

College Bulletin

Vol. I., No. 3

Sixth Month, 1903

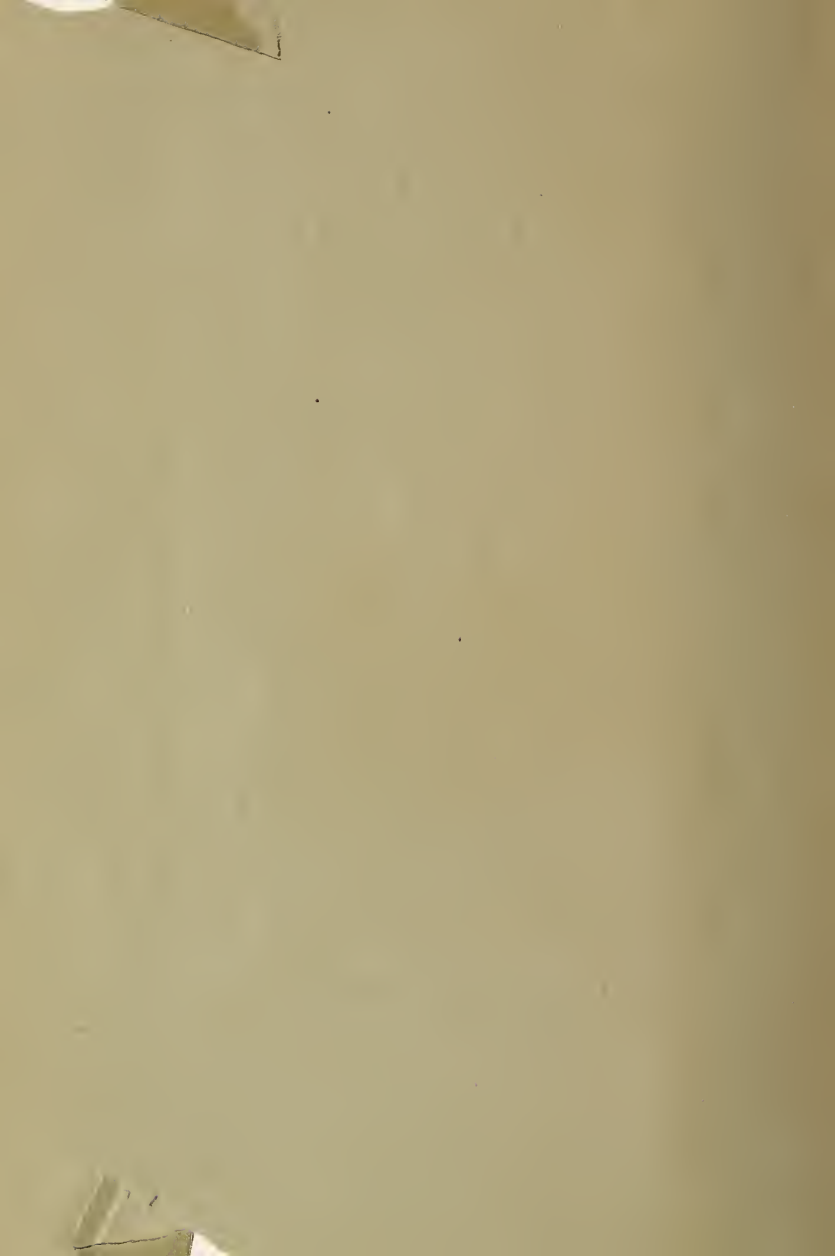
Swarthmore College



CATALOGUE

1902-1903

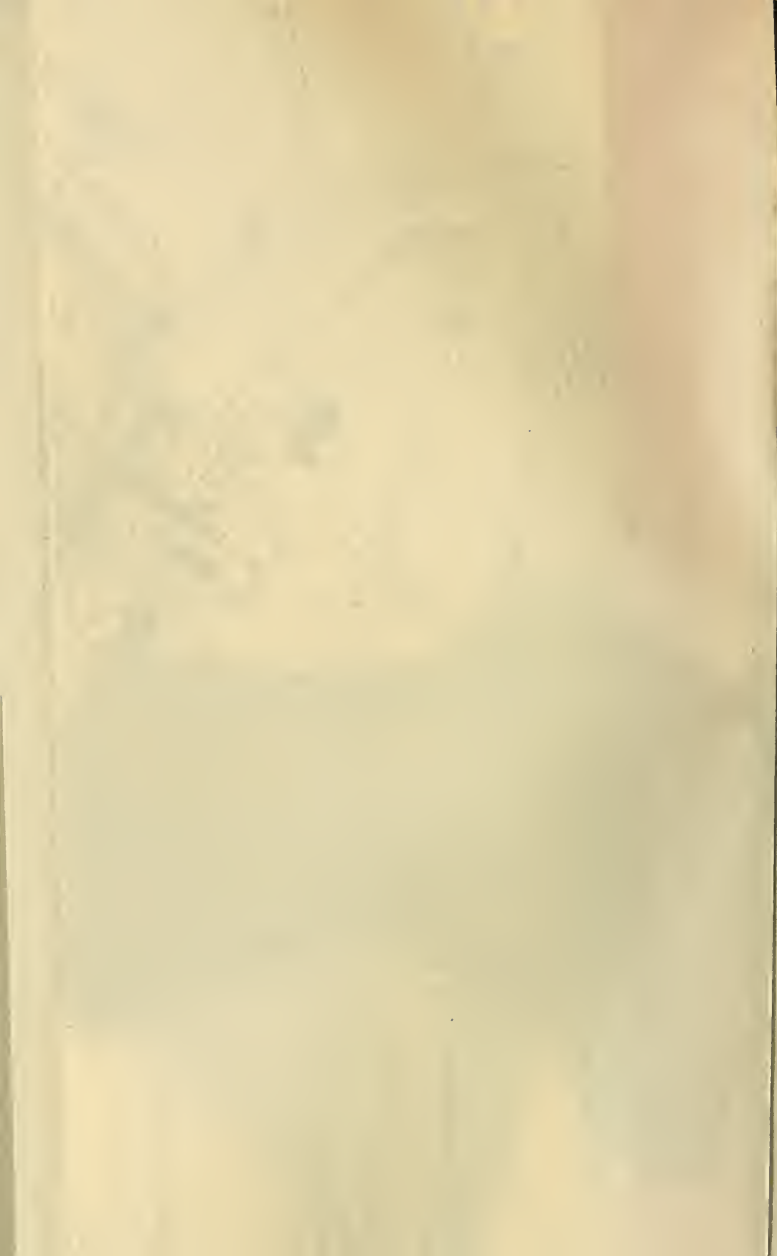
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1. Parrish Hall.
2. Science Hall—Laboratories and Shops.
3. Meeting House.
4. Observatory and Professor's Residence.
5. The Benjamin West House.
6. President's House.
7. Gymnasium for Young Men.
8. Boiler Rooms and Laundry.
9. Whittier Field.
10. Gas House.
11. Farm House.
12. College Barn.
13. Swarthmore Station, P., W. & E.
C. R. R.
14. Water Works.
15. Filter.
16. Gardener's Cottage.
17. Somerville Hall—Gymnasium for
Young Women.



SWARTHMORE COLLEGE, BUILDINGS AND GROUNDS





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Swarthmore College

CATALOGUE

Thirty-fourth College Year

1902-1903

SWARTHMORE, PENNSYLVANIA
PUBLISHED BY THE COLLEGE

1903

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COLLEGE CALENDAR

1902.	Ninth	Mo. 18,	Fifth-day,	College year began.
1903.	First	Mo. 31,	Seventh-day,	First semester ends.
"	Second	Mo. 2,	Second-day,	Second semester begins.
"	Third	Mo. 10,	Third-day,	Meeting of the Board of Managers.
"	Third	Mo. 28,	Seventh-day,	Spring recess begins, 11 A. M.
"	Fourth	Mo. 7,	Third-day,	College work resumed, 8.30 A. M.
"	Fifth	Mo. 18,	Second-day,	Senior examinations begin.
"	Fifth	Mo. 23,	Seventh-day,	Senior examinations completed.
"	Sixth	Mo. 1,	Second-day,	Final examinations begin.
"	Sixth	Mo. 5,	Sixth-day,	} Examinations for admission.
"	Sixth	Mo. 6,	Seventh-day,	
"	Sixth	Mo. 8,	Second-day,	Meeting of the Board of Managers.
"	Sixth	Mo. 8,	Second-day,	Class-day exercises.
"	Sixth	Mo. 9,	Third-day,	COMMENCEMENT.
"	Ninth	Mo. 15,	Third-day,	Meeting of the Board of Managers.
"	Ninth	Mo. 16,	Fourth-day,	Examinations for admission.
"	Ninth	Mo. 17,	Fifth-day,	College work begins, 8.30 A. M.
"	Twelfth	Mo. 7,	Second-day,	Meeting of the Board of Managers.
"	Twelfth	Mo. 8,	Third-day,	<i>Annual Meeting of Stockholders.</i>
"	Twelfth	Mo. 8,	Third-day,	Meeting of the Board of Managers.
"	Twelfth	Mo. 23,	Fourth-day,	Winter recess begins.
1904.	First	Mo. 5,	Third-day,	College work resumed, 8.30 A. M.

OFFICERS OF THE CORPORATION

CLERKS

ROBERT M. JANNEY,
112 Drexel Building, Philadelphia.

HARRIETT COX McDOWELL,
960 Park Avenue, New York.

TREASURER

CHARLES M. BIDDLE,
513 Commerce St., Philadelphia.

THE BOARD OF MANAGERS

Term expires Twelfth Month, 1903

JOSEPH WHARTON,
P. O. Box 1332, Phila.

WILLIAM M. JACKSON,
50 Beekman St., New York.

MARY WILLETS,
Sea Girt, N. J.

RACHEL W. HILLBORN,
Swarthmore.

LYDIA H. HALL,
Swarthmore.

EDWARD MARTIN, M.D.,
415 S. 15th St., Phila.

MARY C. CLOTHIER,
Wynnewood.

ALBERT A. MERRITT,
37 Columbus Ave., N. Y.

Term expires Twelfth Month, 1904

EDWARD H. OGDEN, 314 Vine St., Phila.	EDWARD STABLER, JR., 6 South St., Baltimore, Md.
ELI M. LAMB, 1432 McCulloh St., Baltimore, Md.	HANNAH H. WOODNUTT, 1816 Arch St., Phila.
EMMA C. BANCROFT, Wilmington, Del.	HOWARD W. LIPPINCOTT, 509 Real Estate Trust Bldg., Phila.
SUSAN W. LIPPINCOTT, Cinnaminson, N. J.	MARY W. ALBERTSON, Westbury Station, N. Y.

Term expires Twelfth Month, 1905

JOHN T. WILLETS, 303 Pearl St., New York.	JANE P. DOWNING, 1613 Race St., Phila.
HOWARD COOPER JOHNSON, 709 Walnut St., Phila.	ELIZABETH B. PASSMORE, Oxford.
DANIEL UNDERHILL, Jericho, L. I.	JOANNA W. LIPPINCOTT, Logan Station, Phila.
EMMOR ROBERTS, Fellowship, N. J.	MARIANNA S. RAWSON, 226 E. 16th St., New York.

Term expires Twelfth Month, 1906

ISAAC H. CLOTHIER, 8th & Market Sts., Phila.	EMMA McILVAIN COOPER, 715 Cooper St., Camden, N. J.
ANNIE SHOEMAKER, Swarthmore.	REBECCA C. LONGSTRETH, Haverford.
FANNIE W. LOWTHORP, Trenton, N. J.	WILLIAM C. SPROUL, Chester.
EDMUND WEBSTER, 1156 S. Broad St., Phila.	WILLIAM G. UNDERWOOD, 1133 S. Broad St., Phila.

**OFFICERS AND COMMITTEES OF THE
BOARD OF MANAGERS**

PRESIDENT

JOSEPH WHARTON.

SECRETARY

REBECCA C. LONGSTRETH.

AUDITORS

ISAAC H. CLOTHIER,

JOHN T. WILLETS.

EXECUTIVE

EMMOR ROBERTS,

JANE P. DOWNING,

ISAAC H. CLOTHIER,

SUSAN W. LIPPINCOTT,

EDMUND WEBSTER,

EMMA McILVAIN COOPER,

HOWARD W. LIPPINCOTT,

HANNAH H. WOODNUTT,

JOHN T. WILLETS,

MARY C. CLOTHIER,

EDWARD MARTIN,

ELIZABETH B. PASSMORE,

ROBERT M. JANNEY,

JOANNA W. LIPPINCOTT,

WILLIAM C. SPROUL,

EMMA C. BANCROFT,

REBECCA C. LONGSTRETH, *ex-officio*.

FINANCE

ROBERT M. JANNEY,

EDWARD H. OGDEN,

EDMUND WEBSTER.

INSTRUCTION

FANNIE W. LOWTHORP,

EDWARD MARTIN,

MARY WILLETS,

MARIANNA S. RAWSON,

SUSAN W. LIPPINCOTT,

REBECCA C. LONGSTRETH,

LYDIA H. HALL,

HOWARD COOPER JOHNSON.

RACHEL W. HILLBORN,

HARRIETT COX McDOWELL,

WILLIAM G. UNDERWOOD.

BUILDINGS AND PROPERTY

EDMUND WEBSTER,	RACHEL W. HILLBORN,
EDWARD H. OGDEN,	HOWARD W. LIPPINCOTT,
EMMOR ROBERTS,	ROBERT M. JANNEY,
JANE P. DOWNING,	JOHN T. WILLETS.

MUSEUM AND LABORATORIES

MARY WILLETS,	EDWARD MARTIN,
ELI M. LAMB,	MARY W. ALBERTSON,
	DANIEL UNDERHILL.

FRIENDS' HISTORICAL LIBRARY

LYDIA H. HALL,	REBECCA C. LONGSTRETH,
ISAAC H. CLOTHIER,	ALBERT A. MERRITT.

TRUSTS, ENDOWMENTS, AND SCHOLARSHIPS

EDMUND WEBSTER,	SUSAN W. LIPPINCOTT,
EDWARD H. OGDEN,	JOHN T. WILLETS,
EMMOR ROBERTS,	REBECCA C. LONGSTRETH,
	<i>Sec'y.</i>

TRUSTEES OF ENDOWMENTS AND PROFESSORSHIPS

ISAAC H. CLOTHIER,	EDWARD H. OGDEN,
	EMMOR ROBERTS.

LIBRARY

LYDIA H. HALL,	JOANNA W. LIPPINCOTT,
RACHEL W. HILLBORN,	ALBERT A. MERRITT.

THE FACULTY AND INSTRUCTORS.

JOSEPH SWAIN, President of the College.

B.L., Indiana University, 1883; M.S., 1885; LL.D., Wabash College, 1893. Student of Mathematics and Astronomy, University of Edinburgh, 1885-86. Instructor in Mathematics and Zoölogy, Indiana University, 1883-1885; Assistant U. S. Fish Commissioner, 1884; Professor of Mathematics, Indiana University, 1886-91; Professor of Mathematics, Leland Stanford, Junior, University, 1891-1893; President of Indiana University, 1893-1902; Member of National Council of Education; President of Swarthmore College, from 1902.

ELIZABETH POWELL BOND, Dean.

A.M., HON., Swarthmore College, 1897. Dean, Swarthmore College, from 1886.

EDWARD HICKS MAGILL, Emeritus Professor of the French Language and Literature, and Lecturer on French Literature.

A.B., Brown University, 1852; A.M., 1855; LL.D., Haverford College, 1886; Professor of Latin and French, Swarthmore College, 1869-1870; President, 1870-1890; Professor of French Language and Literature, from 1890.

ARTHUR BEARDSLEY, Emeritus Professor of Engineering, and Librarian of the Friends' Historical Library.

C.E., Rensselaer Polytechnic Institute, 1867; PH.D., HON., Swarthmore College, 1889. Instructor in Mathematics and Engineering, University of Minnesota, 1869-1870; Professor of Civil Engineering, 1870-1872; Professor of Engineering, Swarthmore College, 1872-1898.

WILLIAM HYDE APPLETON, Professor of Greek and Early English.

A.B., Harvard University, 1864; A.M., 1867; LL.B., 1869; PH.D., HON., Swarthmore College, 1888. Tutor in Greek,

Harvard University, 1868-1870; Professor of Greek and German, Swarthmore College, 1872-1888; Acting President and President, 1889-1891; Professor of Greek and Early English, from 1891.

SUSAN J. CUNNINGHAM, Edward H. Magill Professor of Mathematics and Astronomy.

