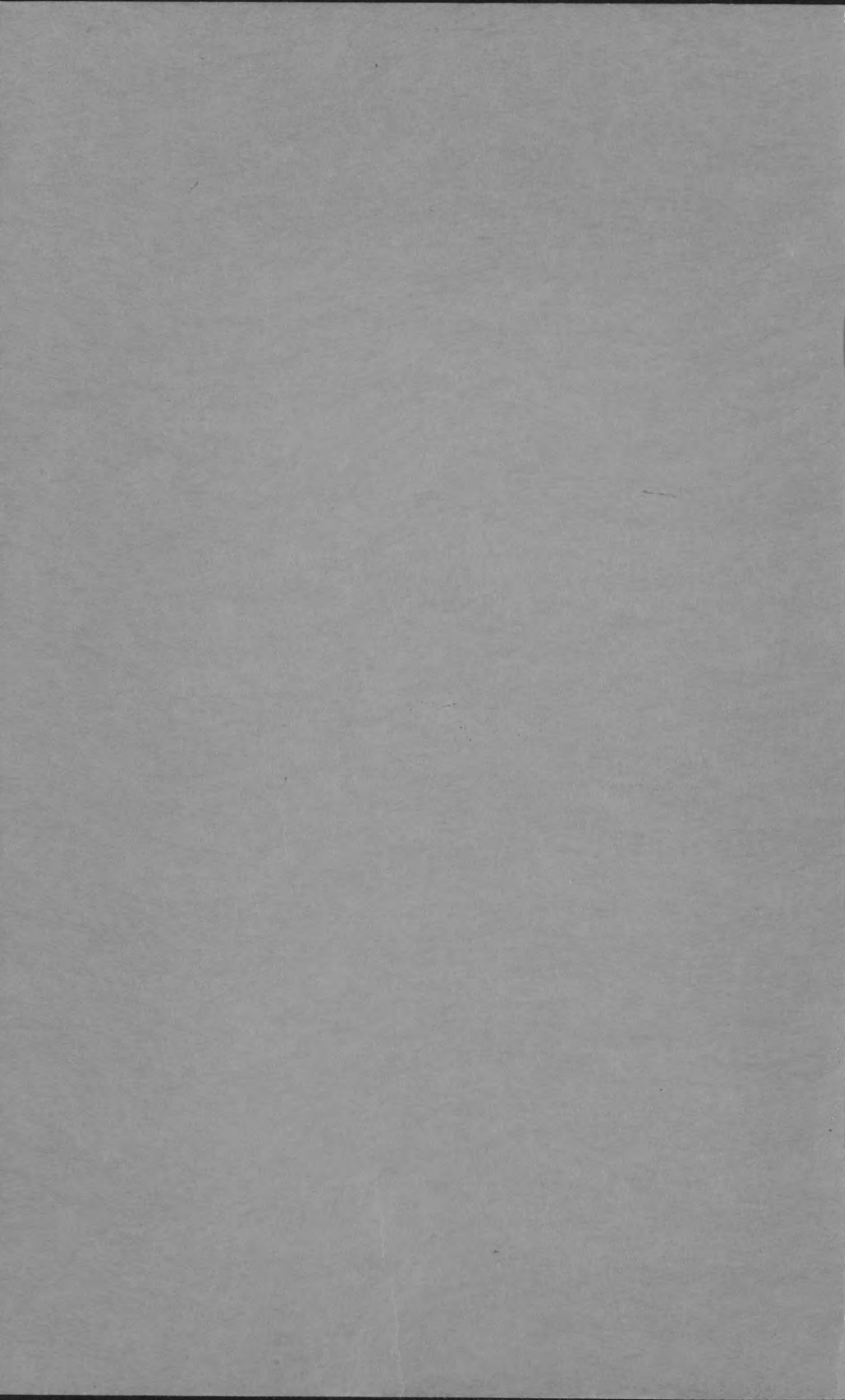


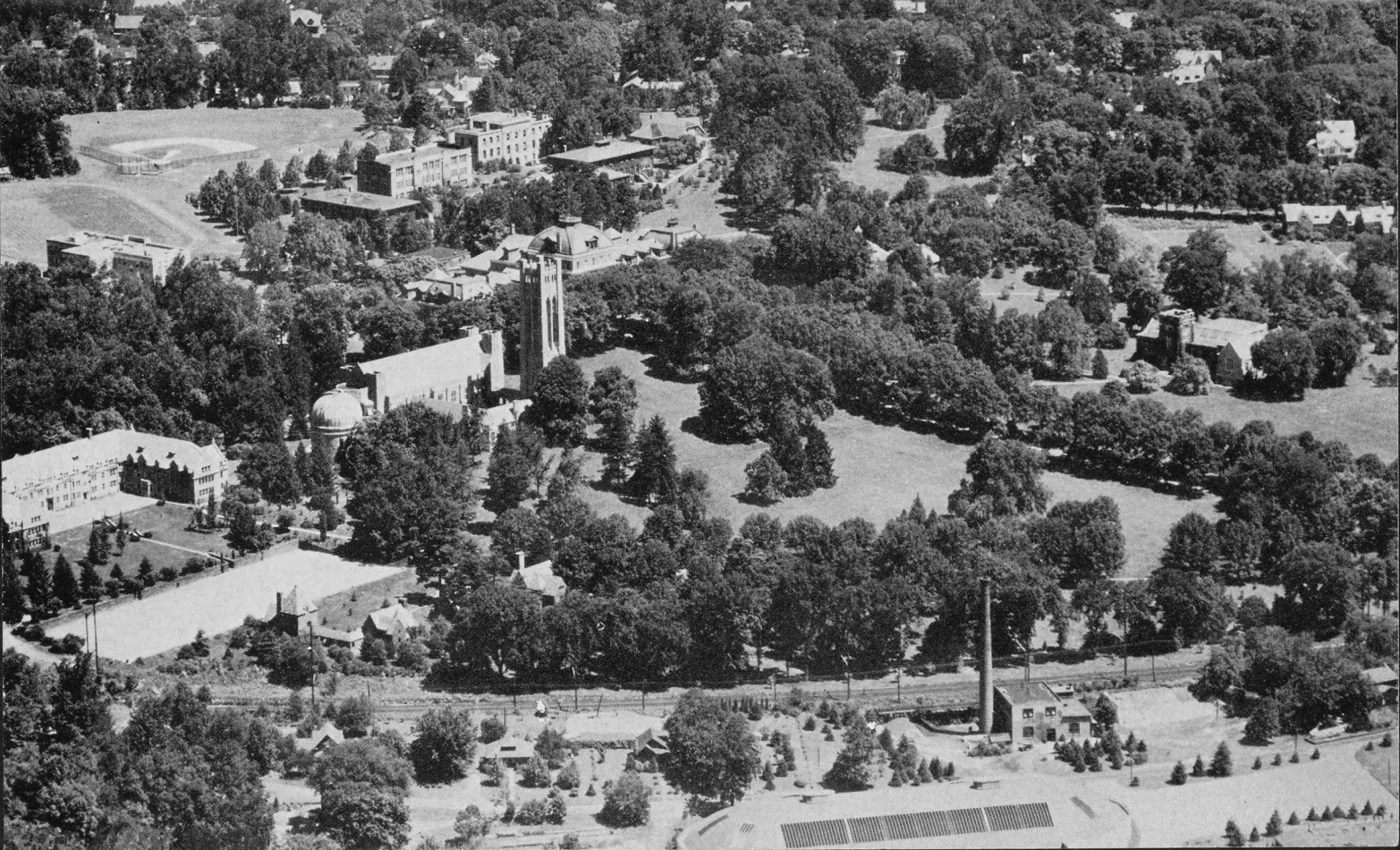


SWARTHMORE COLLEGE
CATALOGUE

SEVENTY-FOURTH YEAR
1942-1943









SWARTHMORE COLLEGE CATALOGUE

SEVENTY-FOURTH YEAR
1942-1943

SWARTHMORE, PENNSYLVANIA

Volume XL

Number 1

Tenth Month, 1942

Entered at the Post-Office at Swarthmore, Pa., as second-class matter.

COLLEGE CALENDAR

1942-1943

Fall Term

- Tenth Month 8-11..... Freshman Placement Days
Tenth Month 10..... Registration and Enrolment in Classes
Tenth Month 11..... First Collection, 8:00 P. M.
Tenth Month 12..... Classes begin at 8:00 A. M.
Tenth Month 13..... Meeting of the Board of Managers
Eleventh Month 3..... Meeting of the Executive Committee of the
Board of Managers
Twelfth Month 1..... Meeting of the Board of Managers
Twelfth Month 17..... Christmas Recess begins at 6.00 P. M.

1943

- First Month 4..... Christmas Recess ends at 8:00 A. M.
First Month 5..... Meeting of the Executive Committee of the
Board of Managers
First Month 23..... Courses and seminars end
First Month 25, 26..... Senior Comprehensive examinations
First Month 26..... Honors written examinations begin
First Month 27..... Course examinations begin
Second Month 2..... Meeting of the Executive Committee of the
Board of Managers
Second Month 3..... Honors written examinations and course
examinations end
Second Month 5, 6..... Honors oral examinations
Second Month 7..... Commencement exercises at 3:00 P. M.

Winter Term

- Second Month 8..... Classes begin at 8:00 A. M.
Third Month 2..... Meeting of the Board of Managers
Third Month 30..... Spring recess begins at 6:00 P. M.
Fourth Month 6..... Meeting of the Executive Committee of the
Board of Managers
Fourth Month 7..... Spring recess ends at 8.00 A. M.
Fourth Month 13..... Meeting of the Executive Committee of the
Board of Managers
Fifth Month 4..... Meeting of the Executive Committee of the
Board of Managers
Fifth Month 15..... Courses and seminars end
Fifth Month 17, 18..... Senior Comprehensive examinations
Fifth Month 18..... Honors written examinations begin
Fifth Month 19..... Course examinations begin
Fifth Month 26..... Honors written examinations and course
examinations end
Fifth Month 28..... Meeting of the Board of Managers

COLLEGE CALENDAR

| | |
|--------------------------|--------------------------|
| Fifth Month 28, '29..... | Honors oral examinations |
| Fifth Month 29..... | Alumni Day |
| Fifth Month 30..... | Baccalaureate Day |
| Fifth Month 31..... | Commencement Day |

Summer Term

| | |
|-------------------------|---|
| Sixth Month 18-22..... | Placement Days |
| Sixth Month 22..... | Registration and enrolment in classes First Collection, 8:00 P. M. |
| Sixth Month 23..... | Classes begin at 8:00 A. M. |
| Seventh Month 6..... | Meeting of the Executive Committee of the Board of Managers |
| Eighth Month 3..... | Meeting of the Executive Committee of the Board of Managers |
| Ninth Month 7..... | Meeting of the Executive Committee of the Board of Managers |
| Ninth Month 18..... | Classes and seminars end at noon |
| Ninth Month 20, 21..... | Senior Comprehensive examinations |
| Ninth Month 21..... | Honors written examinations begin |
| Ninth Month 22..... | Course examinations begin |
| Ninth Month 29..... | Honors written examinations and course examinations end |
| Tenth Month 1..... | Meeting of the Board of Managers |
| Tenth Month 1, 2..... | Honors oral examinations |
| Tenth Month 3..... | Commencement exercises at 3:00 P. M. |

Fall Term

| | |
|------------------------|---|
| Tenth Month 11-14..... | Freshman Placement Days |
| Tenth Month 14..... | Registration and enrolment in classes First Collection, 8:00 P. M. |
| Tenth Month 15..... | Classes begin at 8:00 A. M. |
| Eleventh Month 2..... | Meeting of the Executive Committee of the Board of Managers |
| Twelfth Month 7..... | Meeting of the Board of Managers |
| Twelfth Month 16..... | Christmas recess begins at 6:00 P. M. |

1944

| | |
|---------------------|-------------------------------------|
| First Month 5..... | Christmas recess ends at 8:00 A. M. |
| Second Month 2..... | Classes and seminars end |

CALENDAR FOR 1942

| OCTOBER | | | | | | | NOVEMBER | | | | | | | DECEMBER | | | | | | |
|---------|----|----|----|----|----|----|----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| | | | | 1 | 2 | 3 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | 1 | 2 | 3 | 4 | 5 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 29 | 30 | | | | | | 27 | 28 | 29 | 30 | 31 | | |

CALENDAR FOR 1943

| JANUARY | | | | | | | FEBRUARY | | | | | | | MARCH | | | | | | | | |
|---------|----|----|----|----|----|----|----------|----|----|----|----|----|----|-------|----|----|----|----|----|----|---|---|
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | | |
| | | | | | 1 | 2 | | | 1 | 2 | 3 | 4 | 5 | 6 | | | 1 | 2 | 3 | 4 | 5 | 6 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | | |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 28 | | | | | | | 28 | 29 | 30 | 31 | | | | | |
| 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 | | |
| | | | | | 1 | 2 | | | | | | 1 | 2 | | | | | | 1 | 2 | 3 | 4 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | | |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | | |
| 25 | 26 | 27 | 28 | 29 | 30 | | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 27 | 28 | 29 | 30 | | | | | |
| | | | | | | | 30 | 31 | | | | | | | | | | | | | | |

| JULY | | | | | | | AUGUST | | | | | | | SEPTEMBER | | | | | | | | | |
|------|----|----|----|----|----|----|--------|----|----|----|----|----|----|-----------|----|----|----|----|----|----|---|---|---|
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | | | |
| | | | | | 1 | 2 | 3 | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | 1 | 2 | 3 | 4 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | | |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | | | |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 29 | 30 | 31 | | | | | 26 | 27 | 28 | 29 | 30 | | | | | |

| OCTOBER | | | | | | | NOVEMBER | | | | | | | DECEMBER | | | | | | | |
|---------|----|----|----|----|----|----|----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|---|
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | |
| | | | | | 1 | 2 | | | 1 | 2 | 3 | 4 | 5 | 6 | | | | 1 | 2 | 3 | 4 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 28 | 29 | 30 | | | | | 26 | 27 | 28 | 29 | 30 | 31 | | |
| 31 | | | | | | | | | | | | | | | | | | | | | |

CALENDAR FOR 1944

| JANUARY | | | | | | | FEBRUARY | | | | | | | MARCH | | | | | | | |
|---------|----|----|----|----|----|----|----------|----|----|----|----|----|----|-------|----|----|----|----|----|----|---|
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | |
| | | | | | | 1 | | | | 1 | 2 | 3 | 4 | 5 | | | | 1 | 2 | 3 | 4 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 27 | 28 | 29 | | | | | 26 | 27 | 28 | 29 | 30 | 31 | | |
| 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 | | | | | | | |
| | | | | | | 1 | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | 1 | 2 | 3 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | | |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | | | | | | | |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | | | | | |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 28 | 29 | 30 | 31 | | | | 25 | 26 | 27 | 28 | 29 | 30 | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

TABLE OF CONTENTS

| | PAGE |
|---|---------------------|
| AIRPLANE VIEW OF SWARTHMORE COLLEGE..... | <i>Frontispiece</i> |
| CLOTHIER MEMORIAL..... | <i>Facing 1</i> |
| COLLEGE CALENDAR | 2, 3 |
| LUNAR CALENDAR | 4 |
| TABLE OF CONTENTS | 5 |
| THE CORPORATION | 7 |
| THE BOARD OF MANAGERS..... | 7 |
| THE FACULTY | 9 |
| GENERAL INFORMATION | 23 |
| EDUCATIONAL PROGRAM | 24 |
| HOUSING | 28 |
| STUDENT WELFARE | 29 |
| STUDENT ORGANIZATIONS | 30 |
| REQUIREMENTS FOR ADMISSION | 31 |
| WORTH HALL | <i>Facing 32</i> |
| PARRISH HALL | <i>Facing 33</i> |
| REQUIREMENTS FOR GRADUATION | 33 |
| DEGREES | 39 |
| FACULTY REGULATIONS | 40 |
| EXPENSES | 43 |
| COURSES OF INSTRUCTION | 44 |
| Botany | 44 |
| Chemistry | 47 |
| Classics | 50 |
| Economics | 53 |
| Engineering | 55 |
| Engineering, Civil | 58 |
| Engineering, Electrical | 61 |
| Engineering, Mechanical | 63 |
| English | 65 |
| Fine Arts | 69 |
| German Language and Literature | 70 |
| History | 72 |
| Mathematics and Astronomy | 76 |
| Music | 81 |
| Philosophy and Religion | 82 |
| Physical Education for Men | 84 |
| Physical Education for Women | 85 |
| Physics | 87 |
| Political Science | 88 |
| Psychology and Education | 90 |
| Romance Languages | 93 |
| Zoölogy | 96 |
| GEOGRAPHICAL DISTRIBUTION OF STUDENTS | 99 |
| STUDENTS, 1942-1943 | 100 |
| FELLOWSHIPS, SCHOLARSHIPS AND STUDENT AID | 120 |
| BIBLIOGRAPHY OF SWARTHMORE COLLEGE | 131 |
| INDEX | 135 |
| Map of College Grounds..... | 141 |

THE HISTORY OF THE

Faint, illegible text, likely bleed-through from the reverse side of the page. The text is arranged in several columns and appears to be a historical or biographical account.

THE CORPORATION

CHARLES F. JENKINS, *President*,
232 South Seventh Street, Philadelphia.

HOWARD COOPER JOHNSON, *Vice-President*,
801 Market Street, Philadelphia.

ADA GRAHAM CLEMENT, *Secretary*,
Meeting House Road, Jenkintown, Pa.

EDWARD B. TEMPLE, *Treasurer*,
Swarthmore, Pa.

BOARD OF MANAGERS

Emeriti

CAROLINE H. WORTH, Coatesville, Pa.

PHILIP M. SHARPLES, 220 Orange Grove Avenue, South Pasadena, Cal.

ROBERT H. WALKER, 914 Fidelity Building, Baltimore, Md.

HETTY LIPPINCOTT MILLER, Riverton, N. J.

ELSIE PALMER BROWN, 1622 Twenty-ninth Street, N. W., Washington, D. C.

Term expires Twelfth Month, 1943

ISAAC H. CLOTHIER, JR., 801 Market Street, Philadelphia.

BARCLAY WHITE, 22 N. 36th Street, Philadelphia.

RALPH J. BAKER, 989 Memorial Drive, Cambridge, Mass.

ELEANOR STABLER CLARKE, Crumwald Farm, Wallingford, Pa.

CLAUDE C. SMITH, 1617 Land Title Building, Philadelphia.

THOMAS B. McCABE, 607 North Chester Road, Swarthmore, Pa.

ANNA ENGLE TAYLOR, 8240 Fairview Road, Elkins Park, Pa.

BOYD T. BARNARD, 914 Lincoln-Liberty Building, Philadelphia.

Term expires Twelfth Month, 1944

CHARLES F. JENKINS, 232 South Seventh Street, Philadelphia.

T. STOCKTON MATTHEWS, South and Redwood Streets, Baltimore, Md.

MARY LIPPINCOTT GRISCOM, 314 East Central Avenue, Moorestown, N. J.

ADA GRAHAM CLEMENT, Meeting House Road, Jenkintown, Pa.

LYDIA FOULKE TAYLOR, 23 Summit Avenue, Larchmont, N. Y.

EDITH WILSON JACKSON, 317 North Chester Road, Swarthmore, Pa.

J. ARCHER TURNER, 420 Lexington Avenue, New York.

EDWARD P. PALMER, 50 Church Street, New York.

Term expires Twelfth Month, 1945

HOWARD COOPER JOHNSON, 801 Market Street, Philadelphia.

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.

ELISABETH HALLOWELL BARTLETT, 1922 Mt. Royal Terrace, Baltimore, Md.

NICHOLAS KELLEY, 70 Broadway, New York.

HILDA LANG DENWORTH, 301 Elm Avenue, Swarthmore, Pa.

Term expires Twelfth Month, 1946

ROBERT PYLE, West Grove, Pa.

EDWARD B. TEMPLE, Swarthmore, Pa.

CLEMENT M. BIDDLE, P. O. Box 743, Church Street Station, New York.

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.

THEODORE WIDING, 1820 Lincoln-Liberty Building, Philadelphia.

ANNA OPPENLANDER EBERLE, 105 East Durham Street, Mt. Airy, Philadelphia.

COMMITTEES OF THE BOARD

The President is ex-Officio a Member of Every Committee

Executive

| | | |
|-------------------------|---------------------|------------------------|
| HOWARD COOPER JOHNSON | J. ARCHER TURNER | ELEANOR STABLER CLARKE |
| HENRY C. TURNER | ROBERT PYLE | EDITH WILSON JACKSON |
| MARY LIPPINCOTT GRISCOM | ADA GRAHAM CLEMENT | CLAUDE C. SMITH |
| ISAAC H. CLOTHIER, JR. | BARCLAY WHITE | EDWARD B. TEMPLE |
| ROBERT E. LAMB | LYDIA FOULKE TAYLOR | RUTH POTTER ASHTON |
| | THOMAS B. McCABE | |

Finance and Audit

| | | |
|-------------------|-----------------|------------------|
| EDWARD B. TEMPLE | RALPH J. BAKER | NICHOLAS KELLEY |
| CLEMENT M. BIDDLE | CLAUDE C. SMITH | EDWARD P. PALMER |
| | THEODORE WIDING | |

Instruction and Libraries

| | | |
|------------------------|----------------------|-----------------------|
| RUTH POTTER ASHTON | EDITH WILSON JACKSON | HELEN WILSON GAWTHROP |
| ROBERT PYLE | HADASSAH MOORE LEEDS | THEODORE WIDING |
| HENRY C. TURNER | LYDIA FOULKE TAYLOR | HILDA LANG DENWORTH |
| PHEBE UNDERHILL SEAMAN | CLAUDE C. SMITH | |

Building and Property

| | | |
|-------------------------|-------------------|------------------|
| ROBERT E. LAMB | CLEMENT M. BIDDLE | EDWARD P. PALMER |
| ROBERT PYLE | BARCLAY WHITE | BOYD T. BARNARD |
| MARY LIPPINCOTT GRISCOM | THOMAS B. McCABE | |

Trusts

| | | |
|-----------------------|------------------------|------------------|
| CHARLES F. JENKINS | ISAAC H. CLOTHIER, JR. | J. ARCHER TURNER |
| HOWARD COOPER JOHNSON | T. STOCKTON MATTHEW | EDWARD B. TEMPLE |
| | BOYD T. BARNARD | |

Household

| | |
|-------------------------|------------------------------|
| MARY LIPPINCOTT GRISCOM | ELISABETH HALLOWELL BARTLETT |
| ADA GRAHAM CLEMENT | ISABEL JENKINS BOOTH |
| ELEANOR STABLER CLARKE | ANNA ENGLE TAYLOR |
| | ANNA OPPENLANDER EBERLE |

Nominating

| | |
|-----------------------|----------------------|
| HOWARD COOPER JOHNSON | HADASSAH MOORE LEEDS |
| LYDIA FOULKE TAYLOR | RUTH POTTER ASHTON |
| J. ARCHER TURNER | ROBERT E. LAMB |

THE FACULTY

- JOHN W. NASON, *President*.....324 Cedar Lane
 B.A., Carleton College; B.A., University of Oxford; M.A., Harvard University; LL.D., University of Pennsylvania.
- FRANCES B. BLANSHARD, *Dean*.....513 Ogden Avenue
 B.A., Smith College; M.A., and Ph.D., Columbia University.
- EVERETT L. HUNT, *Dean and Professor of English*.....604 Elm Avenue
 B.A., Huron College; M.A., University of Chicago; D.Litt., Huron College.

Emeriti

- GELLERT ALLEMAN, *Professor Emeritus of Chemistry*.....
 Providence Road, Wallingford
 B.S., Pennsylvania College; Ph.D., Johns Hopkins University; Sc.D., Gettysburg College.
- ISABELLE BRONK, *Professor Emeritus of French Language and Literature*
 Strath-Haven Inn
 Ph.B., Illinois Wesleyan University; Ph.D., University of Chicago.
- ALFRED MANSFIELD BROOKS, *Professor Emeritus of Fine Arts*.....
 Gloucester, Mass.
 B.A., and M.A., Harvard University; M.A., Indiana University.
- JOHN RUSSELL HAYES, *Librarian Emeritus of Friends Historical Library*.....
 Embreeville
 B.A., Swarthmore College; B.A., Harvard University; LL.B., University of Pennsylvania.
- HENRIETTA JOSEPHINE MEETER, *Professor Emeritus of Greek and Latin*.....
 309 Warwick Road, Haddonfield, N. J.
 B.A., Indiana University; Ph.D., University of Pennsylvania.
- JOHN ANTHONY MILLER, *Director of Sproul Observatory and Professor of Astronomy, Emeritus*.....Kershaw and Turner Roads, Wallingford
 B.A., Indiana University; M.A., Leland Stamford Junior University; Ph.D., University of Chicago; LL.D., Indiana University
- CLARA PRICE NEWPORT, *Professor Emeritus of German Language and Literature*.....317 North Chester Road
 B.A., Swarthmore College; Ph.D., University of Wisconsin.
- SAMUEL COPELAND PALMER, *Professor Emeritus of Botany*.....
 320 West Third Street, Media
 B.A., and M.A., Swarthmore College; M.A. and Ph.D., Harvard University.

Professors

- BRAND BLANSHARD, *Professor of Philosophy*.....513 Ogden Avenue
 B.A., University of Michigan; M.A., Columbia University; B.Sc., University of Oxford; Ph.D., Harvard University.
- ETHEL HAMPSON BREWSTER, *Professor of Greek and Latin*.....West House
 B.A., Swarthmore College; M.A., and Ph.D., University of Pennsylvania.

- EDWARD H. COX, *Professor of Chemistry* 8 Whittier Place
 B.S., Earlham College; M.A., Harvard University; Sc.D., University of
 Geneva.
- HENRY JERMAIN MAUDE CREIGHTON, *Edmund Allen Professor of Chemistry* ...
 515 Elm Avenue
 B.A., and M.A., Dalhousie University; M.Sc., University of Birmingham;
 D.Sc., Das eidgenössische Polytechnikum, Zürich.
- ARNOLD DRESDEN, *Edward H. Magill Professor of Mathematics and Astron-
 omy* 606 Elm Avenue
 M.S. and Ph.D., University of Chicago.
- HERBERT F. FRASER, *Professor of Economics* Wallingford Hills
 M.A., University of Aberdeen; F.R.Econ.S.
- HAROLD CLARKE GODDARD, *Alexander Griswold Cummins Professor of Eng-
 lish* 3 Whittier Place
 B.A., Amherst College; M.A. and Ph.D., Columbia University.
- PHILIP MARSHALL HICKS, *Professor of English* 525 Elm Avenue
 B.A. and M.A., Swarthmore College; Ph.D., University of Pennsylvania.
- LAURENCE IRVING, *Professor of Biology* R.R. 3, Media
 B.A., Bowdoin College; M.A., Harvard University; Ph.D., Leland Stan-
 ford Junior University.
- WOLFGANG KÖHLER, *Professor of Psychology* 603 Elm Avenue
 Dr. phil., University of Berlin.
- SCOTT B. LILLY, *Professor of Civil Engineering* 600 Elm Avenue
 B.S., Michigan State College; C.E., Cornell University.
- FREDERICK J. MANNING, *Isaac H. Clothier Professor of History*
 4 Pennstone Road, Bryn Mawr
 B.A. and Ph.D., Yale University.
- ROSS W. MARRIOTT, *Professor of Mathematics and Astronomy*
 213 Lafayette Avenue
 B.A., Indiana University; M.A., Swarthmore College; Ph.D., University
 of Pennsylvania.
- GEORGE E. MOORE, *Visiting Professor of Philosophy (second semester)*
 513 Ogden Avenue
 Litt.D., Cambridge University; LL.D., St. Andrews.
- *EDITH PHILIPS, *Susan W. Lippincott Professor of French* ... 1 Whittier Place
 B.A., Goucher College; Docteur de l'Université de Paris.
- CHARLES B. SHAW, *Librarian* 5 Whittier Place
 B.A. and M.A., Clark University.
- L. R. SHERO, *Professor of Greek* 651 North Chester Road
 B.A., Haverford College; B.A., University of Oxford; M.A. and Ph.D.,
 University of Wisconsin.
- WALTER SILZ, *Professor of German* Wallingford Hills
 B.A., M.A., and Ph.D., Harvard University.

* Absent on leave, winter term.

*ROBERT ERNEST SPILLER, *Professor of English* 6 Whittier Place
B.A., M.A., and Ph.D., University of Pennsylvania.

PETER VAN DE KAMP, *Professor of Astronomy and Director of Sproul Observatory* Yale and Swarthmore Avenues
B.S. and M.S., University of Utrecht; Ph.D., University of California;
Dr.phil., University of Groningen.

**CLAIR WILCOX, *Professor of Economics* 510 Ogden Avenue
B.S., University of Pennsylvania; M.A., Ohio State University; Ph.D.,
University of Pennsylvania.

WINTHROP R. WRIGHT, *Morris L. Clothier Professor of Physics*
4 Whittier Place
B.A. and Ph.D., University of Michigan.

Associate Professors

MARY ALBERTSON, *Associate Professor of History* 405 Walnut Lane
B.A., M.A., and Ph.D., Bryn Mawr College.

HEINRICH BRINKMANN, *Associate Professor of Mathematics and Associate Adviser of Men* 403 Walnut Lane
B.A., Leland Stanford Junior University; M.A. and Ph.D., Harvard University.

SAMUEL T. CARPENTER, *Associate Professor of Civil Engineering*
8B Whittier Place
B.C.E., C.E. and M.S., Ohio State University.

CARL K. DELLMUTH, *Director of Athletics for Men* West House
B.A., Swarthmore College.

ROBERT K. ENDERS, *Associate Professor of Zoölogy* 311 Elm Avenue
B.A. and Ph.D., University of Michigan.

DUNCAN GRAHAM FOSTER, *Associate Professor of Chemistry* 15 Crest Lane
B.A. and M.A., Harvard University; Ph.D., Johns Hopkins University.

MILAN W. GARRETT, *Associate Professor of Physics*
336 North Princeton Avenue
B.A. and M.A., Leland Stanford Junior University; B.A. and D.Phil.,
University of Oxford.

***HOWARD MALCOLM JENKINS, *Associate Professor of Electrical Engineering*
506 North Chester Road
B.A. and E.E., Swarthmore College.

***ROBERT B. MACLEOD, *Associate Professor of Psychology and Education* ..
6312 Ridgewood Avenue, Chevy Chase, Maryland
B.A. and M.A., McGill University; Ph.D., Columbia University.

****HAROLD M. MARCH, *Associate Professor of French* West House
B.A., Princeton University; Ph.D., Yale University.

J. ROLAND PENNOCK, *Associate Professor of Political Science* . 521 Elm Avenue
B.A., Swarthmore College; M.A. and Ph.D., Harvard University.

*Absent on leave, winter term.

