ave., Collingswood, N. J.
 26 E. Stiles Ave., Collingswood, N. J.
 79 Hillside Ave., Hastings-on-Hudson, N. Y.
 5702 Harper Ave., Chicago, Ill.
 11 Princeton Road, Cynwyd, Pa.
 577 E. Main St., Coatesville, Pa.
 38 Oxford Blvd., Pleasant Ridge, Mich.
 235 Virginia Ave., Phoenixville, Pa.
 Menoher Blvd., Johnstown, Pa.
 33 Central Ave., Staten Island, N. Y.
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 207 State Street, Harrisburg, Pa.
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Michigan	8
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Wisconsin	5
Iowa	4
Minnesota	4
Kentucky	3
Missouri	3
Texas	3
England	2
New Hampshire	2
Rhode Island	2
Virgin Islands	2
Austria	1
Canal Zone	1
Chile	1
China	1
France	1
Georgia	1
Haiti	1
Hawaii	1
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Oklahoma	1
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Uruguay	1
Utah	1
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ARTHUR PERCIVAL TANBERG, B.A., 1910; M.A., 1913; Ph.D., Columbia University, 1915. Director, E. I. duPont de Nemours & Co., Experimental Station, Wilmington, Del.

1914-15.

ARCHER TAYLOR, B.A., 1909; M.A., University of Pennsylvania, 1910; Ph.D., Harvard University, 1915. Professor of German Literature, University of California, Berkeley, Calif.

1915-16.

HAROLD S. ROBERTS, B.A., 1912; M.A., Princeton University, 1915; Student at the University of Wisconsin, 1915-17. Teacher of French and Spanish, St. Paul's School, Garden City, N. Y.

1916-17.

HANNAH B. (STEELE) PETTIT, B.A., 1909; M.A., 1912; Ph.D., University of Chicago, 1919. Astronomer.

1917-18.

JAMES MONAGHAN, JR., B.A., 1913; M.A., University of Pennsylvania, 1918. State Historical Society, Springfield, Ill.

1918-19.

CHARLOTTE (BREWSTER) JORDAN, B.L., 1882; M.L., 1886; studied in Madrid. Translator and writer.

1919-20.

PAUL M. CUNCANNON, B.A., 1915; M.A., Princeton University, 1920; Ph.D., *Ibid.*, 1925. Assistant Professor of Political Science, University of Michigan.

1920-21.

WILLIAM CHRISTIE MACLEOD, B.A., 1914; Ph.D., University of Pennsylvania, 1924. Assistant Professor of Finance, Wharton School, University of Pennsylvania.

1921-22.

LEON M. PEARSON, B.A., 1920; M.A., Harvard University, 1922. Teacher, Ora. English, Haverford School, Haverford, Pa., 1924-1934. Journalist.

1922-23.

W. RALPH GAWTHROP, B.A., 1918; M.S., University of Pennsylvania, 1924. Patent Lawyer, du Pont Ammonia Co.

1923-24.

WILLARD S. ELSBREE, B.A., 1922; M.A., Columbia University, 1924; Ph.D., *Ibid.*, 1928. Professor of Education, Teachers' College, Columbia University. Studied abroad, 1930-31.

1924-25.

WALTER ABELL, B.A., 1920; M.A., 1924. Studied in France. Professor of Art, Acadia University, Wolfville, Nova Scotia, Canada.

1926-27.

MARGARET (PITKIN) BAINBRIDGE, B.A., 1925; Ph.D., University of Chicago, 1928. Assistant Professor of Romance Languages, Swarthmore College, 1928-33.

1927-28.

AUDREY SHAW (BOND) ALBISTORE, B.A., 1926; M.A., University of Chicago, 1928. Assistant, Department of Romance Languages, Northwestern University.

1928-29.

SAMUEL ROBERT M. REYNOLDS, B.A., 1927; M.A., 1928; Ph.D., University of Pennsylvania, 1931; Fellow, National Research Council, 1931-32, Carnegie Institution, Baltimore, Md. Instructor in Physiology, Medical School, Western Reserve University, 1932-33. Assistant Professor of Physiology, Long Island College of Medicine, 1933-. Guggenheim Fellow, 1937-38.

1929-30.

EDWARD SELLERS, B.A., 1928. Studied at Brown University, M.A., 1930. Actuarial Clerk, Guardian Life Insurance Co., 1932-39. Mathematician, Social Security Board, Washington, D. C., 1939-.

1930-31.

ELIZABETH (HORMANN) STRODACH, B.A., 1927; M.A., University of Pennsylvania, February, 1930. Deceased.

1931-32.

HELEN STAFFORD, B.A., 1930; M.A., Bryn Mawr, 1931; Ph.D., *Ibid.*, 1935; Holder of Bryn Mawr European Fellowship, 1932-33; Teacher at the Ethel Walker School, Simsbury, Connecticut.

1932-33.

ROGERS McVAUGH, B.A., 1931; Ph.D., University of Pennsylvania, 1935. Associate Botanist, U. S. Department of Agriculture.

HYMAN DIAMOND, B.A., 1931. (Special Fellowship awarded only for 1932-33.) Ph.D., Princeton University, 1935. Research Chemist, Shell Oil Co., St. Louis, Mo.

1933-34.

FRANK ELMER FISCHER, B.A., 1933; M.A., Princeton University, 1935. Teaching, Lawrence College.

1934-35.

RAYMOND M. IMMERWAHR, B.A., 1934; M.A., Northwestern University, 1935. (Held by Alternate, Anna Janney DeArmond, B.A., 1932; M.A., Columbia University, 1934. Studied at Bryn Mawr College, 1934-35. Teaching, Women's College, Newark, N. J.)

1935-36.

MARTHA WILLARD, B.A., 1935; M.A., Columbia University, 1936. Teaching, Ethical Culture School, New York City.

1936-37.

DOROTHY KOCH, B.A., 1935; Ph.D., Yale University, 1939. Instructor, English Dept., New Jersey College for Women.

1937-38.

KATHERINE LEVER, B.A., 1936; M.A., Bryn Mawr College, 1937. Teacher of English Composition, Shipley School, 1938-39. Instructor, English Dept., University of Rochester, 1940-

1938-39.

RICHARD JAMES STORR, B.A., 1937. Studying at Johns Hopkins University.

1939-40.

ELIZABETH LANE, B.A., 1935; M.A., Columbia, 1937.

1940-41.

JANE KELLOCK, B.A., 1940. Studying at Radcliffe.

HOLDERS OF THE JOSHUA LIPPINCOTT FELLOWSHIP

1893-94.

THOMAS ATKINSON JENKINS, B.A., 1887; Ph.B., University of Pennsylvania, 1888; Ph.D., Johns Hopkins University, 1894; Litt.D., Swarthmore College, 1922; Professor of the History of the French Language, University of Chicago. Retired. Deceased.

BENJAMIN FRANKLIN BATTIN, A.B., 1892; studied in Berlin; Ph.D., Jena, 1900. Deceased.

1894-95.

DAVID BARKER RUSHMORE, B.S., 1894; M.E., Cornell University, 1895; C.E., Swarthmore, 1897; Sc.D., 1923. Member of Board of Managers, Swarthmore College. Consulting Engineer. Deceased.

1895-96.

HOWARD WHITE, JR., B.S., 1895; M.S., University of Michigan, 1896; C.E., Swarthmore, 1900. Deceased.

1896-97; 1897-98.

JOHN W. GREGG, B.L., 1894; A.M., Cornell University, 1898; LL.B., George Washington University, 1905. Deceased.

1898-99.

ELLWOOD COMLY PARRY, B.L., 1897; studied in Berlin; M.L., Swarthmore, 1900; Ph.D., University of Pennsylvania, 1903. Professor of German and French, Central High School, Philadelphia.

1899-1900; 1900-01.

JOHN EDWIN WELLS, B.L., 1896; M.L., 1899; A.M., Columbia, 1900; Ph.D., Yale University, 1915. Head of the Department of English, Connecticut College for Women.

1901-02.

MARY GRAY LEIPER, B.L., 1899; studied in Berlin. Deceased.

1902-03.

BIRD THOMAS BALDWIN, B.S., 1900; A.M., Harvard University, 1903; Ph.D., *Ibid.*, 1905. Deceased.

1903-04.