ScD., HON., Swarthmore College, 1888. Student of Mathematics and Astronomy: Harvard University, Summers of 1874, 1876; Princeton College, Summer of 1881; Williams College, Summers of 1883, 1884; Newnham College, Cambridge, Summers of 1877, 1878, 1879, 1882; Cambridge Observatory, Summer of 1887; Greenwich Observatory, Summer of 1891; University of Chicago, first half of Summer Terms, 1894 and 1895. Instructor in Mathematics, Swarthmore College, 1869-1872; Assistant Professor, 1872-1874; Professor, from 1874.

SPENCER TROTTER, Professor of Biology and Geology.

M.D., University of Pennsylvania, 1883. Jessup Fellow, Philadelphia Academy of Natural Sciences, 1878-1880; Resident Physician and Surgeon, Pennsylvania Hospital, 1883-1885; Professor of Biology and Geology, Swarthmore College, from 1888.

GEORGE A. HOADLEY, Professor of Physics.

C.E., Union College, 1874; A.B., 1874; A.M., 1877. Professor of Physics, Swarthmore College, from 1888.

FERRIS W. PRICE, Isaac H. Clothier Professor of the Latin Language and Literature.

A.B., Swarthmore College, 1874; A.M., 1887. Student of Latin, University of Berlin, 1889-1890. Assistant Professor of Latin and English, Swarthmore College, 1885-1889; Professor of Latin, from 1890.

WILLIAM I. HULL, Joseph Wharton Professor of History and Political Economy.

A.B., Johns Hopkins University, 1889; Ph.D., 1892. Student of History, University of Berlin, 1891. Associate Professor of History and Economics, Swarthmore College,

1892-1894; Professor of History and Political Economy, from 1894.

WILBUR M. STINE, I. V. Williamson Professor of Engineering.

Ph.B., Dickinson College, 1886; M.S., 1889; D.Sc., 1893; Professor of Physics and Electrical Engineering, Ohio University, 1886-1893; Director of Electrical Engineering, Armour Institute of Technology, 1893-1898; Professor of Engineering, Swarthmore College, from 1898.

JESSE H. HOLMES, Professor of the History of Religion and Philosophy.

B.S., University of Nebraska, 1884; Ph.D., Johns Hopkins University, 1890. Student in University of Nebraska, 1884-1885; Harvard University, Summer of 1895; Oxford University, 1899-1900. Professor in Swarthmore College, from 1900.

BENJAMIN F. BATTIN, Professor of the German Language and Literature.

A.B., Swarthmore College, 1892; Ph.D., University of Jena, 1900; Joshua Lippincott Fellow (Swarthmore College), Berlin and Athens, 1893-94. Student of German and Philosophy, Universities of Berlin, 1898-99, and Jena, 1899-1900. Instructor in Rhetoric and Composition, and in Greek, Swarthmore College, 1892-93; Assistant Professor of German, 1900-1902; Professor of German, from 1902.

ISABELLE BRONK, Professor of the French Language and Literature.

Ph.B., Illinois Wesleyan College, 1892; Ph.D., University of Chicago, 1900. Student of French and German: Wellesley College, 1880-83; Germany and France, 1883-1884; University of Leipzig, Sorbonne and Collège de France, 1889-91; University of Chicago, 1897-1900. Fellow in Romance Languages, University of Chicago, 1898-1900; Assistant, 1900-1901; Assistant Professor of the French Language and Literature, Swarthmore College, 1901-1902; Professor, from 1902.

GELLERT ALLEMAN, Professor of Chemistry.

B.Sc., Pennsylvania College, 1893; PH.D., Johns Hopkins University, 1897. Instructor in Chemistry, University of Maine, 1897-98; Instructor in Chemistry, Washington University, 1898-1902; Professor of Chemistry, Swarthmore College, from 1902.

JOHN RUSSELL HAYES, Assistant Professor of English and Secretary of the Faculty.

A.B., Swarthmore College, 1888; A.B., Harvard University, 1889; LL.B., University of Pennsylvania, 1892. Student of English, Universities of Oxford and Strasburg, 1892-93. Assistant in English, Swarthmore College, 1893-95; Assistant Professor, from 1895.

PAUL MARTIN PEARSON, Assistant Professor in Rhetoric and Public Speaking.

A.B., Baker University, 1891; A.M., 1895. Student of English and Oratory: Northwestern University, 1894-95; Harvard University, 1901-1902. Assistant in Oratory, Northwestern University, 1895-1902; Assistant Professor, Swarthmore College, from 1902.

GUSTAV A. KLEENE, Instructor in Economics and Politics.

A.B., University of Michigan, 1891; PH.D., University of Pennsylvania, 1896. Student of Economics: Universities of Berlin and Tübingen, 1893-94; Columbia University, 1894-95; University of Pennsylvania, 1895-96. Assistant in Economics, University of Wisconsin, 1900-1901; Instructor in Economics and Politics, Swarthmore College, from 1902 (January).

MARY CORWIN LANE, Assistant in Greek and Latin.

A.B., Cornell University, 1898. Assistant in Greek and Latin, Swarthmore College, from 1901.

HARRIET SARTAIN, Lecturer on the History of Art and Director of the Studio.

Graduate of the Philadelphia School of Design for Women. Student of Art in Europe, 1890; student of Engraving under John and Samuel Sartain. Lecturer in Swarthmore College, from 1902.

THOMAS W. HESLIN, Assistant in Engineering.

Superintendent of Shops: Haverford College, 1888-89;
Swarthmore College, from 1901.

HENRY N. BENKERT, Assistant in Engineering.

B.S., Swarthmore College, 1901. Assistant in Engineering,
Swarthmore College, from 1902.

LEWIS FUSSELL, Assistant in Physics.

B.S., Swarthmore College, 1902. Assistant in Physics,
Swarthmore College, from 1902.

WILLIAM E. HANNUM, Laboratory Assistant in Biology.

PENNOCK M. WAY, Laboratory Assistant in Chemistry.

MARY V. MITCHELL GREEN, Director of Physical Training
for the Women Students.

M.D., Woman's Medical College of Pennsylvania, 1884.
Student of Physical Culture in Stockholm, Berlin, London,
Zürich. Director of the Gymnasium, Woman's College of Bal-
timore, 1892-93; Director in Swarthmore College, from 1894.

W. SINNOTT CUMMINGS, Director of Physical Training for
the Men Students.

M.D., Tufts College, 1896. Director of Physical Training
for the Men Students, Swarthmore College, from 1899.

M. ELIZABETH BATES, Assistant in Physical Training for
the Women Students.

Graduate of the Boston Normal School of Gymnastics, 1893;
Graduate Student, 1901-1902. Assistant in the Gymnasium,
Bryn Mawr College, 1893-96; Assistant in Swarthmore College,
from 1902.

OFFICERS OF ADMINISTRATION

JAMES D. HULL,
Superintendent.

SARAH M. NOWELL,
Librarian.

CAROLINE L. HAWKE,
Registrar and Secretary to the President. A.B., Swarthmore College, 1900.

MARY R. SATTERTHWAITE,
Housekeeper.

SARAH D. COALE,
Matron of Parrish Hall, West.

ELLA MICHENER,
Matron of Parrish Hall, East.

CAROLINE A. LUKENS,
Matron of Parrish Hall, Center. B.L., Swarthmore College, 1898.

ELLEN ROBERTS,
Director of the Laundry.

EDWIN J. DURNELL,
Director of the Farm.

STANDING COMMITTEES OF THE FACULTY

Athletics: Professors HOADLEY, TROTTER.

Catalogue: Professors HULL, STINE, HOLMES.

College Publications: Professors HAYES, STINE, BRONK.

Diplomas and Commencements: Professors TROTTER, PRICE.

Entrance Examinations: Professors PRICE, BATTIN.

Library: Professors APPLETON, HAYES, STINE.

Preparatory Schools: Professors MAGILL, CUNNINGHAM,
PRICE.

Public Lectures: Professors APPLETON, HOLMES.

Receptions: The President and the Dean.

Students' Societies: Professors CUNNINGHAM, HOADLEY.

Secretary of the Faculty: Professor J. RUSSELL HAYES.

GRADUATE STUDENTS

NAME	RESIDENCE	SUBJECT
Ely, Rebecca Mulford,	<i>Philadelphia.</i>	History.
B.L., Swarthmore College, 1902.		
Fussell, Lewis,	<i>Media.</i>	Physics.
B.S., Swarthmore College, 1902.		
John, Edith Heywood,	<i>Media.</i>	Mathematics.
B.L., Swarthmore College, 1897.		

UNDERGRADUATE STUDENTS

The number of hours of credit is based on the amount of work accomplished at the end of 1901-1902.

Students in Engineering in the Class of 1903 are required to do one hundred and twenty-eight (128) hours of work.

SENIOR CLASS

NAME	RESIDENCE	HOURS OF CREDIT	MAJOR SUBJECT
Beans, Byron,	<i>Warminster.</i>	99½	History.
Bond, Walker McClun,	<i>Winchester, Va.</i>	106½	*Engineering.
Booth, Elizabeth M.,	<i>Chester.</i>	102½	History.
Clothier, Caroline,	<i>Wynnewood.</i>	105	English.
Cocks, Edmund,	<i>Cornwall, N. Y.</i>	98½	Biology.
Emley, Helen Nesbitt,	<i>Philadelphia.</i>	95	English.
Ervien, John Horace,	<i>Ogontz.</i>	114	*Engineering.
Evans, Howard Sterr,	<i>Yeadon.</i>	104½	*Engineering.
Gleim, Margaret,	<i>Lansdowne.</i>	107½	Biology.
Hall, Albert Paxson,	<i>West Chester.</i>	92½	*Engineering.
Hannum, William,	<i>Chester Heights.</i>	98½	Physics.
Jackson, Elizabeth W.,	<i>Bartville.</i>	99½	English.
Jenks, Herbert Emery,	<i>Byberry.</i>	92½	*Engineering.
Kilgore, Fannie B.,	<i>Philadelphia.</i>	97½	†Greek & Latin.
Kilgore, Carrie B.,	<i>Philadelphia.</i>	102½	†Greek & Latin.
Lamb, Robert E.,	<i>Baltimore, Md.</i>	111	*Engineering.
Lease, Helen Elizabeth,	<i>Salem, O.</i>	112½	German.
Lord, Inez Helen,	<i>Charleston, Ill.</i>	96	

* Taking the course as formerly arranged and receiving the degree of B.S.

† Taking the course as formerly arranged and receiving the degree of A.B.

NAME	RESIDENCE	HOURS OF CREDIT	MAJOR SUBJECT
Meredith, Edward Roy,	<i>Calcium.</i>	99	*Engineering.
Newport, Clara Price,	<i>Swarthmore.</i>	111½	†Greek & Latin.
Nichols, Anna J.,	<i>Wilmington, Del.</i>	91	French.
Passmore, Norman S.,	<i>Oxford.</i>	90½	†Greek & Latin.
Peirce, Marion V.,	<i>West Chester.</i>	105	†Greek & Latin.
Price, Marriott,	<i>Baltimore, Md.</i>	101½	*Engineering.
Ramdohr, Lulu von	<i>New York.</i>	99	German.
Roberts, William Ely,	<i>New Hope.</i>	103	English.
Ross, Annie,	<i>Flushing, N. Y.</i>	100	French.
Souder, Helen Dewees,	<i>Woodstown, N. J.</i>	98½	English.
Stabler, Nora Leland,	<i>Sandy Spring, Md.</i>	104	German.
Stewart, Samuel T.,	<i>Cleveland, O.</i>	93¼	Economics.
Sutton, Elizabeth,	<i>New York.</i>	96½	English.
Thompson, Louis Ely,	<i>Penn's Park.</i>	111½	History
Vernon, Norman D.,	<i>Pomeroy.</i>	111	*Engineering.
Way, Asa Pound,	<i>St. Thomas, Ontario,</i>	115	*Engineering.
Way, Pennock M.,	<i>Fairville.</i>	97	Chemistry.

JUNIOR CLASS

Ash, Elva Lulu,	<i>Coatesville.</i>	61	History of Religion and Philosophy.
Bartlett, Mary Louise,	<i>Baltimore, Md.</i>	73	French.
Bell, Thomas Christy,	<i>Bayside, N. Y.</i>	62	Engineering.
Bogert, Charlotte R.,	<i>New York.</i>	73	Latin.
Bradley, Floyd Henry,	<i>Camden, N. J.</i>	62	History of Religion and Philosophy.
Brown, Blanche Estelle,	<i>Cornwall, N. Y.</i>	64	Greek.
Buyers, Martha K.,	<i>Honey Brook.</i>	64	French.
Campion, Marguerite,	<i>Swarthmore.</i>	64	Greek.
Chandler, Gertrude F.,	<i>Bethlehem.</i>	61	English.
Curtis, Anna Louise,	<i>New York.</i>	74	Biology.
Darlington, Margaret S.,	<i>Concordia.</i>	60¼	History.
Fahnestock, Louise C.,	<i>Harrisburg.</i>	73	German.
Gaskill, Lucretia Mott,	<i>Swarthmore.</i>	65	

* Taking the course as formerly arranged and receiving the degree of B.S.

† Taking the course as formerly arranged and receiving the degree of A.B.

NAME	RESIDENCE	HOURS OF CREDIT	MAJOR SUBJECT
Ginn, Jessie Bartlett,	<i>Swarthmore.</i>	62½	History of Religion and Philosophy.
Green, Dorothy F.,	<i>Bartow, Fla.</i>	61	Latin.
Greene, Edgar T.,	<i>Germantown.</i>	84¾	Chemistry.
Griest, Frederick E.,	<i>Flora Dale.</i>	60½	Engineering.
Griest, Maurice E.,	<i>Guernsey.</i>	68½	Engineering.
Gutelius, Mary Amelia,	<i>New York.</i>	61	Latin.
Hansell, Maurice Tracy,	<i>Bougher, N. J.</i>	65	History of Religion and Philosophy.
Hulburt, Hallie G.,	<i>Swarthmore.</i>	85½	English.
Jackson, Halliday R.,	<i>West Chester.</i>	75	Greek.
Lewis, Mary Elma,	<i>Baltimore, Md.</i>	71	History.
Lukens, Brittain Ely,	<i>Philadelphia.</i>	68½	Engineering.
McCain, Millo Marie,	<i>Philadelphia.</i>	64	English.
Merriman, Alice P.,	<i>South Bethlehem.</i>	61	English.
Pryor, Mabel,	<i>Langhorne.</i>	86½	English.
Rice, Maud Esther,	<i>Newtown.</i>	81½	Greek & Latin.
Satterthwaite, George,	<i>Swarthmore.</i>	86	Engineering.
Sibbald, Agnes H.,	<i>Fox Chase.</i>	70	German.
Sullivan, Alice R.,	<i>Moorestown, N. J.</i>	62	Latin.
Taylor, Caleb Marshall,	<i>West Chester.</i>	70	Chemistry.
Taylor, J. Hibberd,	<i>West Chester.</i>	81½	
Wilbur, Aldus,	<i>New York.</i>	61	History.
Wilson, William West,	<i>Bridgeport.</i>	76½	Engineering.
Wolff, Anna K.,	<i>Philadelphia.</i>	64	German.
Wood, Sarah Eastburn,	<i>Linwood.</i>	61	English.

SOPHOMORE CLASS

Baldrige, James Reede,	<i>Charlestown, W. Va.</i>	30	Engineering.
Bell, Frederick Gunby,	<i>Salisbury, Md.</i>	50	Engineering.
Brosius, Arthur,	<i>Avondale.</i>	51	Biology.
Elfreth, Anna Elizabeth,	<i>Media.</i>	30	
Foulke, Lydia,	<i>West Chester.</i>	45½	
Garwood, Esther C.,	<i>Salem, O.</i>	30½	
Geddes, F. Bramwell R.,	<i>Swarthmore.</i>	31½	
Hall, Elizabeth,	<i>Media.</i>	40½	
Heed, Helen,	<i>West Chester.</i>	30½	

NAME	RESIDENCE	HOURS OF CREDIT	MAJOR SUBJECT
Hicks, Philip M.,	<i>Avondale.</i>	36	
Hoopes, Percy Marion,	<i>West Chester.</i>	30½	
Hoyt, Elsie Phebe,	<i>Seven Oaks, Fla.</i>	30½	
Leiper, Margaret Dale,	<i>Swarthmore.</i>	30½	
Leonard, Frank Henry,	<i>Lansdowne.</i>	55½	Engineering.
Linton, William H.,	<i>Moorestown, N. J.</i>	30½	Biology.
Lippincott, James J.,	<i>Philadelphia.</i>	40	Engineering.
McFarland, Eliza W.,	<i>Gulf Mills.</i>	30½	
Merritt, Lynne Lionel,	<i>Swarthmore.</i>	30½	
Miller, Helen E.,	<i>Pottsville.</i>	30½	
Miller, Serena Helen,	<i>Germantown.</i>	33½	
Montalvo, Marie de,	<i>New York.</i>	33½	
Mowery, Harold W.,	<i>Marietta.</i>	47	Greek.
Myers, Edith Cook,	<i>Kennett Square.</i>	36½	
Paul, Alice,	<i>Moorestown, N. J.</i>	37½	
Powell, Edith N.,	<i>Trappe, Md.</i>	30½	
Price, Frederic Newlin,	<i>Solebury.</i>	33	
Price, Henry Ferris,	<i>Swarthmore.</i>	30½	
Robinson, Edmund G.,	<i>Wilmington, Del.</i>	43½	
Robinson, Louis N.,	<i>Tunkhannock.</i>	36½	
Scheibley, Phebe E.,	<i>Duncannon.</i>	44	
Sensenderfer, Robert P.,	<i>Philadelphia.</i>	36	History of Religion and Philosophy.
Thatcher, Herbert S.,	<i>Wilmington, Del.</i>	30	
Turner, Joseph Archer,	<i>Betterton, Md.</i>	31½	
West, Edith Maddock,	<i>Chester.</i>	46	French.
Wilson, Edith,	<i>Salem, O.</i>	30½	

FRESHMAN CLASS

Adams, Gertrude M.,	<i>Camden, N. J.</i>	6	
Angell, Caroline B.,	<i>Philadelphia.</i>	24½	
Barth, Carl Geo. Lange,	<i>Swarthmore.</i>		
Barth, Jacob Christian,	<i>Swarthmore.</i>		
Beatty, Emma Cooke,	<i>Morton.</i>		
Beddoes, Margery,	<i>Newberry, S. C.</i>		
Bosee, John K., Jr.,	<i>Baltimore, Md.</i>		
* Bower, Chester B.,	<i>Camden, N. J.</i>		

* Special Student.