**Absent on leave, part-time.

***Absent on leave.

****Absent on leave, fall term.

- JOHN HIMES PITMAN, *Associate Professor of Mathematics and Astronomy*...
328 Vassar Avenue
B.A. and M.A., Swarthmore College.
- TOWNSEND SCUDDER, 3RD, *Associate Professor of English*... 205 Elm Avenue
B.A. and Ph.D., Yale University.
- ALFRED J. SWAN, *Associate Professor and Director of Music*.....
3 College Lane, Haverford
B.A. and M.A., University of Oxford.
- *CHARLES GARRETT THATCHER, *Associate Professor of Mechanical Engineering* 613 Ogden Avenue
B.A., Swarthmore College; M.E., Cornell University.
- LEON WENCELIUS, *Associate Professor of French*..... 310 Elm Avenue
D. ès L., University of Paris; L.Th., University of Strasbourg; Th.D.,
Union Theological Seminary.

Assistant Professors

- LYDIA BAER, *Assistant Professor of German*... Brookside Road, Wallingford
B.A., Oberlin College; M.A. and Ph.D., University of Pennsylvania.
- DANIEL J. BOORSTIN, *Assistant Professor of History*..... 519 Walnut Lane
B.A., Harvard; B.A. and B.C.L., Oxford University; J.S.D., Yale University.
- RICHARD B. BRANDT, *Assistant Professor of Philosophy*. 302 North Chester Road
B.A., Denison University; B.A., University of Cambridge; Ph.D., Yale
University.
- **RICHARD S. CRUTCHFIELD, *Assistant Professor of Psychology*.....
College Campus
B.S., California Institute of Technology; Ph.D., University of California.
- ROBERT H. DUNN, *Assistant Professor of Physical Education for Men*.....
811 Westdale Avenue
B.S., Temple University.
- G. HOMER DURHAM, *Acting Assistant Professor of Political Science*.....
65 Blackthorn Road, Wallingford
B.A., University of Utah; Ph.D., University of California at Los Angeles.
- **W. C. ELMORE, *Assistant Professor of Physics*. 312 North Princeton Avenue
B.S., Lehigh University; Ph.D., Yale University.
- *FRANCIS G. HEALEY, *Assistant Professor of Philosophy*... 302 Ogden Avenue
B.A., Birmingham University; M.A., University of Cambridge.
- WALTER B. KEIGHTON, JR., *Assistant Professor of Chemistry*. 311 Cedar Lane
B.A., Swarthmore College; Ph.D., Princeton University.
- FRANK RALPH KILLE, *Assistant Professor of Zoölogy*..... 2 Whittier Place
B.S., College of Wooster; M.S. and Ph.D., University of Chicago.

*Absent on leave.

**Absent on leave, part-time.

- LUZERN G. LIVINGSTON, *Assistant Professor of Botany*.....
 422 Highland Avenue, Morton
 B.S., Lawrence College; Ph.D., University of Wisconsin.
- *PATRICK MURPHY MALIN, *Assistant Professor of Economics*.....
 6409 Oakridge Avenue, Chevy Chase, Maryland
 B.S., University of Pennsylvania.
- MAURICE MANDELBAUM, *Assistant Professor of Philosophy*. 540 Ogden Avenue
 B.A. and M.A., Dartmouth College; Ph.D., Yale University.
- JOHN D. McCRUMM, *Assistant Professor of Electrical Engineering*.....
 390 Riverview Road
 B.S. and M.S., University of Colorado.
- EDWIN B. NEWMAN, *Assistant Professor of Psychology*.... College Campus
 B.A. and M.A., University of Kansas; Ph.D., Harvard University.
- *VERNON A. O'ROURKE, *Assistant Professor of Political Science*.....
 250 Haverford Avenue
 B.A. and Ph.D., Johns Hopkins University.
- FRANK C. PIERSON, *Assistant Professor of Economics*.... 740 Ogden Avenue
 B.A., Swarthmore College; Ph.D., Columbia University.
- VIRGINIA RATH, *Assistant Professor of Physical Education for Women*.....
 735 Yale Avenue
 B.A., Hollins College; M.A., Columbia University.
- KARL REUNING, *Assistant Professor of German*..... 47 Amherst Avenue
 Dr. phil., University of Giessen.
- WALTER J. SCOTT, *Assistant Professor of Zoölogy*.... 315 Chestnut Avenue
 Ph.B., Lafayette College; Ph.D., University of Pennsylvania.
- *ANDREW SIMPSON, *Assistant Professor of Mechanical Engineering*.....
 College Campus
 B.A., Swarthmore College; M.S., Cornell University.
- JAMES D. SORBER, *Assistant Professor of Spanish*..... 401 Walnut Lane
 B.A., Lehigh University; M.A., University of Nebraska.
- WOLFGANG F. STOLPER, *Assistant Professor of Economics*.....
 318 North Chester Road
 M.A. and Ph.D., Harvard University.
- **GEORGE B. THOM, *Assistant Professor of Mechanical Engineering*.....
 Blackthorn Road, Wallingford
 M.E., M.S. and M.A., Lehigh University.
- ROBERT M. WALKER, *Assistant Professor of Fine Arts*..... 513 Elm Avenue
 B.A. and M.F.A., Princeton University; Ph.D., Harvard University.
- *BRYCE WOOD, *Assistant Professor of Political Science*.....
 2212 I Street, N. W., Washington, D. C.
 B.A., Reed College; Ph.D., Columbia University.

*Absent on leave.

**Absent on leave, part-time.

ELIZABETH COX WRIGHT, *Assistant Professor of English*..... Moylan
B.A., Wellesley College; M.A. and Ph.D., University of Pennsylvania.

Instructors

- GEORGE A. BOURDELAIS, *Instructor in Engineering*..... Wallingford Hills
ALICE KINSMAN BRODHEAD, *Instructor in English (part-time)*.....
606 Hillborn Avenue
B.S. and M.A., University of Pennsylvania.
- AVERY F. BLAKE, *Instructor in Physical Education for Men*.....
49 Amherst Avenue
- *KEITH W. CHALMERS, *Instructor in English*..... 409 College Avenue
B.A., Swarthmore College.
- *LEWIS H. ELVERSON, *Instructor in Physical Education for Men*.....
Lt. (j. g.) U.S.N.R.
Naval Reserve Aviation Base, Bldg. 133, Navy Yard, Philadelphia.
B.S., University of Pennsylvania.
- E. J. FAULKNER, *Instructor in Physical Education for Men*.....
235 Dickinson Avenue
- CLARENCE FINLAYSON, *Instructor in Spanish*.....
Chilean Consulate, 1626 Spruce Street, Philadelphia
M.A., Catholic University of Chile; Ph.D., Notre Dame.
- C. JUSTUS GARRAHAN, *Instructor in Electrical Engineering*.....
302 North Chester Road
B.S. and M.S., University of Pennsylvania.
- ALICE A. GATES, *Instructor in Physical Education for Women*.....
735 Yale Avenue
B.A., Wellesley College; M.A., Columbia University.
- CHARLES HEIMSCHE, *Instructor in Botany*..... 406 Haverford Place
B.A., Miami University; M.A. and Ph.D., Harvard University.
- RUTH McCLUNG JONES, *Instructor in Botany and Zoölogy*.....
Bobbin Mill Road, Media
B.A., Swarthmore College.
- FREDRIC C. KLEES, *Instructor in English*..... 525 Elm Avenue
B.A., Bowdoin College.
- *BEATRICE BEACH MACLEOD, *Instructor in English*.....
6312 Ridgewood Avenue, Chevy Chase, Maryland
B.A., Swarthmore College; M.F.A., Yale University.
- MARION MONACO, *Instructor in French*..... 1 Whittier Place
B.A., New Jersey College for Women; M.A. and Ph.D., Bryn Mawr
College.
- OMAR PANCOAST, JR., *Instructor (part-time) in Accounting*.....
Government House, Haverford College, Haverford
B.S., Johns Hopkins University; Ph.D., Columbia University.

*Absent on leave.

- MAY E. PARRY, *Instructor in Physical Education for Women*.....
306 South Chester Road
B.A., Swarthmore College; B.S., Temple University.
- W. THEODORE PAULLIN, *Instructor (part-time) in History*.....
Box 510, R.F.D. 3, Media
B.A., M.A., and Ph.D., University of Wisconsin.
- HOWARD POTTER, *Instructor in Chemistry*.....307 North Chester Road
B.S., Alma College; M.A. and Ph.D., Harvard University.
- PHILIP J. POTTER, *Instructor in Mechanical Engineering*.....
5 Chamoun Road, St. Davids
B.S. in M.E., University of Illinois; M.S. in M.E., University of Pennsylvania.
- WILLIAM C. PRENTICE, *Instructor in Psychology*.....409 Elm Avenue
B.A., Swarthmore College; Ph.D., Harvard University.
- CHARLES B. ROSENBERG, *Instructor in Mechanical Engineering*.....
Bancroft Road, Moylan
B.S. in M.E., University of Michigan.
- JOHN SEYBOLD, *Instructor in Economics*.....Swarthmore College
B.A., Swarthmore College; M.A., University of Pennsylvania.
- PRISCILLA KRAMER SILZ, *Instructor in German*.....Wallingford Hills
B.A., M.A. and Ph.D., Radcliffe College.
- HERBERT G. SONTHOFF, *Instructor in Political Science*.....6 Whittier Place
M.A., University of Georgia; M.A., Harvard University.
- ETHEL STILZ, *Instructor (part-time) in Fine Arts*.....Parrish Hall
Ph.B., University of Chicago; M.A., Columbia University.
- FREDERICK B. TOLLES, *Librarian of the Friends Historical Library and Instructor in History (part-time)*.....416 North Chester Road
B.A. and M.A., Harvard University.
- *C. BROOKE WORTH, *Instructor in Zoölogy*.....602 Elm Avenue
B.A., Swarthmore College; M.D., University of Pennsylvania.
- BEATRICE A. WRIGHT, *Instructor in Psychology and Education*.....
307 North Chester Road
B.A., Brooklyn College; M.A. and Ph.D., University of Iowa.

Lecturers and Assistants

- W. H. AUDEN, *Lecturer in English*.....Sunnybank, Vassar Avenue
B.A., Oxford University
- JOSEPH S. BUTTERWECK, *Lecturer in Education*.....Gwynedd Valley
B.S. and M.A., University of Pennsylvania; Ph.D., Columbia University.
- WILLIAM N. LOUCKS, *Lecturer in Economics*.....501 Anthwyn Road, Merion
M.A., Ohio State University; Ph.D., University of Pennsylvania.

*Absent on leave.

- ALBERT M. BARRON, *Assistant in Physical Education for Men*.....
 4244 Old York Road, Philadelphia
 B.S., Pennsylvania State College; M.S., Temple University.
- VIRGINIA MEYER BRADLEY, *Assistant in English*.....219 Swarthmore Avenue
 B.A., Ursinus College.
- HELEN WHETSTONE COTTEE, *Assistant in Physical Education for Women*....
 Plymouth Hall, Media
- ROY W. DELAPLAINE, *Assistant in Astronomy*.....106 Cornell Avenue
 B.A., Swarthmore College.
- HENRY C. FORD, *Assistant in Physical Education for Men*.....
 806 Glen Terrace, Chester
 B.A., Swarthmore College; M.A., Temple University.
- HANS FRIED, *Assistant in Astronomy*.....361 Lancaster Avenue, Haverford
 Dr. phil., University of Vienna.
- GRETCHEN WATSON HUGHES, *Assistant in Physical Education for Women*....
 735 Yale Avenue
 B.A., Swarthmore College.
- SUSAN IRVING, *Assistant in Zoölogy*.....R.R. 3, Media
 B.A., Radcliffe College.
- HARRIET STONE JAQUETTE, *Assistant in Physical Education for Women*.....
 110 Park Avenue
- LINDSAY LAFFORD, *Assistant in Music*.....Thornbrooke Manor, Bryn Mawr
 F.R.C.O., London.
- SARAH LEE LIPPINCOTT, *Assistant in Astronomy*.....
 226 West Tulpehocken Street, Germantown
 B.A., University of Pennsylvania.
- JAMES J. McADOO, *Assistant in Physical Education for Men*.....
 513 East Bringhurst Street, Germantown
- WILLIS J. STETSON, *Assistant in Physical Education for Men*.....
 144 North Highland Road, Springfield
 B.A., Swarthmore College; M.A., University of Pennsylvania.

Research Associates

- GEORGE EDWARDS, *Research Associate in Biology*.....R.R. 3, Media
 B.S. and M.S., Tufts College.
- P. F. SCHOLANDER, *Research Associate in Zoölogy*.....411 College Avenue
 Ph.D., University of Oslo.
- *K. AA. STRAND, *Research Associate in Astronomy*.....152 Park Avenue
 Cand.Mag., Mag. Scient. and Phil.Dr., University of Copenhagen.
- HANS WALLACH, *Research Associate in Psychology*....23 Princeton Avenue
 Dr. phil., University of Berlin.

*Absent on leave.

VISITING EXAMINERS OF CANDIDATES FOR DEGREES WITH HONORS MAY, 1942

Division of the Humanities

Classics: PROFESSOR HENRY LAMAR CROSBY, University of Pennsylvania.

English: PROFESSOR HOWARD L. LOWRY, Princeton University; PROFESSOR GEORGE F. WHICHER, Amherst College; MR. GEORGE VAN SANTVOORD, The Hotchkiss School.

Fine Arts: PROFESSOR JOSEPH CURTISS SLOANE, JR., Bryn Mawr College.

French: PROFESSOR HENRI PEYRE, Yale University.

History: PROFESSOR WILLIAM AYDELOTTE, Trinity College; MR. GEORGE BRADEN, Yale Law School; DR. PAUL LEWINSON, National Archives, Washington, D. C.; PROFESSOR JEAN WILSON, Smith College.

Linguistics: PROFESSOR ROLAND G. KENT, University of Pennsylvania.

Philosophy: PROFESSOR DAVID F. BOWERS, Princeton University; PROFESSOR GLENN R. MORROW, University of Pennsylvania; PROFESSOR DOUGLAS V. STEERE, Haverford College.

Psychology: PROFESSOR DONALD K. ADAMS, Duke University; PROFESSOR SOLOMON E. ASCH, Brooklyn College.

Division of the Social Sciences

Economics: PROFESSOR WILLIAM LOUCKS, University of Pennsylvania; PROFESSOR JAMES SMITH, Princeton University; PROFESSOR RALPH A. YOUNG, University of Pennsylvania.

History: PROFESSOR WILLIAM AYDELOTTE, Trinity College; MR. GEORGE BRADEN, Yale Law School; DR. PAUL LEWINSON, National Archives, Washington, D. C.; PROFESSOR JEAN WILSON, Smith College.

Philosophy: PROFESSOR DAVID F. BOWERS, Princeton University; PROFESSOR GLENN R. MORROW, University of Pennsylvania; PROFESSOR DOUGLAS V. STEERE, Haverford College.

Political Science: PROFESSOR GRAYSON KIRK, Columbia University; PROFESSOR JOHN D. LEWIS, Oberlin College.

Psychology: PROFESSOR DONALD K. ADAMS, Duke University; PROFESSOR SOLOMON E. ASCH, Brooklyn College.

Division of Mathematics and the Natural Sciences

Botany: DR. ANNA YOUNG WHITING, University of Pennsylvania.

Chemistry: PROFESSOR A. HAROLD BLATT, Queens College; PROFESSOR GEORGE E. KIMBALL, Columbia University; DR. GEORGE H. WALDEN, JR., Standard Oil Company of Louisiana.

Mathematics and Astronomy: PROFESSOR J. BARKLEY ROSSER, Cornell University; PROFESSOR D. V. WIDDER, Harvard University; PROFESSOR S. S. WILKS, Princeton University; PROFESSOR JAN SCHILT, Columbia University.

Physics: PROFESSOR H. K. SCHILLING, Pennsylvania State College.

Psychology: PROFESSOR DONALD K. ADAMS, Duke University; PROFESSOR SOLOMON E. ASCH, Brooklyn College.

Zoölogy: PROFESSOR A. ELIZABETH ADAMS, Mount Holyoke College; PROFESSOR RALPH W. GERARD, University of Chicago.

Division of Engineering

Electrical Engineering: PROFESSOR C. N. WEYGANDT, University of Pennsylvania.

Civil and Mechanical Engineering: PROFESSOR M. C. STUART, Lehigh University.

DIVISIONS AND DEPARTMENTS

I. Division of the Humanities—EDITH PHILIPS, *Chairman*.

Classics, ETHEL H. BREWSTER, *Chairman*.

English, HAROLD C. GODDARD, *Chairman*.

Fine Arts, ROBERT M. WALKER, *Chairman*.

German, WALTER SILZ, *Chairman*.

History, MARY ALBERTSON, *Chairman*.

Music, ALFRED J. SWAN, *Chairman*.

Philosophy and Religion, BRAND BLANSHARD, *Chairman*.

Psychology and Education, EDWIN B. NEWMAN, *Acting Chairman*.

Romance Languages, EDITH PHILIPS, *Chairman*.

II. Division of the Social Sciences—J. ROLAND PENNOCK, *Chairman*.

Economics, HERBERT F. FRASER, *Chairman*.

History, MARY ALBERTSON, *Chairman*.

Philosophy and Religion, BRAND BLANSHARD, *Chairman*.

Political Science, ROLAND PENNOCK, *Chairman*.

Psychology and Education, EDWIN B. NEWMAN, *Acting Chairman*.

III. Division of Mathematics and the Natural Sciences—

WINTHROP R. WRIGHT, *Chairman*.

Botany, LUZERN G. LIVINGSTON, *Chairman*.

Chemistry, H. JERMAIN CREIGHTON, *Chairman*.

Mathematics and Astronomy, ARNOLD DRESDEN, *Chairman*.

Physics, WINTHROP R. WRIGHT, *Chairman*.

Psychology, EDWIN B. NEWMAN, *Acting Chairman*.

Zoölogy, LAURENCE IRVING, *Chairman*.

IV. Division of Engineering—SCOTT B. LILLY, *Chairman*.

Civil Engineering, SCOTT B. LILLY, *Chairman*.

Electrical Engineering, JOHN D. MCCRUMM, *Acting Chairman*.

Mechanical Engineering, GEORGE B. THOM, *Acting Chairman*.

Chemistry, H. JERMAIN CREIGHTON, *Chairman*.

Mathematics, ARNOLD DRESDEN, *Chairman*.

Physics, WINTHROP R. WRIGHT, *Chairman*.

ADMINISTRATIVE OFFICERS AND ASSISTANTS

President's Office

President, JOHN W. NASON, B.A., Carleton College; B.A., University of Oxford; M.A., Harvard University; LL.D., University of Pennsylvania.

Assistant, FREDERICK B. TOLLES, B.A. and M.A., Harvard University.

Secretaries: EMMA ABBETT.

ELSA PALMER JENKINS, B.A., Swarthmore College.

Dean's Office

Deans:

FRANCES BLANSHARD, B.A., Smith College; M.A. and Ph.D., Columbia University.

EVERETT L. HUNT, B.A., Huron College; M.A., University of Chicago; D.Litt., Huron College.

Assistants:

HEINRICH BRINKMANN, Associate Adviser of Men, B.A., Leland Stanford Junior University; M.A., and Ph.D., Harvard University.

*ADOLPH MEIER, B.A., University of Pennsylvania; M.A., Bryn Mawr College.

JEAN WALTON, B.A., Swarthmore College; M.A., Brown University.

Recording Secretary: JULIA YOUNG MURRAY, B.A., Swarthmore College.

Secretaries: MYRTLE R. KEENY, B.A., Dickinson College.

FRANCES WILLS SLAUGH, B.A., Swarthmore College.

Head Residents in Dormitories:

SARA M. LITTLE, Worth Dormitory; B.A., Smith College.

CORNELIA C. PITTENGER, Palmer and Pittenger Halls; B.A., Swarthmore College.

HELEN B. STEVENS, Roberts Hall.

JEAN WALTON, Parrish Hall; B.A., Swarthmore College; M.A., Brown University.

Library Staff

College Library:

Librarian, CHARLES B. SHAW, B.A. and M.A., Clark University.

Reference Department:

Chief, CATHARINE J. PIERCE, B.A., Women's College of the University of North Carolina; M.S., Columbia University.

Assistant, DOROTHEA D. REEVES, B.A., Radcliffe College; B.S. in L.S., Drexel Institute.

*Absent on leave.

Catalogue Department:

*Chief, MILDRED E HERRICK, B.A., Michigan State Normal College; B.A. in L.S., University of Michigan.

Acting Chief, LAURA C. COLVYN, B.A., College of William and Mary; B.A. in L.S., University of Michigan; M.A. in L.S., University of Michigan.

Assistants: GLADYS M. BROWNELL, B.A., Mt. Holyoke College; B.S., Columbia University; JUDITH E. SACHS, B.S. in L.S., Columbia University; Ph.D., Freyburg, Switzerland.

Circulation Department:

*Chief, KATHARINE PATTERSON GAY, B.A., Swarthmore College; B.S. in L.S., Drexel Institute.

Acting Chief, ADELINE REDHEFFER, B.S. in Educ., West Chester State Teachers College; B.S. in L.S., Drexel Institute.

Assistants: ANN J. COULTER, B.A., Hood College; B.S. in L.S., Drexel Institute; PRISCILLA MAGOUN, B.A., Wellesley College; ADELE SMITH, B.A., University of Delaware.

Periodical and Binding Department:

MARY GOCHER TAIT, B.A., Wells College; B.S. in L.S., Drexel Institute.

Secretary, MARIE T. HENRY, B.A., College of Chestnut Hill; B.S. in L.S., Drexel Institute.

Friends Historical Library

Librarian, FREDERICK B. TOLLES, B.A. and M.A., Harvard University.

Assistants: E. VIRGINIA WALKER, B.A., Swarthmore College; B.S. in L.S., Drexel Institute; DOROTHY G. HARRIS, B.A., Wellesley College; B.S. in L.S., Drexel Institute; ELLEN STARR BRINTON, Curator of the Jane Addams Peace Collection.

Comptroller's Office

Comptroller, NICHOLAS O. PITTENGER, B.A., Indiana University.

Assistant, SAMUEL G. ECKERD, B.A., Swarthmore College.

Bookkeeper, ELIZABETH R. HIRST.

Assistants: GRACE REDHEFFER BABBITT, EDNA B. CORSON, ANNE VODER CRANE.

Secretary, LUELLE TRINTERUD, B.A., University of Washington.

Manager of Bookstore, JEAN M. SORBER.

Stenographic Staff:

Head of the Stenographic Bureau, MARION L. TURNER, B.A., New Jersey College for Women.

Stenographic Assistants: JEAN ALSTON, B.A., Bucknell University; KATHRYN BASSETT; MARY M. WILLOUGHBY.

*Absent on leave.

Superintendent's Office

*Superintendent, ANDREW SIMPSON, B.A., Swarthmore College; M.S., Cornell University.

Acting Superintendent and Head Gardener, HARRY WOOD.

Secretaries: VERONICA SULLIVAN; CAROLINE SHERO, B.A., Swarthmore College.

Director of Arthur Hoyt Scott Horticultural Foundation, JOHN C. WISTER, B.A., Harvard University; D.Sc., Swarthmore College.

Assistant, HELEN SMITH, B.E., St. Cloud Teachers College; Ambler School of Horticulture for Women.

House Director's Office

House Director, ETHEL STILZ, Ph.B., University of Chicago; M.A., Columbia University.

Assistant, SARA M. LITTLE, B.A., Smith College.

Dietitian

RUTH E. CARR, B.S., Simmons College.

Alumni Office

Alumni Secretary, CARL K. DELLMUTH, B.A., Swarthmore College.

Assistant, BARBARA PEARSON LANGE.

Alumni Recorder, ANNE COMFORT JONES, B.A., Swarthmore College.

Health Service

Physicians:

DOROTHY L. ASHTON, B.A., Bryn Mawr College; M.D., University of Pennsylvania, F. A. C. S.

MORRIS A. BOWIE, B.A., University of Colorado; M.D., Harvard University.

Nurses:

BLANCHE DEVEREUX, R.N., ANNE AUSTIN, R.N., ELLEN R. CRESSY, R.N.

Honorary Curators of the Biddle Memorial Library

CHARLES F. JENKINS, *Chairman*..... 232 South Seventh Street, Philadelphia

CLEMENT M. BIDDLE..... P. O. Box 743, Church Street Station, New York

LA VERNE FORBUSH..... 5102 York Road, Baltimore, Md.

JESSE MERRITT..... Farmingdale, L. I.

LOUIS N. ROBINSON..... 411 College Avenue, Swarthmore

JANE P. RUSHMORE..... Riverton, N. J.

FRANK AYDELOTTE..... Olden Manor, Olden Lane, Princeton, N. J.

*Absent on leave, part-time.

STANDING COMMITTEES OF THE FACULTY

ABSENCE: Pierson, *Chairman*.

Dr. Ashton, Dr. Bowie, Brinkmann, Garraghan, Goddard.

ADMISSIONS AND SCHOLARSHIPS (MEN): Hunt, *Chairman*.

Brinkmann, Dellmuth, Lilly, Pittenger, Scott, Scudder.

ADMISSIONS AND SCHOLARSHIPS (WOMEN): F. Blanshard, *Chairman*.

Brewster, Hunt, Philips, Walton, Mrs. Charles Rickards and Mrs. William Rogers.

ARTS AND CRAFTS: Spiller, *Chairman*.

Bradley, Hunt, Rath, Sorber, Walker.

ATHLETICS: Dellmuth, *Chairman*.

B. Blanshard, Carpenter, Dunn, Pittenger, Scott, H. Wood, with Charles C. Miller.

AWARDS AND PRIZES: Keighton, *Chairman*.

F. Blanshard, Hunt, McCrumm, E. Wright.

COLLECTION: Enders, *Chairman*.

Brandt, Fraser, Hicks, Shaw, Sorber.

COLLEGE LIBRARY: B. Blanshard, *Chairman*.

Brewster, Fraser, Shaw, Silz, van de Kamp, Walker, E. Wright.

COOPER FOUNDATION: Shaw, *Chairman*.

Irving, Mandelbaum, Pennock, Silz, Sorber, Stolper, Walker.

FELLOWSHIPS: Garrett, *Chairman*.

Albertson, Brandt, Dresden, Keighton, Pierson, Silz.

FRIENDS HISTORICAL LIBRARY: Pennock, *Chairman*.

B. Blanshard, Brewster, Manning, Shaw, Spiller, Tolles.

HONORS WORK AND EXAMINERS: Shero, *Chairman*.

Lilly, Pennock, Philips, W. Wright.

INSTRUCTION: Nason, *Chairman*.

F. Blanshard, Hunt, Kille, Lilly, Pennock, Philips, W. Wright.

PRESCRIBED AND EXTRA WORK: Creighton, *Chairman*.

Albertson, F. Blanshard, Enders, Hunt, Lilly, Mandelbaum, Silz.

SCHEDULE OF CLASSES: Brinkmann, *Chairman*.

Baer, Livingston, Mandelbaum, McCrumm.

STUDENT AFFAIRS: Hunt, *Chairman*.

F. Blanshard, Carpenter, Jones, Pittenger, Seybold.

STUDENT RECORDS: F. Blanshard, *Chairman*.

Brinkmann, Hunt, Lilly, Livingston, Nason, Pittenger, Seybold, Walton.

TRAVEL ALLOWANCE: Brewster, *Chairman*.

Cox, Newman, Reuning, W. Wright.

SECRETARY TO THE FACULTY: Shero.

GENERAL INFORMATION

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.

This year a college catalogue should make clear how the program it describes is related to the national emergency. Swarthmore, as a Friends college, continues to emphasize the importance of individual development and social responsibility. The faculty plans to offer the usual variety of work in the natural sciences and engineering, in the social sciences and the humanities. New courses also are in prospect, some designed to clarify issues of the war and problems of post-war reconstruction; some, to give training for service open to conscientious objectors, some to provide the basis for service in the armed forces. Swarthmore students are now enrolled under the several plans approved by the Army and Navy.

In order to give students a chance to complete as much as possible of their college education before they may be called into service, the college has adopted an accelerated program by introducing a third term of fourteen weeks, the equivalent of each of the traditional two semesters. Eight terms still constitute the normal requirement for the B.A. or B.S. degree, but a student who enrolls for three terms a year will complete his work within 32 months. If he is called into service after his seventh term, he may be granted a special war degree. Freshmen are accepted at the beginning of each term, in October, February and June.

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.*

The enrolment of the college is limited to approximately seven hundred resident students. The endowment is eight million dollars.

*For a map showing buildings and grounds see pages 140, 141.

EDUCATIONAL PROGRAM

BALANCE OF AIMS

The educational program of Swarthmore College offers opportunities for well-rounded growth. On the academic side, college requirements point to the value of a variety of courses during the first two years, followed by some degree of specialization during the junior and senior years. To give students the advantage of close association with their instructors, classes are kept small, so far as possible; seminars of from five to seven students are the rule for much advanced work. To supplement the intellectual activity of the classroom, the college provides an extensive program of sports, arts and crafts, and other 'interest groups.'

All students are required to give some time each week to physical exercise, and are encouraged to take part in team games and also in individual sports which they can continue to enjoy after college. The facilities for physical education include a Field House, two gymnasiums, two swimming pools, three large athletic fields, tennis courts, a riding ring, the use of a nearby golf course, and an Outing Club cabin in the country.

Work in the arts and crafts is implemented by shops, studios, and three stages, one in an outdoor auditorium, one for informal production and one fully equipped for public performances requiring the construction of scenery and special lighting. In music emphasis is laid on the participation of a large number of students in informal group singing and playing. There are three undergraduate publications: a newspaper, the *Phoenix*; a literary magazine, the *Dodo*; and a yearbook, the *Halcyon*. News writing for outside papers is in the hands of the News Bureau.

Student interest in social problems and public affairs finds outlets in many discussion groups, departmental clubs and in committees which undertake useful projects under the direction of nearby welfare agencies, such as the American Friends Service Committee and the Delaware County Welfare Council.

COOPERATION WITH NEARBY INSTITUTIONS

Since 1933 Swarthmore College and three nearby institutions—Haverford College, Bryn Mawr College, and the University of Pennsylvania—have had a cooperative plan involving the

occasional exchange of instructors and students. This has made it possible for students at Swarthmore by special arrangement to enroll for courses in the other institutions. Cooperation between the three Quaker colleges is being carried further at the present time, with plans for a more systematic exchange of instructors and collaboration among the students in those extra-curricular activities which will profit by a wider range of talent. Consideration will be given to the material and instruction already available in building up library facilities and new departments with the aim of taking maximum advantage of the resources of the institutions concerned.

LIBRARIES

The Swarthmore College Library, in part the gift of Andrew Carnegie, contains reading rooms, offices, and a collection of 130,000 volumes. Some 5,000 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 try to supply, either by purchase or through inter-library loan, the books needed by students or members of the faculty for their individual research.