ALBERT COOK MYERS, B.L., 1898; M.L., 1901; Litt.D., Franklin and Marshall College, 1932; studied at the Universities of Wisconsin and Harvard. Historical Writer.

1904-05.

MARION VIRGINIA (PEIRCE) FRANK, B.A., Swarthmore, 1903; M.A., University of Chicago, 1904; studied in Ecole des Hautes Etudes, Sorbonne, and Collège de France in Paris, and in the Libraries of Madrid. Deceased.

1905-06.

LEWIS FUSSELL, B.S., 1902; M.S., 1903; E.E. and Ph.D., University of Wisconsin, 1907. Professor of Electrical Engineering, Swarthmore College. Deceased.

1906-07.

LOUIS NEWTON ROBINSON, B.A., 1905; Ph.D., Cornell University, 1911; studied at the Universities of Halle and Berlin, 1906-07; Fellow in Cornell University, 1907-08. Director, with Russell Sage Foundation, 1922-25. Chairman, Pennsylvania Commission on Penal Affairs. Member of Board of Trustees, Eastern State Penitentiary.

1907-08.

SAMUEL COPELAND PALMER, B.A., 1895; M.A., 1907; M.A., Harvard University, 1909; Ph.D., *Ibid.*, 1912. Studied abroad 1927-28. Professor of Botany, Swarthmore College.

1908-09.

MARY ELIZA (NORTH) CHENOWETH, B.A., 1907; M.A., 1910; studied at Oxford University.

1909-10.

MARY TALBOT (JANNEY) COXE, B.A., 1906; studied at the University of Berlin.

1910-11.

SAMUEL COPELAND PALMER, B.A., 1895; M.A., 1907; M.A., Harvard University, 1909; Ph.D., *Ibid.*, 1912. Studied abroad 1927-28. Professor of Botany, Swarthmore College.

1911-12.

JOHN HIMES PITMAN, B.A., 1910; M.A., 1911; studied at the University of California. Associate Professor of Mathematics and Astronomy, Swarthmore College.

1912-13.

IOLA KAY EASTBURN, B.L., 1897; M.A., University of Pennsylvania, 1907; Ph.D., *Ibid.*, 1913; Professor of German, Brenau College, Gainesville, Ga., 1925-33. Head of Modern Language Department, Stetson University, DeLand, Fla., 1935-.

1913-14.

EDWIN ANGELL COTTRELL, B.A., 1907; M.A., Harvard University, 1913. Executive Head of Department of Political Science and Chairman of School of Social Sciences, Stanford University.

1914-15.

FREDERICK MYERLE SIMONS, JR., B.A., 1909; M.A., 1912; studied at the University of Chicago. Deceased.

1915-16.

FRANK H. GRIFFIN, B.S., 1910; M.A., Columbia University, 1916. Manager and Director, The Viscose Company, Wilmington, Del.

1916-17.

RAYMOND T. BYE, B.A., 1914; M.A., Harvard University, 1915; Ph.D., University of Pennsylvania, 1918. Professor of Economics, University of Pennsylvania.

1917-18.

CHARLES J. DARLINGTON, B.A., 1915; M.A., 1916. Chief Supervisor of Semi-Works Operative Organic Chemistry Dept., E. I. du Pont de Nemours & Company.

1918-19.

JOHN E. ORCHARD, B.A., 1916; M.A., Harvard University, 1920; Ph.D., *Ibid.*, 1923. Professor, Economic Geography, School of Business, Columbia University.

1919-20.

PAUL FLEMING GEMMILL, B.A., 1917; Ph.D., University of Pennsylvania, 1925. Professor of Economics, University of Pennsylvania.

1920-21.

JOSEPH EVANS SANDS, B.A., 1917; M.D., University of Pennsylvania, 1921. Physician.

1921-22.

DETLEV WULF BRONK, B.A., 1920; Sc.D., 1937; M.S., University of Michigan, 1922; Ph.D., *Ibid.*, 1925. Johnson Professor of Biophysics and Director of the Johnson Foundation for Medical Physics, University of Pennsylvania, School of Medicine. Professor of Neurology, University of Pennsylvania; Graduate School of Medicine. Head of Dept. of Physiology and Bio-Physics, Cornell University Medical College, New York City.

1922-23.

DAVID MATHIAS DENNISON, B.A., 1921; M.A., University of Michigan, 1922; Ph.D., *Ibid.*, 1924. International Education Board Fellow, Copenhagen, Denmark, 1924-27. Associate Professor of Physics, University of Michigan.

1923-24.

WILLIAM MORSE BLAISDELL, B.A., 1921; M.A., University of Pennsylvania, 1926; Ph.D., University of Pennsylvania, 1932. Studied in Paris. Instructor in Economics, Swarthmore College, 1928-29. Research Fellow of the Institute of Economics of the Brookings Institution, Washington, D. C., 1929-31. Professor of Business Administration, Temple University. Senior Analyst with Securities and Exchange Commission, Washington, D. C.

1924-25.

KATHARINE DENWORTH, B.A., 1914; M.A., Columbia University, 1921; Ph.D., *Ibid.*, 1927. President, Bradford Junior College, Bradford, Mass., 1927-1939. Teaching Psychology, State Teachers College, West Chester, Pa.

1925-26.

GEORGE PASSMORE HAYES, B.A., 1918; M.A., Harvard University, 1920; Ph.D., *Ibid.*, 1927. Head of Department of English, Agnes Scott College, Decatur, Ga.

1926-27.

MARVIN YARD BURR, B.A., 1925; M.A., Columbia University, 1927; Ph.D., *Ibid.*, 1930. Deceased.

1927-28.

DOROTHY FLORENCE (TROY) YOUNG, B.A., 1926; M.A., Columbia University, 1928. Instructor in English, Swarthmore College, 1928-29.

1928-29.

DOROTHEA A. (KERN) DEVEREUX, B.A., 1927; M.A., 1928. Studied at the University of Chicago.

1929-30.

ELIZABETH (HORMANN) STRODACH, B.A., 1927; M.A., University of Pennsylvania, February, 1930. Deceased.

1930-31.

THOMAS M. BROWN, B.A., 1929; M.D., Johns Hopkins Medical School, 1933. Physician. Research, Rockefeller Hospital, 1937-39. Associate in Medicine, Johns Hopkins University. Co-Head of Biological Research Dept., 1939-.

WINONA (VON AMMON) MACCALMONT, B.A., 1929; M.S., University of Pennsylvania, 1930. Associate in Physiology and Instructor in Pharmacology, Woman's Medical College of Pennsylvania.

1931-32.

MARGARET GURNEY, B.A., 1930; M.A., Brown University, 1931; Ph.D., *Ibid.*, 1934.

1932-33.

JAMES A. MICHENER, B.A., 1929; studied at the University of Aberdeen, 1931-33. Teaching in Experimental School, State College of Education, Greeley, Colo.

1933-34.

HELEN STAFFORD, B.A., 1930; B.A., Bryn Mawr College, 1931; Ph.D., *Ibid.*, 1935. Holder of Bryn Mawr European Fellowship, 1932-33; Teacher at the Ethel Walker School, Simsbury, Connecticut.

1934-35.

RUTH (COOK) STILSON, B.A., 1933; M.A., Radcliffe College, 1934; studied at Radcliffe College.

WILLIAM EATON, B.A., 1932. (Special Fellowship awarded only for 1934-35.) Ph.D., Yale University, 1935. Physicist, Eastman Kodak Company.

1935-36.

WILL T. JONES, B.A., 1931; B.Litt., Oxford University, 1933; Ph.D., Princeton University. Instructor in Philosophy, Pomona College, 1938-.

1936-37.

HAROLD B. STEINBERG, B.A., 1936. Studied at Yale Law School.

1937-38.

KEITH CHALMERS, B.A., 1937. Studied at Yale University. Research Associate in Classics and Drama, Swarthmore College.

1938-39.

IRVING SCHWARTZ, B.A., 1937. Studied at Harvard University. Bureau of Labor Statistics, Philadelphia.

1939-40.

ROLAND C. BALL, JR., B.A., 1939. Cornell University.

1940-41.

PETER R. MORRISON, B.A., 1940. Studying at Harvard.

HOLDERS OF THE JOHN LOCKWOOD MEMORIAL
FELLOWSHIP

1910-11.

EDWIN CARLETON MACDOWELL, B.A., 1909; M.S., Harvard University, 1911; Sc.D., *Ibid.*, 1912. Investigator in Biology, Cold Spring Harbor.