NAME	RESIDENCE	HOURS OF CREDIT	MAJOR SUBJECT
Boyle, Clara Louise,	<i>Coatesville.</i>		
Bramble, Anna D.,	<i>Philadelphia.</i>	6	
Bricker, Mary Gertrude,	<i>Philadelphia.</i>	10	
Broomell, Grace G.,	<i>Philadelphia.</i>	9	
Bunting, Howard Keen,	<i>Chester.</i>	18	
Calkins, Hugh Gilman,	<i>Portland, Ore.</i>		
Carter, Elizabeth K.,	<i>Buffalo, N. Y.</i>		
Cheyney, Mabel,	<i>Media.</i>		
Clifford, Frank Daniel,	<i>Philadelphia.</i>		
Close, Ethel Brooks,	<i>New York.</i>	17	
Cocks, William Bull,	<i>Cornwall-on-Hudson,</i> <i>N. Y.</i>		
Comly, Harold Iredell,	<i>Horsham.</i>	29½	Engineering.
Craig, Margaret,	<i>Philadelphia.</i>	23½	
Crow, John Harold,	<i>Uniontown.</i>		
Crowell, Wilmer G.,	<i>Philadelphia.</i>		
Curtiss, Arthur D.,	<i>Woodside, Md.</i>	21¼	
Darlington, Jessie,	<i>Media.</i>	21	
* Denton, Grace M.,	<i>New Hyde Park,</i> <i>N. Y.</i>		
Dice, Elizabeth M.,	<i>New Castle.</i>	6	
Diebold, William,	<i>Newark, N. J.</i>		
Dillistin, Hazel Barbara,	<i>Paterson, N. J.</i>		
Douglass, Edith Manson,	<i>Asbury Park, N. J.</i>	23	
Downing, Richard, Jr.,	<i>East Norwich, N. Y.</i>	6	
Eastwick, A. Maurice,	<i>Philadelphia.</i>		
Eisenhower, Esther L.,	<i>Norristown.</i>	6	
* Elmore, Alfred Robert,	<i>New York.</i>		
Faltermayer, Rose,	<i>Philadelphia.</i>	6	
Fornance, Lois,	<i>Norristown.</i>		
Fowler, Clara Keen,	<i>Philadelphia.</i>	2	
* Gunby, Charlotte,	<i>Lancaster.</i>		
Hadley, Caroline,	<i>Swarthmore.</i>	6	
Haines, Elma Laura,	<i>Philadelphia.</i>		
Halkett, Adelaide Bruce,	<i>Ridley Park.</i>		
Hamilton, Alice Edna,	<i>Gladwyn.</i>		
* Hill, Emilie,	<i>Short Hills, N. J.</i>		

* Special Student.

NAME	RESIDENCE	HOURS OF CREDIT	MAJOR ¹ SUBJECT
Humbert, William A.,	<i>Uniontown.</i>		
Hunt, Sarah P.,	<i>Chappaqua, N. Y.</i>		
* Hurley, James P.,	<i>Charleston, Mass.</i>		
Jackson, Ralph G.,	<i>Nine Points.</i>	6	
John, Chad Launcelot,	<i>Balsinger.</i>		
Kent, Homer Simmons,	<i>Swarthmore.</i>		
Kille, Herbert S.,	<i>Mt. Holly, N. J.</i>		
Kleinstück, Irene M.,	<i>Kalamazoo, Mich.</i>	6	
Lamb, Philip,	<i>Baltimore, Md.</i>		
Lang, Arvilla, M.,	<i>Bridgeton, N. J.</i>	6	
Leinau, Roberts, Jr.,	<i>Philadelphia.</i>		
Lewis, Helen Ruth,	<i>Kennett Square.</i>		
Lewis, Lydia Cooper,	<i>Lansdowne.</i>	21	
Lippincott, Jane H.,	<i>Woodstown, N. J.</i>		
Lukens, Gertrude,	<i>Swarthmore.</i>	27	
Maris, Alice Hart,	<i>Chester.</i>	12	
Maule, Philip Kent,	<i>Kennett Square.</i>		
McKee, Emily C.,	<i>West Conshohocken.</i>	6	
Monaghan, Florence J.,	<i>Swarthmore.</i>		
Nobles, George S.,	<i>New York.</i>		
Palmer, Edward P.,	<i>West Chester.</i>	6	
Passmore, John Walter,	<i>Nottingham.</i>	12	
Peirce, Bertha Carolyn,	<i>West Chester.</i>	6	
Perkins, T. H. Dudley,	<i>Moorestown, N. J.</i>	6	
Poole, Edward Gilpin,	<i>Wilmington, Del.</i>	26½	
* Post, Lillian Estelle,	<i>East Williston, N. Y.</i>		
Price, Reginald Cooper,	<i>Baltimore, Md.</i>		
Rhoads, Alfred N.,	<i>Tobyhanna.</i>		
Richards, Ruth Emily,	<i>Toughkenamon.</i>	15	
Ridings, Alice May,	<i>Lansdowne.</i>	27½	
Roberts, Walter Ernest,	<i>Glen Ridge, N. J.</i>	6	
Robinson, Rachel,	<i>Wilmington, Del.</i>	6	
Rogers, Esther Lewis,	<i>Pendleton, Ind.</i>	24½	
Rooks, William Willard,	<i>Fruitland Park, Fla.</i>	20½	
Rosenbluth, Lillie,	<i>Philadelphia.</i>	9	
Ryder, R. Leslie,	<i>Swarthmore.</i>		
Sabsovich, Marie G.,	<i>Philadelphia.</i>	6	

* Special Student.

NAME	RESIDENCE	HOURS OF CREDIT	MAJOR SUBJECT
Schoeneman, Emily,	<i>Philadelphia.</i>	6	
Schwenk, Grace A.,	<i>Minersville.</i>		
Seal, Emma,	<i>Swarthmore.</i>		
Seaman, Anna L.,	<i>Glen Cove, N. Y.</i>		
Seaman, James P.,	<i>Woodbury Falls, N. Y.</i>		
Sherwood, Lawrence T.,	<i>Waynesville, O.</i>		
Sinclair, Samuel, 4th,	<i>Kennett Square.</i>	28½	
Smith, Lemuel David,	<i>Spokane, Wash.</i>		
Smith, William D.,	<i>Rutledge.</i>	12½	
Smith, William T.,	<i>Lincoln, Va.</i>		
Strode, Laura J.,	<i>West Chester.</i>	9	
Terrell, Frederick B.	<i>San Antonio, Texas.</i>	12½	
Thatcher, Richard C.,	<i>Wilmington, Del.</i>	3	
Tyler, Caleb R.,	<i>Serwell, N. J.</i>	18	
Underhill, Caroline,	<i>Philadelphia.</i>	8	
Walker, Wm. Cooper,	<i>Baltimore, Md.</i>		
Washburne, Caroline A.,	<i>Chappaqua, N. Y.</i>		
Washburn, Mary Stuart,	<i>Chappaqua, N. Y.</i>		
Watters, Geo. Laurence,	<i>Media.</i>		
Wilson, Edith,	<i>Selma, O.</i>	24½	

SUMMARY BY STATES

Pennsylvania	128
New York	24
New Jersey	18
Maryland	13
Delaware	6
Ohio	5
Florida	3
Virginia	2
Illinois	1
Indiana	1
Massachusetts	1
Michigan	1
Ontario, Dominion of Canada.....	1
Oregon	1
South Carolina	1
Texas	1
Washington	1
West Virginia	1

Total 209

FELLOWS AND SCHOLARS, 1902-1903

Joshua Lippincott Fellow: BIRD T. BALDWIN, B.S., 1900; student in Harvard University.

Lucretia Mott Fellow: MARGARET H. TAYLOR, B.L., 1902; student in the University of Berlin.

Deborah Fisher Wharton Scholar: ANNIE ROSS, 1903.

Samuel J. Underhill Scholar: MARY A. GUTELIUS, 1904.

Anson Lapham Scholar: LOUIS N. ROBINSON, 1905.

Westbury Quarterly Meeting Scholar: ALDUS WILBUR, 1904.

Rebecca M. Atkinson Scholar: WILLIAM ELY ROBERTS, 1903.

Barclay G. Atkinson Scholar: MABEL PRYOR, 1903.

Annie Shoemaker Scholar: CAROLINE A. UNDERHILL, 1906.

I. V. Williamson Scholars:

RACHEL ROBINSON, Friends' School, Wilmington, Del.

T. H. DUDLEY PERKINS, Friends' School, Moorestown, N. J.

RICHARD DOWNING, JR., Friends' Academy, Locust Valley, N. Y.

EMMA SEAL, Swarthmore Public High School.

PHILIP KENT MAULE, Martin Academy, Kennett Square, Pa.

REGINALD C. PRICE, Friends' School, Baltimore, Md.

Friends' Seminary Association Scholar: MARIE DE MONTALVO, Friends' Seminary, N. Y.

SWARTHMORE COLLEGE

LOCATION AND HISTORY

The Borough of Swarthmore is situated southwest of Philadelphia on the Central Division of the Philadelphia, Wilmington and Baltimore Railway. It is eleven miles distant from Broad Street Station, with which it is connected by frequent trains; it is also connected with Philadelphia by two trolley lines.

The College buildings and the campus occupy a commanding position. The view includes many miles of the Delaware River, whose nearest point is about four miles distant. The College property comprises over two hundred acres of land, including a large tract of woodland and the beautiful rocky valley of Crum Creek.

The College was founded in 1864 through the efforts of members of the Religious Society of Friends, and for the purpose of securing to the youth of the Society an opportunity for higher educational training under the guarded supervision and care of those of their own religious faith. Other applicants are admitted upon the same terms as Friends, and nothing of a sectarian character appears in the instruction or in the management of the College.

The intention of its founders was to make the promotion of Christian character the first consideration, and to provide opportunities for liberal culture while maintaining a high standard of scholarship. These aims have been faithfully observed in the administration of the institution.

BUILDINGS

Parrish Hall, 348 feet in length, is a massive stone structure, the central portion of which is separated from the two wings by fire-proof compartments. The central build-

ing is five stories in height, and with an extension at the rear provides for assembly room, lecture rooms, museum, library, reading room, parlors, dining hall, etc. The wings are four stories high. The ground floors are devoted to lecture and recitation rooms; the remaining floors in the east wing contain the dormitories of the women students, and in the west wing those of the men students. The Dean and several instructors and matrons reside in the building.

Science Hall is a two-story stone building with basement, 162 by 64 feet, devoted to the departments of Chemistry, Physics, and Engineering. It contains, besides lecture and recitation rooms, electrical, physical, engineering, and chemical laboratories; machine shop, and draughting rooms; foundry, forge, and wood-working rooms; engine and boiler rooms. All departments are well equipped, and new apparatus and machinery are added as occasion demands.

The Swarthmore College Astronomical Observatory is especially arranged for purposes of instruction, and contains an equipment suitable both for class work and the prosecution of research. This includes a transit of three-inch aperture, an equatorial telescope of six-inch aperture, with micrometer and spectroscope attachments; a chronograph and chronometer, mean-time and sidereal clocks, and a reference library. Connected with the Observatory is the local Signal Service Station of the State Weather Bureau, fully provided with the necessary meteorological apparatus. The latest addition to the building accommodates a seismograph of the most approved construction, which records by photographic process any vibration of the crust of the earth.

Other buildings upon the campus are the *Meeting-house*, *Somerville Hall* (the gymnasium for the women students), the *Wm. J. Hall Gymnasium* (for the men students), the *President's House*, the *Benjamin West House* (birthplace of

Benjamin West, P. R. A., erected in 1724), *Cunningham House* (the residence of the Professor of Astronomy and Mathematics), the necessary farm buildings, etc.

Parrish Hall, *Science Hall*, and the two gymnasiums are heated by steam from a central plant. A new heating system for the dormitories in Parrish Hall was recently installed; it consists of two 72-inch fans at the extreme ends of the building, which force the air over coils of steam pipe and through conduits accurately graduated in size, to the various rooms, thus insuring proper heat and ventilation.

RELIGIOUS CULTURE

The daily sessions of the College are opened with an assemblage of students and instructors for the reading of the Bible, or for other suitable exercises, which are preceded and followed by a period of silence. The students attend Meeting on First-day mornings, with the College officials and Friends of the neighborhood. By these means, and particularly by individual influence, and by the constant effort to maintain in the institution a spirit in harmony with the purpose of its founders, it is believed that a proper care is exercised to mould the characters of the students in conformity with Christian standards.

SOCIAL LIFE

Swarthmore, as a co-educational institution, undertakes to provide College life in a home setting; to supply an atmosphere in which manly and womanly character may develop naturally and completely. It provides that freedom which places upon each individual the responsibility of self-control, demanding the right exercise of his judgment, while making provision for the correction of errors, supplementing his judgment and will, when necessary, by the direction of those in whom his confidence may be justly

placed. The students meet in the dining-hall as in their homes, and for a social hour in the reception parlör before evening work begins. There are other social occasions in the class receptions that occur during the year, and the more public College receptions to which friends of the institution are invited. This intercourse of the students is under the care of the Dean and her assistants, and it is the aim of the College to make it a means of social culture.

PHYSICAL CULTURE

The Wm. J. Hall Gymnasium for the men students, erected in 1899, is supplied with a new and complete outfit of apparatus after the Sargent System, and affords facilities for the required class and individual work, as well as for various in-door games. The Somerville Gymnasium for the women students was erected through the efforts of the Somerville Literary Society. It is furnished with apparatus adapted to the Swedish System. A statement of methods and requirements in the department of Physical Training will be found on page 80.

The extensive and beautiful grounds invite to out-door exercise, which is encouraged in every reasonable way. Whittier Field, the athletic ground for young men, provides a quarter-mile cinder track, a well-graded field for athletic sports, and seats for spectators. Upon the campus are facilities for tennis, golf, basket-ball, and other out-door recreations for both sexes. Cross-country running, bicycle riding, and skating on Crum Creek are favorite forms of exercise.

STUDENTS' SOCIETIES AND PUBLICATIONS

Three literary societies are maintained by the students: the *Delphic* and the *Eunomian* by the men, the *Somerville* by the women. Regular meetings are held for literary and

other exercises, which afford opportunity to acquire skill in parliamentary practice and in debate. They are regarded as valuable auxiliaries in the work of the College. Each society has, under the management of its own members, but accessible to all students, a library and a reading room containing periodicals and daily papers. The total number of books in these libraries is nearly four thousand.

The *Joseph Leidy Scientific Society* has for its object to keep in touch with the results of modern investigation in Astronomy, Biology, Chemistry, Physics, and Engineering. At its meetings, held monthly, announcements of recent discoveries are made by the various instructors, and their meaning and importance are briefly discussed. Papers are also prepared and read by the student members.

The *Swarthmore Audubon Club* is designed to promote interest in the study and protection of our native birds. The use of the camera in securing good pictures of live birds and their nests is a very desirable aid in the pursuit of the study. The region about Swarthmore, especially the wooded ravine through which Crum Creek flows, affords unusual opportunities for observation. In a walk of eight miles along this stream fifty-eight different varieties of birds have been noted, most of them being species nesting in the locality.