The FRIENDS HISTORICAL LIBRARY, founded in 1870 by Anson Lapham, is one of the outstanding collections in the United States of manuscripts, books, pamphlets, and pictures relating to the history of the Society of Friends. The library is the central depository for the records of Friends' meetings belonging to Philadelphia Yearly Meeting (Hicksite), and contains approximately 900 record books, many of which have been reproduced on microfilm. A microfilm reading machine is available. Among the other manuscript holdings are the Charles F. Jenkins Autograph Collection, including signatures of authors, reformers, and members of the Continental Congress; the Charles F. Jenkins Whittier Collection, consisting of first editions

and manuscripts of John Greenleaf Whittier; and journals, letters, and miscellaneous papers of many Friends. The library's collection of printed materials by and about Friends includes a large number of seventeenth-century imprints as well as many books, pamphlets, and periodicals of later date. There is also an extensive collection of photographs of meeting houses and pictures of representative Friends including the original of Sir Peter Lely's portrait of George Fox. Also housed in the Friends Historical Library is the Jane Addams Peace Collection built around a nucleus of books and personal papers given in 1930 by Jane Addams; it contains a large amount of material dealing with international peace and has become a repository for the files of many peace organizations. All the collections are housed in the Biddle Memorial Library, a fireproof structure of stone and steel, given by Clement M. Biddle in memory of his father. It is hoped that Friends and others will consider the advantages of depositing in this library for preservation and for the use of scholars, books and family papers which may throw light on the history of the Society of Friends.

THE WILLIAM J. COOPER FOUNDATION

The WILLIAM J. COOPER FOUNDATION provides a varied program of lectures and concerts which enriches 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. 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 . . . 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.

COLLECTIONS OF ART AND MUSIC

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.

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 cooperation with the work of the college Department of Music.

RELIGIOUS LIFE

The religious life of the college is founded on the Quaker principle that the seat of spiritual authority lies in the Inner

Light of each individual. It is committed to the belief that religion is best expressed in the quality of every-day living. There are accordingly no compulsory religious services. Students are encouraged to attend the churches of their choice: Episcopal, Presbyterian, Methodist, and Christian Science, in the borough of Swarthmore; Catholic, in the nearby towns of Morton, Media, and Chester.

The Swarthmore Meeting House is located on the campus. Students are cordially invited to attend its active religious service on Sunday. A fifteen-minute meeting for quiet meditation after the manner of Friends is held every Monday, Tuesday, Wednesday, and Friday at noon. Students and faculty attend on a voluntary basis. Extra-curricular groups under faculty direction exist for the study of the Bible and the exploration of common concerns in religion.

There is an assembly of the college, called Collection, from 11.00 until 11.30 a.m., every Thursday in 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.

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. Most students live in dormitories. Many members of the faculty live in houses on the campus.

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; Thomas House on Harvard Avenue; Woolman House and Bassett Dormitory on Walnut Lane.

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 memorial to their parents; Palmer, Pittenger and Roberts Halls on South Chester Road.

Dining Rooms

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

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 college health program includes tuberculin tests, which are compulsory for all students.

There are two infirmaries, one for men and one for women. The infirmary for men is in Section F of Wharton Hall. The women's infirmary is at the east end of Parrish Hall. A registered nurse is in charge of each, under the direction of the college physicians.

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 Society of Book and Key and of the Executive Committee of the Women's Student Government Association carry special responsibility for the Freshman Placement Program.

Vocational Advice

The Alumni Secretary and his assistant 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.

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.

REQUIREMENTS FOR 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 his choice of three of the Scholastic Achievement Tests given by the College Entrance Examination Board.
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. Children of Friends and Alumni of the college 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.

In general candidates are admitted on the basis of (1) high rank in school and in the Scholastic Aptitude and Achievement tests; (2) evidence of sturdiness of character.

SUBJECTS OF PREPARATORY STUDY

In preparation for college 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.*

*These entrance requirements may be modified in individual cases to meet the conditions of the present national emergency.

Required Subjects, Ten and One-Half Units

| | Units |
|---|-------|
| Elementary and Intermediate Algebra | 1½ |
| Plane Geometry | 1 |
| English (4 years) | 3 |
| *Foreign Language | 4 |
| History | 1 |

Elective Subjects, Four and One-Half Units

| | Units | | Units |
|-----------------------------|-----------|------------------------------|--------|
| Advanced Algebra | ½ | English History | 1 |
| **Solid Geometry | ½ | American History | 1 |
| **Plane Trigonometry | ½ | Civics | ½ |
| Latin | 2, 3 or 4 | Problems of Democracy | 1 |
| Greek | 2, 3 or 4 | Physics | 1 |
| French | 2, 3 or 4 | Chemistry | 1 |
| German | 2, 3 or 4 | Botany | ½ or 1 |
| Spanish | 2, 3 or 4 | Biology | ½ or 1 |
| Ancient History | 1 | Physical Geography ... | ½ or 1 |
| Medieval and Modern History | 1 | Freehand Drawing | ½ or 1 |
| Modern History | 1 | Mechanical Drawing .. | ½ or 1 |
| | | Music | 1 |
| | | (with History and Theory) | |
| | | Art History and Appreciation | 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.

IMPORTANT DATES FOR ADMISSION APPLICANTS

A formal application should be submitted during the junior year whenever possible.

The last date for filing applications for admission in the summer or fall term is March 1. Students who wish to enter in either of these terms should take the Scholastic Aptitude and Achievement Tests in April of their senior year.

Applicants for admission in February may place their names on file up to December 15. They may take their tests either in September or in January.

SCHOLARSHIPS

Applications for scholarships must be filed early in the second semester of a candidate's senior year in high school. No other examinations are required beyond those taken by all applicants for admission, the Scholastic Aptitude and three Achievement Tests.





EXAMINATIONS FOR ADMISSION AND FOR SCHOLARSHIPS

The College Entrance Examination Board will hold examinations in January, April, June and September, 1943, at approximately 150 places in the United States. Applications to take tests must be sent to the College Board, Post Office Box 592, Princeton, New Jersey, well in advance of the following dates: January series, December 19; April series, March 20; June series, May 15; September series, August 18. The fee charged by the College Board for the Aptitude Test and three Achievement Tests is eight dollars.

For further information about these tests, candidates should write to the College Board at the address given above.

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. The minimum requirement of residence is two years, one of which must be the senior year.

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

*For groupings of departments see page 18.

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. 84, 85) and must attend the Collection exercises of the college (see p. 28.)

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.

(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

WORK IN COURSES

The work of the last two years in 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 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. 40), normally constitutes the course requirement for a degree. 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 Committee on Extra and Prescribed Work. 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 visiting examiners has been instituted. The examiners first set a three-hour written examination on the subject of each seminar, and after 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.

*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, 1942, see page 17.

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.

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, Music 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 normally devote half their time to their major subject, dividing the remainder among related minor subjects according to plans approved by the division.

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. 60, 62, 64.)

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 apparent 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 Committee on Extra and Prescribed Work for final approval.

DEGREES

BACHELOR OF ARTS AND 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 33, 35 and following. Students who are drafted after the completion of the seventh semester and who are in good standing when drafted shall be awarded the Bachelor's degree *honoris causa*.

MASTER OF ARTS AND MASTER OF SCIENCE

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 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 visiting examiners. (See p. 17.)

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.

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. 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.

Prohibition 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 \$200 a term, payable in advance. The charge for residence is \$250 a term, payable at the beginning of each term. There is a uniform laboratory and activities fee of \$25 per term, which covers both academic and extra-curricular College activities and supersedes all separate fees formerly charged. A deposit of \$25 is required of each student, payable in advance, to cover incidental bills. Any unused balance is returned.

Charges per term:

| | |
|-----------------------------------|-------|
| Tuition | \$200 |
| Residence | 250 |
| Deposit for incidental bills..... | 25 |
| Fees | 25 |

Total charges\$500

Recognizing that the accelerated program creates a financial difficulty for many students and parents, the College reduced the charges for the summer term in 1942. Tuition was set at \$150 and residence at \$200. It is hoped, but not yet certain, that a similar reduction can be made in the summer of 1943.

The payment of each term's charges is due not later than Registration Day at the beginning of the term. Bills are mailed before the opening of the current term. Payments should be made by check or draft to the order of SWARTHMORE COLLEGE. In case a student's bill is not paid by the end of the first month, he 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 term. 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 \$25 deposit. When this deposit has been exhausted a new deposit will be required immediately.

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

COURSES OF INSTRUCTION

*BOTANY

ASSISTANT PROFESSOR: LUZERN G. LIVINGSTON, *Chairman.*

INSTRUCTORS: CHARLES HEIMSCH.

RUTH McCLUNG JONES.

1. Biology. Botany and Zoölogy staff. *Full course.*

This introductory course is designed to present the fundamental aspects of biology. 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 include: protoplasm, the cell, fundamentals of metabolism, structure and function of the higher plant, nuclear and cell division, plant reproduction, genetics, and a brief survey of the plant kingdom. The second semester will survey the characteristics of invertebrate and vertebrate animals, geographical distribution, evolution, embryology and physiology. This course is a prerequisite for advanced courses in botany and zoölogy.

Three lectures or conferences and one laboratory period per week.

2. Genetics. Mr. Livingston. *Half course.*

A study of the fundamental principles of genetics, including Mendelian inheritance, the chromosome mechanism and the gene theory, and the application of the principles of genetics to plant and animal breeding.

Two lectures and one conference per week.

2a. Advanced Genetics. Mr. Livingston and Mrs. Jones.

Planned especially for majors in botany and zoölogy. Lectures will largely be replaced by conferences. In the laboratory, experiments will be concerned with Mendelian inheritance in plants and animals, cytogenetics and the production of mutations by various means.

3. Taxonomy. Mr. Heimsch. *Half course.*

A course including (1) the methods involved in identification of native and horticultural species of the campus and woods, and (2) considerations of evidence from various fields of study, i.e., anatomy, morphology, cytology, etc., which bear directly on the problems of interrelationships of angiosperms.

Two lectures and two laboratory periods per week.

4. Plant Anatomy. Mr. Heimsch. *Half course.*

A course designed to introduce the technique of plant tissue preparation and the fundamentals of plant anatomy, including cellular organization of vegetative and reproductive parts as well as critical consideration of meristematic activity and differentiation.

Two lectures and two laboratory periods per week.

5. Survey of the Plant Kingdom. Mr. Heimsch. *Half course.*

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.

*Under the accelerated program, not all courses will be offered every term.

6. Plant Physiology. Mr. Livingston. *Half course.*
 An integrated study of the physiological processes of the higher plant, including general cellular physiology, water relations, mineral nutrition, photosynthesis, enzyme action and organic synthesis, cellular respiration, translocation, the physiology of growth and development, and related topics.
 Two lectures, one conference, and one laboratory period per week.
7. Economic Botany. Mr. Heimsch. *Half course.*
 A study of the principles and factors which condition the utilization of plant materials such as wood and wood products, fibers, food products (fruits, cereals, leaf and root crops), drugs, etc.
 Three lectures per week, plus reports and/or laboratory.
8. The Biology of Bacteria. Mr. Livingston. *Half course.*
 An approach to the study of bacteriology with principal emphasis on the consideration of bacteria as organisms rather than causative agents for disease, etc.
 Two lectures and two laboratory periods per week.
9. Cytology. Mrs. Jones. *Half course.*
 An advanced course including a study of both cytoplasmic and nuclear structures.
 Prerequisite either Botany 4 or Zoölogy (Histology).
10. Special Topics. Mr. Heimsch, Mrs. Jones, and Mr. Livingston. *Half course.*

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

HONORS WORK

Prerequisites. The following 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. Candidates for Honors should arrange a discussion of their course program in relation to future Honors work as early as possible in their freshman year.

Seminars. The following seminars prepare for examinations for a degree with Honors:

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 environment factors on the distribution of plants.

3. Genetics.

A study of the structure and development of the cell-theories of inheritance, Mendelism, plant and animal breeding methods and problems, 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.

A study of the biology and biochemistry of bacteria.

*CHEMISTRY

PROFESSORS: H. JERMAIN CREIGHTON, *Chairman*.
EDWARD H. COX.

ASSOCIATE PROFESSOR: DUNCAN G. FOSTER.

ASSISTANT PROFESSOR: WALTER B. KEIGHTON, JR.

INSTRUCTOR: HOWARD POTTER.

1. Inorganic Chemistry. Mr. Creighton. *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 three hours of lectures and one four-hour laboratory period weekly. Text-books: Hildebrand, *Principles of Chemistry* and Latimer and Hildebrand, *Reference Book of Inorganic 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*.

One lecture, one recitation or conference and two laboratory periods per week. Prerequisite, Chemistry 1, with a minimum grade of C.

4. Analytical Chemistry. Mr. Foster. *Full course, one semester.*

A laboratory course in the principles of gravimetric analysis, organic and gas analysis. Text-book, *Quantitative Inorganic Analysis*, Kolthoff and Sandell; reference-books, Treadwell-Hall, *Analytical Chemistry* and Fales, *Inorganic Quantitative Analysis*. Eighteen hours' laboratory work with conferences when necessary, to be arranged at the beginning of the course.

5. Physical Chemistry. Mr. Keighton. *Full course.*

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: Millard, *Physical Chemistry for Colleges*; Daniels, Mathews, and Williams, *Experimental Physical Chemistry*.

Prerequisites, Chemistry 1 with a minimum grade of C, and a course in General Physics. This course is offered to juniors and seniors.

6. Organic Chemistry. Mr. Cox and Mr. Potter. *Half course.*

Lectures, demonstrations, written exercises, and laboratory work. Three lectures, 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, with a minimum grade of C.

*Under the accelerated program, not all courses will be offered every term.

Three lectures and one four-hour laboratory period a week.

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 the 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*, Fuson and Snyder, *Organic Chemistry*, 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, with a minimum grade of C.

HONORS WORK

The following seminars prepare for examinations for a degree with Honors:

1. Analytical Chemistry. Mr. Foster.

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 twenty-four hours a week are spent in the laboratory under the guidance, but not the supervision of the instructor, carrying out examples of gravimetric, advanced volumetric and gas analytical methods. Conferences are held when necessary.

2. Physical Chemistry. Mr. Keighton.

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, electro-chemistry 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. Keighton.

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. Potter.

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. Potter.

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. Potter.

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 with a major in chemistry follow a course of study leading to the degree of A.B. This degree may be taken either in course 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 course are required to complete courses 4, 5, 6 and 6a 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 the seminars listed above. 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

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. (Offered as required.)*
The reading done in this course is determined by the interests and needs of the members of the class.
5. The Mediterranean World: Greece and the East (History 4). Mr. Shero. *Half course.*
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 (English 12). Mr. Shero. *Half course.*
Study in English translation of some of the masterpieces of Greek literature, including the Homeric epics, several of the dramas, Plato's *Republic*.
7. Greek Life and Thought. Mr. Shero. *Half course.*
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. Classical Art and Archaeology. Miss Brewster, Mr. Shero. *Half course.*
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

1. Sub-Freshman Latin. *Full course. (Offered as required.)*
For students who begin Latin in college or for those who are not prepared to enter Latin 2. (Equivalent normally to two years' preparation in secondary school.)

*Under the accelerated program not all courses will be offered every term.

2. Intermediate Latin. Miss Brewster, Mr. Shero. *Full course or two half courses.*

Prose and verse (including Aulus Gellius, Roman Law; Virgil) selected according to the interests and needs of the members of the class. 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.*

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

5. Roman Satire and Epigram. Miss Brewster. *Half course.*

6. Latin Philosophical Writings. Miss Brewster. *Half course.*

7. Latin Language. Miss Brewster. *Half course.*

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

8. Comprehensive Survey. Miss Brewster. *Half course.*

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 Mediterranean World: Rome (History 5). Miss Brewster. *Half course.*

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

10. European Backgrounds. Miss Brewster. *Half course.*

A study of the provinces of the Roman Empire as a background for modern Europe and the Mediterranean world.

11. Pagan-Christian Centuries. Miss Brewster. *Half course.*

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 English (English 12). Miss Brewster. *Half course.*

Study in English translation of some of the masterpieces of Latin literature with emphasis upon the lyric, drama, satire, and philosophic writings, and their influence upon western thought and literature.

HONORS WORK

1. *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:* The following seminars prepare for examinations for a degree with Honors:

1. History of Ancient Greek and Roman Civilization, a survey concentrating upon political institutions, art, and religion. Mr. Shero.
2. Intensive Study of a Special Period of Greek or Roman History: Solon to the End of the Peloponnesian War. Mr. Shero.
The Gracchi to Nero. Miss Brewster.
3. Plato. (See p. 83 under Department of Philosophy.)
4. Greek or Latin Language: an introduction to classical philology, epigraphy, palseography; practice in reading and writing in Greek or in Latin. Mr. Shero, Miss Brewster.
5. Prose Authors: Greek—Thucydides, Plato, the Attic Orators. Mr. Shero.
Latin, with emphasis upon Cicero and the Historians. Miss Brewster.
6. Poets: Greek, with emphasis upon Epic and Tragedy. Mr. Shero.
Latin, with emphasis upon Epic (including Lucretius) and Satire. Miss Brewster.
7. Greek and Roman Archaeology: intensive study of the results of excavations in a few important cities and sanctuaries (e. g., Corinth, Olympia; Pompeii, Ostia).
8. Greek and Roman Political Thought: the principles presented in the writings of Plato, Aristotle, Polybius, and Cicero, and in the careers of representative Roman statesmen.

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.

Required for a major in ancient history: Two seminars in the ancient field (Nos. 1, 2, 7, or 8 above) and two seminars in medieval or modern history. See the statement under History.

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: HERBERT F. FRASER, *Chairman.*

**CLAIR WILCOX.

ASSISTANT PROFESSORS: ***PATRICK MURPHY MALIN.

FRANK C. PIERSON.

WOLFGANG F. STOLPER.

INSTRUCTOR: JOHN SEYBOLD.

LECTURER: WILLIAM N. LOUCKS.

Prerequisites and Requirements: Economics 1 is prerequisite to all advanced courses and seminars in the department. Economics 2 is strongly recommended to all students who plan to major in the department. Economics 3 is open to all upper-classmen. All other advanced courses and seminars are open only to juniors and seniors. Money and Banking is required of all majors and should be taken, in course or in seminar, during the junior year. Economic Theory is required of all students taking four seminars in the department and should be taken during the junior year.

Course Offerings: Courses 1, 2 and 4 and all seminars are offered annually. All other advanced courses are offered in alternate years. A single semester of Courses 2, 3, 8, 9 and 11 may be taken for half-course credit.

INTRODUCTORY COURSES

1. Introduction to Economics. Messrs. Fraser, Pierson, Stolper, and Seybold.

Full course.

A description of the structure of the economy. A study of economic processes. An elementary analysis of the determination of prices and the distribution of income. A discussion of contemporary economic problems.

2. Accounting and Statistics.

The student should familiarize himself with the tools which are employed in quantitative studies in economics. To this end he should take introductory courses in accounting and statistics. This requirement may be satisfied by the completion of Engineering 10 and either Engineering 11 or Psychology 12. These half-courses are described in the statements of those departments.

ADVANCED COURSES

3. Resources, Population, and Technology. Mr. Pierson. *Full course.*

First semester: Economic environment and social attitudes; natural resources; changes in population, migration, and industrial location. Second semester: an examination of sources of economic instability with special reference to production trends, price changes, technological innovations, and urban problems.

4. Money and Banking. Mr. Seybold. *Half course.*

Development and significance of the institutions of money, credit, and banking. Theory and practice of commercial banking. Central banking, liquidity, prices and monetary standards. Credit control. Objectives in monetary policy.

5. Business Cycles. Mr. Stolper. *Half course.*

A discussion of the time series used to measure the business cycle; a brief survey of the statistical methods used; a discussion of business cycle theories with particular emphasis on the determinants of the level of income and employment; an analysis of the 1930's.

6. International Economics. Mr. Stolper or Mr. Fraser. *Half course.*

International monetary problems: the balance of payments, the gold standard, free

*Under the accelerated program not all courses will be offered every semester.

**Absent on leave, part-time.

***Absent on leave.

exchanges, exchange equalization accounts, exchange control. The theory of international trade. Commercial policy: tariffs, quotas, clearing agreements, reciprocal trade agreements.

7. Public Finance. Mr. Fraser.

Half course.

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

8. Economics of Business. Mr. Fraser.

Full course.

The economic problems which confront the business executive. First semester: corporate organization and finance; investment banking and the securities exchanges. Second semester: marketing problems and price policies; risk, speculation, and insurance.

9. Public Control of Business. Mr. Pierson.

Full course.

First semester: government regulation of prices and production in transportation, public utilities, agriculture, and the extractive industries. Second semester: types of non-competitive activity in construction, manufacturing, marketing and the service trades; public enforcement and regulation of competition.

10. Labor Problems. Mr. Pierson.

Half course.

The position of the industrial worker; the American labor movement; the structure and functions of unions. Employer approaches to labor relations; personnel programs. The economics of wage policies. Governmental control of labor relations.

11. Social Economics. Mr. Seybold.

Full course.

An examination of the extent, consequences, and causes of economic inequality. An appraisal of economic reforms with particular reference to social security, medical care, housing, minimum wage laws, the social use of the taxing power, consumers' cooperation, socialism, and economic planning.

SEMINARS

The following seminars prepare for examinations for a degree with Honors:

1. Money and Banking. Mr. Pierson.

The subject matter includes the material covered in Courses 4 and 5 above. The method consists of systematic seminar discussions on the basis of assigned readings, oral reports, and written papers.

2. Economic Theory. Mr. Stolper.

An advanced analysis of the processes by which the prices of goods and services and the incomes of the factors of production are determined under various market conditions. A study of theories of the business cycle. Directed reading and discussion, supplemented by reports on the theoretical problems raised by factual studies.

3. International Economics. Mr. Fraser.

A more detailed examination of the topics listed under Course 6 is followed by a study of the economics of war and post-war readjustment. Directed reading and written reports.

4. Public and Private Finance. Mr. Fraser.

The subject matter parallels that of Courses 7 and 8. Directed reading and written reports.

5. Public Control of Business. Mr. Wilcox.

The subject matter parallels that of Course 9. Research reports will not be required as formerly. Instead students will engage in independent reading under guidance in an extensive bibliography. Weekly outline reports but no semester reports.

6. Social Economics. Mr. Wilcox or Mr. Seybold.

The subject matter parallels that of Courses 10 and 11. Independent reading under guidance in an extensive bibliography. Weekly outline reports but no semester reports.

TUTORIALS AND THESES

Class-room instruction is supplemented by individual tutorials for majors in courses during the Senior year.

A thesis may be substituted for a course or for the examination on the subject matter covered in a seminar, under exceptions for majors in courses during the senior year.

*ENGINEERING

PROFESSOR: SCOTT B. LILLY, *Chairman.*

ASSOCIATE PROFESSORS: SAMUEL T. CARPENTER.

**HOWARD M. JENKINS.

**CHARLES G. THATCHER.

ASSISTANT PROFESSORS: JOHN D. MCCRUMM.

**ANDREW SIMPSON.

***GEORGE B. THOM.

INSTRUCTORS: GEORGE A. BOURDELAIS.

C. JUSTUS GARRAHAN.

PHILIP J. POTTER.

C. B. ROSENBERG.

INSTRUCTOR, PART TIME: OMAR PANCOAST, JR.

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 below.)

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

*Under the accelerated program, not all courses will be offered every term.

**Absent on leave.

***Absent on part-time 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 (not offered under accelerated program)

Sophomore Year—Four Courses

Humanities or Social Science elective

English for Engineers

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 or

Electrical Machinery 31a and 31b

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 37 *et seq.*, and for details see statements of the Departments of Civil, Electrical and Mechanical Engineering, pages 60, 62, 64.

COURSES OF INSTRUCTION

Introductory Courses

1. Surveying. Mr. Carpenter.

One-quarter course.

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, Mr. Rosenberg.

Half course.

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. Rosenberg. *One-quarter course.*

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. Rosenberg.

Half course.

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. Rosenberg.

Half course.

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. McCrumm, Mr. Garrahan.

One-quarter course.

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. Pancoast.

Half course.

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.

*These courses will not be given under the accelerated program.

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

11. Business Statistics. Mr. Stolper. *Half course.*

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.*

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. Lilly.

One hour per week, 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. *Full course.*

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. The origin and solution of physical problems involving hyperbolic functions, elliptic integrals, Gamma and Bessel functions. Also Fourier series, Graeffe's general theory, infinite series, dimensional analysis, and other special topics.

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

CIVIL ENGINEERING

SCOTT B. LILLY, *Chairman.*

20. Analytic Mechanics. Mr. Lilly. *Half course.*

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. Lilly, Mr. Carpenter. *Half course.*

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.*

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.*

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.*

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 spent 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.*

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 65.

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

JOHN D. McCrumm, *Acting Chairman.*

30. Electrical Engineering. Mr. Garrahan. *Full course.*

Laws and principles of direct and alternating currents, and basic concepts of electrical engineering. Theory and operation of small and large-power electrical apparatus. One laboratory period a week devoted to study of electric circuits or operation of electrical machinery and written laboratory report.

This course is required for all non-electrical majors in engineering.

31a. Direct Current Machinery. Mr. McCrumm. *Half course, first semester.*

This is the first half of the work in the junior year in electrical engineering. Further study of magnetic and electro-static circuit elements from an engineering viewpoint. Complete class and laboratory study of direct current motors, generators and control equipment.

31b. Alternating Current Circuit Theory. Mr. McCrumm.

Half course, second semester.

This is the second half of Course 31 and consists largely of the basic principles of alternating current circuit analysis, studied in both the classroom and laboratory.

It should be noted that Courses 31a and b form a rational whole, and should be considered as such. No sharp distinctions are drawn at the boundary of the two. This Course 31 is required of all electrical engineering majors. Prerequisite, Engineering 8.

32. Electronics. Mr. Garrahan. *Half course.*

A study of the fundamentals of electronic control devices. Vacuum tubes; thyatrons; amplifiers; oscillators; modulators; detectors; photo-electric control devices. One laboratory period per week in which fundamental principles are investigated.

33. Alternating Current Machinery. Mr. McCrumm. *Full course.*

Study of all important types of alternating current power machinery such as transformers, synchronous machines, induction motors and others. One laboratory period a week. Required of all electrical engineering majors.

34. Transient Circuit Analysis. Mr. Garrahan. *Half course.*

The transient response of electric circuits is studied both theoretically and experimentally. The theoretical treatment includes an introduction to the operational method of solution. One laboratory period per week, in which theoretical deductions are verified experimentally.

35. Circuit Analysis. Mr. McCrumm. *Half course.*

Analysis of n-mesh networks, network theorems, electro-mechanical equivalent circuits, traveling waves on transmission lines, etc.

36. Communication Engineering. Mr. Garrahan. *Half course.*

An introductory study of complete communication systems. Transmission lines; electric wave filters; equalizing networks; bridge networks; bilateral amplifiers; radiation; antennas. One laboratory period per week in which fundamental principles are investigated.

39. Thesis. Electrical Engineering Department Staff. *Half course credit.*

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 whose major is 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 55 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 persons 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 or Engineering 16 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, Alternating Current Machinery 33, and at least two of the following will be taken in the senior year:

- 32. Electronics
- 34. Transients
- 35. Circuit Analysis
- 36. Communication Engineering
- 39. Thesis

HONORS IN ELECTRICAL ENGINEERING

The following seminars prepare for examinations for a degree with Honors:

1. Electric Circuit Analysis
2. Electronics and Communication
3. Alternating Current Machines

Honors students whose major is electrical engineering take:

(1) Not less than three nor more than four honors examinations in electrical engineering.

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

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

MECHANICAL ENGINEERING

GEORGE B. THOM, *Acting Chairman.*

40. Thermodynamics. Mr. Thom, Mr. Potter. *Half course.*

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. Potter. *Half course.*

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. Rosenberg. *Half course.*

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. Potter. *Half course.*

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. Rosenberg. *Half course.*

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.*

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. Potter, Mr. Rosenberg. *Half course.*

MAJOR IN MECHANICAL ENGINEERING

Students in this group, having completed the first three years as outlined on page 56 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

The topics of examinations for a degree with Honors 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*
PHILIP MARSHALL HICKS
EVERETT L. HUNT
**ROBERT E. SPILLER

ASSOCIATE PROFESSOR: TOWNSEND SCUDDER, 3RD
ASSISTANT PROFESSOR: ELIZABETH COX WRIGHT
LECTURER: W. H. AUDEN
INSTRUCTORS: VIRGINIA MEYER BRADLEY.
***KEITH W. CHALMERS.
FREDRIC S. KLEES
***BEATRICE BEACH MACLEOD

PART-TIME INSTRUCTOR: ALICE K. BRODHEAD.

1. Introduction to English Studies.

Full Course, made up of two of the following:

| | |
|--------------------------------------|---------------------|
| Elizabethan Literature. Mr. Klees. | <i>Half course.</i> |
| The Eighteenth Century. Mr. Scudder. | <i>Half course.</i> |
| The Romantic Movement. Mrs. Wright. | <i>Half course.</i> |
| Victorian Literature. Mr. Klees. | <i>Half course.</i> |
| American Literature. Mr. Spiller. | <i>Half course.</i> |
| Contemporary Literature. Mr. Hicks. | <i>Half course.</i> |
| Great Books. Mr. Hunt. | <i>Half course.</i> |

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

| | |
|---|---------------------|
| 2. Chaucer. Mr. Klees. | <i>Half course.</i> |
| 3. Shakespeare. Mr. Goddard and Mrs. Wright | <i>Full course.</i> |
| 4. Milton and the Seventeenth Century. Mr. Hunt Poetry of the Old Testament, John Donne, Milton. | <i>Half course.</i> |
| 5. English Poetry. Mr. Scudder. | <i>Full course.</i> |
| A study of a selected period or aspect of English poetry. In 1942-43, Nineteenth Century Poetry. | |
| 6a. The Chronicle Novel. Mr. Hicks, | <i>Half course.</i> |
| 6b. The Dramatic Novel. Mr. Hicks. | <i>Half course.</i> |
| 7a. Comedy. Mr. Klees. | <i>Half course.</i> |
| 7b. Tragedy. Mr. Klees. | <i>Half course.</i> |
| 8. Social Criticism. Mr. Klees. | <i>Half course.</i> |
| 9. Modern Literature. Mr. Goddard. | <i>Full course.</i> |
| A study of modern comparative literature. | |

*Under the accelerated program, not all courses will be offered every term.