1911-12.

HENRY FERRIS PRICE, B.A., 1906; University of Pennsylvania, 1913; Ph.D., *Ibid.*, 1915. Professor of Mathematics, Pacific University, Forest Grove, Oregon.

1912-13.

WALTER FRANK RITTMAN, B.A., 1908; M.A., 1909; M.E., 1911; Ch.E., 1917; Ph.D., Columbia University, 1914. Consulting Chemical Engineer, U. S. Department of Agriculture. Professor of Engineering, Carnegie Institute of Technology. Consulting Engineer.

1913-14.

HELEN PRICE, B.A., 1907; Ph.D., University of Pennsylvania, 1915. Head of Latin and Greek Department, Meredith College, Raleigh, N. C.

1914-15.

HELEN HEED, B.A., 1905; M.A., Radcliffe College, 1915. Studied at Oxford University, 1925-26. Head of Department of English, High School, Pleasantville, N. Y.

1915-16.

FRANCES DARLINGTON, B.A., 1896; M.A., University of Pennsylvania, 1916. Teacher.

1916-17.

RACHEL KNIGHT, B.L., 1898; M.A., 1909; Ph.D., University of Iowa, 1919. Deceased.

1917-18.

RALPH LINTON, B.A., 1915; A.M., University of Pennsylvania, 1916; Ph.D., Harvard University, 1925. Professor of Anthropology, Columbia University.

1918-19.

WALTER HARRISON MOHR, B.A., 1914; M.A., University of Pennsylvania, 1921; Ph.D., *Ibid.*, February, 1931. Teacher of History, George School.

1919-20.

ESTHER E. BALDWIN, B.A., 1909; M.A., Columbia University, 1913. Teacher of French and English, South Philadelphia High School.

1920-21.

GEORGE PASSMORE HAYES, B.A., 1918; M.A., Harvard University, 1920; Ph.D., *Ibid.*, 1927. Acting Professor of English, Robert College, Constantinople, 1921-25. Professor of English, Agnes Scott College, Decatur, Ga. Head of Department.

1921-22.

FRANK WHITSON FETTER, B.A., 1920; M.A., Princeton University, 1922; A.M., Harvard University, 1924; Ph.D., Princeton University, 1926. Assistant Professor of Economics, Princeton University, 1927-1934; Associate Professor of Economics, Haverford College; Guggenheim Fellow, 1937-38.

1922-23.

MARGARET (POWELL) AITKEN, B.A., 1919; M.A., 1921.

1923-24.

WALTER HALSEY ABELL, B.A., 1920; M.A., 1924; Professor of Art, Acadia University, Wolfville, Nova Scotia, Canada.

1924-25.

EDGAR Z. PALMER, B.A., 1919; Ph.D., University of Wisconsin, 1928. Associate Professor in Economics, College of Commerce, University of Kentucky.

1925-26.

EMMA T. R. (WILLIAMS) VYSSOTSKY, B.A., 1916; Ph.D., Radcliffe College 1929. Studied at University of Chicago, 1925-26. Studied at Harvard University Observatory, 1927-29. Research Fellow, Leander-McCormick Observatory. Instructor in Astronomy, University of Virginia.

1926-27.

MARGARET LYLE (WALTON) MAYALL, B.A., 1925; M.A., Radcliffe College, 1928. Astronomer, Harvard Observatory.

1927-28.

ALICE P. GARWOOD, B.A., 1913. "Certificate of Play Production," Department of Drama, School of Fine Arts, Yale University, 1928. Dramatic Director.

1928-29.

JAMES ROLAND PENNOCK, B.A., 1927; M.A., Harvard University, 1928; Ph.D., Harvard University, 1932. Assistant Professor in Political Science, Swarthmore College.

1929-30.

WALTER B. KEIGHTON, JR., B.A., 1923; Ph.D., Princeton University, 1933. Assistant Professor, Department of Chemistry, Swarthmore College.

1930-31.

C. LAWRENCE HAINES, B.S., 1928. Studied at Johns Hopkins University, 1930-1933; Research Fellow, University of Colorado.

1931-32.

KATHARINE SMEDLEY, B.A., 1930; M.A., University of North Carolina, 1932. Assistant Dean, George School.

1932-33.

RICHARD ABELL, A.B., 1926; M.A., University of Pennsylvania, 1930; Ph.D., *Ibid.*, 1934. Instructor in Anatomy, School of Medicine, University of Pennsylvania.

1933-34.

THOMAS SEAL CHAMBERS, B.A., 1931; M.A., Harvard University, 1933. Junior Prize Fellow, Harvard University, since 1933.
(Held by Alternate, LEWIS FUSSELL, JR., B.S., 1931; M.S., Massachusetts Institute of Technology, 1932; Sc.D., *Ibid.*, 1938. Teacher of Physics and Electrical Engineering, Harvard University, 1938-.

1934-35.

RICHARD E. PASSMORE, B.A., 1933; studied at Columbia University.

1935-36.

CHARLES COALE PRICE, III, B.A., 1934; Ph.D., Harvard University, 1936. Research Assistant in Chemistry at the University of Illinois.

1936-37.

MILDRED MAXFIELD, B.A., 1931; Ph.D., Radcliffe, 1938. Instructor of French, Milwaukee-Downer College. Instructor of French, Wheaton College, 1940-.

1937-38.

WILLIAM SCOTT, B.A., 1937. Studied at the University of Michigan.

1938-39.

GEORGE COOPER, B.A., 1938. Studied at University of London.

1939-40.

JOHN SEYBOLD, B.A., 1936. Instructor, Swarthmore College. Studied at University of Pennsylvania.

1940-41.

NEWELL G. ALFORD, B.A., 1940. Studying at Iowa University.

HOLDERS OF THE LUCRETIA MOTT FELLOWSHIP

1895-96.

HELEN BRIGHT (SMITH) BRINTON, B.A., 1895; studied at Oxford University; A.M., Swarthmore, 1899.

1896-97.

MARY STONE MCDOWELL, B.A., 1896; studied at Oxford University; M.A., Columbia University, 1903. Teacher, Lincoln High School, Brooklyn, N. Y.

1897-98.

SARAH (BANCROFT) CLARK, B.S., 1897; studied at Newnham College, Cambridge.

1898-99.

EDNA HARRIET RICHARDS, B.L., 1898; studied in Berlin; A.M., Columbia University, 1904. Fellow and Instructor, University of Wisconsin, 1921-22. Teacher of German in High School, Youngstown, Ohio, 1922-40.

1899-1900.

MARY ELIZABETH SEAMAN, B.A., 1899; studied at Newnham College, Cambridge; A.M., Adelphia College, 1905. Deceased.

1900-01.

ANNA GILLINGHAM, B.A., 1900; B.A., Radcliffe College, 1901; M.A., Columbia University, 1910. Psychologist, Punahon School, Honolulu, T. H., 1936-40.

1901-02.

LILLIAN WINIFRED (ROGERS) ILLMER, B.A., 1901; studied in Berlin.

1902-03.

MARGARET HOOD (TAYLOR) (SIMMONS) TAYLOR, B.L., 1902; studied at Berlin University.

1903-04.

ANNIE ROSS, A.B., 1903; Ph.M., University of Chicago, 1904. Chairman of Modern Language Department, High School, Flushing, L. I., N. Y.

1904-05.

CHARLOTTE RITZEMA BOGART, B.A., 1904; M.A., Columbia University, 1905.

1905-06.

ELIZABETH HALL, B.A., 1905; M.A., Columbia University, 1906. Teacher of English, Media High School.

1906-07.

BERTHA CAROLINE PEIRCE, B.A., 1906; M.A., Cornell University, 1907; Head of Department of Latin and Greek, Beaver College, Jenkintown, Pa.

1907-08.

JEANNETTE (CURTIS) CONS, B.A., 1907; M.A., 1909; studied at the University of Berlin.

1908-09.

ELIZABETH SIKES (JAMES) NORTON, B.A., 1908; studied at the University of Berlin; A.M., University of Pennsylvania, 1912; Ph.D., *Ibid.*, 1914.

1909-10.

HELEN HARRIET PORTERFIELD, B.A., 1909; studied at the University of Chicago.

1910-11.

JEAN HAMILTON (WALKER) CREIGHTON, B.A., 1910; studied at the University of Chicago.