Seminars are held in the departments of English, History and Economics, and Latin. Statements concerning their work may be found under the respective departments.

The *Cercle Français* holds weekly meetings and is open to all students in the French Department after the middle of the first year. Its object is to afford increased opportunities for acquiring a practical knowledge of the French language.

The *Deutscher Verein* holds weekly sessions for the purpose of affording its members a greater ease and facility in expressing themselves in idiomatic German. Students are

thus brought into more positive acquaintance with German customs, amusements, music, and literature.

The *Swarthmore Young Friends' Association* meets monthly in the College; it is open to students, members of the Faculty, and others interested in the testimonies and activities of the Society of Friends.

The *Athletic Association* is an organization of the men students for the encouragement of physical culture and athletic sports.

The *Girls' Athletic Club* is a similar organization of the women students.

Two periodicals are published by the students under the supervision of the Faculty. The *Phoenix*, a semi-monthly, is devoted to the interests of the College community and of the Alumni; the *Halcyon* is published annually by the Junior Class.

LIBRARIES AND READING ROOM

The Libraries of the College collectively contain 22,100 bound volumes, as follows:

The General Library.....	15,600
Literary Societies' Libraries.....	3,950
Friends' Historical Library.....	2,550

The Edgar Allen Brown Fund, established by his family in memory of Edgar Allen Brown, of the Class of 1890, and the Alumni Fund, are at present the chief sources of income for increasing the collection in the General Library.

Friends' Historical Library, founded by the late Anson Lapham, of Skaneateles, N. Y., contains a valuable collection of Friends' books, photographs of representative Friends, and manuscripts relating to the Society and its history. This collection is stored in a fire-proof apartment, and

it is hoped that Friends and others will deem it a secure place in which to deposit books and other material in their possession which may be of interest in connection with the history of the Society. Such contributions are solicited, and should be addressed to Friends' Historical Library, or to ARTHUR BEARDSLEY, *Librarian*, Swarthmore, Pa. The Library is accessible to all persons interested in the doctrines and history of Friends.

The Reading Room is supplied with reference books, the leading literary, scientific, and technical journals, and the principal newspapers.

Besides the above, the great collections of books in the Philadelphia Library, and its Ridgway Branch, the Mercantile Library, the Free Library of Philadelphia, and the University of Pennsylvania, as well as those in the special and technical libraries of the city, are open to the use of students under proper regulations.

THE MUSEUM

The Museum of the College is strictly an educational collection, and the specimens from its cases are in constant use in the lecture room and laboratory. It is growing steadily, and always in the direction of rendering more perfect the means of illustrating the different departments of Biology and Geology.

It includes the following collections:

The *Joseph Leidy Collection of Minerals*, the result of thirty years' discriminating collection by its founder, consists of exceedingly valuable cabinet specimens of minerals, characteristic rocks and ores, and models of the various systems of crystallization.

2. The *Collection Illustrating Comparative Osteology* consists of a large series of partial and complete skeletons, prepared at Prof. Henry Ward's Natural History Establishment

in Rochester, N. Y., and illustrates the structure and framework of vertebrates.

3. The *Wilcox and Farnham Collection of Birds* comprises stuffed specimens of native and foreign birds. Nearly all the species visiting this State are represented.

4. The *Fredrick Kohl Ethnological Collection* consists of Indian implements, weapons, clothing, etc., mostly from Alaska.

5. The *C. F. Parker Collection of Shells* is made up of choice typical land, fresh-water, and marine shells. These specimens were all selected by the late Dr. Joseph Leidy from the extensive collection of the founder, C. F. Parker, who was for many years the Curator in charge of the Academy of Natural Sciences of Philadelphia.

6. The *Robert R. Corson Collection of Stalactites and Stalagmites* is composed of specimens from the Luray Caverns, and illustrates the peculiar limestone formations of that and similar districts.

7. The *Eckfeldt Herbarium* contains over two thousand specimens illustrating the flora of Pennsylvania. The *Annie Shoemaker Collection* is a valuable addition to this.

In addition to the above, there is a large and constantly increasing collection of specimens of vertebrates and invertebrates (including the U. S. Fish Commission Educational Collection), of dissected specimens for demonstration in the lectures on Physiology, of glass and papier-mâché models of invertebrates, and of special points in vegetable and animal morphology, besides some three hundred classified diagrams and colored charts illustrating every branch of natural history.

Students who are unable to return to their homes for the Spring Vacation will be charged a proportionate amount for board at the College.

EXPENSES

The charge for board and tuition is \$400 per year, of which \$250 is payable in advance, and \$150 on the first of First Month.

The tuition fee of non-resident students is \$150 per year, of which \$125 is payable in advance, and the remainder on the first of First Month. When luncheon is taken with the resident students there is an additional charge to non-residents of \$50 per year.

The College is closed during the Christmas Recess. Students who desire to remain in Swarthmore or its vicinity at that time may secure board at moderate charge in homes recommended by the Faculty.

Students purchase their own books, which the College will furnish at the lowest rates obtainable. They also buy their own stationery and drawing implements, and pay a reasonable rate for laundry work done at the College.

A fee of three dollars per semester is charged in every laboratory science, except in Chemistry; in Chemistry the fee is proportioned to the quantity of materials consumed.

In case of illness, no extra charge is made unless a physician or trained nurse is employed.

Payments are to be made by check or draft to the order of CHARLES M. BIDDLE, Treasurer, 513 COMMERCE STREET, PHILADELPHIA.

FELLOWSHIPS AND SCHOLARSHIPS

FELLOWSHIPS

The JOSHUA LIPPINCOTT FELLOWSHIP, founded by Howard W. Lippincott, A. B., of the Class of 1875, in mem-

ory of his father, consists of a fund yielding an income of \$450 per year, which is granted annually by the Faculty, with the concurrence of the Instruction Committee, to a graduate of the College to enable him to pursue advanced study under the direction or with the approval of the Faculty.

The LUCRETIA MOTT FELLOWSHIP, founded by the Somerville Literary Society, and sustained by the contributions of its members, yields an annual income 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.

SCHOLARSHIPS

1. The WESTBURY QUARTERLY MEETING, N. Y., SCHOLARSHIP pays all charges for board and tuition, and is awarded annually by a Committee of the Quarterly Meeting.

2. The REBECCA M. ATKINSON AND THE BARCLAY G. ATKINSON SCHOLARSHIPS yield \$200 each, and are awarded annually by the Board of Managers of the College.

3. The ANNIE SHOEMAKER SCHOLARSHIP pays all charges for board and tuition, and is awarded annually to a young woman graduate of Friends' Central School, Philadelphia.

4. There are nine other similar Scholarships owned by individuals, each entitling the holder to board and tuition at the College. These are awarded by the owners.

5. The I. V. WILLIAMSON SCHOLARSHIPS FOR PREPARATORY SCHOOLS. Fifteen scholarships of the value of \$150 each for resident, and \$75 each for non-resident students,

are offered to members of classes graduating in 1903 in the following schools :

2 to Friends' Central School.....	Philadelphia, Pa.
1 to Friends' Seminary	New York, N. Y.
1 to Park Avenue Friends' High School...	Baltimore, Md.
1 to Friends' School.....	Wilmington, Del.
1 to Friends' High School.....	Moorestown, N. J.
1 to Friends' Academy.....	Locust Valley, N. Y.
1 to Friends' Select School	Washington, D. C.
1 to Abington Friends' School.....	Jenkintown, Pa.
2 to George School.....	George School, Pa.
1 to Chappaqua Mountain Institute.....	Chappaqua, N. Y.
1 to Swarthmore Preparatory School.....	Swarthmore, Pa.
1 to Swarthmore Public High School.....	Swarthmore, Pa.
1 to Martin Academy.....	Kennett Square, Pa.

These scholarships will be awarded upon competitive examination under the direction of the College Faculty. None will be awarded to applicants who fail to be admitted without condition to the Freshman class, and every holder of such scholarship must pursue in College the studies leading regularly to the degree of Bachelor of Arts.

6. The three scholarships named below are offered for work done in the College in 1902-1903. They are of the value of \$200 each for resident, and \$100 each for non-resident students, and are awarded in each instance to that member of the respective classes who shall be promoted without conditions, and shall have the best record of scholarship upon the regular work of the year.

a. The DEBORAH FISHER WHARTON SCHOLARSHIP will be awarded to a member of the Junior class.

b. The SAMUEL J. UNDERHILL SCHOLARSHIP will be awarded to a member of the Sophomore class.

c. The ANSON LAPHAM SCHOLARSHIP will be awarded to a member of the Freshman class.

7. The twenty-six scholarships named below are offered to the students needing pecuniary aid, whose previous work has demonstrated their earnestness and their ability. About one-fourth of them will be available for new students for the year 1903-1904. They will be awarded at the discretion of the Committee on Trusts, Endowments, and Scholarships. Application should be made to the President of the College.

a. The SAMUEL WILLETS SCHOLARSHIPS: Ten scholarships of \$150, and ten scholarships of \$100, per year.

b. The ISAAC STEPHENS SCHOLARSHIPS: Four scholarships of \$50 per year.

c. The MARY WOOD SCHOLARSHIPS: Two scholarships of \$50 per year.

If any of the scholarships under 5 and 6 are not awarded, the funds thus released will be applied to scholarships similar to those under 7.

REQUIREMENTS FOR ADMISSION

Application for admission should be made as early as possible by letter to the President. Students are not admitted for a period less than the current College year, but, when vacancies exist, they may enter at any time during the year.

All applicants must present satisfactory testimonials of good character from their former teachers, and students coming from other colleges must offer certificates of honorable dismissal. Students admitted to the College are expected to abstain entirely from the use of tobacco.

EXAMINATIONS FOR ADMISSION

Examinations for admission may be taken either in the Summer, at the close of the college year, or in the Autumn. (See the Calendar on page 5 for the dates.)

Candidates for admission who do not present certificates in accordance with the conditions laid down on page 39 will be examined as follows:

(a) on the *first four* of the *fourteen* subjects for examination enumerated below; and

(b) on *four* of the remaining *ten*.

The fourteen examination subjects are as follows:

I. MATHEMATICS.

(a) *Algebra*.—To Permutations and Combinations in a book of High-School grade. (Hall and Knight's, or C. Smith's, elementary text-book is suggested.)

(b) *Geometry*.—The whole of Plane Geometry.

2. ENGLISH GRAMMAR AND COMPOSITION.

3. ENGLISH LITERATURE.

(a) A *general* knowledge of the following works and their authors: Shakespeare's *The Merchant of Venice* and *Julius Cæsar*; the

Sir Roger de Coverley Papers in *The Spectator*; Goldsmith's *The Vicar of Wakefield*; Coleridge's *The Ancient Mariner*; Scott's *Ivanhoe*; Carlyle's *Essay on Burns*; Tennyson's *The Princess*; Lowell's *The Vision of Sir Launfal*; George Eliot's *Silas Marner*.

(b) A special knowledge of the subject-matter, form, and structure of the following: Macaulay's *Essay on Milton* and *Essay on Addison*; Burke's *Speech on Conciliation with America*; Shakespeare's *Macbeth*; Milton's *Paradise Lost*, Books I and II.

HISTORY.—Preparatory work in any two of the following fields of History will be accepted, provided at least one year's work has been devoted to each of the two fields selected: (a) *The History of the United States*; (b) *The History of England*; (c) *The History of Mediæval and Modern Europe*; (d) *The History of Ancient Greece and Rome*.

5. ELEMENTARY LATIN.—First Latin Book; Cæsar, four books; Latin Grammar, the essentials, particularly paradigms and elementary syntax.

6. ADVANCED LATIN.—*Æneid*, six books; Cicero, seven orations (including those against Catiline; *Pro Milone* or *Pro Lege Maniliâ* will be counted as two); Latin Composition,* the accurate translation into Latin of easy sentences involving words and constructions of frequent occurrence in Cicero's first Oration against Catiline.

7. ELEMENTARY GREEK.—Grammar (Goodwin's recommended); Elementary Composition; Xenophon's *Anabasis*, Book I.

8. ADVANCED GREEK—*Anabasis*, Books II, III, IV; *Iliad*, Books I, II, III; General History of Greece to the death of Alexander.

9. ELEMENTARY GERMAN.—Thomas's Practical German Grammar, Part I; Grimm's *Märchen* (twelve selections); Eichendorff's *Aus dem Leben eines Taugenichts* (Chapters VII and VIII omitted); F. S. Buchheim's Elementary Prose Composition, Part I; Schiller's *Wilhelm Tell* (first three acts). Equivalents will be accepted.

10. ADVANCED GERMAN.—Thomas's Practical German Grammar (reviewed and continued); Schiller's *Wilhelm Tell* (completed); one of Riehl's *Culturgeschichtliche Novellen*; Freytag's *Die Jour-*

*The attention of teachers is especially called to the importance of Latin Composition as a foundation for College work.

nalisten; Goethe's *Iphigenia auf Tauris*; E. S. Buchheim's Elementary Prose Composition (Parts II and III); German ballads and lyrics (seven to be memorized). Equivalents will be accepted.

II. ELEMENTARY FRENCH.—Ability to read easy prose at sight, to put into French simple English sentences, and to answer questions on the elements of the Grammar (Grandgent's *The Essentials of French Grammar* is recommended). About six hundred pages of modern prose should have been read, from the works of at least four different authors. Candidates should be able to pronounce correctly and to reply in French to questions on simple subjects. The preparation should occupy two years, with not less than three recitations per week.

12. ADVANCED FRENCH.—Ability to read at sight more difficult French, including plays of the classic period, to put easy English prose into French, and to answer questions involving an advanced knowledge of the syntax as presented in the *French Grammar* of Bevier, Edgren, or Whitney. About fifteen hundred pages should have been read, from the writings of at least eight standard authors. Candidates should also be able to use the French language in the class-room with some fluency, both in writing and speaking. The preparation is expected to occupy four years, with not less than three recitations per week. Teachers preparing students for College are urged to ground them thoroughly in the grammatical principles, and to devote much attention to the pronunciation of the language.

13. SCIENCE.—Two of the following: Botany, Chemistry, Physical Geography, Physics, Zoölogy, as presented in the better class of high-school text books.

14. Solid Geometry, and Plane Trigonometry as presented in the text-book of Crockett, Murray, or Crawley.

ADMISSION BY CERTIFICATE

Graduates of Friends' Schools and of public High Schools approved by the Faculty and Instruction Committee will be admitted to the Freshman Class on certificate of the Principal, but this privilege does not secure in every case admission without condition.

Students admitted by certificate are received on trial, and the Faculty reserves the right to change their classification or to decline to continue their connection with the College, if they are found not properly prepared. The privilege of sending students on certificate may be withdrawn from any school whose pupils are found to be deficient.

Principals of other schools who wish to have students admitted on their recommendation, should correspond with the President concerning each applicant.

The College will accept for admission the certificates issued by the College Entrance Examination Board which was organized in 1899 by the Association of Colleges and Preparatory Schools of the Middle States and Maryland. Information as to the examinations held by this Board may be obtained from its secretary, Professor T. S. Fiske, Station 84, New York City.

REQUIREMENTS FOR GRADUATION

After Commencement in 1903, the degree of Bachelor of Arts alone will be conferred for the completion of the undergraduate course.* This course is based upon uniform requirements for admission, and upon certain studies which are prescribed for all matriculates. In addition to securing this fundamental uniformity, it provides for the varied needs and capacities of individuals by permitting a wide range of selection on the part of the student or his advisers; and it seeks, also, to provide a thorough training, extending over three or four years, in some one department of study.

Candidates for graduation are required to complete one hundred and twenty "hours," in addition to the prescribed Physical Training. An "hour" signifies one recitation or lecture per week throughout one college semester, or its equivalent. A recitation or lecture is regularly fifty-five minutes in length, and the outside work of the student is estimated at an average of two hours for each class exercise. In laboratory work, each exercise is two hours in length, and the outside work is designed to make the exercise as nearly as possible equivalent in its demands to the "hour" defined above. A student's regular work during each semester is fifteen "hours." Thus in regular course the work of eight semesters constitutes the minimum amount—one hundred and twenty "hours"—for graduation.

The distribution of the work is as follows :

I. Prescribed studies. These studies must be taken by all students who are candidates for graduation, unless permission to substitute some other work is obtained, for spe-

* For the degree of Bachelor of Science in Engineering, see page 58.

cial reasons, from the proper Faculty committee. It is best to devote the whole of the Freshman year to five of the prescribed studies; but the time and order in which they are taken may vary according to the needs of each student. The prescribed work, amounting to forty-two "hours," exclusive of the Physical Training, includes the following studies:

1. English.—Nine "hours," three of which must be taken in English Composition, and six in English Literature or Public Speaking.

2. Greek, Latin, French, German.—Twelve "hours," all of which may be done in any one of these languages, or six "hours" in each of two.