**Absent on leave, winter term.

***Absent on leave.

10. World Literature. Mr. Goddard. *Half course.*
- 11a. American Literature to 1870. Mr. Spiller. *Half course.*
- 11b. American Literature since 1870. Mr. Hicks and Mr. Spiller
Half course.
12. Criticism. Mr. Hunt. *Half course.*
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.
- Greek Literature in English. (Greek 6.) Mr. Shero. *Half course.*
Study in English translation of some of the masterpieces of Greek literature, including the Homeric epics, several of the dramas, Plato's *Republic*. No knowledge of Greek is required.
- Latin Literature in English. (Latin 12.) Miss Brewster. *Half course.*
Study in English translation of some of the masterpieces of Latin literature with emphasis upon the lyric, drama, satire, and philosophic writings, and their influence upon western thought and literature.
- Writing and Speaking.* Students in need of special training in Composition or Speech will be required to take work in one or both of these subjects, which must be completed before admittance to the junior class. Those required to take both Composition and Speech may combine them in one half course.
13. Fundamentals of Writing and Speech. Mrs. Brodhead and Mrs. Bradley.
Half course.
14. English Composition. Mrs. Brodhead. *Half course.*
This course will meet the demands of the V programs.
15. English for Engineers. Mrs. Brodhead. *Half course.*
16. English Composition for Pre-Medical Students. Mrs. Brodhead.
Half course.

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.

Seminars

The following seminars prepare for examinations for a degree with Honors:

GROUP I

Chaucer. Mr. Scudder and Mr. Klees.

A study of Chaucer's poetry and age.

Shakespeare. Mr. Goddard and Mr. Hicks.

A study of Shakespeare's principal plays, with a rapid reading of the rest of his work.

Milton and the Seventeenth Century. Mr. Hunt.

Donne, Milton, and the poetry of the Bible.

GROUP II

Poetry

A. Mr. Scudder.

The nature and function of poetry; Wordsworth, Keats or Shelley, and Arnold.

B. Mrs. Wright.

Tennyson, Browning, and Christina Rossetti, with studies in Hopkins, Housman, and one or two contemporary writers.

Drama. Mr. Hicks.

Representative plays from different periods; the comic and tragic spirits.

Novel. Mrs. Wright.

The novel as a literary form; Fielding, Meredith, Hardy, and Conrad.

Literary Criticism. Mr. Hunt.

English literary criticism from Sidney to Pater, with some study of classical backgrounds and contemporary developments.

GROUP III

Modern Literature. Mr. Goddard.

Masterpieces of English and European writers of the past 75 years, with emphasis on the Russians.

American Literature. Mr. Spiller.

The American mind as expressed in the writings of Emerson, Melville, Whitman, Mark Twain, and Henry Adams.

Social Criticism. Mr. Spiller.

Social theory in English and American literature.

Problems of Literary Study. Mr. Spiller.

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.

Romanticism. Mr. Auden.

A study of Romanticism in Europe and America from Blake, Rousseau, and Goethe to Joyce, Proust, and Kafka, with emphasis on the relation of its aesthetic principles to the philosophical, political, and scientific thought of the same period.

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 in the second year, and during the last two years a second one of these three courses (which shall be Shakespeare, if not previously elected), 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

ASSISTANT PROFESSOR: ROBERT M. WALKER, *Chairman.*

INSTRUCTOR: ETHEL STILZ.

1. Introduction to Art History. Mr. Walker. *Full course.*

A consideration of certain basic principles of design and expression in the visual arts. An introduction to the fundamental problems of art history and criticism through the analysis of selected examples of architecture, sculpture, and painting during significant periods in Ancient, European, and American civilizations.

Two lectures and one discussion meeting. Open to all students.

2. Interior Design. Miss Stilz. *Full course.*

Principles of design as applied to planning and furnishing of houses. Lectures on the historical development of European and American domestic architecture.

3. Art of the Middle Ages. Mr. Walker. *Full course.*

Study of a civilization through its expression in architecture, sculpture, painting, and the minor arts.

4. Art of the Renaissance.

A study of the points of view of the XV and XVI centuries in Northern and Southern Europe as expressed in architecture, sculpture, painting and graphic art.

5. Classical Art and Archaeology. Miss Brewster, Mr. Shero. (Department of Classics.) *Half course.*

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.

HONORS WORK

Prerequisites. General Course I, Introduction to Art History, is required but outstanding exceptions will be given special consideration.

Seminars. The following seminars prepare for examinations for a degree with Honors:

1. Italian Painting: Fourteenth through Seventeenth Century. Mr. Walker.

Analysis of the work of a selected group of outstanding masters as a means of studying more intensively certain fundamental problems of art history and criticism.

2. Graphic Art. Mr. Walker.

Consideration of technique and history with emphasis on the critical problems of stylistic analysis and discrimination of original material. Trips to museums and private collections are part of the course work.

3. Modern French Painting.

Critical analysis of the work of a selected number of painters from David to Rouault.

For extra-curricular work in Arts and Crafts, see p. 24.

*Under the accelerated program, not all courses will be offered every term.

*GERMAN LANGUAGE AND LITERATURE

PROFESSOR: WALTER SILZ, *Chairman.*

ASSISTANT PROFESSORS: LYDIA BAER.

KARL REUNING.

INSTRUCTOR: PRISCILLA K. SILZ.

1. Elementary German. Mr. Silz, Miss Baer, Mr. Reuning, and Mrs. Silz. *Full course.*
Training in grammar, composition, and reading, with some practice in speaking. Schinnerer, *Beginning German.*
2. German Prose and Poetry, Grammar and Composition. Miss Baer and Mr. Reuning. *Full course.*
Reading of short stories and novels, plays and poems. Review of grammar, practice in written and oral German.
Prerequisite, Course 1 or equivalent.
- 2s. Second Year German for Science Students. Miss Baer, Mr. Reuning, and Mrs. Silz. *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 selected according to the scientific interests of the students. Review of grammar with emphasis on development of reading ability.
Prerequisite, Course 1 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. Writing of critical reports.
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. Mr. Silz. *Full course.*
8. Schiller and His Age. Mr. Silz. *Half course.*
9. Eighteenth Century German Literature and Thought. *Half course.*
10. German Literature in the Twentieth Century. Miss Baer. *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. *Half course.*
Intensive practice in writing and speaking German. The subject matter is taken from German literature and *Kulturgeschichte.*
Prerequisite, Course 2 or equivalent.

By special arrangement, qualified students who begin German in college are enabled to choose German as a major or minor in course in their junior and senior years.

*Under the accelerated program, not all courses will be offered every term.

HONORS WORK

German may be offered as a major or minor subject in the Division of the Humanities. For admission to Honors work in German, Course 3 or its equivalent is required. By doing special reading, competent students who begin German in College may take Course 3 in their sophomore year. No other preparation is required, but allied work in other departments of the Humanities is arranged, according to the needs and interests of the student.

The following seminars are offered to prepare for examinations for a degree with Honors: (those actually given in any year vary according to the choices of the students and the convenience of the department).

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

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.

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.

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.

The humanism of Lessing, Goethe and Schiller.

5. The Romantic Movement. Mr. Silz.

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

6. Poetic Realism. Mr. Silz.

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.

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.

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.

ASSOCIATE PROFESSOR: MARY ALBERTSON, *Chairman*.

ASSISTANT PROFESSOR: DANIEL J. BOORSTIN.

PART-TIME INSTRUCTORS: THEODORE PAULLIN.

FREDERICK B. TOLLES.

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 history. A student in the Division of Engineering or the Natural Sciences may at the request of his major department be excused from the prerequisite requirement, but only for a course in the history of the United States.

2. The History of England. Miss Albertson. *Half course.*

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

- 3a. The History of the United States to 1865. Mr. Manning. *Half course.*

The political, economic, and social history of the American people from the seventeenth century through the Civil War. Not open to freshmen. This course, or course 3b, is required of students taking Honors seminars in American history.

- 3b. The History of the United States since 1865. Mr. Tolles. *Half course.*

A continuation of course 3a.

4. The Mediterranean World: Greece and the East (Greek 5). Mr. Shero (Department of Classics). *Half course.*

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 sixth and fifth centuries B. C.

5. The Mediterranean World: Rome (Latin 9). Miss Brewster (Department of Classics). *Half course.*

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.

6. The Italian Renaissance. Miss Albertson. *Half course.*

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.*

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 Modern Europe. Mr. Boorstin. *Half course.*

The history of Europe from 1815 to the present day. To be taken after History 1.

9. The History of Quakerism. Mr. Tolles. *Half course.*

The history of the Society of Friends to the present day. Attention is given to the mystical and sectarian backgrounds and to movements like quietism, evangelicalism, and rationalism which have influenced the Society of Friends. The characteristic religious and social ideas of the Quakers are considered in their historical setting. A large part of the reading is done in the original sources.

*Under the accelerated program, not all courses will be offered every term.

10. The History of American Foreign Policy. (Political Science 10.) Mr. Sonthoff (Department of Political Science).
11. The History of the Labor Movement. Mr. Manning. *Half course.*
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. Military History. Mr. Manning. *Half course.*
The principles of strategy as revealed in a few major campaigns, ancient and modern. Special emphasis is placed upon the army as a societal institution, upon factors which have given temporary superiority to the offense or the defense, and to governmental policies based on those factors.
13. Special Topics. All members of the department. *Half course.*
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 advised in preparation for Honors seminars in English History, and Course 3 or 4, in 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 to prepare for examinations for a degree with Honors. Although an endeavor will be made to offer in any term any seminar desired by a sufficient number of students, this will occasionally prove impossible and the department cannot guarantee in advance the terms 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. The Rise of Liberalism. Mr. Boorstin.
The period from the seventeenth century to the mid-nineteenth.
3. Modern Europe. Mr. Boorstin.
The period from 1848 to the present day.

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. Miss Albertson and Mr. Manning.
The period from 1688 to the present time, with the main stress on the 19th century.

AMERICAN HISTORY

8. Problems in American History. 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.
A seminar in American foreign policy, conducted by the Department of Political Science, is open to students in history.
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 department of classics, are open to students who major in history. Requirements for a major in ancient history are two seminars in the ancient field and two seminars in medieval or modern history. See the statement of the department of classics.

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 or the humanities as, in the opinion of the department, will facilitate a well-rounded preparation for their comprehensive examinations. A reading knowledge of French or German and some acquaintance with the principles of economics 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 necessarily 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 14, 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.

RESEARCH ASSOCIATE: **K. A. STRAND.

ASSISTANTS: ROY W. DELAPLAINE (part time).

HANS FRIED.

SARAH L. LIPPINCOTT.

MATHEMATICS

- 1, 2. First Year Mathematics. Mr. Brinkmann, Mr. Dresden, Mr. Marriott and Mr. Pitman. *Full course.*

These courses, given in consecutive semesters, and together constituting a full course, 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*; Knebelman and Thomas, *Principles of College Algebra*; Dresden, *Plane Trigonometry*; Palmer and Leigh, *Plane Trigonometry*; Osgood and Graustein, *Plane and Solid Analytic Geometry*.

3. Invitation to Mathematics. Mr. Dresden.

Half course. Omitted in 1942-1943.

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. Omitted in 1942-1943.

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.

Prerequisite, a good high school course in algebra.

- 6a, 6b. General Course. Mr. Brinkmann, Mr. Dresden. *Full course.*

These courses, given in consecutive semesters, are intended for students who do not go on with work in science or mathematics. The subjects covered are: Algebra, Trigonometry, Analytic Geometry, and brief introductions to calculus, solid geometry and spherical trigonometry. The two courses together meet the requirement of a year of mathematics, set by the Navy for V-1, and suggested as desirable by the Army for the Enlisted Reserve Corps. The courses are best taken consecutively, but they may be taken in separated semesters.

- 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

*Under the accelerated program, not all courses will be offered every term.

**Absent on leave.

advanced work in analysis and its applications. Classes normally meet four times a week; Dresden, *Introduction to the Calculus*.

Prerequisite, Courses 1, 2.

14. Theory of Equations. Mr. Brinkmann. *Half course.*

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. Brinkmann. *Half course.*

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. Dresden. *Half course.*

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.

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. Dresden. *Half course.*

A study of ordinary and partial differential equations, with their applications to geometrical, physical, and mechanical problems.

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.

ASTRONOMY

1, 2. Descriptive Astronomy. Mr. van de Kamp. *Full course.*

These courses, normally given during the first and second semester, respectively, provide an introduction to the methods and results of Astronomy. The college entrance requirements are the only prerequisites; additional preparation in solid geometry and physics is useful. Fundamental notions of physics and mathematics are studied, as they are needed to provide an adequate scientific basis for the course. These courses are prerequisite for all further work in astronomy. Baker, *Astronomy*.

Three class periods each week, practical work to be arranged.

3. Practical Astronomy. Mr. Pitman. *Half course.*

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.

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.

6. Celestial Navigation. Mr. Pitman.

Half course.

The purpose of this course is to enable the navigator to "fix" his position from observations of celestial bodies. The methods are fundamental and equally applicable on land, on sea or in the air. Many practical problems are studied; the making and the reduction of observations is a part of the work in this course.

Three class periods, one laboratory period each week.

Prerequisites, Mathematics 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 WORK IN MATHEMATICS

The following seminars prepare for examinations leading to a degree with Honors:

1. Advanced Calculus.

The differential calculus for functions of several variables and its geometric applications, double and triple integrals, improper integrals, line and surface integrals, the elements of vector analysis.

2. Differential Equations.

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.

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.

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. Statistics and Probability.

A study is to be made of elementary mathematical theories which are finding application in statistics. Applications are to be made to various fields in the social and in the natural sciences.

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.

11. Advanced Calculus and Differential Equations.

This seminar combines in one term parts of the work described under seminars 1 and 2. It is designed to meet the needs of Honors students, majoring in other departments, whose program does not leave time for the more extended and more satisfactory preparation provided by seminars 1 and 2.

HONORS SEMINARS IN ASTRONOMY

Seminars on 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 MAJOR AND MINOR 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 principal instrument of the Sproul Observatory is the twenty-four-inch visual refractor of thirty-six-foot focal length, used almost exclusively for photography. The instrument has been in continuous operation since 1912 and provides a valuable and steadily expanding collection of photographs. A number of measuring and calculating machines are available for the measurement and reduction of the photographs. The principal program of the Observatory is an accurate study of the distances, motions and masses of the nearer stellar systems. Results of departmental studies are published in the Sproul Observatory publications and in various scientific journals.

Advanced study in conjunction with the research program of the Observatory may be arranged in consultation with the director of the Sproul Observatory.

The Students' Astronomical Observatory contains a six-inch visual refractor, a nine-inch photographic telescope, and a transit instrument.

The Sproul 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.*

1a. Introduction to Music History and Appreciation. Mr. Swan. *Half course.*

Intended for those students who have a general interest in music without as yet possessing the necessary criteria in approaching it, listening to it intelligently and appraising it. Devoted to the study of the basic forms of musical art, an analysis of the modern orchestra, and the acquisition of a historical perspective. No prerequisites.

1b. Musical Craftsmanship. Mr. Swan. *Half course.*

A beginners' course for those who want to be initiated into musical composition. After disposing of the rudiments of music (notation, clefs, intervals, etc.), the student is taught the principles of melodic construction, and of writing in two parts melodically. Practice in the simpler contrapuntal, harmonic and rhythmic devices. Scoring for various instruments. No prerequisites.

2. The Main Periods of Music History from the Renaissance to the 19th Century. Mr. Swan. *Full course.*

Three class hours and one laboratory period.

A study of the succession of styles in music (e.g., the Palestrina style, the Baroque, the Classical style of the Viennese masters, etc.). Analysis of motets, madrigals, concerti, sonatas, and symphonies.

Prerequisite, Music 1a or some previous acquaintance with music.

3. Music Since Beethoven. Mr. Swan. *Full course.*

Three class hours and one laboratory period.

Given alternately with preceding course and devoted to a complete study of the nineteenth century, the Romantic symphony, chamber music, piano music, the opera from Rossini to Verdi, Wagner and the Russians, the art song from Schubert to Wolf.

Prerequisite, Music 1a or some previous acquaintance with music.

Music 2 and Music 3 are offered preferably in the form of a seminar on one afternoon weekly, the additional laboratory period being a part of the weekly assignment. With the establishment of Music as a minor subject it is expected that these courses will become the basis of regular Honors Seminars in Music.

*PHILOSOPHY AND RELIGION

PROFESSOR: BRAND BLANSHARD, *Chairman.*

ASSISTANT PROFESSORS: RICHARD B. BRANDT.

**FRANCIS G. HEALEY.

MAURICE H. MANDELBAUM.

1. Logic. Mr. Blanshard. *Half course.*
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.*
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.*
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.*
A critical study of the nature of modern science and of some of its leading problems, of the philosophical significance of some recent theories in the physical and mathematical sciences (such as the relativity and quantum theories), of metaphysical problems involved in fundamental concepts like space, material substance, causation, and emergent evolution.
- 6a. Greek Philosophy. Mrs. Blanshard. *Half course.*
The pre-Socratics, Plato, Aristotle, Stoics and Epicureans, Neoplatonists and Sceptics, early Christianity. Readings in the sources.
- 6b. History of Modern Philosophy. Messrs. Mandelbaum and Brandt. *Half course.*
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.*
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.
8. Social Philosophy. Mr. Brandt. *Half course.*
An analysis of the structure of society; theories of social change, such as the Hegelian and the Marxian, and other central problems such as race and social progress; the theory of rights, justice, and democracy; the ideals of communist, socialist, and fascist society.
- 12a. The History of Religions. Mr. Healey. *Half course.*
A historical and comparative study of the great religions: Buddhism, Hinduism, Mohammedanism, Judaism, Christianity. Not offered in 1942-1943.
- 12b. The Philosophy of Religion. Mr. Healey. *Half course.*
A study of religious experience, and the conceptions and problems that grow out of it: the idea of God, the problem of evil, freedom, immortality, the implications of religion for conduct. Not offered in 1942-1943.
- 12c. The Religious Tradition of Europe. Mr. Brandt. *Half course.*
The development of religious ideas from primitive times; the confluence of Greek and Hebrew thought; a critical analysis of the central ideas of the tradition (such as the idea of God and the problem of evil) and the chief tendencies in modern religious thought.

HONORS WORK

Prerequisites: For admission to Honors study in philosophy, the requirement is at least two semester courses. It is strongly recommended that one of these be the Introduction to Philoso-

*Under the accelerated program, not all courses will be offered every term.

**Absent on leave.

phy (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.

Seminars: The following seminars prepare for examinations for a degree with Honors:

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

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. Mr. Nason.**

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. Nason, Mr. Mandelbaum, Mr. Brandt.**

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.**

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.**

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.**

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 the concepts of space, time, causality, mechanism, vitalism, explanation, and other scientific concepts of importance for the student of philosophy.

7. **Social Philosophy. Mr. Blanshard.**

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.**

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. **The Philosophy of Religion. Mr. Healey.**

The psychology and interpretation of religious experience; the adjustment of scientific and religious outlooks; the problem of religious knowledge; naturalism, theism, and pantheism; the validity and the difficulties of the Christian theology and ethic. Not offered in 1942-1943.

10. **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

CARL K. DELLMUTH, *Director of
Physical Education and Athletics.*

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

INSTRUCTORS: AVERY F. BLAKE.
E. J. FAULKNER.

ASSISTANTS: ALBERT M. BARRON.
SAMUEL ECKERD.
HENRY FORD.
JAMES J. McADOO.

TOWNSEND SCUDDER, III
HOWARD SIPLER.
WILLIS J. STETSON.
RICARD P. WEST.

COLLEGE PHYSICIAN FOR MEN: DR. MORRIS BOWIE.

The minimum faculty requirement is one hour of sports participation on each of two days per 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. In addition there is a program of vigorous intercollegiate athletics with varsity and sub-varsity teams in twelve different sports. During the past year a new course in Physical Fitness has been added which pays particular attention to foundation work in body-building technique.

A student who has not satisfied his requirement in Physical Education will be refused admission to the next class, and if deficient in his senior year, he will not be graduated until the requirement is satisfied.

FALL ACTIVITIES

Opening of College to Thanksgiving Recess

| | | | |
|----------------|-----------|----------------|------------------------|
| *Cross-Country | *Football | Tennis | Speed Ball |
| Swimming | *Soccer | Touch Football | Physical Fitness Class |

WINTER ACTIVITIES

Thanksgiving Recess to Spring Recess

| | | |
|-------------|---------------|------------------------|
| Badminton | Lacrosse | Tennis |
| *Basketball | Life Saving | Track |
| Boxing | Paddle Tennis | Volley Ball |
| *Fencing | Soccer | *Wrestling |
| Handball | *Swimming | Physical Fitness Class |

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

SPRING ACTIVITIES

Spring Recess to May 15

| | | | |
|-----------|-----------|---------|------------------------|
| *Baseball | *Lacrosse | *Tennis | Physical Fitness Class |
| *Golf | Softball | *Track | |

SUMMER ACTIVITIES

| | | | |
|-----------|-----------|----------|------------------------|
| *Baseball | *Golf | *Track | Riding |
| *Tennis | *Swimming | Softball | Physical Fitness Class |

PHYSICAL EDUCATION FOR WOMEN

ASSISTANT PROFESSOR: VIRGINIA RATH, *Chairman.*

INSTRUCTORS: ALICE GATES.

MAY E. PARRY.

ASSISTANTS: HELEN COTTEE.

GRETCHEN WATSON HUGHES.

HARRIET JAQUETTE.

JORMILE VOKRAL.

COLLEGE PHYSICIAN FOR WOMEN: DR. DOROTHY ASHTON.

REQUIREMENTS

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 and body mechanics in the winter. 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.

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

SPORTS

1. Hockey. Miss Parry, Miss Rath, Mrs. Cottee. *Fall term.*
Class and Varsity.
2. Archery. Miss Rath. *Fall and Spring.*
Class and Varsity.
3. Tennis. Miss Parry, Miss Rath, Miss Gates, Mrs. Cottee, Mr. Faulkner. *Fall, Winter and Spring.*
Class and Varsity. Spring.
4. Golf. Mrs. Hughes. *Fall and Spring.*
Class and Varsity.
5. Swimming. Miss Rath, Miss Gates, Miss Parry, Mrs. Cottee. *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. Mrs. Jaquette. *Fall, Winter and Spring.*
Class and Club.
7. Basketball. Miss Parry, Miss Rath. *Winter.*
Class and Varsity.
8. Fencing. Mrs. Vokral. *Fall, Winter and Spring.*
Class and Varsity.
9. Badminton. Miss Rath, Miss Parry, Miss Gates. *Winter and Spring.*
Class and Varsity.

RHYTHMIC ACTIVITIES

- Miss Gates.
10. Dancing. *Fall, Winter and Spring.*
Class and Club.
 11. Tap Dancing. *Winter.*
 12. Folk Dancing. *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. *Winter.*
Required of all first-year students.

*PHYSICS

PROFESSOR: WINTHROP R. WRIGHT.

ASSOCIATE PROFESSOR: MILAN W. GARRETT.

ASSISTANT PROFESSOR: **WILLIAM C. ELMORE.

1. General Physics. Messrs. Wright and Garrett. *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

The following seminars prepare for examinations for a degree with Honors:

1. Physical Optics. Mr. Wright.

Based on Robertson's *Introduction to Physical Optics*. The laboratory work includes the measurement of the 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.

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.

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. This seminar is not usually given.

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

| | |
|---------------------------|-----------------|
| General Physics 1 | Calculus 11, 12 |
| Freshman Mathematics 1, 2 | 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.

*Under the accelerated program, not all courses will be offered every term.

**On part-time leave

*POLITICAL SCIENCE

ASSOCIATE PROFESSOR: J. ROLAND PENNOCK, *Chairman.*

ASSISTANT PROFESSORS: **VERNON A. O'ROURKE.

**BRYCE WOOD.

ACTING ASSISTANT PROFESSOR: G. HOMER DURHAM.

INSTRUCTOR: HERBERT G. SONTHOFF.

Political Science 1 is open to all students and is prerequisite to all other courses offered by the Department. Other courses are open to all students who have had Political Science 1 unless otherwise indicated.

1. Introduction to Political Science. Messrs. Pennock, Durham, and Sonthoff. *Full course.*

The foundations of politics—sociological, psychological, and economic; nature and development of political institutions; types of government. An examination of government and politics in the principal countries of Europe, followed by a more detailed study of the national government of the United States.

2. American Political Parties. Mr. O'Rourke. *Half course. Omitted in 1942-1943.*

Structure, motivations, and techniques of political parties at the national, state, and local levels. Problems of political sectionalism, party leadership, party responsibility, and the impact of pressure groups on the formation of public policy.

3. American State and Local Government. Mr. Durham. *Half course.*

State and local government agencies, practices, and problems. Constitutions and charters, governors and city executives, legislatures and councils, problems of state and local administrative organization, and political parties. Intergovernmental relations and administration.

4. American Constitutional Law. Mr. Durham. *Half course.*

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, (c) the nature of the judicial process in the American system of government

5. Public Administration. Mr. Durham. *Half course.*

An analysis of the principles of administration in modern governments with illustrative material drawn chiefly from the national government of the United States and with particular references to the implication of recent changes. Problems of administrative organization, conduct of regulatory and managerial activities, financial administration, personnel, public relations, administrative legislation and adjudication.

Open to juniors and seniors, only.

6. History of Political Theory. Mr. Sonthoff. *Half course.*

The development of thought on the nature of the state and of individual rights and duties, based largely on readings of the chief political philosophers. Topics studied include: Greek political thought; medieval universalism and the divine right of kings; the Reformation and the development of natural law; sovereignty and the rise of the national state; romanticism and the growth of liberalism; the roots of totalitarian ideologies.

*Under the accelerated program, not all courses will be offered every term.

**Absent on leave.

7. Political Problems of Today. Mr. Pennock.

Half course.

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 problem of planning in a democracy; and an appraisal of present tendencies in political development.

8. International Relations, Law, and Organization. Mr. Sonthoff. *Half course.*

An introduction to the principles and problems of international relations and foreign policy, including: historical concepts of international society; development and basis of the national state system; nationalism and imperialism; diplomacy; growth and nature of international law and organs; the League of Nations; the impact of war on modern society; elements of future international organization and present plans for reconstruction.

9. Latin American Relations.

Half course. Omitted in 1942-1943.

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.

10. American Foreign Policy. Mr. Sonthoff.

Half course.

An historical and analytical study of the political, constitutional, geographic, and economic factors controlling American foreign policy, with particular reference to: American diplomacy; the Monroe Doctrine; Pan-Americanism; trade agreements and the Good Neighbor Policy; war-time policies and implications for the post-war international order.

HONORS WORK

Prerequisite: Political Science 1. The following seminars prepare for examination for a degree with Honors:

1. Political Theory. Mr. Pennock.

The nature of the state, the basis of political obligation, sovereignty and the nature of law, problems of freedom and authority, theoretical analysis of forms of government, theories of revolution—all in the light of the theories set forth by writers on these subjects from Plato to the present.

2. Federal, State, and Local Politics. Mr. Durham.

Federal-state and state-local relations under modern conditions. State, municipal, and rural government. The various forces and factors which impinge upon the legislative process: inter- and intra-party politics, rural-urban cleavages, pressure groups, public opinion, the chief executive, and administrative agencies. Comparisons between state and federal politics.

3. 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 the national government of the United States. 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.

4. International Relations and Organization. Mr. Sonthoff.

Basic factors of interstate relations—geography, resources, races, trade—considered in relation to nationalism, imperialism, and war. Also a study of efforts to restrain international rivalries and to avoid war.

5. American Foreign Policy. Mr. Wood and Mr. Sonthoff.

A study of the economic, political, and strategic factors in American foreign policy since 1890, with special attention to Pan-American affairs.

6. Thesis.

All members of the department.

Approval of the instructor immediately concerned must be secured early in the student's junior year.

*PSYCHOLOGY AND EDUCATION

PROFESSOR: WOLFGANG KÖHLER.

ASSOCIATE PROFESSOR: **ROBERT B. MCLEOD.

ASSISTANT PROFESSOR: EDWIN B. NEWMAN, *Acting Chairman.*

INSTRUCTORS: ***RICHARD S. CRUTCHFIELD.

WILLIAM C. PRENTICE.

BEATRICE A. WRIGHT.

RESEARCH ASSOCIATE: HANS WALLACH.

PSYCHOLOGY

1. Introduction to Psychology. Mr. Köhler, Mr. Newman. *Full course.*
A study of the structure and organization of the mental life of the normal, human adult. Recommended for sophomore year.
2. Experimental Psychology. Mr. Köhler, Mr. Newman. *Half course.*
A laboratory course on problems in human psychology.
Prerequisite, Course 1.
3. Human Motivation. Mr. Wallach. *Half course.*
A study of the directive and the regulative aspects of human behavior.
Prerequisite, Course 1.
4. Social Psychology. Mr. Prentice. *Half course.*
Psychological analysis of the behavior of the individual as a member of social groups.
Prerequisite, Course 1.
5. Child Psychology. Mrs. Wright. *Half course.*
Intellectual, social and emotional development from birth through adolescence.
Prerequisite, Course 1.
6. Animal Behavior. Mr. Newman. *Half course.*
A presentation of those facts in animal psychology which contribute to our present knowledge of general psychology.
Prerequisite, Course 1.
7. Systematic Psychology. Mr. Köhler. *Half course.*
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.
8. Educational Psychology. Mrs. Wright. *Half course, alternate years.*
Psychology of individual differences, learning, motivation, and personality adjustment; special problems related to teaching.
Prerequisite, Course 1.
9. Psychological Tests and Measurements. Mrs. Wright. *Half course.*
Construction, administration and interpretation of tests, with special emphasis on clinical techniques.
Prerequisite, Course 1.
10. Advanced Experimental Psychology. The staff. *Half course.*
Special investigation of selected problems under the direction of a member of the department. Open only to seniors.
Prerequisite, Courses 1 and 2.

*Under the accelerated program, not all courses will be offered every term.

**Absent on leave.

***Absent on leave, part-time.

11. Psychological Tutorial. The staff. *Half course.*
Supervised reading in fields that have not been adequately covered in courses.
Required of seniors majoring in psychology.

12. Elementary Statistics. *Half course.*
Study of the elements of statistical method, comprising treatment of certain principles in the organization and analysis of statistical data; application of these principles to data of the social sciences.

EDUCATION

21. Introduction to Education. Mrs. Wright. *Half course.*
A survey of the aims, organization and procedures of education; the opportunities and requirements in education as a profession.

22. History of Education. Mrs. Wright. *Half course, 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.

23. Philosophy of Education. Mrs. Wright. *Half course, 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 MAJOR AND MINOR 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. Students looking forward to graduate work should choose German as their foreign language. Major students in course take Courses 1, 2 and 11, and the equivalent of four further half-courses in psychology. Minor students are expected to take Course 1 and the equivalent of two further full courses in psychology. Courses in education, 21, 22 and 23, 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, 8, 21, 22 and 23.

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.

Seminars: The following seminars prepare for examinations for a degree with Honors:

1. Systematic Psychology. Mr. Köhler.

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.

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.

Alternate years.

The experimental study of memory and learning, 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.

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. Prentice.

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. Prentice, Mr. Crutchfield.

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.

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.