1911-12.

ANNA HEYDT, B.A., 1911; M.A., Radcliffe College, 1912. Teacher of Latin and French, State Teachers' College, Kutztown, Pa.

1912-13.

CAROLINE HALLOWELL (SMEDLEY) COLBURN, B.A., 1912; M.A., 1918; studied at the University of California.

1913-14.

ESTHER (MIDLER) SIMBERG, B.A., 1913; M.A., Columbia University, 1929; studied at the University of Berlin. Social Worker.

1914-15.

MARIE SAFFORD (BENDER) DARLINGTON, B.A., 1914; M.A., University of Chicago, 1916. Deceased.

1915-16.

REBA MAHAN (CAMP) HODGE, B.A., 1915; M.A., Radcliffe College, 1916.

1916-17.

ANNA M. MICHENER, B.A., 1916; M.A., Columbia University, 1917; Ph.D. *Ibid.*, 1921; Economic Research.

1917-18.

HILDA A. (LANG) DENWORTH, B.A., 1917; studied at the University of Wisconsin; A.M., University of Pennsylvania, 1921.

1918-19.

EDITH W. (MENDENHALL) HAYES, B.A., 1918; M.A., Columbia University, 1919.

1919-20.

GLADYS AMANDA REICHARD, B.A., 1919; M.A., Columbia University, 1920; Ph.D., Columbia University, 1925; Research Fellow in Anthropology, University of California, 1922-23; Holder of John Simon Guggenheim Fellowship for 1926-27; studied in Hamburg. Assistant Professor Anthropology, Barnard College, Columbia University.

1920-21.

HENRIETTA ALBERT SMITH, B.A., 1920. (Resigned.)

1921-22.

ALINE MATHIESON (WOODROW) ROBERTSON, B.A., 1921; studied at the University of Glasgow.

1922-23.

HENRIETTA IDA (KELLER) HOWELL, B.A., 1922; M.A., Radcliffe College, 1923.

1923-24.

GERTRUDE MALZ, B.A., 1923; M.A., University of Wisconsin, 1924; Ph.D., *Ibid.*, 1928; studied at American School of Classical Studies, Athens, 1929-30. Instructor in Greek and Latin, Sweet Briar College, Sweet Briar, Va.

1924-25.

GERTRUDE PAULA (KNAPP) STOUGHTON, B.A., 1924; studied at Somerville College, Oxford. Studied at University of Chicago, 1935-36.

1925-26.

MARGARET (PITKIN) BAINBRIDGE, B.A., 1925; Ph.D., University of Chicago, 1928. Assistant Professor of Romance Languages, Swarthmore College, 1928-33.

1926-27.

ALICE CAROLYN (PAXSON) BRAINERD, B.A., 1926; M.A., Radcliffe College, 1928.

1927-28.

CECILE (BROCHEREUX) JARVIS, B.A., 1927; M.A., University of Pennsylvania, 1928. Teaching French, Haverford School.

1928-29.

GERTRUDE (SANDERS) FRIEDMAN, B.A., 1928; Ph.D., University of Pennsylvania, 1932.

1929-30.

MARGARET (WORTH) CROWTHER, B.A., 1929; Law Student, Yale University, 1929-30.

1930-31.

ELEANOR FLEXNER, B.A., 1930; studied at Somerville College, Oxford.

1931-32.

BEATRICE F. (BEACH) MACLEOD, B.A., 1931; M.A., Yale Dramatic School, 1934. Director of Dramatics, Swarthmore College.

1932-33.

FRANCES (REINHOLD) FUSSELL, B.A., 1932; M.A., University of Pennsylvania, 1936; Ph.D., *Ibid.*, 1937. Assistant in Political Science, Swarthmore College. (Held by joint alternates:

EDNA N. PUSEY, B.A., 1932; M.A., University of Pennsylvania, 1933. Teacher of French and Social Studies, Avondale, Pa. Teacher of French and History, West Grove, Pa., 1940-.

ELEANOR Y. (PUSEY) CLEMENT, B.A., 1932; M.A., University of Pennsylvania, 1933. Haverford, Pa.)

1933-34.

RUTH ERNESTINE (COOK) STILSON, B.A., 1933; M.A., Radcliffe College, 1934; studied at Radcliffe College.

1934-35.

VIRGINIA HALL SUTTON, B.A., 1934; studied at the University of Chicago.

1935-36.

ELIZABETH LANE, M.A., 1935; studied at Columbia University.

1936-37.

KATHERINE LEVER, B.A., 1936; M.A., Bryn Mawr College, 1937. Instructor, English Dept., University of Rochester, 1940-.

1937-38.

MINA WATERMAN, B.A., 1937; M.A., University of Chicago, 1939. Studying at Columbia.

1938-39.

MARY KATHERINE HEALD, B.A., 1938. Studying Law at University of Michigan.

1939-40.

MARY HOAGLAND, B.A., 1939. Studying at Ohio State University.

1940-41.

JOAN WOODCOCK, B.A., 1940. Studying at Columbia.

SIGMA XI FELLOWSHIP

1934-35.

HELEN LOUISE (WEST) NUTTING, B.A., 1932; M.A., Mt. Holyoke College, 1934; Ph.D., University of California, 1936. Holder of Teaching Fellowship in Chemistry at the University of California, 1935-36. Head of Departments of Chemistry and Physics, San Francisco College for Women, 1936-37. Instructor in Chemistry, New Jersey College for Women.

1936-37.

STEPHEN MACNEILLE, B.A., 1933; Ph.D., 1937, Massachusetts Institute of Technology. Physicist, Eastman Kodak Company.

1939-40.

GEORGE ELMER FORSYTHE, B.A., 1937; Brown University, Graduate Assistant.

HOLDERS OF THE MARTHA E. TYSON FELLOWSHIP

1914-15.

HELEN PRICE, B.A., 1907; Ph.D., University of Pennsylvania, 1915. Head of Latin and Greek Department, Meredith College, Raleigh, N. C.

1915-16.

ANNE SHOEMAKER (HAINES) MARTIN, B.A., 1912; M.A., University of Wisconsin, 1916.

1916-17.

KATHERINE PROCTER (GREEN) VINCENT, B.A., 1907; M.A., Columbia University, 1917. Teacher of Latin in Newton High School, New York, N. Y.

1917-18.

CHARLOTTE (BREWSTER) JORDAN, B.L., 1882; M.L., 1886; studied in Madrid. Translator and writer.

1918-19.

EDNA ANNA TYSON, B.A., 1909; M.A., Columbia University, 1919. Teacher of English in High School, Newark, N. J.

1919-20.

DOROTHEA (GILLETTE) MURRAY, B.A., 1914; M.A., Columbia University, 1920.

1920-21.

BEULAH (DARLINGTON) PRATT, B.A., 1890; M.A., Teachers' College, Columbia University, 1922.

1921-22.

RHODA A. LIPPINCOTT, B.A., 1917; M.A., Columbia University, 1922. Teacher of French, Morristown, N. J., High School.

1922-23.

GRACE COCHRAN, B.A., 1917; Ph.D., University of Iowa, 1930, Student, Certificat d' Aptitude d' enseigner le français à l'étranger, Sorbonne, France, 1922. Assistant Professor of Romance Languages, State University of Iowa, Iowa City, Iowa.

1923-24.

MILDRED E. (WILLARD) FRY, B.A., 1920; M.A., University of Pennsylvania, 1924.

1924-25.

CAROLINE E. MYRICK, B.A., 1914; M.A., Radcliffe College, 1916.

1925-26.

HELEN E. (HOWARTH) LEWIS, B.A., 1920; M.A., Smith College, 1926. Research Associate, Harvard University Observatory. Research, Physics Laboratory, American Optical Co.

1926-27.

DOROTHY (PLACK) PUCTA, B.A., 1911; M.A., University of Pennsylvania, 1927.

1927-28.

EMMA T. R. (WILLIAMS) VYSSOTSKY, B.A., 1916; Ph.D., Radcliffe College, 1929. Student, Harvard University Observatory, 1927-29. Research Fellow, Leander-McCormick Observatory. Instructor in Astronomy, University of Virginia.

1928-29.

EDNA JEAN (PROSSER) WEBSTER, B.A., 1926; M.A., University of Wisconsin, 1929.

1929-30.