3. Bible Study, History, Economics.—Nine "hours," three of which must be taken in Bible Study, and six in any one of the three studies.

4. Astronomy, Biology, Chemistry, Physics.—Six "hours," to be done in any one of the four sciences, and to include laboratory work.

5. Mathematics, Engineering, Astronomy. — Six "hours," to be done in any one of the three studies.

6. Physical Training—For the prescribed amount of work in this department, see pages 80-81.

II. Major study. Every candidate for graduation is required to select the work of some one department as his major study. In most cases the selection may well be postponed until the beginning of the second year. In the department thus chosen the student must complete three full years of college work, or eighteen "hours," and the professor in charge may at his option determine the work of six years, or thirty-six "hours," providing one year shall

not be in his own department. If the major study is one of the languages, at least one year of the prescribed work must be taken in another language from that chosen as the major study. No matter how much credit may have been given on entrance, no student is allowed to graduate who has not had in the College at least one year in his major study.

III. Elective studies. The remaining work required for graduation may be selected from any department or departments of the College.

The following studies are open to election, in so far as the exigences of the College programme will permit :

Astronomy,	History of Art,
Bible Study,	History of Religion,
Biology,	Latin,
Chemistry,	Mathematics,
Economics,	Philosophy,
Engineering,	Physics,
English,	Politics,
French,	Psychology,
Geology,	Public Speaking,
German,	Social Science,
Greek,	Studio Work,
History,	World Literature.

IRREGULAR COURSES OF STUDY

Irregular courses of study, not including in due proportion the prescribed, major, and elective, studies, may be pursued only in special cases and by approval of the Faculty.

SPECIAL COURSES OF STUDY

Teachers, and other persons of sufficiently mature age, who may wish to devote themselves to one or more particu-

lar studies, will be received without examination, and will be permitted to elect such studies as they may be able to pursue to advantage in any of the regular classes.

PREPARATORY MEDICAL COURSE

In the departments of Biology, Chemistry, and Physics, work is planned to prepare students for the study of medicine. Several leading Medical Schools of Philadelphia and elsewhere will admit to the second year of their courses students who present, with their diplomas, satisfactory certificates of undergraduate work equivalent to the first year of the medical course. Students who desire to take advantage of this arrangement should confer with the professors in charge of the departments of science not later than the end of their Sophomore year.

DEGREES

BACHELOR OF ARTS. The degree of Bachelor of Arts will be conferred, at the Commencement in 1903 and annually thereafter, upon students who have complied with the requirements for graduation as stated above. Until 1874 this degree was the only baccalaureate degree conferred by the College, and will be the only one conferred after the Commencement in 1903.* The degree of Bachelor of Letters, or Bachelor of Science, will be conferred at the Commencement in 1903 upon those members of the present Senior Class who prefer such degree and are entitled to it in accordance with the former undergraduate courses.

THE MASTER'S DEGREE. All candidates for the Master's Degree (A.M., M.L., and M. S.) must have taken the corresponding Bachelor's Degree at this College. They are required to pursue a course of study at Swarthmore, or elsewhere, under the direction of the Faculty, and to pass examination on the same. Graduates residing at the College may reasonably hope to complete the work in one year; non-residents, engaged in other work, must devote to it not less than two years. Courses of study will be assigned to candidates upon application to the Faculty stating the subject, or subjects, which they desire to pursue. A fee of \$5 is charged when the course of study is assigned, and an additional fee of \$20 when the degree is conferred.

The examinations for the Master's Degree will be both oral and written, and will be conducted by a committee of the Faculty. An extended thesis, bearing upon some part of the work assigned, will be required in all cases. The

* For the degree of Bachelor of Science in Engineering, see page 58.

candidate should apply to the Registrar for a more detailed statement of the requirements.

THE ENGINEERING DEGREES. The Degrees of Civil Engineer (C.E.), Mechanical Engineer (M.E.), and Electrical Engineer (E.E.), will be conferred upon graduates of Swarthmore College who have made Engineering their major study, who have been engaged for not less than three years in successful professional practice in positions of responsibility, and who have pursued prescribed courses of reading and presented acceptable theses upon subjects pertaining to their branch of Engineering. Candidates for these Degrees should apply to the Registrar for a more detailed statement of the requirements. The same fees are charged as for the Master's Degree.

DEPARTMENTS AND COURSES OF INSTRUCTION

BIOLOGY AND GEOLOGY

SPENCER TROTTER, *Professor*

The courses in Biology are designed to give a broad and liberal view of the facts and problems of life as a part of the system of general culture. Though of especial value in preparation for the medical profession, the profession of teaching, and for various fields of commercial activity, a knowledge of the general principles of Biology enables the man or woman to appreciate more fully the conditions of the individual and social life. The method of work aims to awaken an interest rather than to equip the student as a specialist. Those who desire to specialize in Biology after leaving College will find that these courses lead to the more technical studies of the University.

The courses in Biology embrace the subjects of Zoology and Botany; Mammalian and Human Anatomy; Physiology; Vertebrate Morphology, and Normal Histology. Three years of three hours per week in Course I, and six hours per week in Courses II and III is the total amount of time involved.

COURSE I. (a) ELEMENTS OF ZOÖLOGY.—Lectures and laboratory work covering the practical study of the main types of animal life and the consideration of the problems of distribution, environment, heredity, structure, function, and development. First semester, two hours.

(b) ELEMENTS OF BOTANY.—Lectures and laboratory work, including the examination of the tissues of the plant, and the consideration of the physiology of cell-life and of

plant morphology. Lectures on Economic Botany. Second semester, two hours.

(c) ELEMENTS OF PHYSIOLOGY.—Lectures, demonstrations, and laboratory work in animal and human physiology. One hour per week throughout the year.

Course I involves a knowledge of the use of the microscope in Zoölogy, Botany, and Physiology.

COURSE II. MAMMALIAN AND HUMAN ANATOMY.—Dissection of the cat as a type, including studies in osteology, myology, visceral anatomy, the blood vessels, brain, and nervous structures. Detailed study of the human skeleton and the various structures of the human body in comparison with those of the lower animals. Text book: *Anatomy of the Cat*, Reighard and Jennings. Reference books: Jayne's *Mammalian Anatomy*; Gray's *Human Anatomy*. Six hours per week throughout the year, carrying a credit of three hours for each semester.

COURSE III. ADVANCED WORK in one or more of the following subjects: VERTEBRATE MORPHOLOGY; PHYSIOLOGY; NORMAL HISTOLOGY; BOTANY. Arrangements as to subjects, time, books, etc., to be made with the professor. Six hours per week throughout the year, carrying a credit of three hours for each semester.

COURSE IV. GEOLOGY.—A study and practical examination of all the important types of rocks; lectures and recitations on structural, dynamic, and historical geology. Special features of the geology of the United States from an economic standpoint; construction of map. Open to all students above the Freshman class. Two hours for each semester.

The work of the Biological Department is mainly that of the laboratory; lectures, demonstrations, and text-books

are used in connection with the laboratory work. In Courses I and IV the method of recitation is largely employed. Collateral reading is assigned, and short essays on various subjects are required from time to time. It is hoped that students will interest themselves in independent field observations and in the collection of specimens for study in the laboratory.

The Swarthmore College Museum is an adjunct to the Department of Biology. An account of its collections may be found on pages 31-32.

The *Academy of Natural Sciences*, Logan Square, Philadelphia, affords valuable matter for study and reference, both in its collections and library.

CHEMISTRY

GELLERT ALLEMAN, *Professor*

The successful completion of the courses in Chemistry will enable the student to enter upon post-graduate work at any leading university, or will be of material assistance to him in various technical pursuits in which he may be engaged. Those intending to prepare for the medical profession will find it advantageous to follow several of the elementary courses here offered.

COURSE I. General Inorganic Chemistry. Lectures, demonstrations, written exercises and individual laboratory practice on the general principles involved in elementary chemistry. This course includes work similar to that outlined in Remsen's *College Chemistry*. *Laboratory Experiments*, by Remsen and Randall, is followed as a laboratory guide; either Remsen's *College Chemistry* or Smith's *Richter's Inorganic Chemistry*, is used as a book of reference. Required of all students who select Chemistry as their prescribed science. Two lectures, and one laboratory period

of two hours per week, throughout the year, equivalent to three hours for each semester.

COURSE II. Qualitative Analysis: Demonstrations, conferences and individual laboratory work. The text book used is Noyes' *Qualitative Analysis*. Students taking this course must have completed Course I at this College, or its equivalent at some other accredited institution. The equivalent of three laboratory periods of two hours each per week throughout the year, carrying a credit of three hours for each semester.

COURSE III. Elementary Quantitative Analysis. Complete analyses of Potassium Chloride, Copper Sulphate, Calcite, Hematite, Apatite, Sphalerite, Clay, and Portland Cement. For students taking Engineering as their major subject. This course may be selected in place of Course II, during the second semester. The equivalent of three laboratory periods of two hours each per week throughout one semester, carrying a credit of three hours.

COURSE IV. Quantitative Analysis. Demonstrations and laboratory work involving methods in gravimetric and volumetric analysis. The work required is a complete analysis of the following: Sodium Chloride, Copper Sulphate, Iron Ammonium Alum, Calcite, Magnesite, Apatite, Zincite, Cuprite, Brass, Realgar, Niccolite, Clay, Feldspar, Hematite, and Portland Cement. Required of students who select Chemistry as their major subject. Open as an elective to all others who have taken Courses I and II at this institution, or their equivalents elsewhere. The equivalent of three laboratory periods of two hours each per week throughout the year, carrying a credit of three hours for each semester.

COURSE V. Advanced Quantitative Analysis. Ex-

amination of foods and food products, and their adulterants. Work in toxicology, analysis of sewage, and the sanitary analysis of water. Required of students who select Chemistry as their major subject; open as an elective to all other students who have had sufficient knowledge of chemistry to follow the course. The work on sewage and water analysis is particularly adapted to students in Engineering. The equivalent of three laboratory periods of two hours each during the first semester, carrying a credit of three hours.

COURSE VI. Physical Chemistry. Laboratory work; observations on the behavior of salts in solution; physical methods for the determination of molecular weights. H. C. Jones's *The Freezing-point, Boiling-point, and Conductivity Methods* is used as a guide. Required of students who select Chemistry as their major study. Three laboratory periods of two hours per week, carrying a credit of three hours, during the first semester.

COURSE VII. Organic Chemistry. Lectures, demonstrations, written exercises, and laboratory work. This course includes the work as outlined in Remsen's *Organic Chemistry*. In the laboratory, students make and study the various organic preparations as given in Gattermann's *Praxis des Organischen Chemikers*. A knowledge of German is essential. Required of all students who select Chemistry as their major subject. Three hours for each semester.

COURSE VIII. Engineering Chemistry. Lectures and demonstrations. Considerable attention is devoted to a discussion of the chemical aspects of the Materials of Construction. Particular reference is made to the various chemical problems incident to the manufacture of Natural and Portland cement; the manufacture of steel; the chemical treatment of timbers, to insure them against decay; various problems which are of importance in connection with the selec-

tion of building stones; the modern treatment of sewage; water supply, and filtration. Twenty lectures, illustrated by lantern views. One hour, for one semester. This course is intended especially for students of Engineering, but is open as an elective to all students.

ENGINEERING AND THE MECHANIC ARTS

WILBUR M. STINE, *Professor*

HENRY N. BENKERT, *Assistant*

THOMAS W. HESLIN, *Assistant*

The course in Engineering is designed to afford a thorough general training for students who intend to engage in the profession of Civil, Mechanical, or Electrical Engineering.

The location of the College is most favorable for engineering students; the ready access to Philadelphia and to the important manufacturing cities in the vicinity affords opportunities for instructive visits to a great variety of industrial and engineering works.

The course of instruction in both the theory and practice of Engineering is arranged with the view of furnishing to its graduates a liberal preparation for immediate usefulness in the office, works, or field, in more or less subordinate positions. By adding familiarity with commercial demands and practices to the theory and practice of the school, they may successfully undertake the design of machinery, the superintendence of works, or the conduct of engineering enterprises.

The instruction is given both by lectures and recitations; and in the exercises in field, shop, laboratory, and draughting-room there is constant opportunity for individual instruction. Throughout the entire course the student is familiarized with the methods and processes of the Mechanic Arts by systematic instruction both in wood and metal

working. The object is to avoid mere manual routine in such exercises, and to make them a means for the development of the powers of observation and judgment, as well as for the acquisition of mechanical skill.

The field equipment of the department is ample for practice in surveying and locations, and opportunity is given the student to become familiar with the use and adjustment of the apparatus.

The Draughting Rooms are large, well-lighted, and furnished with adjustable tables, models, etc., and are open for work during the greater part of the day.

The Engineering Laboratory contains a ten-horse-power vertical steam engine, an Olsen's testing machine, arranged for tensile, compressive, and transverse tests, steam engine indicators, apparatus for hydraulic and steam engine experiments, and other valuable instruments and appliances.

A friend of the College has recently presented an Olsen screw-gear testing machine to the Laboratory. This machine has an ultimate capacity of 100,000 pounds for tension and compression tests. Other additions to the equipment are micrometers for tension, compression, and deflection strains; and attachments to the smaller Olsen machine for testing specimens of cement.

SHOP WORK. This portion of the work holds an important place in the general engineering course, being pursued through the first three years. It is not desired to impart the skill of the trained workman, but rather to lay a foundation in the elements of shop practice upon which mature judgment and observation may establish successful practice.

The course in woodworking covers instruction in join-

ing, framing, and woodturning. This preliminary work is followed by the elements of pattern making.

The work in forging is based on a set of exercises involving drawing, bending, upsetting, welding, and tempering. This course is followed by a short one in foundry practice.

Machine practice is pursued through two years of the course. During the first year, practice is given in bench and vise work, followed by lathe work, and exercises on the planer, shaper, and universal milling machine. The various exercises also involve tapping, screw-cutting, and work to standard gauges.

During the second year, after completing the design and draft of a machine, such as a lathe, small pump, or engine, the project is completely constructed, affording the student some experience in shop construction.

The Machine Shop contains an excellent assortment of tools, including screw-cutting engine lathes, speed lathes (simple and back geared), an iron planer, a complete universal milling machine, a set of milling cutters, a shaper, a twist-drill grinder, upright drills, an emery grinder, a mill grinder, lathe centre grinder, vises (plain and swivel), lathe chucks (combination, independent, scroll, and drill), a milling machine chuck, a rotary planer chuck, planer centres, a set of Bett's standard gauges, surface plates (Brown & Sharpe), sets of twist drills, reamers, mandrels, screw plates, taps and dies, a complete set of steam fitters' tools, with pipe vise, ratchet drill, etc., together with the many necessary small tools, hammers, chisels, files, etc. Additions are constantly being made to this collection as they are needed, either by manufacture in the shops or by purchase. Power is furnished by a 10 x 24 Corliss steam engine and a sixty horse power return tubular boiler, the

former fitted with an improved indicator, and the latter with the necessary attachments for determining its efficiency, etc.

The Woodworking Shop contains benches with vises and sets of woodworking tools, grindstone, and wood-turning lathes.

The Smith Shop contains forges, anvils, and sets of blacksmith tools, bench, and vise.

The Foundry contains a brass furnace, moulders' benches, a variety of patterns, and full sets of moulders' tools.

The details of the course vary somewhat from year to year, but in general are represented by the following arrangement of the studies:

FRESHMAN YEAR

DRAWING—Use of Instruments and Elements of Structural and Machine Drawing; Standard Cross-sections; Pen Lettering; Projections; Drawing from Objects; Tracing and Blue Printing. (First and Second semester.)

SHOP PRACTICE—Use of Woodworking Tools; Joining; Turning; Pattern-making. (First semester.)

Pattern-making; Sand Moulding and Casting; Forging and Welding; Tool Shaping and Dressing; Tempering. (Second semester.)

SOPHOMORE YEAR

DESCRIPTIVE GEOMETRY—The Point, Right Line and Plane; Figures of Revolution; Intersections; Shades and Shadows. Text-book: Church, *Descriptive Geometry*. (First semester.)

DRAWING—Plates for the course in Descriptive Geometry; Complete Working Drawing, Tracing, and Blue Print from a Simple Machine or Structure. (First semester.)

Pen Topography; Conventional Topographical Symbols; Tinting; Color Topography. (Second semester.)

STEREOTOMY—The Application of Descriptive Geometry to the Shaping of Stone for Masonry Construction. Text-book: Warren, *Stereotomy*. (Second semester.)

SURVEYING—The Theory of Surveying; Use and Adjustment of Instruments; Field Practice. Text-book: Raymond, *Plane Surveying*. (Second semester.)

SHOP PRACTICE—Vise Work; Chipping and Filing. (First semester.)
Machine Practice and Tool-making. (Second semester.)