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 zoölogy.

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 PROFESSORS: ***HAROLD MARCH.
LEON WENCELIUS.
ASSISTANT PROFESSOR: JAMES D. SORBER.
INSTRUCTORS: CLARENCE FINLAYSON.
MARION MONACO.

FRENCH

1. Elementary French. *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.*
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.*
Prerequisite, French 2a or three years' secondary school preparation and a placement test.
- 3a. Introduction to French Literature. Members of the department. *Half course.*
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.*
Prerequisite, French 3a.
Representative texts from French literature from the classical period through the nineteenth century.
10. Le roman avant 1800. Mr. March. *Half course.*
11. Le roman du dix-neuvième siècle. Mr. March. *Half course.*
12. Prosateurs et moralistes de la Renaissance et de la Réforme. Mr. Wencelius. *Half course.*
13. La prose classique. Mr. Wencelius. *Half course.*
14. Les origines philosophiques de la révolution. Miss Philips. *Half course.*
15. Mouvement des idées au dix-neuvième siècle. Mr. Wencelius. *Half course.*

*Under the accelerated program, not all courses will be offered every term.

**Absent on leave, winter term.

***Absent on leave, fall term.

16. La poésie lyrique jusqu'à l'époque classique. Mr. March. *Half course.*
17. La poésie lyrique moderne. Miss Philips. *Half course.*
18. Origines et développement du théâtre classique. Miss Monaco. *Half course.*
19. Le théâtre moderne. Miss Monaco. *Half course.*
20. Histoire de la littérature française. Mr. Wencelius. *Full course.*
21. Advanced Composition. Miss Philips. *Half course.*

SPANISH

1. Elementary Spanish. Mr. Sorber, Mr. Finlayson. *Full course.*
For students who begin Spanish in college. Equivalent of two years' secondary school preparation.
2. Reading, Grammar and Composition. Mr. Sorber, Mr. Finlayson. *Full course.*
Prerequisite, Spanish 1 or two years' secondary school preparation and a placement test.
3. Introduction to Spanish Literature. Mr. Sorber. *Full course.*
Prerequisite, Spanish 2, or four years' preparation in secondary school and a placement test.
Representative texts of modern Spanish writers. Conducted in Spanish with frequent written work in Spanish.
10. La novela española del siglo XIX. Mr. Finlayson. *Half course.*
For Honors work in Spanish, see p. 107.
11. La novela hispano-americana. Mr. Finlayson. *Half course.*

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.

The following seminars prepare for examinations for a degree with Honors:

1. *Le 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. *Quatre romanciers modernes.* Mr. March and Miss Philips.
Balzac, Stendhal, Flaubert, Proust.
7. *Le mouvement des idées depuis Taine.* Mr. March.
8. *Littérature médiévale.* Mr. March.
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.

Beginning with the academic year 1941-42, a minor in Spanish will be offered in Honors work. Prerequisite, Spanish 3. The following seminars will be given:

1. *La novela hispano-americana.* Mr. Sorber.
2. *La novela picaresca.* Mr. Sorber.

*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: **GEORGE A. EDWARDS.

PER F. SCHOLANDER.

ASSISTANT: SUSAN IRVING.

1. Biology. Staffs of the departments of botany and zoölogy. *Full course.*

This introductory course is designed to present the fundamental aspects of biology. 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 include: protoplasm, the cell, fundamentals of metabolism, structure and function in the higher plants, nuclear and cell division, genetics; and a brief survey of the plant kingdom. The second semester will survey the characteristics of invertebrates and vertebrates, geographical distribution, evolution, embryology and physiology.

Three lectures or conferences and one laboratory period per week.

2. Comparative Vertebrate Anatomy. Mr. Enders.

A course of lectures, laboratory conferences and dissection presented from the comparative viewpoint. Dissection of several vertebrate types is undertaken.

Two lectures or conferences and two laboratory periods per week. Prerequisite, 1.

3. Elementary Physiology. Mr. Scott.

Half course.

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.

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.

5. Invertebrate Zoölogy. Mr. Kille.

Half course, 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.

6a. Microscopic Anatomy. Mrs. Jones.

Half course.

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.

*Under the accelerated program, not all courses will be offered every term.

**On a grant from the Rockefeller Foundation.

***Absent on leave.

- 6b. **Advanced Microscopic Anatomy.** Mrs. Jones. *Half course.*
 A continuation of 6a. Methods of research are stressed, including bibliographic practice. Conferences generally replace lectures.
 Prerequisite, 6a.
7. **Mammalian Physiology.** Mr. Scott. *Half course.*
 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 to those who on account of fitness have arranged a program of special work in the department.
9. **Biology of the Vertebrates.** Mr. Enders. *Half course.*
 A course designed to integrate the students' knowledge in abstract sciences with living animals, both captive and wild. Field work is especially stressed during the warmer months.
 Open to zoölogy senior majors only.
10. **Neurology.** Mr. Scott. *Half course, alternate years.*
 After a brief review of the evolution of the nervous system phylogenetically an intensive study is made of the anatomy of the central nervous system in man with occasional reference to corresponding systems in lower mammals and in other vertebrates.
 Prerequisites, 1, 2, 3, and 4.

REQUIREMENTS FOR MAJOR AND MINOR 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

Prerequisites: for a major: 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 a minor, Zoölogy 1. 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 chem-

istry 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.

Seminars: The following seminars prepare for examinations for a degree with Honors:

Embryology. Mr. Kille.

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.

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.

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.

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.

Respiration, considering the utilization of oxygen and the production of carbon dioxide, their transport and exchange with the atmosphere.

Physiology of Reproduction. Mr. Enders.

Sex and internal secretions in vertebrate animals.

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.

With the accelerated emergency programs now operating, it has been possible for students to enter medical school after 6 semesters of college work. Students intending to enter medicine should arrange their plans early. The department will advise those who plan for professional careers in biology, or medicine, and will recommend courses to meet the rapidly changing circumstances of professional education during war.

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

1942-43

| | |
|----------------------------|-----------|
| Pennsylvania | 242 |
| New York | 164 |
| New Jersey | 78 |
| Maryland | 40 |
| Illinois | 30 |
| Massachusetts | 30 |
| Ohio | 27 |
| District of Columbia | 26 |
| Connecticut | 25 |
| Indiana | 15 |
| California | 14 |
| Michigan | 13 |
| Delaware | 10 |
| Virginia | 10 |
| Missouri | 7 |
| Iowa | 5 |
| North Carolina | 5 |
| New Hampshire | 5 |
| Florida | 3 |
| Minnesota | 3 |
| Wisconsin | 3 |
| Kansas | 2 |
| Nebraska | 2 |
| Oklahoma | 2 |
| Oregon | 2 |
| Rhode Island | 2 |
| Texas | 2 |
| West Virginia | 2 |
| Argentina | 1 |
| Colombia | 1 |
| Georgia | 1 |
| India | 1 |
| Kentucky | 1 |
| Louisiana | 1 |
| Martinique | 1 |
| Mexico | 1 |
| Mississippi | 1 |
| South Carolina | 1 |
| Tennessee | 1 |
| Vermont | 1 |
| Territory Hawaii | 1 |
| Uruguay | 1 |
| Total | <hr/> 783 |

STUDENTS, 1942-43

- Abe, Bernice Kikuyo, '45, 57 Mamo St., Hilo, Hawaii, T. H.
- Ackerman, Robert Allen, '43, 404 Yale Ave., Morton, Pa. *Engineering*
- Adamson, John Fuller, '45, 810 W. 21st St., Wilmington, Del.
- Adler, Courtney, '46, 245 E. Highland Ave., Philadelphia, Pa. *English*
- Akutowicz, Frank, '45, 580 Poquonock Ave., Windsor, Conn. *Engineering*
- Alexander, Robert William, '46, 244 N. 6th St., Reading, Pa. *Zoölogy*
- Alford, Frances Lydia, '44, 314 S. Homewood Ave., Pittsburgh, Pa. *English*
- Allen, John Alexander, '43, 5914 Cedar Parkway, Chevy Chase, Md. *English*
- Anderson, Eric Hart, '46,
548 Alvarado Row, Stamford Univ., Calif. *Political Science*
- Anderson, James Moser, '46, Polk, Pa. *Engineering*
- Armstrong, Charles Osmun, '46,
253 Mountwell Ave., Haddonfield, N. J. *Engineering*
- Atkinson, Edward Haviland, '43,
210 S. Washington Ave., Moorestown, N. J. *Economics*
- Axelbank, Lucy, '45, 80 VanCortlandt Park, S., New York, N. Y. *Economics*
- Ayer, Frank Root, '44, 7112 Curtis St., Chevy Chase, Md. *Engineering*
- Ayers, Helen Spackman, '46, 6375 Waterman St., St. Louis, Mo.
- Bainton, Olive Mae, '43, Amity Rd., Woodbridge, Conn. *Psychology*
- Bair, Barbara Rose, '44, 18 Gramatan Gardens, Bronxville, N. Y. *Economics*
- Bair, Robert Taylor, Jr., '45, 211 Cornell Ave., Swarthmore, Pa. *Engineering*
- Baldwin, DeWitt Clair, Jr., '43, 207 E. 58th St., New York, N. Y. *Economics*
- Balfour, Nina Jeannette, '46,
c/o Rockefeller Foundation, New York, N. Y. *Political Science*
- Ballard, Jane Powell, '46, 37 E. Mowry St., Chester, Pa. *History*
- Barbour, Ian Graeme, '44, 3521 Cornell Place, Cincinnati, Ohio *Physics*
- Barnard, Norris Clements, Jr., '45,
146 Berryman Drive, Snyder, N. Y. *Engineering*
- Barnes, Richard F., '44,
1309 Yellowstone Rd., Cleveland Heights, Ohio *Engineering*
- Barney, John Maynard, '45, Sparks, Baltimore, Md. *Economics*
- Barns, C. Patricia, '46, Westmoreland, N. Y.
- Baron, Stanley, '43, 1735 71st St., Brooklyn, N. Y. *English*
- Bartleson, Janet Marie, '43,
105 North Rd., Lindamere, Wilmington, Del. *English*
- Bartleson, Thomas Lees, Jr., '45,
105 North Rd., Lindamere, Wilmington, Del. *Chemistry*
- Barton, Rosetta Claire, '43, R. D. 2, Phoenixville, Pa. *Chemistry*
- Barus, Jane Ellen, '45, 75 Llewellyn Rd., Montclair, N. J. *Psychology*
- Basch, Peter Hugo, '46, 203 E. Main St., Moorestown N. J. *Engineering*
- Bassett, Edward Morris, Jr., '43,
315 N. Chester Rd., Swarthmore, Pa. *Engineering*
- Bassett, Marjorie Ann, '43, 3000 Sheridan Rd., Chicago, Ill. *Economics*
- Batchelder, Constance, '46, 105 W. Willow Grove Ave., Philadelphia, Pa.
- Beardslee, David Cromwell, '46,
25 Seminary Place, New Brunswick, N. J. *Engineering*

- Beatty, Millard Shupert, Jr., '46,
701 Saxer Ave., Springfield, Pa. *Engineering*
- Beatty, Royce Edwards, '43
701 Saxer Ave., Springfield, Pa. *Engineering*
- Bebie, Margaret Lillian, '43, 4267 Magnolia Ave., St. Louis, Mo. *English*
- Beck, Robert Juel, '45, 65 Lake Drive, Mountain Lakes, N. J. *Engineering*
- Becker, Helen Elizabeth, '45, 323 Center St., Bethlehem, Pa. *French*
- Belcher, Margaret Louise, '43, 405 St. Marks Ave., Westfield, N. J. *English*
- Beldecos, Nicholas Andrew, '44, 311 Pennell St., Chester, Pa. *Engineering*
- Bell, Harriet Hunter, '46, 30 Porter Place, Montclair, N. J. *English*
- Bender, Harriet Joan, '45, 6607 N. 10th St., Philadelphia, Pa. *Physics*
- Benditt, Harold Willard, '46, 247 S. 63rd St., Philadelphia, Pa. *Engineering*
- Benet, Stephanie Jane, '46, 213 E. 68th St., New York, N. Y.
- Benjamin, Alan Dean, '46, 1070 Eggert Rd., Eggertsville, N. Y.
- Bergner, Robert Brewster, '46, 30 Princeton Rd., Brookline, Pa. *Engineering*
- Bertsche, Edith Claire, '46, 101-23 110th St., Richmond Hill, N. Y.
- Bestor, Charles Lemon, '46,
435 Riverside Drive, New York, N. Y. *Political Science*
- Beye, Helen, '44, 422 Brown St., Iowa City, Iowa. *English*
- Beyer, Morten Sternoff, '43, Spring Hill Farm, McLean Va. *Economics*
- Bicking, Jane Hutchison, '46,
223 E. Lancaster Ave., Downingtown, Pa. *French*
- Blackburn, Edith Elizabeth, '44,
242 S. Broad St., Philadelphia, Pa. *French*
- Blackburn, Frances Mayhew, '46, 405 Hollen Rd., Baltimore, Md. *English*
- Blanchard, Jean Prichard, '45,
17 N. Chatsworth Ave., Larchmont, N. Y. *Mathematics*
- Blanckenhorn, Mary M., '43, 6 Rural Lane, Cincinnati, Ohio. *English*
- Blanshard, Rufus Anderson, '43, Swarthmore, Pa. *English*
- Blough, Richard Roy, '46,
3243 N. Abingdon St., Arlington, Va. *Chemistry*
- Boak, Winifred Peters, '45, 513 Onondaga St., Ann Arbor, Mich.
- Boardman, Harry C., '45, 102 High St., Reading, Pa. *Engineering*
- Bodine, Charles Bradfield, '46, 131 Cornwall Ave., Trenton, N. J.
- Boissard, Suzanne, '46, 816 E. Gorham St., Madison, Wis.
- Bondy, Heinz Eric, '45, Windsor Mountain School, Manchester, Vt. *History*
- Borah, Leo Arthur, Jr., '46,
4819 Quebec St., N. W., Washington, D. C. *English*
- Bowen, Barbara, '46, 445 N. Forest Rd., Williamsville, N. Y. *Zoölogy*
- Bowen, Carroll G., '46, LaGrange, Ind. *Chemistry*
- Bowles, Edmund Addison, '46, 77 Glen Rd., Wellesley, Mass. *History*
- Bowman, Dorothy Gertrude, '46,
6432 Kimbark Ave., Chicago, Ill. *Psychology*
- Bowman, Howard Chester, '44,
U. S. Consulate, Cali, Colombia. *Political Science*
- Boyajian, Aram Herbert, '44
55 Stratford Ave., Pittsfield, Mass. *Chemistry*
- Braaten, Theodore Eddy, '44, 17 Youngs Rd., Dedham, Mass. *Economics*
- Braider, Donald Townley, '44, Cooperstown, N. Y. *Economics*
- Brandstetter, Hugo Eugene, '44,
638½ Arlington Place, Chicago, Ill. *Economics*

- Braude, Judith Sara, '46, 2277 Andrews Ave., New York, N. Y. *Physics*
- Bredin, Stephen Price, '44, New Hope, Pa. *Political Science*
- Brenner, George Victor, '46, 1920 Osborne Place, New York, N. Y.
- Bressler, Elizabeth Jane, '46, 1467 Jefferson Ave., Akron, Ohio.
- Brewster, Athena Beatrice, '43,
223 Dickinson Ave., Swarthmore, Pa. *Psychology*
- Brewster, Joan, '46, 27 Concord St., Nashua, N. H. *English*
- Brewster, Mary Cornelia, '44
511 Congress Ave., Havre de Grace, Md. *Political Science*
- Brinton, Lydia Shipley, '44, Pendle Hill, Wallingford, Pa. *English*
- Britt, Sarah, '44, Wellington Farm, Nonquitt, Mass. *Economics*
- Brokaw, Richard Spohn, '44,
161 Sagamore Rd., Millburn, N. J. *Chemistry*
- Brooks, Beverly, '45, 18 E. Hickory St., Hinsdale, Ill.
- Brooks, Edith Herrick, '45, 1793 Canton Ave., Milton, Mass. *Zoölogy*
- Brooks, Wendell, '46, 116 S. Day Ave., Rockford, Ill.
- Broomell, Arthur Williams, Jr., '43,
1338 Park Ridge Pl., Cincinnati, Ohio *Political Science*
- Broomell, Hannah Thompson, '44,
429 W. Stafford St., Germantown, Pa. *Zoölogy*
- Brott, Julianne, '45, 331 E. Ohio St., Marquette, Mich. *English*
- Brown, John Daniel, '43,
129 Hale Terrace, Bridgeport, Conn. *Political Science*
- Brown, Mary Elizabeth, '46, Holland, N. Y.
- Brown, Richard Edward, '45,
526 Walnut Lane, Swarthmore, Pa. *Engineering*
- Brownell, Ruth Michael, '43, 227 Park Ave., Swarthmore, Pa. *English*
- Bryan, George Sloan, Jr., '46,
4550 Connecticut Ave., N. W., Washington, D. C. *Engineering*
- Bryant, Clifford Milton, '46,
218 Dickinson Ave., Swarthmore, Pa. *Engineering*
- Budd, Hiram E., '46, 1407 Baird Ave., Camden, N. J. *Engineering*
- Buesching, Joan Elizabeth, '46, 1802 Florida Drive, Fort Wayne, Ind.
- Burdett, Agnes Elizabeth, '44,
Granada Apartments, Miami, Florida *Chemistry*
- Burrowes, Richard Crawford, '46,
52 Hudson Ave., Englewood, N. J. *Engineering*
- Burt, Barbara Anne, '44, 808 Ohio St., Urbana, Ill. *History*
- Burt, Richard Campbell, '46, 402 E. 20th St., Chester, Pa. *Zoölogy*
- Busing, William Richard, '44, 144 Handsome Ave., Sayville, N. Y. *Chemistry*
- Butler, John Ben., III, '45
305 W. 246th St., Fieldston, N. Y. C. *Chemistry*
- Butler, Scot, '44, 4713 Harrison St., Chevy Chase, Md. *History*
- Bye, Doris L., '46, Moylan, Pa.
- Caddick, Eleanor, '46, Ard Coille, Chatham, N. J. *Political Science*
- Cammack, Winifred Jean, '43,
310 N. Summit Ave., Mt. Vernon, N. Y. *Psychology*
- Campbell, Malcolm, '45, 1624 Hartranft Drive, Norristown, Pa. *Economics*
- Caney, Walton Franks, '44,
7110 Oxford Rd., Stoneleigh, Baltimore, Md. *Economics*

- Carpenter, Nancy Jane, '45, Norfolk, Va. *English*
- Carr, Doris, '46, 304 Taplow Rd., Baltimore, Md.
- Carrell, Jephtha Jefferson, '45, 1908 Shunk St., Philadelphia, Pa. *Economics*
- Carroll, Margaret Elizabeth, '46,
132 S. 20th St., Terre Haute, Ind. *French*
- Carson, William Gilmour, '45,
104 S. Carol Blvd., Upper Darby, Pa. *Chemistry*
- Carter, William John, '44,
323 Melbourne Rd., Great Neck, N. Y. *Economics*
- Cartwright, Eleanor Louise, '46, 478 Arnett Blvd., Rochester, N. Y.
- Carver, Anne, '45, 115 Penfield Rd., Rochester, N. Y.
- Chadwell, Margaret Anne, '46,
The Pall Mall, 1112 16th St., N. W., Washington, D. C.
- Chambers, Richard Netherton, '46,
182 Oakridge Ave., Summit, N. J. *Engineering*
- Chapman, John William, Jr., '43,
12 Glen Rd., Wellesley Hills, Mass. *Economics*
- Chase, Barbara Stanley, '46, 945 Union St., Manchester, N. H.
- Chase, Gretchen, '45, 1706 Crescent Drive, St. Joseph, Mo.
- Chubb, Rosemary Ann, '46, 108 S. Rock Hill, Webster Groves, Mo.
- Cibelius, Charles Anthony, Jr., '44,
831 Overlook Rd., Rockford, Ill. *Engineering*
- Clarke, Cornelia Stabler, '46, Wallingford, Pa. *English*
- Clark, Ruth Fontaine, '43,
Box 916, Glen Head, Long Island, N. Y. *Economics*
- Clendenin, William W., '46, 2735 Silver St., El Paso, Texas. *Physics*
- Coates, John C., '44,
Ramon Fernandez 255, Montevideo, Uruguay. *Mathematics*
- Cobb, Virginia Thomson, '46, 3902 Old York Rd., Baltimore, Md. *English*
- Colegrove, Marian Louise, '45, 721 Foster St., Evanston, Ill.
- Colegrove, Reed L., '43, 22 Hometown Rd., Bronxville, N. Y. *Economics*
- Coleman, Robert E., '43, 416 S. Cook Ave., Trenton, N. J. *Botany*
- Coles, Barbara Haydock, '46, 125 E. Oak Ave., Moorestown, N. J.
- Collet, Joan Mary, '43, P. O. Box U, Newtown, Conn. *French*
- Collins, William Otis, Jr., '46, 7939 Winston Rd., Chestnut Hill, Pa.
- Colton, Anne Gale, '46, 3122 Woodbury Rd., Shaker Heights, Ohio.
- Colwell, Marjorie Cecilia, '46,
3930 Connecticut Ave., N. W., Washington, D. C.
- Condit, Anna Ryckman, '45,
139 Fitz Randolph Rd., Princeton, N. J. *Political Science*
- Connors, Helen Marie, '43,
129 Meadowbrook Rd., Garden City, N. Y. *Political Science*
- Cook, Myrtle Helen, '46, 1040 Monroe Ave., River Forest, Ill.
- Cooley, Edward Hanes, '44,
110 Columbia Ave., Swarthmore, Pa. *Engineering*
- Cooley, Marie Louise, '46, 7019 Penn Ave., Pittsburgh, Pa.
- Coombs, Anna Hires, '46, Salem, N. J.
- Cope, Dallas T., '45, R. R. 2, Winchester, Ind. *Engineering*
- Cornog, Phoebe Harvey, '45,
2612 Prescott Rd., Upper Darby, Pa. *History*

- Cornog, William Lindsay, Jr., '46,
307 Barker St., Ridley Park, Pa. *Engineering*
- Corse, John Montgomery, '44,
411 Yale Ave., Swarthmore, Pa. *Political Science*
- Cotten, Patricia, '44, 34 Monroe Place, Brooklyn, N. Y. *History*
- Councill, Edward Winslow, '45, Franklin, Va. *Chemistry*
- Counts, Martha Louise, '45, 501 W. 120th St., New York City, N. Y.
- Courant, Gertrude Elizabeth, '44,
142 Calton Rd., New Rochelle, N. Y. *Psychology*
- Cox, Jane Marie, '44, R. R. 16, Box 458 F., Indianapolis, Ind. *English*
- Coyle, Donald Kennedy, '43, Toms River, N. J. *Zoology*
- Crane, Sarah Verry, '46, 206 Tunbridge Rd., Baltimore, Md.
- Cray, Douglas White, '44,
30 Martling Ave., Pleasantville, N. Y. *Political Science*
- Crowell, Elisabeth, '46, 403 E. Ludington, Iron Mountain, Mich.
- Crum, Marion Janet, '46, 771 Valley Rd., Upper Montclair, N. J. *Zoology*
- Cryer, Charles Pickett, '43,
273 Highland Ave., Lansdowne, Pa. *Engineering*
- Cupitt, Jean Marie, '46, 205 Sylvania Place, Westfield, N. J.
- Curry, Norma Virginia, '43, 219 Holroyd Place, Woodbury, N. J. *French*
- Curtin, David Yarrow, '43, Webster Springs, W. Va. *Chemistry*
- Curtin, Philip DeArmand, '45, Webster Springs, W. Va. *History*
- Curtis, Ida Louise, '46, 2830 Valley Drive, Sioux City, Iowa.
- Custer, Alfred Walter, '46,
163 Gregory Ave., West Orange, N. J. *Political Science*
- Daniels, Robert Bruce, '46, 25 Jeppson Ave., Worcester, Mass. *History*
- Dannenber, Arthur Milton, Jr., '45,
135 S. 17th St., Philadelphia, Pa. *Zoology*
- Darbshire, Elizabeth St. John, '43,
Beech Point, Stamford, Route 2, Ky. *French*
- Darlington, Robert Palmer, '45,
422 Chambers Ave., Camden, N. J. *English*
- Darlington, Thomas Brinton, '46,
24 Pennock Terrace, Lansdowne, Pa. *Engineering*
- Darnell, Achsch Lippincott, '46, 40 N. Main St., Medford, N. J.
- Davies, Johanna, '46, 411 Orchard St., Southmont, Johnstown, Pa.
- Davis, Edwin, '43, 312 N. 54th St., Omaha, Neb. *Zoology*
- Davison, Atala Scudder, '44, c/o Duke Hospital, Durham, N. C. *Greek*
- Davison, Sue Pemberton, '44,
730 Harvard Ave., Swarthmore, Pa. *Psychology*
- Dean, Helen Mae, '46, St. George St., P. O. Box 173, Duxbury, Mass.
- Deane, James Garner, '44,
1615 Kenyon St., N. W., Washington, D. C. *Political Science*
- DeBurlo, Comegys Russell, Jr., '46,
715 Lawson Ave., Penfield, Del. Co., Pa. *Engineering*
- DeLaney, George Frederick, '43, 601 W. Lockhart St., Sayre, Pa. *English*
- Demond, Sallie Harrison, '46, 223 Delafield Ave., Aspinwall, Pa.
- Demond, William Bradford, '43, 58 Riddell St., Greenfield, Mass. *Zoology*
- Dempf, Elizabeth Wornall, '46, 2595 San Pasqual St., Pasadena, Calif.
- DeNiord, Elizabeth, '44, 212 Linwood Ave., Buffalo, N. Y. *English*
- Denton, Mary Louise, '44, 520 W. Third St., Elmira, N. Y. *English*

- Detreux, Kathryn Louise, '44, 211 Summit Ave., Jenkintown, Pa. *French*
 Dicker, Paul Edward, '46, 6415 Argyle St., Philadelphia, Pa. *Engineering*
 Dickinson, Walter, Jr., '46, Brooklake Rd., Florham Park, N. J. *English*
 Dippy, Robert Newton, Jr., '45,
 Edge Hill Rd. and Tyson Ave., Roslyn, Pa. *Chemistry*
 Dixon, Adam Coit, '45, Sunset Hill Farm, Portsmouth, N. H. *Latin*
 Doane, Catherine Florence, '44,
 212 North Rd., Lindamere, Wilmington, Del. *English*
 Dodge, Diana, '43, 355 Riverside Drive, New York City, N. Y. *English*
 Dodge, Nancy Pitt, '46, 20 Woodlink Rd., Asheville, N. C. *English*
 Dodson, Margery Finigan, '45, 7429 Parkdale, Clayton, Mo. *Fine Arts*
 Dohi, Ruth, '44, 160 Valley Rd., Arroyo Grande, Calif. *English*
 Donnelly, Orville Wright, '44, 219 Tunbridge Rd., Baltimore, Md. *Chemistry*
 Douglas, Gordon Whipple, '45,
 600 N. Chester Rd., Swarthmore, Pa. *Engineering*
 Douglas, Miriam Malcolm, '46, La Vale, Cumberland, Md. *Economics*
 Douglass, John William, '46,
 144 Hempstead St., New London, Conn. *Engineering*
 Dragstedt, Carol, '46, 5200 Greenwood, Chicago, Ill.
 Dreller, Selma Raika, '46, 1224 Belfield Ave., Drexel Hill, Pa.
 Dudley, George, Jr., '45, Old Wyomissing Rd., Wyomissing, Pa.
 Duffy, Christel Hull, '46,
 44 Gramercy Park North, New York City, N. Y. *Political Science*
 Dugan, John Leslie, Jr., '43,
 8355 Cadwalader St., Elkins Park, Pa. *Engineering*
 DuMond, Priscilla Hilton, '44, Ulster Park, N. Y. *English*
 Duncan, Roderick Martin, '43,
 2871 Audubon Terrace, N. W., Washington, D. C. *Economics*
 Dunn, Emily G., '46, 702 Broadway, Normal, Ill. *Political Science*
 Dunn, Robert Stafford, '43, 702 Broadway, Normal, Ill. *Political Science*
 Durkee, Eleanor Elizabeth, '43, 236 E. Commerce St., Bridgeton, N. J. *Botany*
 Dutton, Mary Lou, '46, 2242 Pioneer Rd., Evanston, Ill.
- Eavenson, Alban Simmons, '46,
 626 Strath Haven Ave., Swarthmore, Pa. *Engineering*
 Ebersole, Byron Stauffer, '44,
 328 W. Magnetic St., Marquette, Mich. *Economics*
 Edwards, Nancy Jane, '46, 106 Longwood Rd., Baltimore, Md.
 Ehrenfeld, David Allen, '46, 214 S. Main, Bel Air, Md. *Zoölogy*
 Ehrmann, Robert Lincoln, '44, 14 Irving St., Brookline, Mass. *Zoölogy*
 Eliot, Johan Wijnbladh, '43, 768 Foxdale Ave., Winnetka, Ill. *Zoölogy*
 Ely, Patricia Rose, '44, 5 Thayer Rd., Manhasset, N. Y. *English*
 Enion, Ruth Charles, '44,
 500 N. Chester Rd., Swarthmore, Pa. *English*
 Erdman, William James, '43,
 417 W. Chelton Ave., Germantown, Pa. *Economics*
 Estrin, Anne Eugenie, '43,
 65 Central Park West, New York City, N. Y. *Psychology*
 Evans, William Taylor, '45,
 170 N. Mountain Ave., Mountain Lakes, N. J. *Physics*
 Farnum, Helen Louise, '45, 618 N. Summerlin St., Orlando, Fla.