GERTRUDE MALZ, B.A., 1923; M.A., University of Wisconsin, 1924; Ph.D., *Ibid.*, 1928. Studied at the American School of Classical Studies, Athens, 1929-30. Instructor in Greek and Latin, Sweet Briar College, Sweet Briar, Va.

1930-31.

MARY ELIZABETH SHINN, B.A., 1924; M.A., Swarthmore College, 1931. Teaching Latin in the Swedesboro High School.

1931-32.

GERTRUDE (GILMORE) LAFORE, B.A., 1928; M.A., Columbia University, 1932. Teaching at Bennington College, 1932-34. Lecturer in Education, Swarthmore College, 1936-40.

1933-34.

JOSEPHINE ELLIOTTE WILSON, B.A., 1915; M.A., Teachers' College, Columbia University, 1934. Instructor of English, State Teachers' College, West Chester, Pa.

1935-36.

DOROTHY E. C. DITTER, B.A., 1930; studied at the University of Pennsylvania, 1935-37. Assistant, Department of History, University of Pennsylvania.

1937-38.

MARY FAIRBANKS, B.A., 1934; studied at Columbia University. United States Housing Authority, Washington, D. C.

1939-40.

JEAN BROSIUS WALTON, B.A., 1935; M.A., Brown University, 1940. Instructor in Mathematics, Swarthmore College, 1940-.

HOLDERS OF THE IVY MEDAL*

1898. ANNA BELLE EISENHOWER, B.A., 1899; A.B., Radcliffe College, 1900; A.M., *Ibid.*, 1907.
1899. MARY G. LEIPER, B.L., 1899. Deceased.
1900. MARY S. HAVILAND, B.L., 1900; B.A., Radcliffe College, 1901. Deceased.
1901. GEORGE A. SEAMAN, B.A., 1901. Deceased.
1902. ELLIOTT RICHARDSON, B.S., 1902; C.E., 1905.
1903. SAMUEL T. STEWART, B.A., 1903.
1904. HALLIDAY R. JACKSON, B.A., 1904; M.A., University of Pennsylvania, 1933.
1905. LOUIS N. ROBINSON, B.A., 1905; Ph.D., Cornell University, 1911.
1906. T. H. DUDLEY PERKINS, B.A., 1906. Deceased.
1907. AMOS J. PEASLEE, B.A., 1907; LL.B., Columbia University, 1911.
1908. HERMAN PRITCHARD, B.S., 1908; M.A., 1911.
1909. WALTER F. RITTMAN, B.A., 1908; M.A., 1909; M.E., 1911; Ch.E., 1917; Ph.D., Columbia University, 1914.
1910. JOHN E. JOHNSON, B.S., 1910.
1911. JOSEPH H. WILLITS, B.A., 1911; M.A., 1912; LL.D., 1937; Ph.D., University of Pennsylvania, 1916.
1912. HERMAN ELLIOTT WELLS, B.S., 1912.
1913. HENRY LEE MESSNER, B.A., 1913.
1914. ALBERT ROY OGDEN, B.A., 1914. Deceased.
1915. THOMAS BAYARD MCCABE, B.A., 1915.
1916. HUGH FREDERICK DENWORTH, B.A., 1916; M.A., University of Pennsylvania, 1918.
1917. WILLIAM WEST TOMLINSON, B.A., 1917.
1918. FREDERICK STOCKHAM DONNELLY, B.A., 1918. Deceased.
1919. CHARLES MANLY HOWELL, B.A., 1919.
1920. DETLEV WULF BRONK, A.B., 1920; Sc.D., 1937; M.S., University of Michigan, 1922; Ph.D., *Ibid.*, 1926.
1921. ALAN C. VALENTINE, B.A., 1921; LL.D., 1937; M.A., University of Pennsylvania, 1922. Rhodes Scholar, B.A. (Honors), Oxford University, 1925. M.A., Oxford, 1929.
1922. RICHARD WILLIAM SLOCUM, B.A., 1922; LL.B., Harvard University, 1925.
1923. ARTHUR JOY RAWSON, B.A., 1923; M.E., 1930.
1924. RICHMOND PEARSON MILLER, B.A., 1924.
1925. MARVIN YARD BURR, B.A., 1925; M.A., Columbia University, 1927; Ph.D., *Ibid.*, 1930. Deceased.
1926. RICHARD MELVILLE PERDEW, B.A., 1926.
1927. JAMES ROLAND PENNOCK, B.A., 1927; M.A., Harvard University, 1928; Ph.D., 1932.
1928. DOUGLASS WINNETT ORR, B.A., 1928; M.B. and M.S., Northwestern University Medical School, 1934.
1929. THOMAS MCPHERSON BROWN, B.A., 1929; M.D., 1933, Johns Hopkins Medical School.

*The terms of the award of this medal are found on p. 45.

1930. RICHARD MORGAN KAIN, B.A., 1930; A.M., University of Chicago, 1931; Ph.D., 1934.
 1931. SAMUEL MAHON, B.A., 1931.
 1932. EDWIN SCOTT LUTTON, B.A., 1932; Ph.D., Yale University, 1935.
 1933. FRANKLIN PORTER, B.A., 1933; M.A., University of Chicago, 1937.
 1934. FRANK C. PIERSON, B.A., 1934.
 1935. VAN DUSEN KENNEDY, B.A., 1935.
 1936. JAMES FRANKLIN McCORMACK, B.A., 1936.
 1937. DORWIN CARTWRIGHT, B.A., 1937.
 1938. KERMIT GORDON, B.A., 1938.
 1939. RICHARD E. LIPPINCOTT, B.A., 1939.
 1940. CHARLES BRADEN, B.A., 1940.

HOLDERS OF THE OAK LEAF MEDAL*

1922. BARBARA (MANLEY) PHILIPS, B.A., 1922.
 1923. ISABELLE SHAW (FUSSELL) EWING, B.A., 1923.
 1924. GERTRUDE PAULA (KNAPP) STOUGHTON, B.A., 1924.
 1925. INEZ VICTORIA (COULTER) RUSSELL, B.A., 1925.
 1926. LYDIA WILLIAMS (ROBERTS) DUNHAM, B.A., 1926.
 1927. KATHERINE JOSEPHINE (SNYDER) SASSÉ, B.A., 1927.
 1928. MARGARET (SOMERVILLE) McINERNEY, B.A., 1928.
 1929. HELEN CAROLINE (ROBISON) BISHOP, B.A., 1929.
 1930. ELIZABETH (YARD) ARMSON, B.A., 1930.
 1931. CAROLINE ALBERTA (JACKSON) RUSHMORE, B.A., 1931.
 1932. FLORENCE ELIZABETH (WILLIAMS) POTTS, B.A., 1932.
 1933. BABETTE (SCHILLER) SPIEGAL, B.A., 1933.
 1934. RUTH ELEANOR (KEWLEY) DONAHOWER, B.A., 1934.
 1935. ELIZABETH MARY BLAIR, B.A., 1935.
 1936. LORRAINE (PATTERSON) BRADBURY, B.A., 1936.
 1937. ISABEL HOLLY ROSS, B.A., 1937.
 1938. VIRGINIA HADLEY VAWTER, B.A., 1938.
 1939. MARION DE KAY ROUS, B.A., 1939.
 1940. JUSTINE GARWOOD, B.A., 1940.

HOLDERS OF THE McCABE ENGINEERING AWARD†

1936. ROBERT S. SCHAIRER, B.S., 1936; Ph.D., California Institute of Technology, 1939.
 1937. BENJAMIN COOPER, B.S., 1937.
 1938. GEOFFREY KELLER, B.S., 1938.
 1939. JOHN WATTS ROBERTS, B.S., 1939.
 1940. JOHN W. KALB, B.S., 1940.

*The terms of the award of this medal are found on p. 46.

†The terms of this award are found on p. 46.