JUNIOR YEAR

MECHANICS OF MATERIALS—The Resistance of Materials; Moments of Inertia; Mechanics of Beams, Columns, and Shafts; Combined Stresses, Impact and Resilience. Text-book: Merriman, *Mechanics of Materials*. (First semester.)

GRAPHICAL STATICS—The Elements of the Graphical Calculation of Structures; the Calculation of Simple Roof Trusses and Similar Structures. (The latter half of the first semester and the first half of the second.) Text-book: Merriam, *Roofs and Bridges*, Part II.

FIELD PRACTICE—Precise Practice with the Level, Transit and Plane-table; Stadia Surveying; Field Notes and Profiles. Text-book: Pence and Ketchum, *Surveying Manual*. (First semester.)

HYDRAULICS—Hydrostatics; Mechanics of Fluids; Flow of Water over Weirs; Flow of Water through Orifices and Pipes; Measurement of Water-power; Water-wheels and Turbines. Text-book: Merriman, *Hydraulics*. (Second semester.)

MECHANICAL LABORATORY—Quantitative Determinations in the Mechanics of Materials, especially Iron and Steel. (Second semester.)

SHOP PRACTICE—Preparation of Working Drawings and the Construction of some Simple Machine. (First and second semester.)

SENIOR YEAR

RAILWAY ENGINEERING—Surveys and Construction; Railway Economics and Operation; Theory of Curves, Switches, Turnouts, and Crossings. Text-books: Nagle, *Manual for*

Railway Engineers; Webb, *Railroad Construction*. (First Semester.)

MATERIALS OF CONSTRUCTION—Physical Properties of Structural Materials; the Metallurgy of Iron and Steel; Timber and Cements; Methods of Testing. Text-book: Johnson, *Materials of Construction*. (First semester.)

FIELD PRACTICE—The Location of a Section of Railway; Curves; Excavations and Embankments; Profile and Location Maps. (First semester.)

LABORATORY PRACTICE—The Steam Engine; Valve Setting; Indicating. (The second half of the first semester.)

MECHANICAL LABORATORY—Testing of Cement, Timber, and Bricks. (The first half of the second semester.)

MAP DRAWING—A Map will be drawn from the field notes taken from a Topographical Survey. (First Semester.)

ROADS AND PAVEMENTS—Paving Materials; Foundations and Drainage; Construction and Maintenance; Cost and Economics; Specifications. Text-book: Byrne, *Highway Construction*. (Second semester.)

MASONRY CONSTRUCTION—Materials; Foundations; Structures; Arches. Text-book: Baker, *Masonry Construction*. (Second semester.)

POWER PLANTS—Steam and Hydraulic Plants; Electric Lighting and Power Stations. Text-book: Crocker, *Electric Lighting*, Volume I. (Second semester.)

STRUCTURAL DESIGN—Theory and Design of Roof and Bridge Trusses. Text-book: Merriman, *Roofs and Bridges*, Parts I and II. (The course will begin during the first semester, but will be given principally through the second semester.)

THESIS—Students will be met at assigned hours for consultation and supervision in the preparation of the thesis required for graduation.

A summarized statement of the course of study constituting the major in Engineering, for which, together with seven additional hours in elective studies, the degree of Bachelor of Science in Engineering may be awarded, is as follows:

FRESHMAN YEAR.

FIRST SEMESTER.	HOURS.	SECOND SEMESTER.	HOURS
Drawing	4=2	Drawing	4=2
Wood-working	4=2	Forging	4=2
Mathematics or Elective....	3	Mathematics or Elective....	3
Mathematics, Algebra.....	2	Mathematics, Algebra.....	2
Chemistry	3	Chemistry	3
Assigned work for summer vacation.			

SOPHOMORE YEAR

Descriptive Geometry.....	3	Surveying	2
Machine Practice.....	4=2	Drawing and Stereotomy.	4=2
Mathematics	3	Machine Practice.....	4=2
Physics	3	Mathematics	3
Chemistry	6=3	Physics	3
Drawing	3=1	Chemistry	6=3
Geology	2	Geology	2

JUNIOR YEAR

Mechanics of Materials.....	3	Hydraulics	3
Field Practice.....	3=1	Laboratory Practice.....	2=1
Machine Practice.....	4=2	Machine Practice.....	4=2
Physics	3	Physics	3
Electricity	2	Electricity	2
Mathematics	3	Mathematics	3
Graphical Statics.....	3=1	Graphical Statics.....	3=1

SENIOR YEAR

Railway Engineering.....	3	Masonry Construction.....	2
Field Practice.....	6=3	Structural Design.....	6=3
Materials of Construction..	2	Power Plants.....	2
Drawing	2=1	Economics	3
Economics	3	Thesis	2
Roads and Pavements.....	1		

ENGLISH LITERATURE AND LANGUAGE

WILLIAM HYDE APPLETON, *World Literature*
JOHN RUSSELL HAYES, *English Literature and
Advanced Composition*

PAUL M. PEARSON, *Public Speaking and Rhetoric*

English Literature

The course in English Literature aims to give a sympathetic acquaintance with the great authors, from the Anglo-Saxon period to the present.

The following Courses are offered:

COURSE I. Introductory lectures on Greek and Roman mythology and literature. Essays of Lamb and Emerson; poetry of Wordsworth, Scott, Shelley, Keats, Tennyson, Browning, and Whittier. Lectures. Three hours for each semester.

COURSE II. The Religious Drama; Marlowe; Lodge's *Rosalynde*; selected plays of Shakespeare; Milton; minor poets and essayists of seventeenth and eighteenth centuries. Lectures on Elizabethan and following periods. Private readings and reports throughout the year. Three hours for each semester.

COURSE III. Representative authors from Chaucer to Arnold. Offered to Sophomores who are taking Engineering as a major subject. Two hours for each semester.

COURSE IV. Anglo-Saxon: Sweet's Primer; *Beowulf*. Lectures on the development of the language. Chaucer: Spenser. Lectures on the Transition and Middle English periods. Three hours for each semester.

COURSE V. Studies in special periods of English and American literature. Development of the Essay and of

Lyric and Nature poetry. Literary biography. Specimens of Friends' classics.

During the year each student will make a particular study of the life, writings, and influence of two assigned authors. Three hours for each semester.

COURSE VI. World Literature. This is a course in the study of great classics, other than English, belonging to ancient and modern literature. The first semester is devoted mainly to Homer—the Iliad and the Odyssey—and to the Greek Drama; the second semester mainly to Dante. The course is conducted through the medium of standard English translations, together with lectures by the instructor, and oral discussions and written abstracts by the students. Three hours for each semester.

An *English Seminar* will be held for the study of literary questions and of the work of chosen contemporary authors; open to advanced students.

The College Library is well equipped with works in literature, biography, and criticism—chiefly through the generous gift of the late Edgar Allen Brown of the class of 1890.

Composition

Practice in clear and ready expression. Critical study of the diction and style of representative English and American authors. Study of invention and versification; writing of theses. Lectures and illustrative readings.

Public Speaking

COURSE I. Declamation. The aim of the course is to acquire purity, flexibility, and strength of voice, and an easy, natural manner in reading the different forms of literature. Students are required to commit selected passages,

which they recite before the class. The classes are organized in small sections, so that the students may have the personal criticisms of the instructor.

COURSE II. *Oratory*. In this course the masterpieces of modern oratory are studied as models for original orations, while the best passages are committed and used as a drill in acquiring a natural and effective delivery.

During a part of the year students are required to give each week, an extemporaneous talk on subjects assigned in advance. Each student in the course is required to write and deliver four orations.

COURSE III. *Argumentation*. For the first few weeks of this course the instructor presents the theory of argumentation, after which students have weekly practice in debate, written arguments, and the drawing of briefs. Elective for students who have completed Courses I and II.

COURSE IV. *Interpretation*. The purpose of the course is to acquire the best possible expression of the literature studied. After learning the spirit of the author and of his time, an attempt is made to give his writings such expression as will reveal the thought and emotion for which the words are but signs. The course covers the field of American literature; one writer being studied each week. Two plays of Shakespeare are also studied. Elective for students who have completed Public Speaking I and English Literature I.

Oratorical Associations and Prizes

The *Swarthmore College Oratorical Association* conducts an annual contest, open to all students, the winner in which represents the College in the annual contest of the *Pennsylvania Inter-Collegiate Oratorical Association*.

The President's Prize of fifty dollars is contested for by

representatives of the Sophomore and Freshman Classes, and invested in some permanent memento of the successful class for presentation to the College.

The Delta Upsilon Prize of twenty-five dollars is competed for in the College Oratorical contest.

The Sproul Testimonial of twenty-five dollars, offered by Hon. William C. Sproul, of the Class of 1891, is awarded in an oratorical contest open to members of the Junior Class.

Prizes for extemporaneous speaking: two prizes of twenty-five dollars each, one contested for by the young men and one by the young women, have been offered during the last four years by a friend of the College.

The Hicks Testimonial of fifteen dollars, given annually by Frederick Cocks Hicks, of the Class of 1893, is contested for by members of the Eunomian Literary Society.

The Underwood-Ponder Testimonial, a silver cup given by William G. Underwood, of the Class of 1887, and James W. Ponder, of the Class of 1890, is annually contested for by the literary societies of the College.

FRENCH LANGUAGE AND LITERATURE

EDWARD H. MAGILL, *Professor Emeritus and Lecturer*
ISABELLE BRONK, *Professor*

The aim of the instruction in this department is to afford a high degree of literary culture, as well as to impart thorough training in the grammar and linguistics of the language. Until the middle of the second year, the authors studied are all selected from those of modern times, and the greatest attention is given to colloquial French. The student is then ready to be brought into contact with the more artificial (rhetorical) forms of expression constantly oc-

curing in the higher grades of literature. The fact that French is a living tongue is kept ever in view. For this reason but little English is used in the class-room.

In the later years a series of lectures is given on the more prominent French writers. In these lectures, the biographical element purposely receives especial attention; no attempt is made at exhaustive treatment, but the aim is to make the student familiar with the leading works of the authors chosen.

COURSE I. Elements of Grammar, with Composition. Beginners' Reader, followed by narrative prose (Sarcey's *Le Piano de Jeanne*, or Mme. de Witt's *Sur la pente*, Mérimée's *Colomba*, George Sand's *La Mare au diable*) and by modern plays. Three hours for each semester.

COURSE II. Grammar continued, with prose Composition (Marcou's *Exercises* and Grandgent's *Selections*, Parts I, II, and III). Prose selected from the writings of A. France (Vol. III, Magill's series), Balzac, Daudet, P. Loti, J. Claretie (Vol. IV, Magill's series), Victor Hugo, and others, with private reading; Corneille (one play), Racine (one play), Hugo's *Ruy Blas* or *Hernani*, Molière's *L'Avare* and *Le Bourgeois gentilhomme*. Three hours for each semester.

COURSE III. Prose Composition (Grandgent's *Selections*, completed). French Literature in the seventeenth century, special attention being given to the social as well as to the literary tendencies of the time: Voltaire's *Le Siècle de Louis XIV* (ed. Hachette et Cie); Crane's *La Société française au XVIIe siècle*; Molière's *Les Précieuses ridicules* and *Les Femmes savantes*; Corneille's *Le Cid*; Racine, La Fontaine, Boileau, etc. The literature in the eighteenth century: Voltaire's Prose (extracts, edited by Cohn and Wood-

ward); Beaumarchais' *Le Mariage de Figaro*, etc. Three hours for each semester.

COURSE IV. Advanced Prose Composition. Prose authors of the seventeenth century (Descartes, Pascal, Bossuet, La Bruyère, Mme. de Sévigné, and others); Harper's Selected Essays of Sainte-Beuve, with illustrative readings; French Lyric Poetry, Canfield's Selections, with special attention to Victor Hugo, Lamartine, and more modern poets. Lectures on French Literature from the earliest times to the present, accompanied by collateral reading. Three hours for each semester.

Free composition, dictation, memorizing, and conversation in French are required, throughout all the four courses.

COURSE V. If circumstances demand it, students who desire to specialize in French will be given an opportunity for study, either in some restricted field of literature, such as (a) literature of the sixteenth century, (b) classic letters and memoirs, (c) contemporary literature, etc., or in Old French.

The following work is being done in this course in 1902-1903:

Old French Phonology, Morphology, and Syntax. Translation into modern French of the selections in Constans' *Chrestomathie de l'ancien français*, with special regard to linguistic forms. The reading of *Extraits de la chanson de Roland* (ed. Paris), *Aucassin et Nicolette* (ed. Suchier), and *La Vie de St. Alexis* (ed. Paris). Three hours for each semester.

International Correspondence: Beginning in the second year, an opportunity is given to students to carry on, under direction, a correspondence with French students.

GERMAN LANGUAGE AND LITERATURE

BENJAMIN F. BATTIN, *Professor*

The course of study in this department is designed to afford grammatical and linguistic training, and (for those who have not had a full classical course) a degree of literary culture. It brings the student into touch with the character and genius of the German people.

Emphasis is laid upon the relations of the German to the English and to the classical languages; upon etymology and syntax; and upon social conditions and political events. The courses, however, are literary rather than historical and philological.

In the class-room, translation into English is discontinued as soon as possible and expressive reading of the German text is substituted; the students begin early to use the German in recitations. The idiomatic sentence and modern colloquial language form the basis of the work in composition. Reading and translating at sight are cultivated.

Other texts may at times be substituted for some of those indicated.

COURSE I. Thomas's *Practical German Grammar*, Part I; Grimm's *Märchen* (twelve selections); Eichendorff's *Aus dem leben eines Taugenichts* (Chapters VII and VIII omitted); E. S. Buchheim's *Elementary Prose Composition*, Part I; Schiller's *Wilhelm Tell* (first three acts). Three hours for each semester.

This course is for those who have had no preliminary training in German; it presupposes a discipline of several years' language work in Latin and French; and prepares for progressive and independent work. It aims to give a definite knowledge of German grammar; an ability to understand spoken German, to converse during the recitation, to

summarize in German the topics discussed in class, to write easy German, to acquire a correct pronunciation, and to memorize simple lyrics.

COURSE II. Thomas's *Practical German Grammar* (reviewed and continued); Schiller's *Wilhelm Tell* (completed); one of Riehl's *Culturgeschichtliche Novellen*; Freytag's *Die Journalisten*; Goethe's *Iphigenia auf Tauris*; E. S. Buchheim's *Elementary Prose Composition* (Parts II and III); German ballads and lyrics (seven to be memorized). Lectures in German on literary characters and social conditions. Three hours for each semester.

This course will prepare students to read such German text-books as may be used in the scientific and literary departments.

COURSE III. Schiller's *Wallenstein* (ed. Carruth); Heine's *Harzreise*; Freytag's *Aus dem Staat Friedrichs des Grossen*. Lectures in German on the history of German Literature. Private reading: Selections from Sherer's *History of German Literature*; Nevinson's *Life of Schiller*. German Prose Composition, using texts and free composition. Three hours for each semester.

COURSE IV. Goethe's *Dichtung und Wahrheit*; Lessing's *Nathan der Weise*; Freytag's *Doktor Luther*; Kleist's *Der Prinz Friedrich von Homburg*; Grillparzer's *Sappho*. Private reading: Sime's *Life of Goethe*; Gerstäcker's *Irrfahrten*. Lectures on Goethe. Free Prose Composition. This course is conducted in German. Three hours for each semester.

Courses III and IV presuppose a systematic knowledge of the grammar and the ability to converse readily. The students present summaries in German of the texts read and oral discussions of assigned topics.

COURSE V. (1902-1903.) (a.) History of the German Drama. (b.) German Scientific Readings. (c.) German Lyrics and Ballads. Three hours for each semester.

COURSE V. (1903-1904.) This course is for those intending to teach German. The method is largely that of the seminar. The grammar is studied from the pedagogical standpoint; lectures are given by the students, on the grammar and on literary or social topics. Methods of German literary criticism are studied as well as prose and verse composition. This course is conducted entirely in German, and the number of students is limited.

The *Deutscher Verein* meets once a week for conversation and social enjoyment.

International Correspondence: Students who desire it are given an opportunity to carry on, under direction, correspondence with students in German institutions.

GREEK LANGUAGE AND LITERATURE

WILLIAM HYDE APPLETON, *Professor*

MARY CORWIN LANE, *Assistant*

The primary aim in this department is to give thorough instruction in the Greek language through the careful study of selected works. At the same time, attention is also paid to the Greek literature as a whole, and students are encouraged to acquaint themselves with the most important works of representative authors by large reading of the best translations.

Six courses are offered, each of which continues throughout the college year. Courses I and II are for beginners. An opportunity is here offered for students who may not previously have studied the language to gain at least an elementary knowledge through a course of one or two years.