- Felix, Jane, '44, 50 W. Plumstead Ave., Lansdowne, Pa. *English*
 Felton, John Biddle, '43,
 109 E. Tabor Rd., Philadelphia, Pa. *Political Science*
 Fergar, John Henry, '45, 404 Keystone Ave., Fullerton, Pa. *Chemistry*
 Fergus, John Corwin, '43,
 3901 Connecticut Ave., Washington, D. C. *Economics*
 Field, David Freeman, '46, 84 Remsen St., Brooklyn, N. Y. *English*
 Finley, William Graham, '43,
 805 E. Willow Grove Ave., Chestnut Hill, Pa. *Economics*
 Fishback, Julia Loraine, '45, 712 Evergreen Drive, Akron, Ohio. *Psychology*
 Forster, Jean Haire, '44, 815 Ridge Terrace, Evanston, Ill. *Political Science*
 Forwood, Suzanne, '45, 24 Kiwassa Rd., Lake Saranac, N. Y.
 Frank, Hans Richard, '43, 48 John St., Iliion, N. Y. *Chemistry*
 Fraser, Herbert Ward, '43, Wallingford, Pa. *History*
 Frear, Robert Birdsell, '46,
 Blue Hill Rd., Riverdale, Westwood, N. J. *Engineering*
 Freed, Deam Winslow, '44, 204-20 42nd Ave., Bayside, N. Y. *Engineering*
 Freeman, Lois Walton, '44, Kennett Square, Pa. *English*
 Freifeld, George Robert, '44, 249 E. Sixth Ave., Roselle, N. J.
 Frey, Marianne, '46, 3553 Bayard Drive, Cincinnati, Ohio.
 Frick, Nancy Katharine, '46, 564 Hansel Rd., Wynnewood, Pa.
 Friend, Sidney von Basil, Jr., '43,
 681 W. 231st St., New York City, N. Y. *Economics*
 Frohman, Mary Patience, '46, 11748 S. W. Riverwood Rd., Portland, Ore.
 Frorer, Harriet Lou, '46, Weldin Rd., Wilmington, Del.
 Frorer, Janet Ann, '43, Weldin Rd., Wilmington, Del. *English*
 Fuchs, Martha, '45, 4510 Sheridan St., Riverdale, Md. *Chemistry*
 Fudakowski, George Casimir, '43,
 Indian Chase Drive, Greenwich, Conn. *Engineering*
 Gaines, Eleanor-Yellott, '44, 130 N. Third St., Easton, Pa. *Zoölogy*
 Gale, David, '44, 77 Park Ave., New York City, N. Y. *Physics*
 Galloway, Alice Louise, '44,
 4915 16th St., N. W., Washington, D. C. *Psychology*
 Galt, Elizabeth Allen, '46, 14 Barton Rd., Mountain Lakes, N. J.
 Gamble, Dorothy, '46,
 221 N. Princeton Ave., Swarthmore, Pa. *English*
 Gamble, Isabel Emory, '46, 222 Lancaster St., Albany, N. Y.
 Ganister, Daniel, '43, 64 Forest Rd., Springfield, Pa. *Economics*
 Garrett, Buckley Raser, '46, 52 N. Maple Ave., Lansdowne, Pa. *Engineering*
 Garver, Nancy Jane, '46, 701 Spang St., Roaring Spring, Pa.
 Gary, Joseph S., '45, 300 Yale Ave., Swarthmore, Pa. *Engineering*
 Gary, Rex Inglis, '46, 300 Yale Ave., Swarthmore, Pa. *Engineering*
 Gauger, Marcia, '45, Baum Blvd., State College, Pa. *Economics*
 Gawthrop, Barbara Miller, '46,
 231 Lafayette St., Kennett Square, Pa. *Zoölogy*
 Geddes, Ann Townsend, '45, Manor Shores, Chestertown, Md.
 Gehres, Mary Ann, '46, 422 Newbold Rd., Jenkintown, Pa. *English*
 Gemmill, Robert Fleming, '46, 406 Thayer Rd., Swarthmore, Pa. *Chemistry*
 Gerig, Janet Carolyn, '46, 104 Conn. Ave., Kensington, Md.

- Gibson, Elizabeth Davies, '44, 1262 E. 32nd St., Brooklyn, N. Y. *Psychology*
 Gibson, Jean Brookes, '46, 49 Prayson Terrace, Belmont, Mass.
 Gibson, Muscoe, '45, 1427 Powell St., Norristown, Pa. *Engineering*
 Gifford, James Hopkins, '46, 1954 Sycamore St., Bethlehem, Pa. *Engineering*
 Gilchrist, David Ives, '45, 6 Hedgerow Lane, Stratford, Pa. *Political Science*
 Gilkey, Robert McCall, '45, 3 Shady Ave., Greenville, Pa. *Psychology*
 Gillam, Clifford Riggs, Jr., '45, Buck Hill Falls, Pa. *Economics*
 Glenn, Elizabeth Bowman, '43, 1107 N. Front St., Harrisburg, Pa. *English*
 Glenzing, Helen Carolyn, '46, 549 Milton Rd., Rye, N. Y. *Mathematics*
 Goldforb, Miriam Caroline, '46, 330 E. 79th St., New York City, N. Y.
 Goldwater, Daniel Leon, '43
 2701 Grand Concourse, New York City, N. Y. *Engineering*
 Goodman, Theodore Wynkoop, '43,
 124 W. 6th Ave., Roselle, N. J. *Political Science*
 Goodrich, Janet Carter, '43
 448 Riverside Drive, New York City, N. Y. *Economics*
 Graef, Edith Ann, '44, 650 E. 164th St., New York City, N. Y. *Chemistry*
 Graham, Howard Turner, '46, 34 Crescent Rd., Poughkeepsie, N. Y.
 Granat, Evalyn, '46, 9 Oakley Place, New Dorp, S. I., N. Y. *Engineering*
 Grant, Isabella Horton, '44, 5521 Amestoy Ave., Encino, Calif. *History*
 Graves, John Henry, '46, Hartsville, Bucks Co., Pa. *Zoölogy*
 Gray, Mary Jane, '45, 754 Bellevue Blvd., St. Louis, Mo. *Zoölogy*
 Green, Alice G., '46, 230 Riverside Drive, New York City, N. Y. *English*
 Green, Amy, '45, Tuxedo Park, N. Y. *History*
 Green, Lois Angell, '43, 62 Kensington Ave., Northampton, Mass. *History*
 Greene, Dorothy Elizabeth, '46, 55 Mead St., Hempstead, N. Y. *Economics*
 Greenfield, Edna Ruth, '43, 6501 N. 8th St., Philadelphia, Pa. *Psychology*
 Greenhill, Ira Judd, '43, Park Central Hotel, New York City, N. Y. *Economics*
 Greenstein, Richard Marvin, '45, 1550 Elmwood Ave., Folcroft, Pa. *Zoölogy*
 Greenwald, Frank Stafford, '46, 462 McKinley St., Gary, Ind. *Engineering*
 Greist, Elinor Preston, '43, 821-A Union St., Brooklyn, N. Y. *English*
 Griffin, Marjorie Anne, '45, 2102 Timlin Rd., Portsmouth, Ohio. *English*
 Groff, Phyllis Ann, '46, 985 Kenyon Ave., Plainfield, N. J. *Mathematics*
 Gross, James Allen, '46, 29 High St., Summit, N. J.
 Guild, Walter Rufus, '45, 17 Elmwood Rd., Baltimore, Md. *Zoölogy*
 Haberern, Wendell Albert, '44, 709 Main St., Riverton, N. J. *Economics*
 Haertter, Maryann Miller, '46,
 31 Clinton Terrace, Irvington, N. J. *Mathematics*
 Haight, Margaret Worrall, '43, 8 Evans St., Franklin, N. J. *Economics*
 Haines, Elizabeth Cowing, '43, 94 Juniper Rd., Belmont, Mass. *History*
 Hall, Alan Norman, '45, George School, George School, Pa. *History*
 Halliday, William Ross, Jr., '46,
 3123 Adams Mill Rd., N. W., Washington, D. C. *Zoölogy*
 Hand, Jane Spencer, '43, 1 Holmcrest Rd., Jenkintown, Pa. *English*
 Hare, Alexander Paul, Jr., '44,
 4332 Garfield St., N. W., Washington, D. C. *English*
 Harkness, Bruce Elmore, '44, Crozer Seminary, Chester, Pa. *English*
 Harman, Alice Spier, '43,
 440 W. 24th St., New York City, N. Y. *Political Science*

- Harris, Howard Frank, '45,
315 W. 106th St., New York City, N. Y. English
- Harrison, Graham Olin, '44,
204 Lorraine Ave., Upper Montclair, N. J. Economics
- Hartwell, Mary Angelica, '46, 467 Fairview Ave., Orange, N. J. Zoölogy
- Hayden, Robert Gough, '46, 1237 Pratt St., Philadelphia, Pa. Economics
- Hays, Samuel Pfrimmer, '44, Rural Route No. 2, Corydon, Ind. Philosophy
- Heberle, Jürgen Wilhelm, '45,
1637 Cloverdale Ave., Baton Rouge, La. Engineering
- Heber-Smith, Elisabeth, '46, 16 Dudley Place, Yonkers, N. Y.
- Hecht, Robert C., '43, 240 W. Hansberry St., Philadelphia, Pa. Economics
- Heffernan, Neal Emmitt, '46,
40 Monroe St., New York City, N. Y. Engineering
- Heise, George Armstrong, '45,
18550 Rivercliff Drive, Rocky River, Ohio. Chemistry
- Heitkamp, Frederick Benjamin, '46, 61 W. 9th St., New York City, N. Y.
- Herrick, Marcia Kent, '46, Buchanan Rd., Niles, Mich.
- Hewins, Charles Edward, '46,
2408 Chesapeake Ave., Hampton, Va. Engineering
- Hewitt, David Lewis, '44, 191 E. Walton St., Chicago, Ill. Economics
- Hicks, Eleanor Jean, '45
79 Washington Ave., Pearl River, N. Y. Psychology
- Higley, Constance Joan, '46, 24 Second St., Johnson City, N. Y.
- Hill, Katharine Helen, '46, 13 Mt. Vernon St., Newport, R. I. English
- Hill, Martha Lyle, '46, 1816 W. Baltimore St., Baltimore, Md.
- Hinrichs, Karl, '46, 15 Litchfield Rd., Port Washington, N. Y. Chemistry
- Hirst, Shirley Marie, '44, 2357 E. Cumberland St., Philadelphia, Pa. Zoölogy
- Hoag, Verdenal, '46, Mine Mount Rd., Bernardsville, N. J.
- Hodges, Donald Clark, '46,
Superi 1552, Buenos Aires, Argentina. Philosophy
- Hodges, Thomas Victor, Jr., '46,
42 Taylor Blvd., Harrisburg, Pa. Engineering
- Hoisington, Elizabeth Cate, '45,
3812 Kanawha St., N. W., Washington, D. C. Economics
- Hollinger, William Carpenter, '44,
13 Park Ave., Swarthmore, Pa. Economics
- Hollingsworth, Helen Odette, '46, 86 First St., Clifton, N. J.
- Holmes, Mary Priscilla, '45, 60 School St., Concord, N. H. Political Science
- Hosbach, Lois Jane, '43, 1700 Asbury Ave., Ocean City, N. J. Zoölogy
- Hoskins, Barbara, '45, 86 Varick Rd., Waban, Mass.
- Hough, Paul VanCampen, '46, Ellwood City, Pa. Engineering
- Hovey, Justus Allan, '45,
1436 Monroe Ave., Rochester, N. Y. Political Science
- Howard, William Herbert, '44, 150 Fifth Ave., New York, N. Y. Economics
- Hudson, Richard Carroll, '43, 4412 Sansom St., Philadelphia, Pa. English
- Humphrey, Gertrude Louise, '46,
31 N. Whitney St., Hartford, Conn. History
- Huntington, Anna Slocum, '43, 38 Killdeer Rd., Hamden, Conn. French
- Hurd, Richard Meritt, '45, 624 Jaques Ave., Rahway, N. J. Engineering
- Huston, William Pope, '45, 123 E. 37th St., New York, N. Y. Engineering
- Hyde, Prudence Phillips, '46, 21 Henshaw Ave., Northampton, Mass.

- Inouye, George Toshio, '46, 2414 C St., Newell, Calif. *Engineering*
- Jabine, Jane Caroline, '44
1200 16th St., N. W., Washington, D. C. *Political Science*
- Jackson, Anne Gertrude, '46, 7 Langdon Lane, Narberth, Pa.
- James, Robert Llewellyn, '46, 732 13th Ave., Prospect Park, Pa. . . *Chemistry*
- Jay, John Elliott, '43, 315 W. 106th St., New York, N. Y. *Economics*
- Johnson, Barbara Anne, '46, 710 Guilford Court, Silver Spring, Md.
- Johnson, Frank W., '45, 4115 N. Illinois St., Indianapolis, Ind. . . *Engineering*
- Johnston, Richard A., '45, N. Eckhardt Rd., Eden, N. Y. *Zoölogy*
- Jones, Edward McClung, '45, Bobbin Mill Rd., Media, Pa. *Engineering*
- Jones, Elinor Loraine, '46,
c/o United Sugar Co., Los Mochis, Sinaloa, Mexico. *Mathematics*
- Jones, Elizabeth West, '46, 931 Graydon Ave., Norfolk, Va.
- Jones, Olwen, '44, 41 N. Broadway, Irvington, N. Y. *French*
- Jones, Patricia, '46, 3103 Sunset Ave., Richmond, Va. *English*
- Jones, Robert Paul, '43, Blythewood, Greenwich, Conn. *Economics*
- Jose, Victor Rudolph, '44, 410 N. Audubon Rd., Indianapolis, Ind. . *Economics*
- Kain, Sara Ruth, '46, 57 E. Market St., York, Pa.
- Kaiser, Calvin Lewis, '46, 2514 S. 20th St., Philadelphia, Pa. . . *Engineering*
- Kaplan, Arthur Lincoln, '46, 1428 N. 7th St., Philadelphia, Pa. . *Mathematics*
- Keay, Mary Louise, '46, 404 E. Baltimore Ave., Clifton Heights, Pa.
- Keeler, Margaret Ellis, '44, Chappaqua, N. Y. *Psychology*
- Keen, Dorothy Jean, '44, 424 Main St., Parkersburg, Pa. *Zoölogy*
- Keenan, Esther Marie, '46,
48 Old Middlesex Rd., Belmont, Mass. *Mathematics*
- Kehoe, Kathleen, '43, 345 Resor Ave., Cincinnati, Ohio. *English*
- Keller, Robert Bobrink, '44, Bielby Drive, Lawrenceburg, Ind. . *Economics*
- Kelley, Anita, '44, 8212 Cedar Rd., Elkins Park, Pa. *Zoölogy*
- Kelley, Donald Edward, '46, 8212 Cedar Rd., Elkins Park, Pa. . *Engineering*
- Kemp, Audrey Lord, '45
1609 31st St., N. W., Washington, D. C. *Economics*
- Kent, Nancy Florence, '45,
6120 Fieldston Rd., New York, N. Y. *Botany*
- Kimmel, Joseph DeHaven, '44, 25 St. Clair Drive, Pittsburgh, Pa. *Economics*
- King, Marion, '45, 50 Longview Rd., Port Washington, N. Y. . . . *Economics*
- King, Robert Waldo, Jr., '45, Hemlock Rd., Short Hills, N. J. . . . *Physics*
- Kirby-Smith, Selden, '44, 4930 Morven Rd., Jacksonville, Fla. . . . *English*
- Kirn, David Frederick, '45, 520 E. Main St., Lancaster, Ohio. . . *Economics*
- Kistler, William Henry, '43, 333 Woodlawn Ave., Glenside, Pa. . *Engineering*
- Kite, Elisabeth Anne, '46, 240 Ogden Ave., Swarthmore, Pa.
- Klau, Felice Jean, '44, 993 Fifth Ave., New York, N. Y. *Political Science*
- Kleiner, Jack, '45, 2337 S. 4th St., Philadelphia, Pa. *Chemistry*
- Kline, Evelyn Jones, '44, 554 Madison Ave., S. E., Grand Rapids, Mich.
- Knapp, Patricia Durnford, '46, 18 Field Point Rd., Greenwich, Conn.
- Knaur, Elise Jellinghaus, '45, 35 E. 30th St., New York, N. Y. . . . *German*
- Knickerbocker, Barbara, '46, 5 Craigie Circle, Cambridge, Mass.
- Knier, Hilda Rachel, '43, Wilbrae Farm, Downingtown, Pa. *Chemistry*
- Knox, Norman Davis, '44, 2508 Riverview Ave., McKeesport, Pa. . *English*
- Koons, Tracy Mae, '45, 108 E. 86th St., New York, N. Y.

- Kopsch, Paul, '45, 31 Lorenz Ave., Baldwin, N. Y. Zoölogy
- Koury, Thomas Lee, '46, 601 W. Third St., Chester, Pa.
- Kret, Sara Jane, '46, 1333 Bullen's Lane, Woodlyn, Pa.
- Krick, James Huyette, '46, 340 N. 5th St., Reading, Pa. Engineering
- Kuh, Frederica Coerr, '43, 42 E. 2nd St., Media, Pa. Economics
- Kuh, Peter Greenbaum, '43, 42 E. 2nd St., Media, Pa. Economics
- LaBarre, Ruth Madeleine, '44, 42 Ben Lomond, Uniontown, Pa. Economics
- Lamson, Barbara Alice, '43, 445 High St., Bethlehem, Pa. English
- Landis, Kendall, '46, 2 School Lane, Scarsdale, N. Y.
- Landis, Richard Mumma, '46, 1025 Wheatland Ave., Lancaster, Pa. Zoölogy
- Landon, Elizabeth Blanche, '46, 307 N. Princeton Ave., Swarthmore, Pa.
- Laporte, Marguerite Augusta, '43,
430 E. 86th St., New York, N. Y. Psychology
- LaRocco, Patricia Anne, '46, 2826 Chadbourne Rd., Shaker Heights, Ohio.
- Larrabee, Donna Louise, '45, Linwood Drive, Riverside, Conn. English
- Lawhorne, Edward Scott, '46, 44 Oak Lane, Primos, Pa.
- Lehman, Frederick A., '46, 5128 N. 15th St., Philadelphia, Pa. Engineering
- Leichter, Henry Otto, '46, 61 W. 82nd St., New York, N. Y.
- Leimbach, Herbert John, Jr., '43,
Fenbrook Farm, Cockeysville, Md. Engineering
- Leonard, Ruth Nye, '46, East Freetown P. O., Lakeville, Mass. History
- Leser, Walter Hess, '46, 7201 Cobolt Rd., Wood Acres, Md. Chemistry
- Levander, Rena Lois, '43, 433 W. 34th St., New York, N. Y. History
- Levinthal, Cyrus C., '44, Garden Court Apts., Philadelphia, Pa. Physics
- Lewars, Kenneth Brumbaugh, '44,
42 W. Albemarle Ave., Lansdowne, Pa. English
- Lieberman, William Slattery, '43, 161 W. 75th St., New York, N. Y. English
- Lightwood, Alice Fafienc, '44, 4207 Walnut St., Philadelphia, Pa. English
- Lindley, Lawrence Eldon, Jr., '44, 719 N. Olive St., Media, Pa. Engineering
- Linton, David Hector, '46, R. D. 3, Media, Pa. English
- Locke, Janet, '46, 39 Robin Rd., W. Hartford, Conn.
- Loescher, Samuel Megan, '44, 5848 Pine St., Philadelphia, Pa. Economics
- Lohr, Freeman W., '43, 64 Ely Place, East Orange, N. J. Engineering
- Lohr, Mary Phyllis, '44, 64 Ely Place, East Orange, N. J. Economics
- Look, Arnold Evert, '44, Newtown Square, Pa. Engineering
- Love, Warner Edwards, '44, 142 E. Oak Ave., Moorestown, N. J. Zoölogy
- Low, Marilyn, '46, 1 Mulberry Rd., New Rochelle, N. Y.
- Lucking, Dorothy Marie, '46, 825 Brodhead St., Easton, Pa.
- Ludemann, Jane Louise, '46, 236 Abingdon Rd., Kew Gardens, N. Y.
- Lum, Patricia Bentley, '44, 3428 34th St., N. W., Washington, D. C. French
- Luther, Ernest Wolfgang, '46, 330 Buckingham Rd., Cedarhurst, N. Y.
- Lyman, Frank Lewis, '43, 113 Penarth Rd., Bala-Cynwyd, Pa. Zoölogy
- Lyman, Richard Wall, '44, 20 Wilkins St., Hamden, Conn. History
- McCain, Margaret Mary, '43, 513 Birch St., Boonton, N. J. English
- McClain, Marylou, '46, 326 23rd St., N. W., Canton, Ohio. Zoölogy
- McCloskey, Janet Ann, '44,
418 W. 20th St., New York, N. Y. Political Science
- McClure, Frances Dayrell, '46, 1275 Denmark Rd., Plainfield, N. J. French
- McCombs, Janet Ross, '45, 11 Greendale Ave., Mt. Vernon, N. Y. History

- McCormick, Gene Elton, '46,
4041 Washington Blvd., Indianapolis, Ind. *English*
- McCormick, H. Barker, Jr., '43,
236 W. Garfield Ave., Norwood, Pa. *Engineering*
- McCulloch, Margaret F., '46, 14 Mulford Place, Hempstead, N. Y. *Chemistry*
- McIntire, Pope Barrow, '45, 122 E. 31st St., Savannah, Ga. *Political Science*
- McLain, Mary Lois, '46, 865 S. Grand Ave., Pasadena, Calif.
- McLaughlin, William Francis, '44,
4000 Cathedral Ave., N. W., Washington, D. C. *Economics*
- McLean, Pierson Scott, '46,
50 Hanscom Place, Rockville Centre, N. Y. *Chemistry*
- MacDonald, Catharine Louise, '45,
5025 Wisconsin Ave., Washington, D. C. *Zoology*
- MacDonald, Mary, '43, 116 Bridge St., Morton, Pa. *History*
- MacLellan, Sally Lee, '46, 550 Sheridan Rd., Evanston, Ill. *English*
- Mahler, Henry Ralph, '43, 109-01 72nd Rd., Forest Hills, N. Y. *Chemistry*
- Maier, Robert V., '43, 104 W. 70th St., New York, N. Y. *Engineering*
- Malige, Marie, '45,
American Consulate, Fort de France, Martinique. *History*
- Mangelsdorf, Paul Christoph, Jr., '46,
28 Grove Hill Park, Newtonville, Mass. *Chemistry*
- Marechal, Michele Denise, '43,
Ethel Walker School, Simsbury, Conn. *French*
- Marsh, Ursula, '45, 129 E. 10th St., New York, N. Y. *Political Science*
- Marshall, Jonathan, '46, 30 W. 54th St., New York, N. Y. *Political Science*
- Marshall, Margaret Eleanor, '45,
1430 Dean St., Schenectady, N. Y. *Chemistry*
- Marshall, William Jackson, '44,
7337 Miller Ave., Upper Darby, Pa. *Engineering*
- Martenet, Phebe Elizabeth, '46, 411 Hawthorne Rd., Baltimore, Md.
- Martin, Jane Moyer, '46, 1116 Crest Lane, Lancaster, Pa. *English*
- Martinez, Betita Sutherland, '46, 6411 Beechwood Drive, Chevy Chase, Md.
- Matchett, William Henry, '45,
9936 S. Winchester Ave., Chicago, Ill. *English*
- Mateer, Betty Anne, '46, R. D. 4, Coatesville, Pa. *Astronomy*
- Maxwell, Joanna Hazel, '44, Slingerlands, N. Y. *Political Science*
- Maxwell, Patricia, '46, 18 Bridge St., Slingerlands, N. Y.
- Mayfield, Glover Benton, '46,
104 Sycamore St., Chevy Chase, Md. *Engineering*
- Mayfield, Richard Heverin, '43,
104 Sycamore St., Chevy Chase, Md. *Political Science*
- Mebane, Anna Virginia, '45, 138 W. 92nd St., New York, N. Y. *History*
- Meeker, Margaret S., '46, 9 E. 10th St., New York, N. Y.
- Meenan, David Bowker, '43,
612 Ogden Ave., Swarthmore, Pa. *Engineering*
- Megonigal, William S., Jr., '43, 903 E. 20th St., Chester, Pa. *Economics*
- Meisenhelder, Samuel Faust, '45, 1253 W. Market St., York, Pa. *Zoology*
- Mellett, Harriett Sue, '44, 336 Ripple Rd., Indianapolis, Ind. *English*
- Menzel, Dorothy, '46, 30 Esplanade, Mt. Vernon, N. Y.
- Merritt, Jessica Ann, '45, Farmingdale, N. Y. *Psychology*

- Metz, Jane Gammon, '45, 30 Windemere Ave., Lansdowne, Pa. English
- Mifflin, Edward Biddle, '45, Wallingford, Pa. Economics
- Milam, Mary Louise, '46, 17 Westwood Drive, Chapel Hill, N. C.
- Miller, Anne Walton, '44, 6 Bartol Ave., Ridley Park, Pa. History
- Miller, Frank Arnold, '46, 6 Bartol Ave., Ridley Park, Pa. History
- Miller, Peter Lukens, '45, 411 Thayer Rd., Swarthmore, Pa. Engineering
- Miller, Ruth Patricia, '45, 410 Summit Ave., South Orange, N. J. Chemistry
- Milliken, James Dale, Jr., '45,
- 1140 N. Nye Ave., Fremont, Neb. Political Science
- Millis, Vera Ann, '45, Carmel, Calif. Political Science
- Mills, John Ross, '44, 20 Maritta Rd., Glen Cove, N. Y.
- Mills, Marjorie, '44, 314 Bryn Mawr Ave., Cynwyd, Pa. English
- Mills, William Harold, '43, 492 Engle St., Englewood, N. J. Mathematics
- Mochel, Jack Bond, '44, 606 Thayer St., Ridley Park, Pa. Engineering
- Montonna, Margaret Ann, '46, 1494 Branston St., St. Paul, Minn.
- Montenyohl, Patricia, '46, 12 Murray Place, Princeton, N. J. Chemistry
- Moody, Wilberta Cortland, '43, Lakeview Drive, Concord, N. H. Zoölogy
- Moore, Esther Hobson, '46, 118 E. Biddle St., West Chester, Pa. Psychology
- Moore, John Beverly, III, '46, 520 N. Main St., Benton, Ill.
- Morgan, Nancy Olwen, '44,
- 2605 E. Overlook Rd., Cleveland Heights, Ohio. Economics
- Morgan, Ruth Thompson, '44,
- 31 Warren Way, Watertown, Conn. Psychology
- Morrell, Doris Jane, '44,
- 6906 Connecticut Ave., Chevy Chase, Md. Psychology
- Morrell, Lois Rose, '46, 6906 Connecticut Ave., Chevy Chase, Md.
- Morris, Peter Andrew, '43, 179 Meigs St., Rochester, N. Y. Mathematics
- Morss, Jane, '44, 654 Logan St., Elmira, N. Y. Mathematics
- Murphy, Anne Joy, '46, 90 Second Ave., Newark, N. J.
- Mustin, Alice Emily, '46, Herford Place, Lansdowne, Pa.
- Mustin, Frank Henry, '45, Herford Place, Lansdowne, Pa. Engineering
- Myers, Philip, III, '43, Towson, Md. Engineering
- Myerscough, Mary Ann, '43
- Westbrook Hotel, Fort Worth, Texas. Political Science
- Nash, James Herbert, '46, 1005 Cornell Rd., Pasadena, Calif. Zoölogy
- Neale, Jacqueline, '46, 3021 Mt. Allister Rd., Pittsburgh, Pa.
- Nathan, Alan Mathew, '45, 215 W. 90th St., New York, N. Y. Chemistry
- Need, Harry William, Jr., '45
- 3792 Woodland Ave., Drexel Hill, Pa. Engineering
- Nelson, Frederika, '46, 110 White St., East Boston, Mass.
- Nelson, Phyllis Ann., '44, 704 W. 9th St., S., Newton, Iowa. History
- Nepруд, Anne Caroline, '46, 906 Greenwood Ave., Ann Arbor, Mich.
- Neumann, Faith, '44, 32 E. 26th Place, Tulsa, Okla. Psychology
- Neuburg, Edward Peter, '46, 20 Lincoln St., Larchmont, N. Y. Mathematics
- Newell, Margaret Frances, '45,
- 590 E. 3rd St., Mt. Vernon, N. Y. English
- Newitt, Charles Edward, '45, 215 Fulton St., Sandusky, Ohio. Engineering
- Newton, Anne Mary, '46, 1415 Ravinia Rd., W. Lafayette, Ind.
- Nichols, Robert Lyman, '46, 39A Wildwood St., Winchester, Mass.
- Nicholson, Francis T., '46, 1307 Noyes Drive, Silver Spring, Md. Engineering

- Noehren, Virginia Graves, '44,
Munro Hall, 45 Prince St., Rochester, N. Y..... *English*
- Nolte, Robert Knabe, '45,
38 Willets Court, Manhasset, N. Y..... *Engineering*
- Norman, Robert Z., '45, Bannockburn, Deerfield, Ill.
- Northup, Elizabeth Vaughan, '43,
2114 Abbotsford Ave., Duluth, Minn..... *Psychology*
- Ogden, Helen, '46, 41 Lincoln Ave., Lansdowne, Pa.
- Ogden, John Mahlon, Jr., '44, Glen Mills, Pa..... *Latin*
- Ohlinger, Mary Alice, '46,
2121 Richmond Rd., Toledo, Ohio..... *Political Science*
- Olesen, Donald Giddings, '43,
U. S. Quarantine Station, Rosebank, N. Y..... *Economics*
- Oliver, Elizabeth Jane, '46, 3448 81st St., Jackson Heights, N. Y.
- Olson, Robert Craig, '46, 335 Lincoln Ave., Council Bluffs, Iowa... *Zoölogy*
- Olum, Vivian Goldstein, '43, 136 Alexander St., Princeton, N. J. *Psychology*
- Orton, Robert Edwin, Jr., '44, 5312 Pine St., Philadelphia, Pa... *Economics*
- Osterman, Joan, '46, 10 W. 96th St., New York, N. Y..... *English*
- Ostrander, Gilman Marston, '45,
4154 Lark St., San Diego, Calif..... *English*
- Ousley, Paul Stockdale, '44,
34 N. Whistler Ave., Freeport, Ill..... *Political Science*
- Page, Laurama, '43, 2424 Lincoln St., Evanston, Ill..... *Psychology*
- Paine, Caroline Elizabeth, '44,
149 Bellevue Ave., Springfield, Mass..... *English*
- Papazian, Paul, '43, 1420 Dean St., Schenectady, N. Y..... *Economics*
- Park, John Bothwell, '46, Moylan-Rose Valley, Pa..... *Engineering*
- Parker, Doris Ellen, '44, 524 Laurel Rd., Yeadon, Pa..... *English*
- Parker, Jean Talbot, '45,
5711 40th St., Hyattsville, Md..... *Political Science*
- Parrish, John Glenn, Jr., '45, 255 Leamy Ave., Springfield, Pa.... *Zoölogy*
- Partridge, Dirk, '46, 5 Audubon Place, Fair Lawn, N. J.
- Peabody, Elizabeth, '44, 362 Clyde St., Chestnut Hill, Mass... *Mathematics*
- Pearce, Daniel Martin, '43, Sparks, Md..... *Engineering*
- Peelle, Edmund, '44, 77 Blenheim Drive, Manhasset, N. Y.... *Engineering*
- Peelle, Inez Marlyn, '46, 77 Blenheim Drive, Manhasset, N. Y.... *Zoölogy*
- Penman, Polly Lou, '45, 200 E. High St., Lebanon, Pa..... *Mathematics*
- Pennell, Dorothy Davis, '46, 140 Hilldale Rd., Lansdowne, Pa.
- Pennoyer, Virginia, '44, 3329 70th St., Jackson Heights, N. Y..... *History*
- Perry, Horace Mitchell, '45, 50 Wyckoff Place, Woodmere, N. Y.... *Zoölogy*
- Peterson, Miriam Ellen, '46, 4 Ridge Rd., Cos Cob, Conn.
- Pike, Ann Elizabeth, '44, 105 S. Parkview Ave., Columbus, Ohio. *Economics*
- Pike, Jane Smedley, '43, Woodward Ave., Moylan, Pa..... *English*
- Pinto, Keith Wentworth, '46, 920 26th Place, S., Arlington, Va.
- Piper, John, '46, 213 Yale Ave., Swarthmore, Pa..... *Chemistry*
- Pixton, John Erwin, '44, 1128 Drexel Ave., Drexel Hill, Pa.... *Engineering*
- Platt, Robert S., '46, 10820 Drew St., Chicago, Ill.
- Poland, Georgiana Winifred, '46, 6910 Yellowstone Blvd., Forest Hills, N. Y.
- Popkins, Paul Burton, '43, 424 Church Lane, Philadelphia, Pa.... *History*