DEGREES CONFERRED IN JUNE, 1940
BACHELOR OF ARTS IN THE HONORS COURSE

In the Division of the Humanities

NEWELL GILDER ALFORD, JR. (with Highest Honors)	BARBARA JANE MANDELBAUM (with High Honors)
HEYWOOD HALE BROWN (with Honors)	ANN PENNOCK MARSHALL (with Honors)
WILLIAM PERRINE CAMP (with Honors)	MARIE OSLAND-HILL (with High Honors)
DOROTHY JUNE CUPITT (with Honors)	THEDA WILDER OSTRANDER (with Honors)
FAB ETHELDRA EAST (with High Honors)	JACQUELINE MARY PARSONS (with Highest Honors)
MARY DOAN ELLIS (with High Honors)	MARY MOORE ROELOFS (with High Honors)
JUSTINE GARWOOD (with Honors)	MARGARET ANN RUSK (with Honors)
JANE GILRUTH (with High Honors)	GEORGE GERHARD SALOMON (with Highest Honors)
MARGARET HARDING (with High Honors)	LOUISE WATTERS (with High Honors)
EDITH LEWIS HARPER (with Honors)	MARGARET WYMAN (with Honors)
DAGNY HOFF (with Honors)	
LAURA SHERMAN KNAPP (with High Honors)	
EVELY SPENCER LEES (with Honors)	
MARTHA BROOKS MCCORD (with High Honors)	

In the Division of the Social Sciences

ELIOT TAGER ASINOF (with Honors)	DHAN GOPAL MUKERJI, II (with High Honors)
ALDEN STANLEY BENNETT (with High Honors)	JOHN KLAHR MYERS (with High Honors)
CHARLES GOETZMAN BRADEN (with Honors)	JOHN DE JARNETTE PEMBERTON, JR. (with High Honors)
CORNELIA WOOTTON BROWN (with Honors)	ROBERT WATSON POOLE (with Honors)
RAY HAROLD COFFMAN (with Honors)	OTTO EWALD PRIBRAM (with Honors)
ROBERT WILSON FOSTER (with Honors)	MICHAEL ROSS (with Highest Honors)
EDWARD FAIRCHILD GREEN (with Honors)	ANNE CLAIRE SCHECHTER (with High Honors)
JEAN HARRIET HANDLER (with Highest Honors)	VIRGINIA LAWSON SITES (with Honors)
PETER HENLE (with Honors)	FREDERICK GORDON SMITH (with Honors)
JOHN SOUTHERTON HOUGH (with Honors)	DONALD GARDNER THOMSON (with High Honors)
WALTER ERLING ISGRIG (with High Honors)	REXFORD EMERSON TOMPKINS (with High Honors)
JOHN HEIDEN KAUFMANN (with Honors)	
MARTIN LAURENT LOW (with Honors)	
MINNIE THOMPSON MOORE (with High Honors)	
JOAN LOUISE WOODCOCK (with High Honors)	

In the Division of Mathematics and the Natural Sciences

ERNEST DAVID COURANT (with Highest Honors)	ROBERT MORRIS MCCORMACK (with Honors)
RALPH IRVIN DUNLAP, JR. (with High Honors)	DOROTHY MACY (with High Honors)
ANNA HARTNESS FLANDERS (with Honors)	PETER REED MORRISON (with Honors)
EDWARD DREWRY HENDERSON (with Honors)	ERNST GÜNTHER REUNING (with Honors)
CHARLES MORRILL JUDSON (with High Honors)	MARGARET IMELDA TEBBETTS (with High Honors)
BYRON HALSTED WAKSMAN (with High Honors)	

BACHELOR OF SCIENCE IN THE HONORS COURSE

In the Division of Engineering

MILES WESLEY BOWKER (with Honors)	JOHN WARREN KALB (with Honors)
	JOSEPH REDHEFFER (with Honors)

BACHELOR OF ARTS IN THE GENERAL COURSE

With the Major in Botany

HENRY EXUM AUSTIN	CHARLES HENRY CROTHERS
	EDWARD POWER THATCHER

With the Major in Chemistry

DORIS BAAR	THOMAS GOODWIN CUSTER
	DOROTHY PETERS HUBBELL

With the Major in Economics

ROBERT YORK AUSTIN	DOUGLAS HAIG LANGSTON
ALFRED COX, JR.	BETTY LOU MITCHELL
MARIAN IONE EDWARDS	WILLIAM HARRIS RELLER
HARRY HOYT HAVERSTICK, JR.	LEWIS MORRELL ROBBINS
ALAN HOMANS	JAMES THOMAS SHILCOCK
JACOB WILLITS JACKSON, II	ARTHUR FENIMORE FRENCH SNYDER
JEAN WITT JACKSON	PAUL H. H. SNYDER

DONALD KESSLER WELTMER

With the Major in English

BARBARA ANN BINGER	THOMAS ANDREW MAWHINNEY
SUZANNE CUNNINGHAM	CHARLES F. R. MIFFLIN
BARBARA ANNE DEWEESE	WALKER LYLE MIFFLIN, JR.
MARY ELIZABETH DUNNING	RICHARD PHILLIPS MOSES
CHARLES ALBERT EBERLE, JR.	MARY H. PAXSON
DORIS LOUISE ENGLISH	ETHEL VAN RODEN PRICE
ELIZABETH KIRKPATRICK GRAVES	FRANCES ELIZABETH ROGERS
GEORGE IRVING HULL	DOROTHY LANCASTER WEBSTER
JEAN ELLEN LASHLY	MIRIAM HOLLISTER WIGHT

JEAN LOUISE WOEHLING

With the Major in Fine Arts

ELEANOR BROWNING BARTON	JOSEPHINE ELIAS
	ELEANOR YEARSLEY

With the Major in French

MARY LOIS BROOMELL	ADALYN FRANCES PURDY
DOROTHEA PENNINGTON NELSON	JANE ADELAIDE RITTENHOUSE
CELIA ROGERS PRICE	HELEN NEFF ZENTMYER

With the Major in German

MARION EDITH RYDHOLM

With the Major in History

JOHN LOWRIE BIGELOW	EDWARD ALOYSIUS JAKLE
MARTHA MCILVAIN EASTWICK	CARL FERDINAND JOHNSON
SAM TEMPLE HOWELL	ALBERT NORVIN ROBSON, JR.
	LAWRENCE CLARK WOLFE

With the Major in Mathematics

VIRGINIA BURGER	MARGARET FRASIER LEEPER
-----------------	-------------------------

With the Major in Political Science

RICHARD BRADSHAW ANGELL	CHARLES STIX RICE
EDWARD BAIR BOOHER	PHYLLIS STEVENS
JOHN RAHUE HUHN, III	MARY ELLEN STURDEVANT

With the Major in Psychology

ELEANOR KATHARINE BARBOUR	ELIZABETH SALTONSTALL HURST
ELEANOR GREER EVANS	JANE KELLOCK
CLARIBEL ELISABETH GOODWIN	KATHERINE MERRILL LINDSLEY
HOPE GRISWOLD	JEAN CALDWELL MAGUIRE
ANN HARGREAVES	JOHN WALLING REID
ILSE HEINE	BARBARA LOIS WITTER

With the Major in Zoölogy

WILLIAM COLBERT ADAMSON	JAMES GRANT KEHLER, JR.
CATHERINE SHERWOOD BIRDSALL	JAMES OLNSTEAD LIPMAN
WERNER BRAUER	ELIZABETH JEAN MACDONALD
MARY JANE CALDWELL	MARY VIRGINIA MAYER
CHARLES ALLEN GEMBERLING	RUTH HELEN PIERCE
ESTHER GREELEY HOWES	BETSY PLATT