Students who upon entrance to College have already done Courses I and II may elect the following courses in their order, and, if they desire, obtain four years of advanced work in the language.

COURSE I. The *Grammar*, with thorough drill on forms, oral and written; Xenophon, *Anabasis*, Book I; some chapters of the Greek Testament.

Three hours for each semester.

COURSE II. Xenophon, *Anabasis*, Books II, III, IV; Homer, *Iliad*, Books I, II, III; sight reading; Greek composition.

Three hours for each semester.

COURSE III. Thucydides, Book VII, with collateral historical study of the Empire of Athens and the Peloponnesian War. (Herodotus's *History of the Persian Wars* may be substituted in this course.) Homer, *Odyssey*, Books I-VI; sight reading in other parts of the poem; study of early Greek life, and of various Homeric questions, together with inquiry into the merits of standard translations.

Three hours for each semester.

COURSE IV. Plato, *Apology* and *Crito*, with parts of the *Phædo*; some parallel reading in Xenophon's *Memorabilia*; special study of character and work of Socrates; Æschylus, *Prometheus*; Sophocles, *Antigone*; reading of the other plays in English translation; lectures on the Greek Drama.

Three hours for each semester.

COURSE V. Æschines, *Against Ctesiphon*; Demosthenes, *On the Crown*, with study of the history of the Macedonian supremacy. Euripides, *Alcestis*. Other plays in English translation.

Three hours for each semester.

COURSE VI. Aristophanes, *The Clouds*; Theocritus, selected *Idylls*. General review of Greek Literature, with lectures by the Professor and special studies and reports in class from students.

A short course in Modern Greek is given, generally in connection with Course IV, as follows: Gardner's *Short and Easy Modern Greek Grammar*. Reading of modern Greek Ballads. Sewell's *Black Beauty* in the Modern Greek Version. *The Atlantis*, published in New York, illustrating newspaper Greek.

HISTORY AND POLITICAL ECONOMY

WM. I. HULL, *History*

GUSTAV A. KLEENE, *Economics and Politics*

The group of studies included within this department is designed to cultivate an interest in social problems of the past and the present, to furnish information necessary for intelligent citizenship, and to provide a preliminary training for those who intend to engage in the practice of law, journalism, business, charitable work, or the public service.

The work is conducted by means of lectures, text-books, and collateral reading, and oral and written reports by the students on assigned topics. A *Historico-Political Conference* meets at frequent intervals for the purpose of reviewing books and discussing topics germane to the work of the department; the work of the *Conference* is conducted by the instructors, and by the students making History, or Economics and Politics, their major subject. A series of visits are made to neighboring points of historic interest, and to mercantile, charitable, and correctional institutions in the vicinity.

History

Four of the following courses are offered each year. In 1903-1904, Courses II, IV, VI, and VIII will be offered, and will alternate annually thereafter with the other four.

COURSE I. The History of Greece, from the earliest times to the conquest by the Romans, 146 B. C.

The following text-books are used: Swayne's *Herodotus*; Collins's *Thucydides*; Grant's *Xenophon*; Abbot's *Pericles*; Wheeler's *Alexander the Great*; Gulick's *The Life of the Ancient Greeks*. Three hours for each semester.

COURSE II. The History of Rome, from the earliest times to the beginning of the Barbarian Invasions, 375 A. D.

The following text-books are used: Collins's *Livy*; Donne's *Tacitus*; Morris's *Hannibal*; Froude's *Julius Cæsar*; Keightley's *Roman Empire*; Abbot's *Roman Politics*. Three hours for each semester.

COURSE III. The History of Mediæval Europe, from the beginning of the Barbarian Invasions to the beginning of the Reformation.

The following text-books are used: Emerton's *Introduction to the Middle Ages* (375-814 A. D.); Emerton's *Mediæval Europe* (814-1300 A. D.); Lodge's *The Close of the Middle Ages* (1273-1494 A. D.); Symond's *A Short History of the Renaissance in Italy*. Three hours for each semester.

COURSE IV. The History of Modern Europe, from the beginning of the Reformation to the rise of Napoleon.

The following text-books are used: Häusser's *The Period of the Reformation* (1517-1648); Putnam's *William the Silent*; Hassall's *Louis XIV*; Hassall's *The Balance of Power* (1715-1789); Smith's *Frederick II*; Morley's *Chat-*

ham; Mignet's *History of the French Revolution*. Three hours for each semester.

COURSE V. The History of Europe in the Nineteenth Century, from the rise of Napoleon to the Peace Conference at The Hague.

The following text-books are used: Morris's *Napoleon*; Phillips's *Modern Europe* (1815-1899); Headlam's *Bismarck*; McCarthy, *The Story of England* (1800-1898); Woodward's *Outline History of the British Empire* (1500-1870). Three hours for each semester.

COURSE VI. The History of England, from the earliest times to the end of the Revolution of 1689.

The following text-books are used: Gardiner's *A Student's History of England*, Vols. I and II; Firth's *Oliver Cromwell*. Three hours for each semester.

COURSE VII. The History of the American Colonies, from the earliest times to the formation of the Union.

The following text-books are used: Fiske, Parkman, Helps (abridged editions); Morse's *Benjamin Franklin*; Lodge's *George Washington*, Vol. I. Three hours for each semester.

COURSE VIII. The History of the United States, from the formation of the Union to the accession of President Roosevelt.

The following text-books are used: Lodge's *George Washington*, Vol. II; Schurz's *Henry Clay*; Morse's *Abraham Lincoln*; Wilson's *Division and Reunion*; Wilson's *History of the United States* (1875-1900). Three hours for each semester.

Economics and Politics

COURSE I. Elements of Economics. First semester, three hours. Current Economic Problems, Labor Questions, and Monopolies. Second semester, three hours.

COURSE II. Money and Banking. Public Finance. Three hours for each semester.

(Not offered in 1902-1903.)

COURSE III. Politics: A general view of political institutions, with special reference to American conditions. First semester, three hours. Municipal Problems. Second semester, three hours.

COURSE IV. Social Science. A study of social ideals and fundamental social factors. A special study of practical problems, including pauperism and charity, criminology, race problems, tenement houses, and intemperance. Three hours for each semester.

HISTORY OF ART, AND STUDIO WORK

HARRIET SARTAIN, *Lecturer and Director of Studio*

These courses aim to develop artistic appreciation by familiarizing the student with the finest works of art and the principles which govern their production.

Instruction is given by illustrated lectures, which extend over a period of two years and trace the development of art from the earliest historical epoch. Recitation, collateral reading, and critical analysis of the illustrative materials, will be required.

COURSE I. (a) The growth of early art (painting, sculpture, and architecture) in Egypt, Assyria, Persia, and Greece; the development of Roman and early Italian art. First semester, two hours.

(b) Later Italian Art. Second semester, two hours.

COURSE II. (a) The evolution of Northern Art: German, Flemish, and Dutch. First semester, two hours.

(b) Spanish, French, and English Art. Second semester, two hours.

Course I is given in 1902-1903; Course II will be given in 1903-1904.

Freehand Drawing and Painting

These courses are distinct from the courses in the History of Art, although they may be combined with advantage if desired. In training the hand and leading to habits of close observation, they are an important adjunct to the courses in Physical Science. Instruction is altogether individual, being adapted to the special needs of each student, but the following order of work must be observed:

COURSE III. Studio Work. Charcoal and pencil drawing from geometric objects, still life, and casts (ornament, animals' heads, figures). Five hours per week throughout the year, carrying a credit of two hours for each semester.

COURSE IV. Painting in oil, water colors, or pastel, from still life or flowers; outdoor and studio sketching. Five hours per week throughout the year, carrying a credit of two hours for each semester.

HISTORY OF RELIGION AND PHILOSOPHY

JESSE H. HOLMES, *Professor*

This department aims to give the student an introduction to the principal religious and philosophical systems of the world, together with a study more in detail of a few of them. The courses offered as electives cover three years. All students are required to take a course of a half year in the study of the Bible.

I. *Bible Study*. Required of all students. It is intended to give such general knowledge of the Bible, its

origin, contents, and qualities as literature, as should be possessed by all intelligent people. The work of the student will consist largely of indicated readings in the Old and New Testaments. The class work will include lectures, recitations, study of maps, pictures, etc.

One-half year, three hours per week. The course will probably be extended through the year without increasing the number of hours.

II. *History of Religions.* An introduction to the study of the principal religions of the East.

One-half year (Second semester), three hours per week.

III. *The Religion of the Hebrews.* The close relation existing between the ancient Hebrew religion and Christianity gives the former a special importance. This course includes a detailed study of the history of the Hebrews, their social and religious customs, their prophets, and their literature. It is based upon the study of the books of the Old Testament, Kent's *History of the Hebrews* being used to direct such study. In the early part of the study attention is given to the origin of the Semites and their early movements, Babylonia, Assyria, and other allied topics.

One-half year (First semester), three hours per week.

IV. *The Origin of Christianity.* A study of the social, political, and religious conditions prevailing at the beginning of the Christian era, followed by the life, work, and teaching of Jesus and the Apostolic age of the Christian church. The New Testament and other contemporary literature is used, together with Rhee's *Life of Jesus* and some convenient text-book dealing with the career of the Apostle Paul.

One-half year (Second semester), three hours per week.

V. *Psychology*. An elementary study of the physiology of the brain and organs of special sense, followed by an inquiry into states of consciousness. James's *Psychology* (Briefer Course) is used as a text-book. It is supplemented by reviews of important books on various phases of the subject, by preparation of specially assigned topics, by experiment, and by lectures.

One-half year (First semester), three hours per week.

VI. *History of Philosophy*. After a brief introductory glance at the early Greek philosophies especial attention is given to Socrates and the systems of Plato and Aristotle. Some attention is given to the movements of human thought in the period centering about the Christian era, the growth, culmination, and decline of scholasticism, are studied, and the appearance of the modern critical spirit. Special attention will be given to the evolutionary philosophy.

One year, three hours per week.

The work of each course will be varied by lectures, recitations, and preparation of special themes. Several hundreds of lantern slides illustrating various phases of the subject-matter are available, as are also charts, maps, pictures, and a carefully-selected library. Some of the greatest archæological collections of the world are near enough to be made use of, and visits to museums, exhibitions, etc., are frequently possible. Lectures by the greatest scholars of the world are often within reach and are brought to the attention of students.

LATIN LANGUAGE AND LITERATURE

FERRIS W. PRICE, *Professor*

MARY CORWIN LANE, *Assistant*

The work in Latin includes :

I. The regular consecutive courses of the four college

years. These, in connection with the Greek and other allied studies, are believed to constitute, now as in the past, one of the most important means of intellectual discipline and of general culture, and to be an excellent preparation for useful and intelligent life in any of its fields.

II. A special beginners' course for students who have done little or no previous work in Latin. This course was established in the belief that every educated man or woman, whatever his vocation, should know something at least of Latin. Further, it is intended to supplement and strengthen the linguistic knowledge gained from the study of modern languages, to give some conception of the intimate connection between the institutions and life of the present day and those of the ancient Romans, and especially to serve the needs of students who expect to enter the professions of law and medicine.

Sight reading and other collateral work are required in all the courses.

The Latin department is provided with the usual equipment of books of reference, texts, maps, photographs; and of these constant use is made.

There is an especial effort made to supplement the regular readings, and grammatical and philological drill, with references to the life, manners, and achievements of the wonderful race whose literature is being studied. As far as possible, these are brought into some comprehensible relation with our modern life, and given a reality and value as guides in understanding and solving present-day problems.

The courses in detail are as follows :

COURSE I. Cicero, *Letters* (selections); Latin Composition based on Cicero's *Letters*; Horace, *Odes* and *Epodes*; Mythology. Open to students who offer ele-

mentary and advanced Latin for admission. See page 38. Three hours for each semester.

COURSE II. Horace, *Satires* and *Epistles*; Livy, Books I, XXI, XXII; History of Latin Literature; lectures with illustrative readings from the most important authors. Open to students who have completed Course I. Three hours for each semester.

COURSE III. Inscriptions and other remains of early Latin; Plautus, *Trinummus* and *Captivi*; Terence, *Phormio*; Cicero, one or more of the philosophical essays; Hymns and other late Latin. Open to students who have completed Course II. Three hours for each semester.

COURSE IV. Catullus, a brief course; Tacitus, *Agricola* and *Germania*; Juvenal, four or five satires; Lucretius and Pliny the Younger, selections. The second semester is devoted to a study of Virgil, with special attention to the *Georgics* and to the last six books of the *Æneid*. Open to students who have completed Course III, and sometimes by special arrangement to those who have completed only Course II. Three hours for each semester.

COURSE V. A rapid study of the essentials of Latin grammar, followed by the reading of a large number of selections from Latin authors of various periods. Emphasis is laid upon those features of the Latin language and of Roman life which are of especial interest to mature students, already familiar with French and German, and able to appreciate the deeper meaning of the literature read. This beginners' course is open to Juniors and Seniors who offered for entrance either no Latin or less than our elementary requirement. Three hours for each semester.

COURSE VI. Roman Archæology—the topography, architecture, and remains of the ancient city. Open to all

students who have completed Course I. Two hours for each semester. Offered in 1902-1903.

MATHEMATICS AND ASTRONOMY

SUSAN J. CUNNINGHAM, *Professor*

COURSE I. (a) Solid Geometry (Phillips and Fisher); Plane Trigonometry (Loney). Each, three hours for one semester.

(b) Algebra (C. Smith's Treatise, Chapters XIX-XXXII, with omissions). Two hours for each semester.

COURSE II. Conic Sections (C. Smith); Differential Calculus (Edwards). Each, three hours for one semester.

COURSE III. Integral Calculus (Edwards); Differential Equations. Each, three hours for one semester.

The following Elective Courses are offered:

1. Modern Pure Geometry. An advanced course. Subjects treated: Harmonic Ranges and Pencils, the theories of Involution, Perspective, Similar Figures, Reciprocation, Inversion, etc.

2. Higher Algebra, beginning with the Theory of Equations (Burnside and Panton) and continuing with Invariants, etc.

3. Plane Analytic Geometry, including Higher Plane Curves. The course will be a continuation of Conic Sections and will be based on Clebsch-Lindemann's *Geometrie*.

4. Solid Analytic Geometry (C. Smith).

5. Curve Tracing.

6. Trigonometric Series, Spherical Harmonics, etc. (Byerly).

7. Elementary Quaternions (Kelland and Tait).

8. Advanced Trigonometry (Loney).

9. Young's *General Astronomy*.
10. Chauvenet's *Spherical and Practical Astronomy*.
11. Theoretical Astronomy (Orbit Determination).

PHYSICS

GEORGE A. HOADLEY, *Professor*

The following courses are offered:

COURSE I. General Physics. This course is designed for students who can spend but one year on the subject, and is recommended to those who wish to teach in preparatory schools.

Recitations and laboratory work are supplemented by experimental demonstrations with occasional lectures. Open to Sophomores. Three hours for each semester.

COURSE II. This course is for those who have taken Course I and wish to supplement it by additional work in Heat, Magnetism, Electricity, and Light. Open to Juniors. Three hours for each semester.

COURSE III. Analytical Mechanics is the subject pursued in the first semester of this course, while the second semester takes up the consideration of Gases, Liquids, and Sound. Open to Sophomores. Three hours for each semester.

COURSE IV. A course in Heat, Magnetism, Electricity, and Light. Open to those only who have completed Course III. Three hours for each semester.

COURSE V. Practical Measurements in Magnetism and Electricity. The work of this course is largely experimental, the design being to familiarize the student with the practice and methods of measurement. Open to Juniors. Two hours for each semester.

COURSE VI. Applied Electricity, supplementing Course V by the practical study of the application of the electric current to the telephone, telegraph, dynamo, electric light, motor, transmission of power, etc. Work in the manufacture and use of these various appliances, as well as in the measurements of electrical quantities, is accompanied by text-book work and by reading and class-discussion of current electrical journals. Visits to the electrical plants of neighboring villages and cities are made at convenient times, for the purpose of studying the machinery in actual use. Open to Seniors. Three hours for each semester.

PHYSICAL TRAINING

W. S. CUMMINGS, M.D., *Director for the men students*

MARY V. MITCHELL GREEN, M.D., *Director for the women students*

M. ELIZABETH BATES, *Assistant*

The system of Physical Training is based upon a thorough and careful examination of each student. The records of measurements and other tests afford a means of noting progressive development, and are, in large part, the basis upon which exercises are prescribed. Particular attention is given to all individuals whose physical development is below the normal, special work being prescribed for such, in order to produce, as far as possible, an evenly developed and healthy organism.

All athletic sports are under the immediate supervision of the Directors, and only those students who are in proper physical condition are allowed to participate. Great care is also taken to keep games and athletic contests within such limits as will make them only a proper means of exercise and recreation, and thus of real assistance to the work of the College.