- Porter, Helen Conard, '46, 320 Park Drive, Moorestown, N. J.
- Portis, Margaret Ruth, '46, 5750 Kenwood Ave., Chicago, Ill.
- Potter, David Hays, '44, 40 Bush Ave., Greenwich, Conn. *English*
- Powell, Oscar Morgan, Jr., '46, R. F. D. 2, Herndon, Va. *Zoölogy*
- Pratt, John Marshall, '46, R. D. 2, Tamaqua, Pa.
- Presbrey, Jean, '46, 230 Savin Hill Ave., Dorchester, Mass.
- Preston, Catherine Eleanor, '44,
531 E. Tulpehocken St., Philadelphia, Pa. *Zoölogy*
- Price, Henry Locher, Jr., '44, 86 E. Stewart Ave., Lansdowne, Pa. . . *Zoölogy*
- Price, William Tudor, Jr., '43, 112 N. Mole St., Philadelphia, Pa. . . . *Zoölogy*
- Priestley, Marian, '46, 441 N. Paterson St., Madison, Wis. *Chemistry*
- Putnam, Shirley Pauline, '46, 2223 S. Overlook Rd., Cleveland Heights, Ohio.
- Pye, William Matthew, Jr., '45,
1113 Stratford Ave., Melrose Park, Pa. *Engineering*
- Pyle, Henrietta, '46, 504 S. Clayton St., Wilmington, Del. *Economics*
- Pyle, Robert L., '44, 504 S. Clayton St., Wilmington, Del.
- Radcliffe, Evelyn Vernon, '46,
4545 Boston Post Rd., Pelham Manor, N. Y. *English*
- Radford, Joseph, Jr., '43, 144 Cuyler Ave., Trenton, N. J. *German*
- Raff, Morton Spencer, '43, 245 Cedar Ave., Highland Park, Ill. *Physics*
- Randall, Nancy Lois, '46, 22 Front St., Binghamton, N. Y. *Chemistry*
- Raymond, Barbara, '46, 5652 Kenwood Ave., Chicago, Ill.
- Redfield, Lisa Berthe, '45, Route 1, Glenview, Ill.
- Reed, Muriel Hughette, '45,
2 Edgewood Gardens, Springfield, Mass. *German*
- Reid, James William, '43, 2502 Olyphant Ave., Scranton, Pa. . . *Economics*
- Reeside, Corinna, '43, 5104 41st Ave., Hyattsville, Md. *French*
- Reller, George Roswell, '46, 620 Nat Rd., W., Richmond, Ind. . . . *Economics*
- Renborg, Bertil, '46, 3806 Livingston St., N. W., Washington, D. C.
- Rich, Clayton, Jr., '46, R. F. D. 3, Stamford, Conn. *Zoölogy*
- Richards, Annette Hope, '46, R. D. 3, West Chester, Pa.
- Richards, Frederick Howard, '45, R. D. 3, West Chester, Pa. *Zoölogy*
- Richards, William Henry, '43,
20 W. Windemere Terrace, Lansdowne, Pa. *Engineering*
- Richardson, Elliott, '45, 311 Lafayette Ave., Swarthmore, Pa. . *Engineering*
- Ridpath, Esther Wilson, '44, 724 Harper Ave., Drexel Hill, Pa. . . . *English*
- Riener, Joseph W. Trickett, '43,
155 Sycamore Rd., Upper Darby, Pa. *Botany*
- Rieser, William Herman, '46, 1525 Dean Ave., Ravinia, Ill.
- Riker, Barbara Harrison, '43, Mt. Tabor Rd., Morris Plains, N. J. . . . *English*
- Ringo, Bette, '43, 1717 E. Kane Place, Milwaukee, Wis. *Economics*
- Ritchie, Alice Anne, '45, 379 St. Clair Ave., Grosse Pointe, Mich.
- Rittman, Eleanor Anne, '43, 6112 Alder St., Pittsburgh, Pa. *English*
- Robinson, Gilpin Riley, '45,
1501 Delaware Ave., Wilmington, Del. *Engineering*
- Robinson, Jean, '43, 435 Stellar Ave., Pelham Manor, N. Y. *Psychology*
- Robinson, Nancy Lee, '45,
21 Stuart Place, Manhasset, N. Y. *Political Science*
- Rodman, Diana, '44, 150-68 Sixth Ave., Whitestone, N. Y. *English*
- Rogers, Janet, '46, 19 Mulberry Lane, New Rochelle, N. Y. *English*

Rogers, Mary Louise, '45, 5619 Dorchester St., Chicago, Ill.
 Roman, Nancy Grace, '46, 722 Hunting Place, Baltimore, Md.
 Rosenau, Fred Simon, '45, 8 E. 10th St., New York, N. Y.....English
 Rosenthal, Kalá, '44, 701 Park Ave., Goldsboro, N. C.....Psychology
 Rossant, Murray Justus, '44, 394 Summit Ave., Mt. Vernon, N. Y....English
 Rossbach, Alan Leigh, '44, 1112 Park Ave., New York, N. Y.....History
 Rowe, Marvin Hunter, '46,
 412 Highland Drive, Kenwood, Chevy Chase, Md.....Physics
 Rowe, Philip Clyde, '43, 419 Steward Ave., Jackson, Mich..Political Science
 Ruhe, Edward Lehman, '45, 101 N. 6th St., Allentown, Pa.....Botany
 Rupp, Patricia Anne, '46, 603 Pine St., Steelton, Pa.

St. John, Catharine Gregg, '46, 1125 Ash St., Scranton, Pa.....English
 St. John, Dorothy Paine, '45, 1125 Ash St., Scranton, Pa.
 Samman, Georgia Louise, '43,
 2736 Derbyshire Rd., Cleveland Heights, Ohio.....Chemistry
 Satterthwaite, Ann, '43, 825 Standish Ave., Westfield, N. J.....English
 Schauffler, Peter Page, '44, 2407 Pine St., Philadelphia, Pa...Engineering
 Scheiber, Walter A., '44,
 Tompkins Corners, Putnam Co., N. Y.....Political Science
 Schinnerer, Barbara, '45, 251 W. 71st St., New York, N. Y.....Economics
 Schmidt, Walter Marshall, '46,
 419 Riverview Rd., Swarthmore, Pa.....Political Science
 Schoepperle, Richard Klein, '46, Bay View Rd., Hamburg, N. Y.
 Schroder, Margaret Ann, '45, 131 W. Oakdale Ave., Glenside, Pa..English
 Scott, Ervin Newton, '46, 463 Green Lane, Philadelphia, Pa...Engineering
 Scott, Thomas Russell, '45, 411 Nassau Blvd., Prospect Park, Pa..Chemistry
 Sears, Frances Grigsby, '43, 1927 Potomac Drive, Toledo, Ohio..Mathematics
 Segal, Robert Lloyd, '46, 101 Hickory Grove Drive, Larchmont, N. Y..Botany
 Seidel, Joan Ruth, '46, 5403 Woodbine Ave., Philadelphia, Pa.
 Seiler, Charles Edwin, Jr., '46, 3022 Que St., N. W., Washington, D. C.
 Seiler, Norma Jean, '44,
 3342 Stephenson Place, Washington, D. C.....English
 Selby, Fred Crothers, Jr., '45, 132 Owen Ave., Lansdowne, Pa...English
 Shaul, Barbara Elizabeth, '46, 1112 Gibson St., Scranton, Pa.....English
 Shaw, Edward Burns, Jr., '45, 5818 N. 13th St., Philadelphia, Pa...Zoölogy
 Sheedy, H. James, '46, 2543 Fenwick Rd., Cleveland Heights, Ohio.
 Shepard, Ruth Hoyt, '44, 151 Oxford Rd., New Rochelle, N. Y.....English
 Shields, Kathryn Ann, '44, 11 Cherry Ave., Larchmont, N. Y..Engineering
 Shoemaker, Charles Gawthrop, '46, R. D. 2, Kennett Square, Pa..Zoölogy
 Shor, Dorothy Hathaway, '43, 451 W. 21st St., New York, N. Y...Chemistry
 Sieck, William Charles, '45, 4010 Round Top Rd., Baltimore, Md..Economics
 Siegle, John George, '45, 317 Orchard Rd., Springfield, Pa..Political Science
 Simpson, Robert Edward, '45, 717 Jeffrey St., Chester, Pa.....Economics
 Skodzus, Alice, '44, 1243 Vine St., Philadelphia, Pa.....Economics
 Slay, William Edward, '46, San Diego, Calif.....English
 Slick, Stineman Cameron, '45, 171 Griffith St., Salem, N. J.
 Slocum, Margaret, '46, 75 Martine Ave., Fanwood, N. J....Political Science
 Slocum, William W., Jr., '43, Farmington, Mich.....Economics
 Smith, Dorothy Fry, '43, 122 W. Franklin St., Ephrata, Pa.....History

- Smith, Emilie Kellogg, '44, Montebello Rd., Suffern, N. Y. *History*
 Smith, Ernest Ketcham, Jr., '44, 810 Jones St., San Francisco, Calif. . . *Physics*
 Smith, Harold Lesley, Jr., '44
 41 Central Park West, New York, N. Y. *Political Science*
 Smith, June Corey, '43, 1505 Bywood Ave., Upper Darby, Pa. *English*
 Smith, Mary Mead, '43,
 3635 Ingomar Place, N. W., Washington, D. C. *Economics*
 Smith, Ruth Isabel, '46, 57 Stockton Ave., Ocean Grove, N. J.
 Snyder, Kenneth Moore, '45,
 50 Oakwood Terrace, New Paltz, N. Y. *Chemistry*
 Sobol, Bruce, '45, 4680 Fieldston Rd., New York, N. Y. *Zoölogy*
 Solis-Cohen, Ann, '45, 709 Rambler Rd., Elkins Park, Pa.
 Spackman, John Worth, '45, Hill Farm, Coatesville, Pa. *Engineering*
 Spafford, John Kennedy, '44, 447 W. 5th St., Erie, Pa. *Economics*
 Spangler, Ruth Lydia, '43, 71 Brewster Rd., Scarsdale, N. Y. . . . *Psychology*
 Sparks, Ruth Matthews, '43, Bolton, Mass. *Psychology*
 Spence, David Barclay, '44, Pacific Grove, Calif. *Economics*
 Spink, Lilian Constance, '43, 553 Gates St., Philadelphia, Pa. . . . *English*
 Staman, Virginia Eleanor, '46, 225 Brookline Blvd., Brookline, Pa.
 Stanley, Mary Janet, '45, 531 Hawthorn Rd., New Castle, Ind. . . . *English*
 Stauffer, Robert Nichols, '45
 390 Larchlea Drive, Birmingham, Mich. *Engineering*
 Stearns, Whitney Kneeland, '45
 254 Arlington Ave., Brooklyn, N. Y. *Engineering*
 Stecher, William Nelson, '45, 1510 Darby Rd., Upper Darby, Pa. . . . *Zoölogy*
 Stein, Howard, '44, 152 E. 23rd St., Chester, Pa. *Mathematics*
 Steliotes, Zoë, '46, 2 Cornell Place, Pittsburgh, Pa.
 Stenstrom, Margaret L., '45, 1517 East River Rd., Minneapolis, Minn.
 Stern, Betty Eising, '43, 114 E. 84th St., New York, N. Y. *Economics*
 Stern, Jane Helen, '44, Westover Rd., Stamford, Conn. *Economics*
 Steuber, Marion MacColl, '45, 405 Morton Ave., Ridley Park, Pa. *Chemistry*
 Stevens, Anne Louise, '44, 475 Fifth Ave., New Kensington, Pa. *Psychology*
 Stewart, Ann, '45, 54 Tisdale Rd., Scarsdale, N. Y. *English*
 Stewart, Bruce Cameron, '45, 154 Woodland Ave., Lansdowne, Pa. *English*
 Stewart, Dora Faye, '44, 51 A. Rajpur Rd., Dekra Dun, U. P. India. *Zoölogy*
 Stewart, Mary, '45, 350 Grand St., Newburgh, N. Y. *Chemistry*
 Stewart, Mary, '43, 178 Pleasant Ave., Hamburg, N. Y. *English*
 Stickle, Laura Virginia, '46, 4505 17th St., N. W., Washington, D. C.
 Stodalabarger, Beatrice, '45, 702 W. Randolph St., Enid, Okla. *Economics*
 Stone, Barbara H., '46, West Mountain Rd., Ridgefield, Conn. . . . *English*
 Storm, Mary Elizabeth, '46, 207 Rockwell Terrace, Frederick, Md.
 Stow, Paul Markley, '46,
 403 King's Highway, Moorestown, N. J. *Engineering*
 Stratton, Roland Pancoast, Jr., '45, 284 S. Church St., Moorestown, N. J.
 Strauss, George Joseph, '44,
 220 Prospect Ave., Staten Island, N. Y. *Economics*
 Streit, Jeannette DeFrance, '46, Ontario Apts., Washington, D. C.
 Streit, Pierre DeFrance, '44,
 Ontario Apts., Washington, D. C. *Political Science*
 Strong, Mary Katharine, '46,
 140 Park Place, Sault Ste. Marie, Mich. *Psychology*

- Sutherland, John Hale, '45, 1106 Highland Ave., Bethlehem, Pa. *English*
 Suvarnsit, Renoo, '44,
 The Royal Thai Legation, 2300 Kalorama Rd., N. W., Washington, D. C.
 *Engineering*
- Swanson, Lennard, '46, Skyland Estate, Sloatsburg, N. Y. *Zoölogy*
- Swartz, Clara Alice, '46, Veterans Facility, Northport, N. Y.
- Swigert, Anne Webb, '43,
 280 Jefferson Ave., Haddonfield, N. J. *Political Science*
- Taft, Lucia Chase, '46, 3754 Charloe Court, Cincinnati, Ohio.
- Talcott, Elmer A., '45, 4020 Rosemont Ave., Drexel Hill, Pa. *Economics*
- Tappan, David S., Jr., '44,
 1385 N. Michigan Ave., Pasadena, Calif. *Economics*
- Tarbox, Frank Kolbe, '44,
 7216 Wayne Ave., Philadelphia, Pa. *Political Science*
- Taylor, Ann, '46, West Woodstock, Conn.
- Taylor, Barbara, '45, 51 Laconia Rd., Worcester, Mass. *English*
- Taylor, Catharine Rebecca, '44,
 457 Lancaster Ave., Haverford, Pa. *English*
- Taylor, Thomas Osgood, '43
 3905 Jocelyn St., N. W., Washington, D. C. *Economics*
- Temple, William Arthur, '44
 88 Northumberland Rd., Pittsfield, Mass. *History*
- Terrell, Dailey Burnham, '44,
 20 W. Stewart Ave., Lansdowne, Pa. *Philosophy*
- Teutsch, Erika Elisabeth, '44,
 1515 Windsor Rd., West Englewood, N. J. *Psychology*
- Tewksbury, Joan, '46, 324 Pembroke Rd., Cynwyd, Pa. *French*
- Thatcher, David A., '44, Lookout Mountain, Tenn. *Political Science*
- Thomas, John Meilson, '44,
 5229 Pawnee Lane, Kansas City, Kansas. *Engineering*
- Thomas, Randal H., '43, 6201 Wayne Ave., Philadelphia, Pa. *Mathematics*
- Thompson, Ellen, '44, Woodbridge, Va. *History*
- Thompson, Jean Winifred, '46, Oak Shade Ave., Darien, Conn.
- Thomson, John Seabury, '43, 38 Alexander St., Princeton, N. J. *History*
- Thorn, Elisabeth Ann, '43,
 7822 Spring Ave., Elkins Park, Pa. *History*
- Thorp, Arthur George, II, '43, Westtown School, Westtown, Pa. *Engineering*
- Thurston, Donald Rice, '45, 3425 Edgevale Rd., Toledo, Ohio. *Zoölogy*
- Townes, Aurelia Keith, '45, 500 Sumner St., Greenville, S. C. *English*
- Trainer, Richard Morse, '44, 213 Maple Rd., Chester, Pa. *Engineering*
- Treuenfels, Wolfgang, '45,
 140 Bay Ridge Parkway, Brooklyn, N. Y. *Chemistry*
- Trudel, Allan Robert, '43,
 1019 Greenmount Rd., Haddonfield, N. J. *Engineering*
- Turner, Ransom Hudson, Jr., '44,
 46-19 260th St., Great Neck, N. Y. *Political Science*
- Tutelman, Harriet, '46, 4230 Parkside Ave., Philadelphia, Pa.
- Twaddell, Elizabeth Spilman, '44,
 707 S. Duke St., Durham, N. C. *History*
- Ullman, David Ulrich, '43, 213 Harvard Ave., Swarthmore, Pa. *Engineering*

- VanPelt, Arnold Francis, Jr., '46,
122 Gregory Ave., West Orange N. J.....Zoölogy
- Van Sickle, Caroline Elizabeth, '43,
1291 Plum Tree Rd., Springfield, Mass.....English
- Van Sickle, James Schuyler, '46, 1291 Plum Tree Rd., Springfield, Mass.
- VanTrump, Margery, '45, Silverside, Wilmington, Del.....English
- VanValen, Nelson Sandford, '45,
Robert Treat Hotel, Newark, N. J.....Economics
- Vernon, Virginia Anne, '44, 815 27th St., Cairo, Ill.....English
- Votaw, Theresa Marie, '43, Carbondale Rd. Waverly, Pa.....English
- Wagner, Nicholas Harry, '45,
3rd and Providence Rd., Media, Pa.....Engineering
- Walker, Gordon, '44,
838 S. Main St., Independence, Ore.....Botany
- Walker, Margaret Louise, '45, Westtown School, Westtown, Pa.....Zoölogy
- Wallin, Frances Sarles, '44, 3 Pine Grove, Bristol, Pa.....Psychology
- Walton, Marianna Louise, '44, Moylan, Pa.....German
- Walton, Virginia Stockton, '45, 819 Allegheny St., Hollidaysburg, Pa.
- Wampler, Betty Jean, '43, 320 Sedgwick Drive, Syracuse, N. Y.....History
- Ward, Sylvia Conant, '46, 1555 Oak Grove Ave., Pasadena, Calif.
- Warren, Penelope, '45, 401 E. 56th St., New York, N. Y.....English
- Way, David Spencer, '43, 164 S. Main St., Woodstown, N. J.....Engineering
- Way, Marjorie Williams, '45, 164 S. Main St., Woodstown, N. J.....English
- Webb, Mildred G., '46, 673 Longacre Blvd., Yeadon, Pa.
- Wedeman, Miles George, '43, 738 Mason Ave., Drexel Hill, Pa.....Economics
- Wells, Jane Fairfax, '46,
135 Spring Glen Terrace, Hamden, Conn.....English
- Wells, Lois Elizabeth, '45, Dolgelly Apts., Bryn Mawr, Pa.....Economics
- Wemyss, Courtney Titus, '44,
27 Washington Ave., Arlington, N. J.....Zoölogy
- Wenar, Charles, '43, Bay St. Louis, Miss.....Psychology
- Wender, Ira, '46, 106 E. 85th St., New York, N. Y.....Zoölogy
- Wentz, John Calely, '46, 12 W. Knight Ave., Collingswood, N. J.....English
- West, Barbara Ann, '46, 102 Rugby Rd., Syracuse, N. Y.....Chemistry
- Wheaton, Robert Garth, '43,
1042 S. Linden Ave., Alliance, Ohio.....Engineering
- Wheeler, Joan, '45, 35 Channing Ave., Providence, R. I.....Mathematics
- Whipple, Barberie T., '43, 320 Westminster Rd., Rochester, N. Y.....English
- Whipple, David Collins, '43,
25 Cushman Rd., Scarsdale, N. Y.....Engineering
- White, Allen Kirby, '45,
137 N. Harrisburg Ave., Atlantic City, N. J.....Engineering
- White, Barclay, Jr., '44, 120 Hilldale Rd., Lansdowne, Pa.....Engineering
- White, Elizabeth Suzanne, '43,
274 St. Johns Place, Brooklyn, N. Y.....Political Science
- White, Lucinda Hills, '44,
137 N. Harrisburg Ave., Atlantic City, N. J.....Economics
- White, Margaret Joan, '44, 416 Sharp Ave., Glenolden, Pa.....Mathematics
- Wickes, Margaret Virginia, '46,
7314 Piney Branch Rd., Takoma Park, Md.....Economics

- Wiegelmesser, Rolf, '46, 601 E. 9th St., New York, N. Y. Economics
- Wiles, June, '46, Baxter Springs, Kansas.
- Willenbacher, Dorothy Elizabeth, '46,
5606 Nebraska Ave., N. W., Washington, D. C.
- Williams, Ellen Webb, '46, Lehigh Campus, Bethlehem, Pa.
- Williams, Jean S., '43, 880 N. Evans St., Pottstown, Pa. English
- Williams, Ora Louise, '44, Lehigh Campus, Bethlehem, Pa. English
- Williams, Margot Bruce, '46, 410 Park Ave., New York, N. Y.
- Williams, Robert James, III, '44,
127 Grays Ave., Glenolden, Pa. Engineering
- Willis, Jackson de Camp, '45,
414 Maple Ave., Willow Grove, Pa. Political Science
- Wilson, Robert Hallowell, '46,
245 Barrington St., Rochester, N. Y. Engineering
- Winne, David Hollister, '45, Nott Rd., Rexford, N. Y. Engineering
- Wirth, Anne Pfarr, '43, 195 Overbrook Rd., Elyria, Ohio. English
- Wolfe, Katharine Elizabeth, '46, Glen Mary Lane, Radnor, Pa. Mathematics
- Woltman, Richard Doerr, '46,
400 Wheatshcaf Lane, Abington, Pa. Chemistry
- Wolverton, Benjamin Franklin, '45,
2159 Blake Blvd., Cedar Rapids, Iowa. English
- Wood, Margaret Ellis, '45,
610 E. Monroe St., Little Falls, N. Y. Psychology
- Woodruff, Evelyn DuBois, '46, Colebrook, Conn. English
- Woodruff, Margaret, '43, 814 Main St., Manchester, Conn. English
- Woodward, J. Donald, '43, 100 W. Broadway, Salem, N. J. History
- Woodward, William Mackey, '43,
42 E. Madison Ave., Collingswood, N. J. Zoölogy
- Woolford, Gladys, '45, 109 Longwood Rd., Baltimore, Md.
- Woollcott, Polly B., '45, Eden Terrace, Catonsville, Md.
- Wright, Gertrude Huntington, '44,
74 Hillside Ave., Hastings-on-Hudson, N. Y. History
- Wright, John Peter, '46, Carman Rd., Harrington Park, N. Y. Engineering
- Wright, Rachel Ann, '45, 8 Shirley Rd., Narberth, Pa. English
- Wynne, Mildred Elizabeth, '43, 11 Princeton Rd., Cynwyd, Pa. English
- Yntema, Douwe Busey, '46, 430 Selma St., Webster Groves, Mo.
- Yockey, Merle Albert, Jr., '44,
38 Oxford Blvd., Pleasant Ridge, Mich. Economics
- Yost, Laura Miller, '44, Johnstown, Pa. Zoölogy
- Young, Robert Livingston, '43, 14 W. 49th St., New York, N. Y. Mathematics
- Zerbe, Jack Edward, '45, 306 Kingston Rd., Upper Darby, Pa. Engineering
- Zimmerman, Louise Marsh, '44, 207 State St., Harrisburg, Pa. English
- Zinninger, Jane Moore, '45, 2532 Observatory Rd., Cincinnati, Ohio. English

FELLOWSHIPS, SCHOLARSHIPS AND STUDENT AID

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 1943-44 must be received by the committee before March 1, 1943.

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 1942-43. Applica-

tions must be received by the Committee of Award not later than February 15, 1942.

SIGMA XI RESEARCH FELLOWSHIP. The Swarthmore Chapter of Sigma XI appoints, from time to time, as funds are available, Fellows with research grants with a maximum value of \$1,000. The holders of this fellowship are usually associates of the chapter who have shown conspicuous ability in graduate studies. The purpose of the chapter in awarding these fellowships is to relieve worthy students from teaching and other distracting duties so that they may concentrate as much as possible upon their research. Applications for these fellowships should be made to the secretary of the chapter not later than the middle of March. Appointments will be announced about the middle of April.

SCHOLARSHIPS

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

ALUMNI SCHOLARSHIPS. Occasional 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.

The CHI OMEGA SCHOLARSHIP was established by members and friends of the Chi Omega Fraternity. The income provides an award of approximately \$225 annually to a member of the freshman class who is in definite need of financial aid. Preference is given to daughters or sons of members of the fraternity, but if in any year such a candidate does not apply, the committee will select a freshman woman to receive the award. Applications should be sent to the Office of the Deans before January 1st of the year in which the award is to be made. A member designated by the Fraternity serves on the Committee of Award.

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.

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.

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."

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.

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.

The income of the KAPPA ALPHA THETA SCHOLARSHIP FUND, given by members and friends of the Kappa Alpha Theta Fraternity at Swarthmore, is awarded annually to a woman student. The award amounts to approximately \$125 annually. One or more members of the fraternity who are on the Board of Managers serve on the Committee of Award.

The JAMES E. MILLER SCHOLARSHIP provides an annual income of approximately \$340 which 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). The Chester-Cambridge Trust Company acts as Trustee of this fund and selects the holder of the scholarship, in consultation with the Superintendent of Schools of Delaware

County and of the City of Chester, and subject to the approval of Swarthmore College.

OPEN SCHOLARSHIPS FOR MEN. Swarthmore College awards annually five four-year scholarships of \$500 a year to men entering the freshman class. These scholarships, based on the general plan of the Rhodes Scholarships, are given to candidates who, in the opinion of the Committee of Award, rank highest in scholarship, character and personality. All candidates are required to take the Scholastic Aptitude and Achievement Tests given by the College Board. Blanks with further information may be obtained from the admissions office of the 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. These scholarships are given to candidates who, in the opinion of the Committee of Award, rank highest in scholarship, character and personality. Each award normally carries an annual stipend of \$500 and is tenable for four years. All candidates are required to take the Scholastic Aptitude and Achievement Tests given by the College Board in April. Blanks with further information may be obtained from the admissions office of the college.

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.

The **T. H. DUDLEY PERKINS MEMORIAL SCHOLARSHIP** 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-doors sports or in other ways.

The **WILLIAM PLUMER POTTER FUND FOR THE ENCOURAGEMENT OF PUBLIC SPEAKING** provides an income of approximately \$225 to

be used for scholarships to upperclass students demonstrating proficiency in the discussion of public affairs. Juniors and seniors interested in the scholarship should register with Dean Hunt. 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.

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

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.

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.

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.

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.

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.

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

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."

In addition to the above fund, Samuel Willets gave 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.

The I. V. WILLIAMSON SCHOLARSHIPS. Ten scholarships of the value of \$150 each for resident students and \$75 for day students are offered to graduates of designated Friends schools, under the following conditions:

Candidates must apply to the Office of the Deans at the college before March first.

Candidates must take the scholarship examinations given by the College Entrance Examination Board. The results of these examinations, together with other evidence of achievement and promise, will determine the award.

The scholarships are distributed as follows: two each to graduates of Friends Central and George School, one in the boys' and one in the girls' department; and one each to New York Friends Seminary, Baltimore Friends School, Wilmington Friends School, Moorestown Friends School, Friends Academy

at Locust Valley, Sidwells Friends School and Brooklyn Friends School.

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

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 high character and high standing in scholarship. In any year when there is no outstanding candidate from the students of the Baltimore Friends School, the scholarship may 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.

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 discretion of the college." The value of this scholarship is approximately \$62.50 annually.

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

The BARCLAY G. ATKINSON SCHOLARSHIP FUND.

The REBECCA M. ATKINSON SCHOLARSHIP FUND.

The WILLIAM DORSEY SCHOLARSHIP FUND.

The THOMAS L. LEEDOM SCHOLARSHIP FUND.

The SARAH E. LIPPINCOTT SCHOLARSHIP FUND.

The MARK E. REEVES SCHOLARSHIP FUND.

The JOSEPH T. SULLIVAN SCHOLARSHIP FUND.

The DEBORAH F. WHARTON SCHOLARSHIP FUND.

The THOMAS WOODNUTT SCHOLARSHIP FUND.

STUDENT AID

From General Funds

In addition to the scholarships listed above, two kinds of assistance are provided from general college funds: honorary scholarships and college jobs.

HONORARY SCHOLARSHIPS are granted in recognition of good scholastic standing and financial need.

COLLEGE JOBS afford opportunities to earn money by regular work at current wage rates in one of the college offices, shops, laboratories or libraries. A student may hold a "college job" in addition to a scholarship, and commonly receives notice of both types of assignment at the same time.

(OUTSIDE EMPLOYMENT. Students themselves operate various agencies and services and employ new students each year. Residents of the borough of Swarthmore often send requests for services to the college which cooperates in making these opportunities known to students. Many students secure profitable employment entirely on their own initiative.)

From Special Loan Funds

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

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.

THE CLASS OF 1916 LOAN FUND was established by the Class of 1916 at their twenty-fifth reunion. The fund is designed to provide loans to senior students, preferably descendants of members of the Class of 1916, or to other students at the discretion of the administering committee. The loans are repayable not later than five years after graduation, with interest at the rate of four percent.

THE CLASS OF 1917 STUDENT LOAN REVOLVING FUND was established by the Class of 1917 at their twenty-fifth reunion. The fund is designed to provide loans for needy students who are

accelerating their college work due to the war emergency, and the Class of 1917 has provided that at the conclusion of the present war, this fund shall be utilized in connection with such general purposes as the committee shall deem advisable.

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 PAUL M. PEARSON LOAN FUND was established by a number of Dr. Pearson's friends as a memorial for perpetuating his life and spirit. 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 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.

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 CRANE PRIZE, a memorial to Charles E. Crane, Jr., of the Class of 1936, is an award of about \$20, given for the purchase of philosophical books, and presented annually to the junior who, in the opinion of the department, has done the best work in Philosophy.