BACHELOR OF SCIENCE IN THE GENERAL COURSE

With the Major in Civil Engineering

ROBERT DONALD HALL	RAYMOND CRARY INGERSOLL
	JOSEPH ALBERT ROY

With the Major in Electrical Engineering

LLEWELLYN MORRIS CLEVINGER, III	SHERMAN COXE LLOYD, JR.
	ARTHUR WILLIS POST

With the Major in Mechanical Engineering

HAROLD ARMSTRONG ADAMS DONALD ELMER JOHNSON
ARTHUR CARMAN HARTMAN, JR. MORGAN GARSED SMITH
 SAMUEL WOODWARD WARBURTON

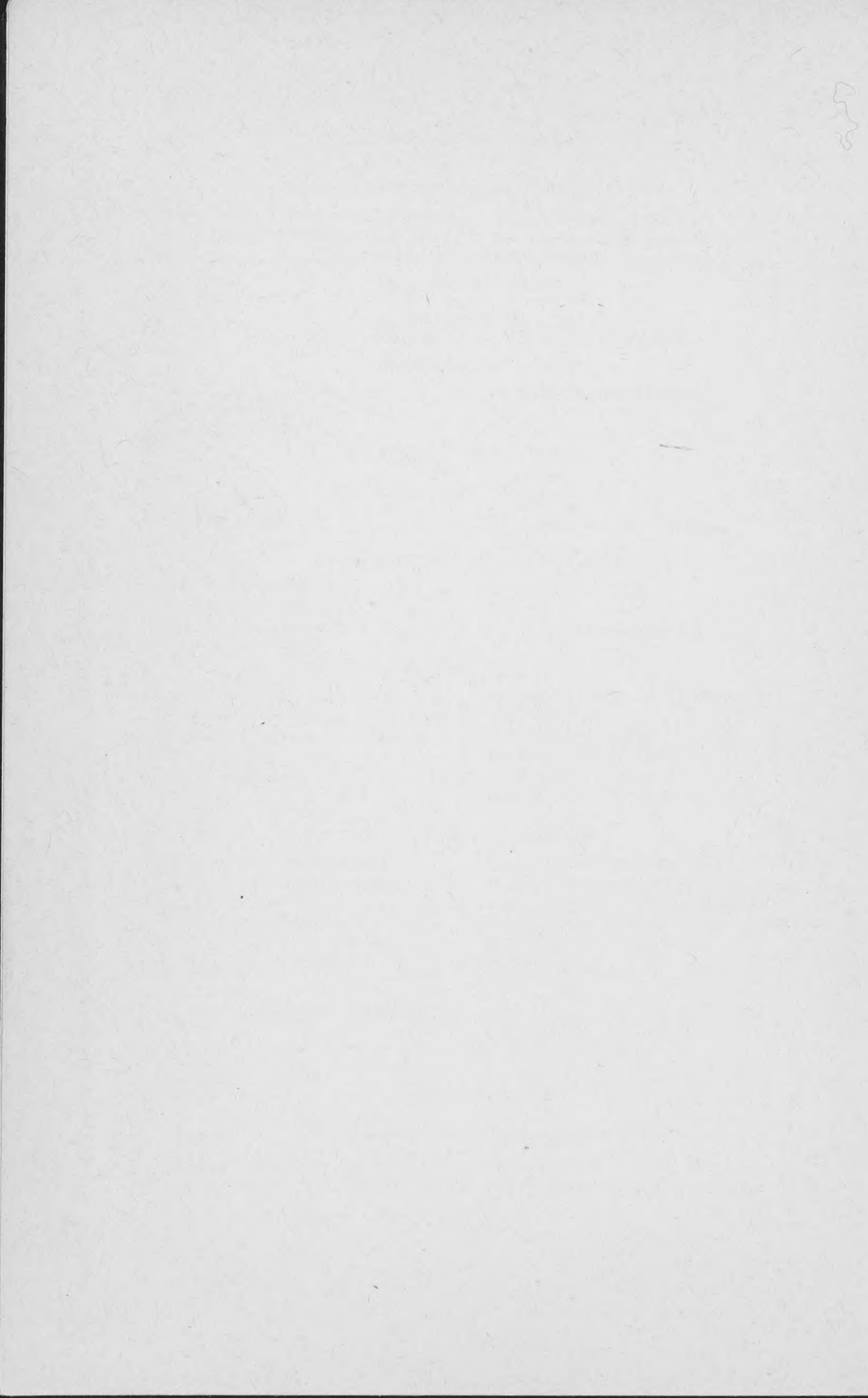
MASTER OF ARTS

In Astronomy

MARION ELLEN WOLFF, A.B., Wellesley College, 1937

CIVIL ENGINEER

THOMAS SMYTH KEEFER, JR., B.S., Swarthmore College, 1931



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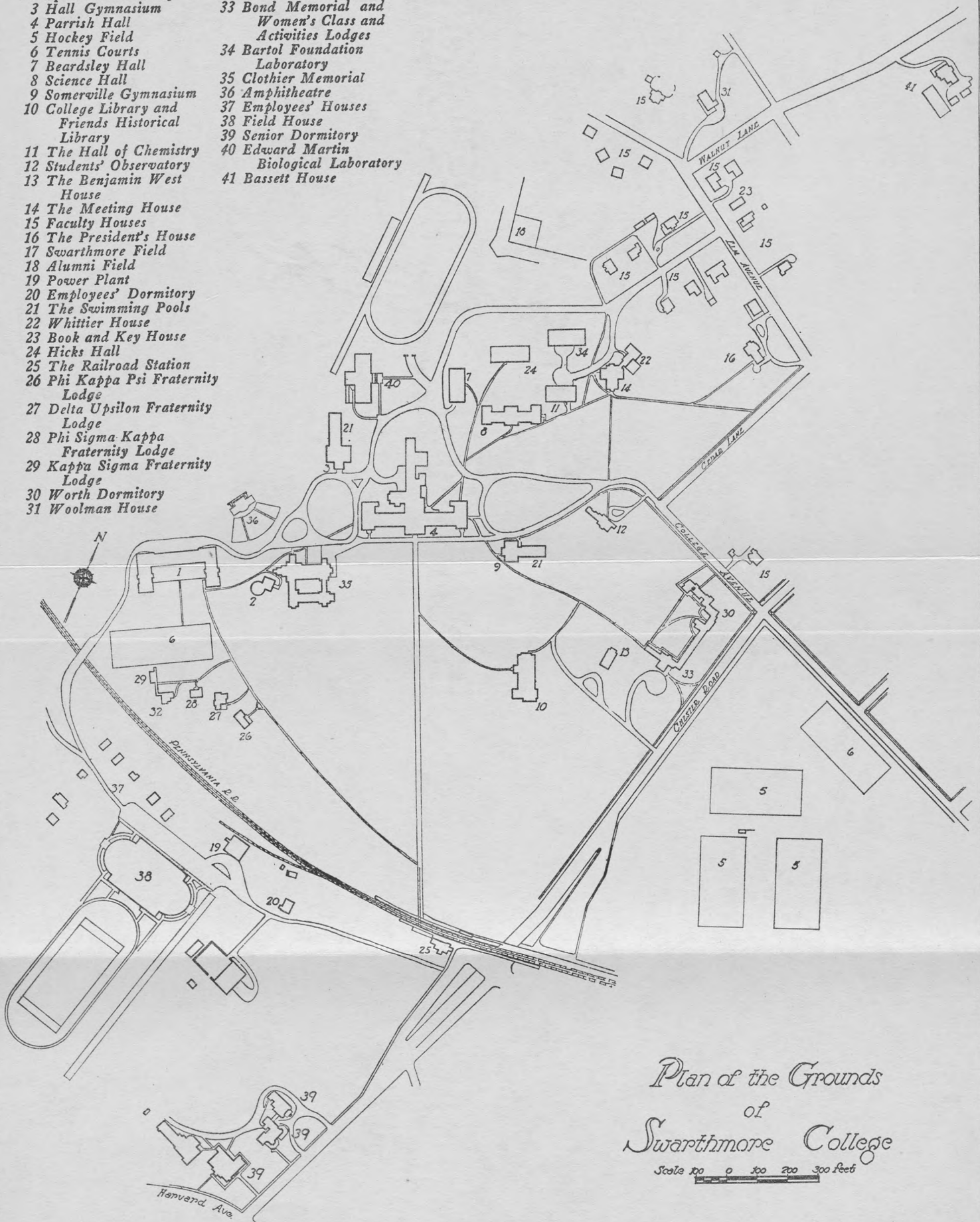
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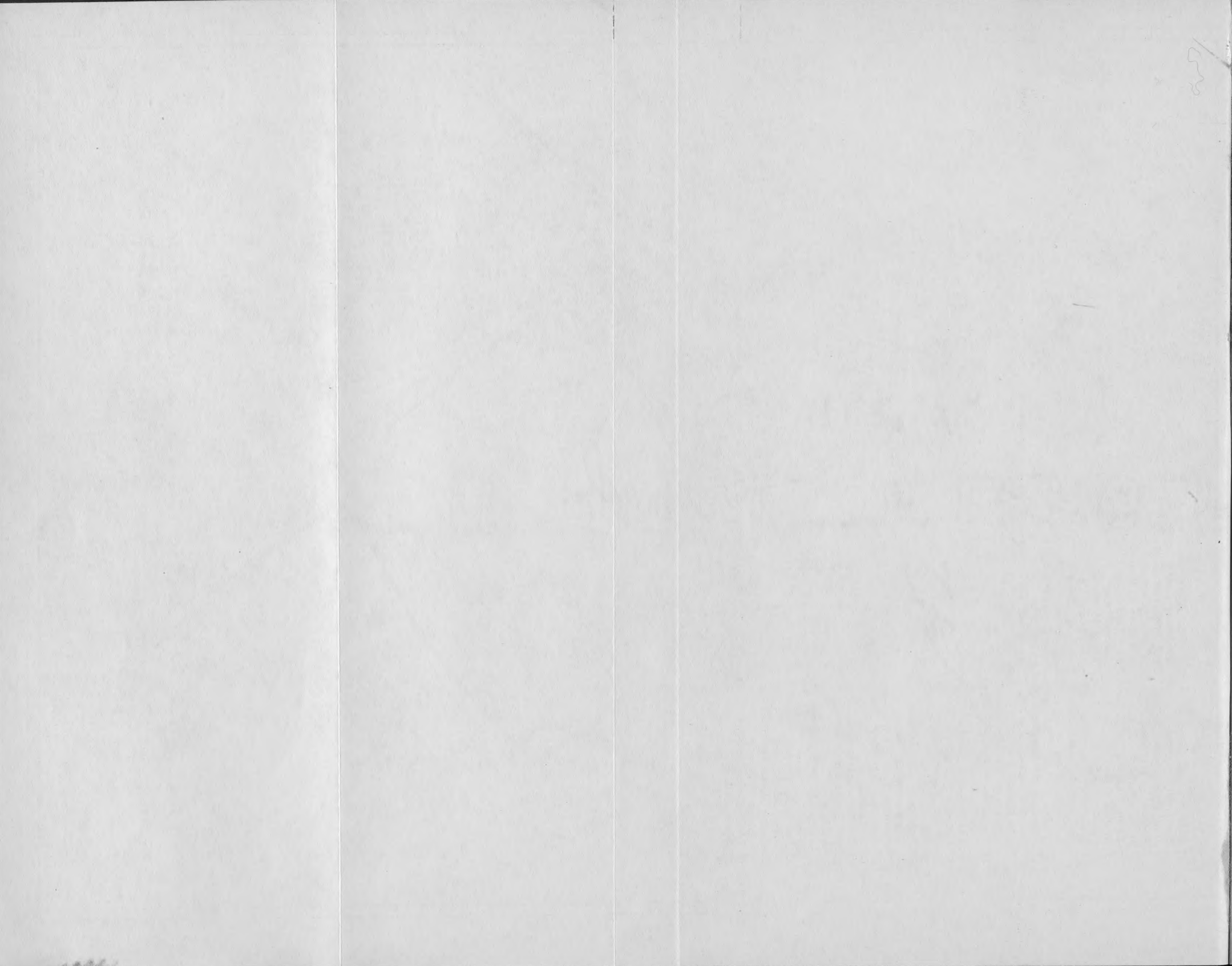
 Zoölogy, Courses in, 128