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 KATHERINE 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 \$25 for a first prize, and \$15 for a second prize, offered for the best original poem or for a translation from any language. Manuscripts should be ready by April 1 of each year.

BIBLIOGRAPHY OF SWARTHMORE COLLEGE

An Adventure in Education. Swarthmore College under Frank Aydelotte. 236 pp. By the Swarthmore College Faculty. N. Y., Macmillan, 1941.

I

HONORS WORK

AYDELOTTE, FRANK

Breaking the academic lockstep. *School and society*, v. 26, p. 407-10. Oct. 1, 1927.

The educational program of Swarthmore college. *Friends intelligencer*, v. 90, pp. 650-51; 665-67; 683-84; 701-02. Sept. 9-30, 1933. Reprinted from the *Swarthmore phoenix*, Sept. 9, 16, 23, 30, 1933.

The educational significance of Quaker ideals. *Friends intelligencer*, v. 81, pp. 10-12 (supplement). Aug. 9, 1924.

Honors courses at Swarthmore. (In *Five college plans*. N. Y., Columbia university press. 1931, pp. 59-70.)

Honors courses in American colleges; breaking the academic lock-step. *Education*. v. 46, pp. 416-19. Mar. 1926.

Honors work and graduate study. (In *Association of American universities. Journal of proceedings and addresses*, 1935, pp. 102-14.)

Honors work at Swarthmore. (In Kelly, Robert L. *Tendencies in college administration*. N. Y. Science press, 1925. pp. 234-39).

Inaugural address of President Aydelotte. Swarthmore college. *Bulletin*. v. 19, pp. 19-25. Oct. 22, 1921.

Mission of the endowed universities. Addresses at the Harvard club of New York. June 9, 1936. pp. 14-19.

BLANSHARD, BRAND

Moral philosophy; a program of study for honors students. 2d ed. Philadelphia, Westbrook pub. co. [1937]. Printed for department of philosophy, Swarthmore college.

BLANSHARD, FRANCES B.

The exceptional student in the college of liberal arts. *Wilson alumnae quarterly*. v. 13, pp. 29-33. May 1937.

BREWSTER, ETHEL H.

Reading for honors. *Journal of higher education*. v. I, pp. 507-13. Dec. 1930.

BROOKS, ROBERT C.

Honors courses at Swarthmore college. (In Kelly, Robert L., ed. *The effective college*. N. Y., Association of American colleges. 1928. pp. 140-56.)

Reading for honors at Swarthmore. N. Y., Oxford university press. 1927 196 pp.

CREIGHTON, H. JERMAIN

Honors work in chemistry at Swarthmore college. *Journal of chemical education*. v. 12, pp. 260-64. June 1935.

DRESDEN, ARNOLD

The teacher reads for honors. *School and society*. v. 31, pp. 209-14. Feb. 15, 1930. Address before the honors students and instructors of Swarthmore college.

FISHER, DOROTHY CANFIELD

Melting the faculty ice. *World's work*. v. 58, pp. 52-56. May 1929.

FUSSELL, LEWIS

Reading for honors. *Journal of engineering education*. v. 19, pp. 637-39. March 1929.

HICKS, PHILIP M.

Honors courses in English. *English journal* (college ed.) v. 18, pp. 230-37. Mar. 1929.

HUNT, EVERETT L.

Reading for honors and common sense. *School and society*. v. 42, pp. 726-32. Nov. 30, 1935. Address delivered at the opening of honors work, Swarthmore college, Sept. 26, 1935.

LEARNED, WILLIAM S.

The quality of the educational process in the United States and Europe. Carnegie foundation for the advancement of teaching. *Bulletin*, no. 20, 1926. Swarthmore college, honors courses, pp. 116-17, 120, 122-23.

NASON, JOHN W.

Honors favor men. *Key reporter*. v. 3, pp. 2, 6. Autumn 1938.

PARRY, ELLWOOD C.

Swarthmore college and the new honors courses. *The mirror*. (Central high school of Philadelphia.) June 1926.

RYAN, W. CARSON, JR.

Honors courses in American colleges. *Progressive education*. v. 4, pp. 260-65. Oct.-Nov.-Dec. 1927.

SPILLER, ROBERT E.

Major in English. *English journal*. (college ed.) v. 20, pp. 37-42. Jan. 1931.

Pre-honors courses. *English journal*. (college ed.) v. 15, pp. 499-506. Sept. 1926.

Ten years of outside examiners. *English journal* (college ed.). v. 22, pp. 310-19. April 1933.

THATCHER, CHARLES G.

The engineering course at Swarthmore. Swarthmore college, Swarthmore, Pa. [1934].

WALTERS, RAYMOND

A college majors in scholars. *American scholar*. v. I, pp. 473-77.

Oct. 1932

Honors work, the tutorial method, and general examinations. Swarthmore college. National society for the study of education. *Thirty-first yearbook*, pt. 2, 1932. pp. 165-68.

Teaching honors students at Swarthmore. *Bulletin of the association of American colleges*. v. 14, pp. 419-24. Nov. 1928.

II

MISCELLANEOUS TOPICS

AYDELOTTE, FRANK

I believe in athletics. From the Proceedings of the thirty-second annual convention of the National collegiate athletic association, held in New Orleans, La., Dec. 28-30, 1937. 8 pp.

BARNEY, WILLIAM POPE

Faculty houses, Swarthmore college. *Architectural record*. v. 70, pp. 37-41. July 1931.

BROOKS, RUTH S.

Perfect small house; Swarthmore's adventure in housing her professors. *School and society*. v. 28, pp. 46-49. July 14, 1928.

EMBREE, EDWIN R.

In order of their eminence: an appraisal of American universities. *Atlantic monthly*. June 1935. Swarthmore, p. 662.

HICKS, PHILIP M.

Two years of open forum debating at Swarthmore. *Quarterly journal of speech education*. v. 10, pp. 340-45. Nov. 1924.

HUNT, EVERETT L.

Human qualities in college—and after. *Friends intelligencer*. v. 94, pp. 436-37. June 26, 1937. Address given to the 1937 class at the Last collection.

JOHNSON, EMILY COOPER

Dean Bond of Swarthmore: a Quaker. Philadelphia, Lippincott [1927]. 239 pp.

KARCHER, WALTER T.

Field house of Swarthmore college, by W. T. Karcher and Livingston Smith. (In *American school and university*, 1937. N. Y., American school pub. corp., 1937, pp. 237-39.

LILLY, SCOTT B.

What should the technical school teach? *Civil engineering*. v. 7, pp. 733-34. Nov. 1937.

McCawley, E. S.

Prize awards for student libraries: the joint board will work to extend the plan so successfully started at Swarthmore. *Publishers' weekly*, v. 126, pp. 1255-57. Oct. 6, 1934.

Macintosh, Mark

Are sports worth their salt? From the *Proceedings of the College physical education association* for 1938.

The Swarthmore plan of sports education. *School and society*. v. 45, pp. 335-36. Mar. 6, 1937.

Newton, A. Edward

Books of one's own. *Atlantic*. v. 148, pp. 443-51. Oct. 1931.

On forming a library. (In his *End papers*. Boston, Little, Brown, 1933. pp. 13-35.)

Pennock, J. Roland

Peace questions at Swarthmore. *Bulletin of the association of American colleges*. v. 22, pp. 341-45. May 1936.

Seeley, Evelyn

Student-trends at Swarthmore and Princeton. *Literary digest*. v. 119, pp. 22-23. April 20, 1935.

Spiller, Robert E.

Arts and crafts at Swarthmore. *Manuscript*. v. 5, pp. 3-6. Mar. 1934.

Tests and measurements at Swarthmore college. (In *Institute for administrative officers of higher institutions. Proceedings, 1936*, pp. 61-84.)

Strachey, J. St. Loë

Swarthmore college. (In his *American soundings*. N. Y., Appleton, 1926. pp. 104-11.)

Wister, John C.

The Arthur Hoyt Scott Horticultural Foundation; a ten-year history, 1930 to 1939. *Bulletin*. v. 37, no. 5, pp. 1-89. June, 1940.

Hardy chrysanthemums at Swarthmore. *Pennsylvania horticultural society. Yearbook, 1937*, pp. 33-43.

INDEX

Absences from Examination, 41
Accelerated Program, 23
Administrative Officers, 19
ADMISSION, REQUIREMENTS FOR, 31
 Scholastic Aptitude and
 Achievement Tests, 31, 33
 Subject Requirements, 32
Admission to Honors Work, 38
Advanced Standing, 33
Advisers, 29
Alumnae Scholarship, 121
Alumni Field, 142
Alumni Scholarships, 121
Army Reserves, 23
Arthur Hoyt Scott Auditorium, 140
Arts and Crafts, 24
Astronomical Observatories, 80
Astronomy and Mathematics,
 Courses in, 76
Athletic Fields, 24
Atkinson Scholarship, Barclay
 G., 126
Atkinson Scholarship, Rebecca
 M., 126
Attendance at Classes and Collec-
 tion, 40
Automobiles, Regulation Against, 42
Awards, 128

Bachelor of Arts Degree, 39
Bachelor of Science Degree, 39
Barnard, George Grey, Collec-
 tion, 27
Beardsley Hall, 142
Benjamin West House, 140
Benjamin West Society, 27
Bibliography of Swarthmore
 College, 131
BOARD OF MANAGERS, 7
 Committees, 8
Bond Memorial, 140
Botany, Courses in, 44

BUILDINGS, 140
 Activities and Class Lodges
 Astronomical Observatories
 Bartol Foundation Building
 Bassett Dormitory
 Beardsley Hall
 Benjamin West House
 Bond Memorial
 Chemistry, Hall of
 Dormitories
 Field House
 Hall Gymnasium (for Men)
 Hicks Hall
 Isaac H. Clothier Memorial
 Library Building
 Martin, Edward, Biological
 Laboratory
 Meeting House
 Palmer Hall
 Pittenger Hall
 Parrish Hall
 Roberts Hall
 Scott, Arthur Hoyt, Audi-
 torium
 Somerville Hall (Gymnasium for
 Women)
 Sproul Observatory
 Students' Observatory
 Swimming Pools
 Thomas House
 Trotter Hall
 Wharton Hall
 Woolman House
 Worth Hall
Bunting, Ella Frances, Extempora-
 neous Speaking Contest, 129

CALENDAR, COLLEGE, 2
 Lunar, 4
Chemistry, Courses in, 47
Chi Omega Scholarship, 121
Chorus, Mixed, 24
Churches, 28

Class Lodges, Women's, 140
 Class of 1913 Loan Fund, 127
 Class of 1916 Loan Fund, 127
 Class of 1917 Loan Fund, 127
 Class Scholarships, 121
 Classics, Courses in, 50
 Clothier Memorial, 140
 Collection, 28
 Collection Attendance, 40
 College Entrance Examination Board, 33
 College Jobs, 127
 College Publications, 24
 Committees of the Board of Managers, 8
 Committees of the Faculty, 22
 Comprehensive Examinations, 35
 Conditions, 40
 Contents, Table of, 5
 Cooper, Sarah Kaighn, Scholarship, 122
 Cooper, William J., Foundation, 26
 Cooperation with Nearby Institutions, 24
 Corporation, 7
 Course Advisers, 29
COURSES OF INSTRUCTION:
 Botany, 44
 Chemistry, 47
 Classics, 50
 Economics, 53
 Engineering, 55
 Civil, 58
 Electrical, 61
 Mechanical, 63
 English, 65
 Fine Arts, 69
 German, 70
 History, 72
 Mathematics and Astronomy, 76
 Music, 81
 Philosophy and Religion, 82
 Physical Education for Men, 84
 Physical Education for Women, 85
 Physics, 87
 Political Science, 88

Psychology and Education, 90
 Romance Languages, 93
 Zoölogy, 96
 Crane Prize, 129
 Curators of Biddle Memorial Library, 21
 Cutting, Bronson M., Collection, 27

DEGREES, 39

Advanced Engineering, 39
 Bachelor of Arts, 39
 Bachelor of Science, 39
 Master of Arts, 39
 Master of Science, 39
 Delta Upsilon Prize, 129
 Departmental Clubs, 24
 Dining Room, 28, 42
 Divisions and Departments, 18
 Dodo, 24

DORMITORIES, 28

Bassett Dormitory, 28
 Palmer Hall, 28
 Parrish Hall, 28
 Pittenger Hall, 28
 Roberts Hall, 28
 Thomas House, 28
 Wharton Hall, 28
 Woolman House, 28
 Worth Hall, 28
 Dorsey Scholarship, William, 126
 Dramatics, 24

Economics, Courses in, 53
 Education, Physical, 84, 85
 Educational Program, 24
 Employment, 127
 Engineering, Courses in, 55
 Engineering, Degrees in, 39
 Engineering, Division of, 18
 English, Courses in, 65
 Entrance Requirements, 31
 Examination Regulations, 41
 Examinations, College Board, 31, 33
 Exclusion from College, 42
 Expenses, 43

Faculty, 9
Faculty Regulations, 40
Fees, Tuition, Laboratory, etc., 43
FELLOWSHIPS, LIST OF, 120
Field House, 24, 140
Fine Arts, Courses in, 69
Foreign Language Requirements, 34
Fox, George, Award, 130
Fraternity Lodges, Men's, 140
French, Courses in, 93
Friends Historical Library, 25
Friends Meeting, 28
Fry, Elizabeth, Award, 130

Geographical Distribution of
Students, 99
German Language and Literature,
Courses in, 70
Gillingham, Joseph E., Fund, 122
Grades, 40
Graduation, Requirements for, 33
Graphic Arts, 24
Greek Language and Literature,
Courses in, 50
Gymnasiums, 24

Halcyon, The, 24
Hayes, John Russell, Poetry Prizes,
130
Health Program, 29
Hicks Hall, 140
History, Courses in, 72
HONORS WORK, 35
Admission to, 38
Combinations of Majors and
Minors, 37
Examiners, 1942, 17
General Statement, 35
Offered by the Departments of:
Botany, 45
Chemistry, 48
Classics, 52
Economics, 54
Engineering,
Civil, 60
Electrical, 62
Mechanical, 64
English, 66
Fine Arts, 69

French, 95
German, 71
History, 73
Mathematics and Astronomy,
78
Philosophy, 82
Physics, 87
Political Science, 89
Psychology, 91
Spanish, 95
Zoölogy, 97
Housing, 28
Humanities, Division of, 18, 37

Infirmary, 29
Italian, Courses in, 94
Ivins, Aaron B., Scholarship, 122
Ivy Medal, 128

Johnson Fund, George K. and Sallie
K., 122

Kappa Alpha Theta Scholarship
Fund, 122

Lapham Scholarship, Anson, 121
Latin Language and Literature,
Courses in, 50
Leedom Fellowship, Hannah A., 120
Leedom Scholarship, Thomas L., 126
LIBRARIES, 25

Friends Historical, 25
Library Building, 25
Lippincott Fellowship, Joshua, 120
Lippincott Scholarship, Sarah E., 126
Loans, 127
Location and Foundation of the
College, 23
Lockwood Memorial Fellowship,
John, 120

Maintenance of Automobiles, 42
Major Subjects, 35, 37
MANAGERS, BOARD OF, 7
Committees, 8
Map of College Grounds, 141
Martin, Edward, Biological Labora-
tory, 140

Master of Arts Degree, 39
Master of Science Degree, 39
Mathematics and Astronomy,
Courses, 76
Mathematics and Natural Sciences,
Division of, 18, 37
McCabe Engineering Award, 129
Meeting House, 28
Men's Executive Committee, 30
Miller, James E., Scholarship, 122
Miller, John A., Loan Fund, 128
Mott Fellowship, Lucretia, 30, 120
Music, 24, 81

Navy Reserves, 23
National Emergency, 23
Newton, A. Edward, Library Prize,
129
News Bureau, 24
Newspaper, College, 24

Oak Leaf Medal, 129
Observatories, Astronomical, 80
Open Scholarships for Men, 123
Open Scholarships for Women, 123
Outing Club, 24

Paiste Fund, Harriet, 123
Parrish Hall, 28, 140
Pearson, Paul M., Loan Fund, 128
Perkins, T. H. Dudley, Memorial
Scholarship, 123
Philosophy and Religion, Courses
in, 82
Phoenix, The, 24
Physical Education for Men, 84
Physical Education for Women, 85
Physical Education Requirements,
84, 85
Physics, Courses in, 87
Political Science, Courses in, 88
Potter Scholarship, William Plumer,
123
Pre-Medical Work, 98
Preston Scholarship Fund, Mary
Coates, 124
Prizes, 128
Psychology and Education, Courses
in, 90

Publications, College, 24
Public Speaking Prizes, 129

Reeves Scholarship, Mark E., 126
REGULATIONS
Faculty, 40
Residence, 41

Religion and Philosophy, Courses
in, 82
Religious Exercises, 28
Requirements for Admission, 31
Requirements for Graduation, 33
Work of First Two Years, 34
Work of Last Two Years, 35
Romance Languages, Courses in,
93

Scholarship Examinations, 32, 33
Scholarships, List of, 121
Scholastic Aptitude Test, 31, 33
Serrill Scholarship, Wm. G. and
Mary N., 124
Shoemaker Scholarship, Annie, 124
Sicard, Katharine B., Prize, 129
Sigma Xi Fellowship, 121
Singing, Informal, 24
Social Committee, 30
Social Sciences, Division of, 18, 37
Societies and Clubs, 24
Somerville Forum, 30
Spanish, Courses in, 94
Special Awards, 128
Sproul Observatory, 80
Squier Scholarship, Helen E. W., 124
States, Summary of Students by, 99
Student Aid, 127
Student Council, 30
Student Welfare, 29
Students, 1942-43, 100
Sullivan Scholarship, Joseph T., 126
Summer School Work, 41
Swarthmore Field, 140
Swimming Pools, 24

Taylor Scholarship, Jonathan K., 124
Thorne Fund, Pebe Anna, 125
Troiter Hall, 140
Tuition and Other Fees, 43
Tyson Fellowship, Martha E., 30,
120

UNDERGRADUATE STUDENTS, 1942-43,
100

Summary by States, 99

Underhill Scholarship, Samuel J.,
121

Vocational Advice, 29

War degrees, 39

Westbury Quarterly Meeting Schol-
arship, 125

Wharton Hall, 28, 140

Wharton Scholarship, Deborah F.,
126

Willets Fund, Samuel, 125

Williams, Ellis D., Fund, 128

Williamson, I. V., Scholarships, 125

Wilson, Edward Clarkson, Scholar-
ship, 126

Women's Student Government Asso-
ciation, 30

Wood Fund, Mary, 126

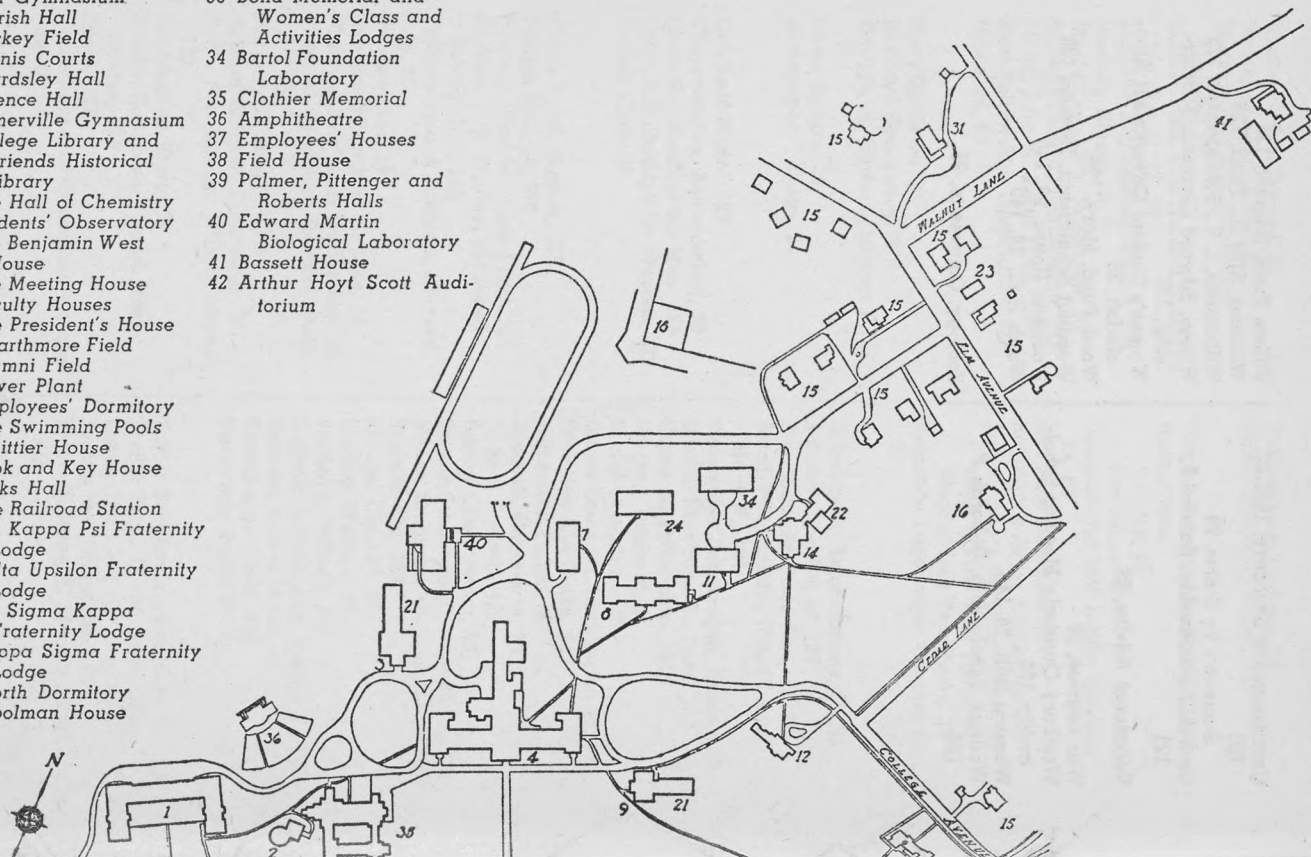
Woodnut Scholarship, Thomas, 126

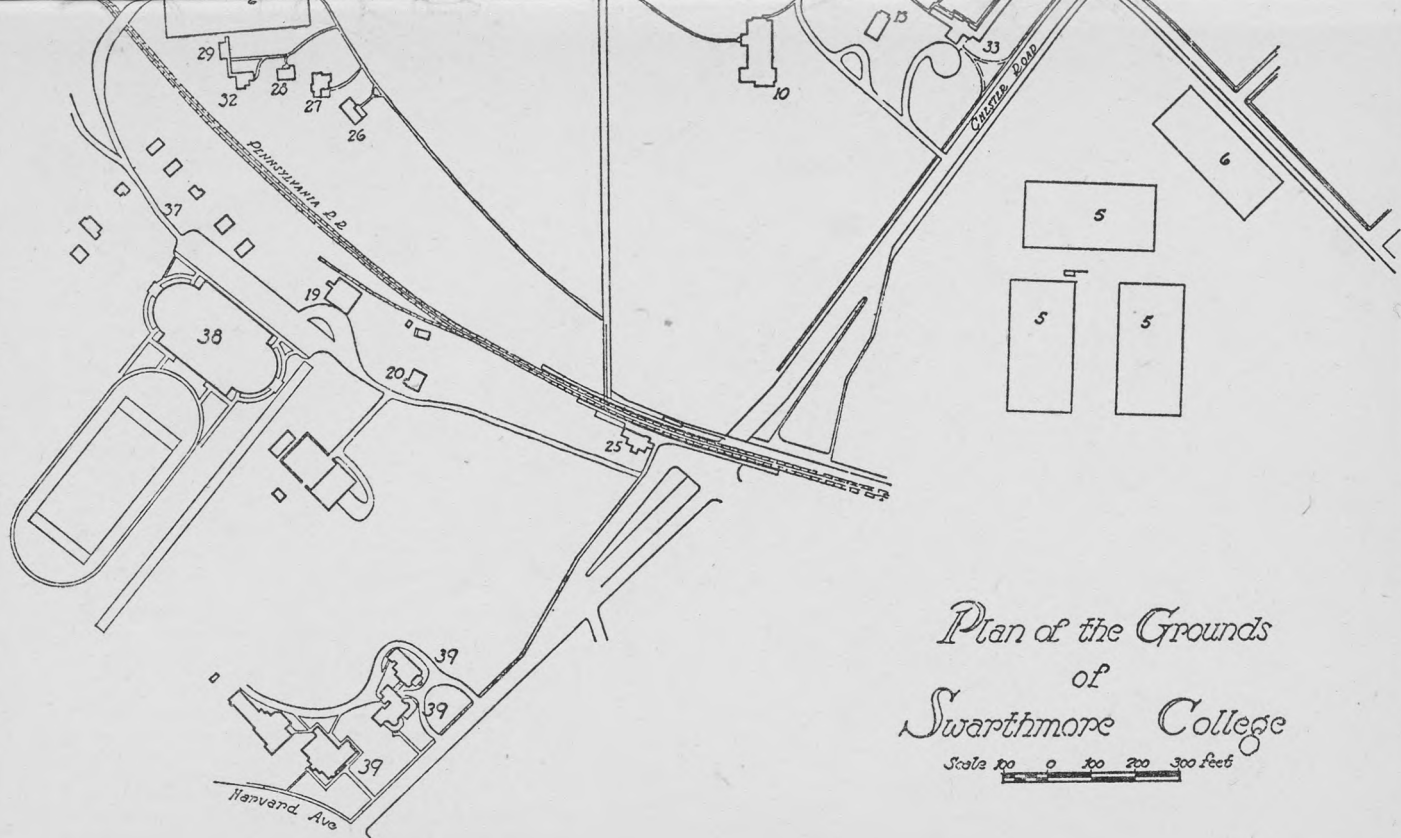
Woolman House, 28, 140

Worth Hall, 28, 140

Zoölogy, Courses in, 96

- | | |
|-----------------------------|----------------------------|
| 1 Wharton Hall | 32 Phi Delta Theta |
| 2 Sproul Observatory | Fraternity Lodge |
| 3 Hall Gymnasium | 33 Bond Memorial and |
| 4 Parrish Hall | Women's Class and |
| 5 Hockey Field | Activities Lodges |
| 6 Tennis Courts | 34 Bartol Foundation |
| 7 Beardsley Hall | Laboratory |
| 8 Science Hall | 35 Clothier Memorial |
| 9 Somerville Gymnasium | 36 Amphitheatre |
| 10 College Library and | 37 Employees' Houses |
| Friends Historical | 38 Field House |
| Library | 39 Palmer, Pittenger and |
| 11 The Hall of Chemistry | Roberts Halls |
| 12 Students' Observatory | 40 Edward Martin |
| 13 The Benjamin West | Biological Laboratory |
| House | 41 Bassett House |
| 14 The Meeting House | 42 Arthur Hoyt Scott Audi- |
| 15 Faculty Houses | torium |
| 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 | |

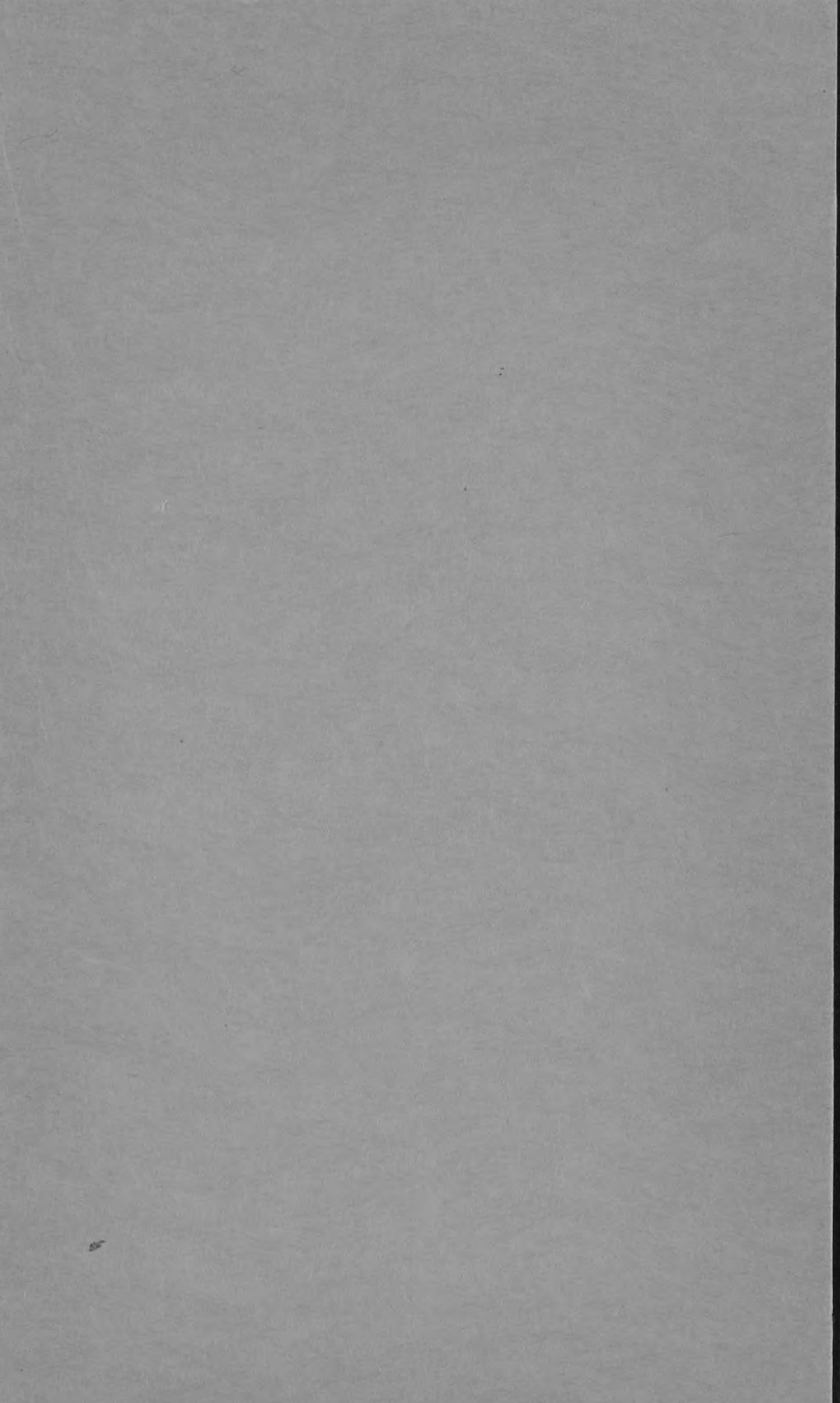




*Plan of the Grounds
of
Swarthmore College*

Scale 100 0 100 200 300 feet





The Bulletin, of which this publication is Volume XL, No. 1, is published quarterly by Swarthmore College, from the College Office, Swarthmore, Pa.

Entered as mail matter of the second class, in accordance with provision of the Act of Congress of July 16, 1894.