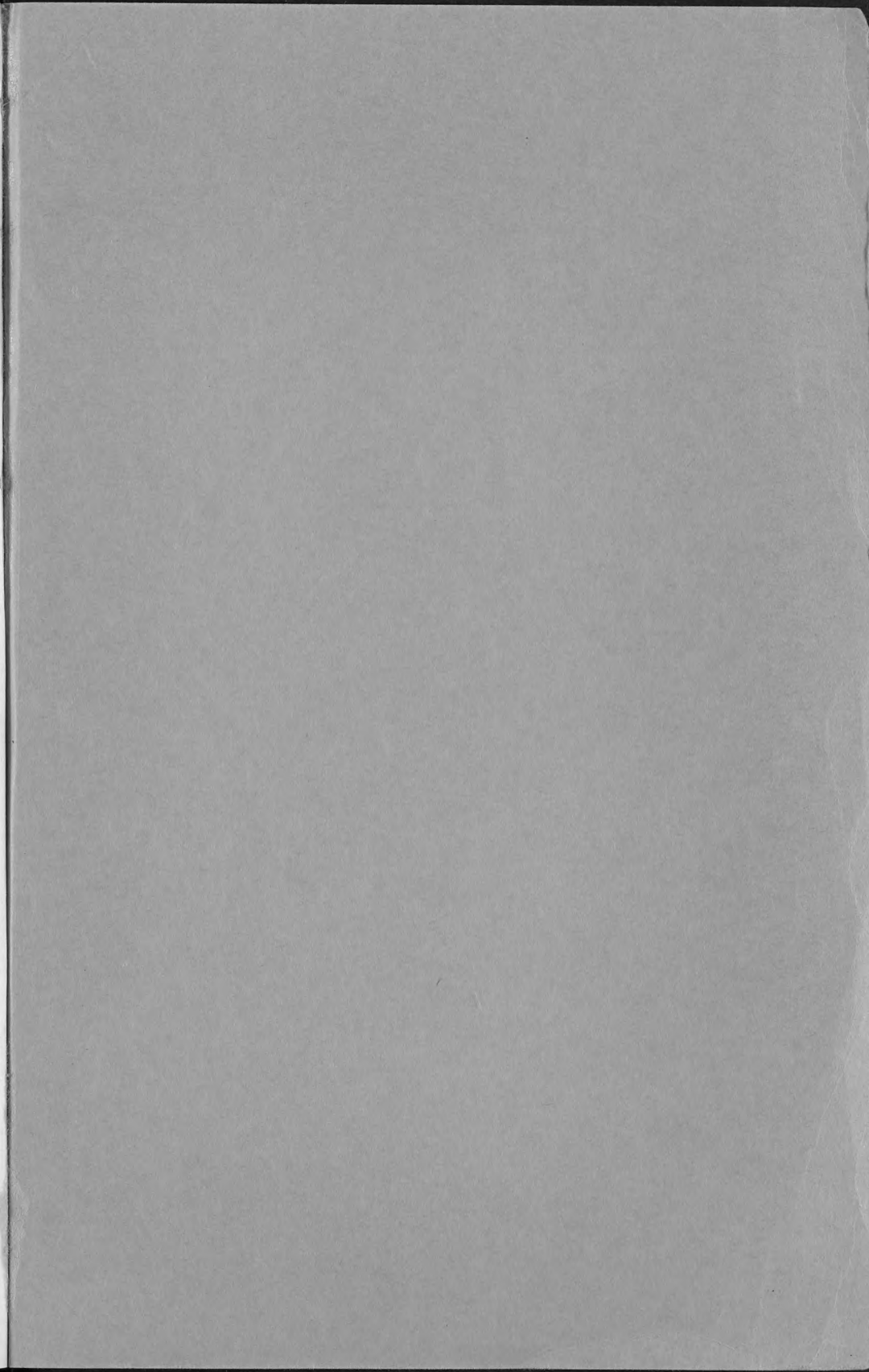
- 1 Wharton Hall
- 2 Sproul Observatory
- 3 Hall Gymnasium
- 4 Parrish Hall
- 5 Hockey Field
- 6 Tennis Courts
- 7 Beardsley Hall
- 8 Science Hall
- 9 Somerville Gymnasium
- 10 College Library and Friends Historical Library
- 11 The Hall of Chemistry
- 12 Students' Observatory
- 13 The Benjamin West House
- 14 The Meeting House
- 15 Faculty Houses
- 16 The President's House
- 17 Swarthmore Field
- 18 Alumni Field
- 19 Power Plant
- 20 Employees' Dormitory
- 21 The Swimming Pools
- 22 Whittier House
- 23 Book and Key House
- 24 Hicks Hall
- 25 The Railroad Station
- 26 Phi Kappa Psi Fraternity Lodge
- 27 Delta Upsilon Fraternity Lodge
- 28 Phi Sigma Kappa Fraternity Lodge
- 29 Kappa Sigma Fraternity Lodge
- 30 Worth Dormitory
- 31 Woolman House
- 32 Phi Delta Theta Fraternity Lodge
- 33 Bond Memorial and Women's Class and Activities Lodges
- 34 Bartol Foundation Laboratory
- 35 Clothier Memorial Amphitheatre
- 36 Employees' Houses
- 37 Field House
- 38 Senior Dormitory
- 39 Edward Martin Biological Laboratory
- 40 Bassett House



*Plan of the Grounds
of
Swarthmore College*

Scale 100 0 100 200 300 feet





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