Two hours of exercise per week for two years, in the gymnasium, are required of the men students.

Six hours of exercise per week, two of which must be class-work in the gymnasium, are required of the women students throughout their residence at College.

HONORARY DEGREES CONFERRED**1888**

WILLIAM HYDE APPLETON, Ph.D. (A.B., Harvard, 1864; A.M., 1867; LL.B., 1869; Acting President and President of Swarthmore College, 1889-1891), Professor of Greek and of Early English.

SUSAN J. CUNNINGHAM, Sc.D., Professor of Mathematics and Astronomy.

1889

ARTHUR BEARDSLEY, Ph.D. (C.E., Rensselaer Polytechnic Institute, 1867; Professor of Engineering and Director of Mechanic Arts, 1872-1898), Emeritus Professor of Engineering and Librarian of Friends' Historical Library.

ISAAC SHARPLESS, LL.D. (B.S., Harvard, 1873; Sc. D., Univ. of Pa., 1883), President of Haverford College.

1890

OLIVIA RODHAM, A.B. (Assistant Librarian and Instructor in Botany, 1881-1888).

1897

ELIZABETH POWELL BOND, A.M., Dean.

GRADUATES

CLASS OF 1873

- SARAH H. (ACTON) HILLIARD, A.B., 8 Oak
St.Salem, N. J.
- HELEN (MAGILL) WHITE, A.B. (Ph.D.),
Boston University, 1877), care U. S.
EmbassyBerlin, Germany.
- ELIZABETH C. (MILLER) HOLCOMB, A.B.....Charlestown, N. H.
- ESTHER T. (MOORE) APPLETON, A.B.....Swarthmore, Pa.
- *MARIA C. (PIERCE) GREEN, A.B.....1877.
- LOWNDES TAYLOR, A.B., Box 1990.....West Chester, Pa.

CLASS OF 1874

- ELLEN H. (EVANS) PRICE, A.M.,1884.....Swarthmore, Pa.
- AMY W. (HALL) HICKMAN, A.B.....West Chester, Pa.
- *ALFRED T. HAVILAND, B.S.....1874.
- MARY (HIBBARD) THATCHER, A.B., 1415
Delaware Ave.....Wilmington, Del.
- HERMAN HOOPES, C.E., 1879, 506 Real Estate
Trust Bldg.....Philadelphia, Pa.
- FERRIS W. PRICE, A.M., 1887.....Swarthmore, Pa.
- ELIZABETH S. (WOOLSTON) COLLINS,
A.M., 1901Swarthmore, Pa.

CLASS OF 1875

- JOHN B. BOOTH, A.B., care J. B. Booth
& Co.....Pittsburgh, Pa.
- HELEN (COMLY) WHITE, A.B.....Lansdowne, Pa.
- *FRANKLIN H. CORLIES, B.S.....1898.
- *HERBERT G. DOW, A.B. (and Harvard,
1877)1878.
- ELIZABETH (HANES) TAYLOR, A. B., Kur-
furstent St., 112, TechenschneBerlin, Germany.
- EDITH R. (HOOPER) ROBERTS, A.B.....Titusville, Pa.
- BARTON HOOPES, JR., B.S., 1330 Buttonwood
StPhiladelphia, Pa.
- *OLIVER KEESE, JR., B.S.....1879.

* Deceased.

- *J. REECE LEWIS, B.S.....1898.
 HOWARD W. LIPPINCOTT, A.B., 509 Real
 Estate Trust Bldg.....Philadelphia, Pa.
 MARTHA (McILVAIN) EASTWICK, A.B., 59th
 St. and Elmwood Ave.....Philadelphia, Pa.
 JOHN K. RICHARDS, A.B. (and Harvard,
 1877), Solicitor-General of U. S.....Washington, D. C.
 WILLIAM H. RIDGWAY, C.E., 1879.....Coatesville, Pa.

CLASS OF 1876

- FRANK L. BASSETT, B.S. (D.D.S., Phila.
 Dental College, 1878).....Swarthmore, Pa.
 ARTHUR W. BRADLEY, A.B., 63 Adelbert St..Cleveland, Ohio.
 FRANCES (LINTON) SHARPLESS, A.M., 1881
 (M.D., Woman's Medical College,
 Phila, 1886).....West Chester, Pa.
 ELIZABETH L. (LONGSTRETH) BOYD, A.B....Haverford, Pa.
 JAMES T. McCLURE, B.S., Broad St.
 StationPhiladelphia, Pa.
 EMMA (McILVAIN) COOPER, A.B., 715
 Cooper St.....Camden, N. J.
 EDWIN MITCHELL, JR., A.B. (B.L. and
 B.S.R., Sorbonne, Paris, 1877).....Paris, France.
 LUCY R. (PRICE) McINTIRE, A. B., 1880..Cynwyd, Pa.
 *ISAAC G. SMEDLEY, B.S. (M.D., Hahne-
 mann Medical College, 1879).....1899.
 HERBERT W. SMYTH, A.B. (and Harvard,
 1878, Ph.D., Göttingen, 1884) Harvard
 Univ.Cambridge, Mass.
 *MARY WILLITS, A.M., 1881 (M.D.,
 Woman's Medical College, Phila.,
 1881)1902.
 WILLIAM P. WORTH, B.S.....Coatesville, Pa.

CLASS OF 1877

- JOSEPH T. BUNTING, B.S. (LL.B., Univ of
 Pa., 1880), 526 Drexel Bldg.....Philadelphia, Pa.
 NORMAN B. CORSON, A.B.....Norristown, Pa.
 EUDORA MAGILL, A.B., 128 W. 43d St.....New York, N. Y.

- *JESSE R. NORTON, A.B. (and Harvard,
1879) 1900.
CARROLL R. WILLIAMS, A.M., 1882 (LL.B.,
Univ. of Pa., 1880), Stephen Girard
Bldg Philadelphia, Pa.
M. FLORENCE YEATMAN, A.M., 1897..... Norway, Pa

CLASS OF 1878

- CAROLINE E. (BURR) HALL, A.B. Swarthmore, Pa.
MAYBELL P. (DAVIS) FOSTER, A.B., 78
Waterman St. Providence, R. I.
HOWARD DAWSON, A. M., 1882, 70 Albion
St Somerville, Mass.
TACY A. (GLEIM) DUNNING, A.B., Stimson
Block Los Angeles, Cal.
*WILLIAM J. HALL, B.S. 1900.
MARY P. (HALLOWELL) HOUGH, A.M., 1881
(M.D., Woman's Medical College,
Phila., 1881) Ambler, Pa.
CHARLES A. HAWKINS, A.B. York, Pa.
WILLIAM PENN HOLCOMB, M.L., 1882
(Ph.D., Johns Hopkins Univ., 1886) ... Charlestown, N. H.
REBECCA S. (HUNT) WHITE, A.M., 1881
(M.D., Woman's Medical College,
Phila., 1881) Lansdowne, Pa.
ANNA E. (JACKSON) MONAGHAN, B.L. Swarthmore, Pa.
LLEWELLYN H. JOHNSON, B.S. Redlands, Cal.
EDWARD MARTIN, A.M., 1882 (M.D., Univ.
of Pa., 1883), 415 S. 15th St. Philadelphia, Pa.
FRANCIS J. PALMER, B. S., 108 Fulton St. ... New York, N. Y.
ISRAEL ROBERTS, B.S., 211½ Market St. Camden, N. J.
*WILLIAM SEAMAN, C.E., 1884. 1892.
C. HARRY SHOEMAKER, B.S. Philadelphia, Pa.

CLASS OF 1879

- ISAAC R. COLES, C.E., 1880, 39 Cortlandt St.. New York, N. Y.
WILLIAM P. FENDER, A.B., 448 Market St.. Williamsport, Pa.
WILLIAM LEA FERRIS, A.B., Mills Bldg.,
Room 8. San Francisco, Cal.

* Deceased.

- JOSEPH FITCH, A.B., 302 Broadway.....New York, N. Y.
 RUTH ANNA FORSYTHE, A. B., 330 Orange
 St.Media, Pa.
 ELIZABETH (FURNAS) BOGARDUS, B.L.....Waynesville, Ohio.
 P. LESLEY HOPPER, A.B. (LL.B., Univ. of
 Maryland, 1881).....Havre de Grace, Md.
 MARIE ANTOINETTE (KEMP) HOADLEY, A.M.,
 1892Swarthmore, Pa.
 ELISHA E. LIPPINCOTT, B.S.....Gallitzin, Pa.
 *SAMUEL CRAIG McCOMB, C.E., 1882.....1891.
 CHARLES R. MILLER, B.L. (LL.B., Univ. of
 Pa., 1881), 1203 Delaware Ave.....Wilmington, Del.
 JOSEPHINE (WHITE) BRECKENS, A.B.....Cheyenne, Wyo.
 ABBY W. (WOODNUTT) MILLER, B.L., 1203
 Delaware Ave.....Wilmington, Del.

CLASS OF 1880

- ANNA E. CONSTABLE, A.B., 325 Vine St....Camden, N. J.
 ARTHUR COLEMAN DAWSON, B.L., 1882,
 Lake Forest Univ.....Lake Forest, Ill.
 FLORENCE (HALL) PHILLIPS, A.B., Rock-
 fordWilmington, Del.
 MYRA T. HILLMAN, A.B., 227 3d St.....Washington, D. C.
 EMILY L. (HOUGH) SAVIDGE, A.B. (and
 Univ. of Minn., 1881).....Boise, Idaho.
 EDWARD H. KEISER, M.S., 1881 (Ph.D.,
 Johns Hopkins Univ., 1884), Washing-
 ton Univ.....St. Louis, Mo.
 GEORGINE (KURTZ) MUHLENBERG, A.B., 34
 N. 4th St.....Reading, Pa.
 ALBERT R. LAWTON, A.M., 1885.....Chappaqua, N. Y.
 ROBERT J. MARCHER, B.S., C.E., 1901.....Syracuse, N. Y.
 THOMAS L. MOORE, A.B., 102 E. Grace St...Richmond, Va.
 ELLEN S. (PRESTON) GRIEST, A.B.....Millersville, Pa.
 JOHN TURTON, B.S., 133 Maiden Lane.....New York, N. Y.
 FANNIE (WILLETS) LOWTHORP, A.B., 321
 Greenwood Ave.....Trenton, N. J.
 HENRY S. WOOD, C.E., 1883, 106 World
 BldgNew York, N. Y.

* Deceased.

CLASS OF 1881

- MARTHA BUNTING, B.L. (Ph.D., Bryn Mawr College, 1895), 219 W. 80th St. New York, N. Y.
- WILLIAM CANBY, JR., B.L., 616 Pioneer Press Bldg. St. Paul, Minn.
- CHARLES B. DORON, B.L., 33 Vick Park "B" Rochester, N. Y.
- MARY J. ELLIOTT, B.L., 3204 Summer St. . . Philadelphia, Pa.
- EMMA KIRK, B.L. Ithaca, Pa.
- GERTRUDE B. MAGILL, A.B. Lancaster, Pa.
- EUGENE PAULIN, JR., A.B. (and Harvard, 1883), care *North American*. Philadelphia, Pa.
- MARTHA E. (RHINOEHL) OSBORN, A.B., 1329 Jefferson St. Philadelphia, Pa.
- EDWARD C. RUSHMORE, B.S. (M.D., Columbia, 1886) Tuxedo Park, N. Y.
- HENRY B. SEAMAN, C.E., 1884, 44 Union Sq. New York, N. Y.
- CHARLES E. SHARPLESS, C.E., 1884, care Berwind White Coal Mining Co. Wimer, Pa.
- ALVIN T. SHOEMAKER, B.L., 146 Broadway. New York, N. Y.
- *I. BYRON THOMAS, B.S. 1891.
- ERNEST F. TUCKER, A.B. (M.D., Harvard, 1884), Marquam Bldg. Portland, Ore.

CLASS OF 1882

- WILLIAM LLEWELLYN BANER, A.B. (M.D., Columbia, 1885), 72 W. 45th St. New York, N. Y.
- EDITH B. BLACKWELL, A.B. (M.D., Woman's Med. Col., N. Y. Inf., 1891), 139 W. 64th St. New York, N. Y.
- CHARLOTE E. (BREWSTER) JORDAN, M.L., 1886 Lansdowne, Pa.
- WILLIAM BUTLER, JR., A.B. West Chester, Pa.
- C. HERBERT COCHRAN, A.B., 1426 N. 52d St. Philadelphia, Pa.
- BERTHA (COOPER) BREWER, B.L., 215 E. Jacoby St. Norristown, Pa.
- P. FRANCES FOULKE, A.B., 1709 Race St. . . Philadelphia, Pa.

* Deceased.

- MARY E. (GALE) HIBBARD, A.M., 1891, 176
Pleasant St.Laconia, N. H.
- *SARAH S. (GREEN) PIERCE, A.B.1886.
- MARGARET E. (HALLOWELL) POWELL, A.B..Lansdowne, Pa.
- *ELIZABETH E. HART, B.L.1891.
- ELIZABETH HASLAM, B.L., 213 N. 33d St...Philadelphia, Pa.
- ELIZABETH M. OGDEN, B.L.Los Angeles, Cal.
- CHARLES PALMER, A.M., 1885, Box 218....Chester, Pa.
- *GEORGE C. PHILLIPS, B.S.1883.
- HORACE L. ROSSITER, A.B., 42 Lohengrin
St.Cleveland, Ohio.
- *CHARLES B. TURTON, B.S.1896.
- GERRIT E. H. WEAVER, A.B. (and Harvard,
1884), A.M., 1886, 916 Farragut Ter-
racePhiladelphia, Pa.
- EMILY E. (WILSON) LAWTON, A.M., 1885..Chappaqua, N. Y.
- EDGAR M. ZAVITZ, A.B.Coldstream, Ont., Can.

CLASS OF 1883

- CHARLES A. BUNTING, B.S.Allentown, Pa.
- *JOHN L. COCHRAN, B.S.1885.
- EDGAR CONROW, B.L.Moorestown, N. J.
- LYDIA S. (GREEN) HAWKINS, A.B., Idle-
wildMedia, Pa.
- *FLORENCE N. HANES, A.B.1897.
- ALICE W. JACKSON, A.B.Swarthmore, Pa.
- WILLIAM A. KISSAM, JR., B.S., 18 Ex-
change Pl.New York, N. Y.
- BERTHA (MATLACK) RUE, B.L., 578 Wash-
ington St.Camden, N. J.
- GUION MILLER, A.M., 1888 (LL.B., 1885,
and LL.M., 1886, Columbian Univ.)...Easton, Md.
- S. DUFFIELD MITCHELL, A.B. (LL.B., Univ.
of Pa.), Carnegie Bldg.Pittsburg, Pa.
- EDWARD A. PENNOCK, A.B.Chatham, Pa.
- GEORGE L. PENNOCK, B.S.Lansdowne, Pa.
- CHARLES S. PYLE, B.S.Rising Sun, Md.
- HELEN C. (PYLE) BUNTING, B.L.Allentown, Pa.
- FREDERICK A. SEAMAN, JR., B.S.Madison, N. J.

* Deceased.

ANNIE E. (TYLOR) MILLER, M.L., 1888. Easton, Md.
 JAMES E. VERREE, B.L., Boice Bldg. Chicago, Ill.
 EMMA (WEBB) PRICE, A.B. Rose Valley, Pa.

CLASS OF 1884

HORACE L. DILWORTH, B.S., Friends' Central School. Philadelphia, Pa.
 REBECCA M. (DOWNING) BULLOCK, B.L.,
 6439 Greene St. Germantown, Pa.
 JOHN M. FURNAS, B.S. Waynesville, Ohio.
 SARAH L. (HALL) STIRLING, A.B., 1913 E.
 Cumberland St. Philadelphia, Pa.
 HENRY J. HANCOCK, A.B. (LL.B., Univ. of
 Pa., 1886), 801 Real Estate Trust Bldg. Philadelphia, Pa.
 EDWIN HAVILAND, JR., B.S., 1885 (A.M.,
 Cornell, 1899) Potsdam, N. Y.
 MARY E. HUGHES, A.B. Hughesville, Va.
 LAURA H. SATTERTHWAITTE, A.B., (M.D.,
 Woman's Medical College, Phila.,
 1888), 45 W. State St. Trenton, N. J.
 FREDERICK J. TAYLOR, B.S., Northern Pacific
 Headquarters Tacoma, Wash.
 MARY WILLITS, A.B. (M.D., Woman's
 Medical College, N. Y. Inf., 1898), 227
 E. 18th St. New York, N. Y.

CLASS OF 1885

*MINNIE F. BAKER, A.B. 1901.
 ABIGAIL EVANS, A.B. Cinnaminson, N. J.
 FREDERICK P. MOORE, A.B., 71 Broadway . . . New York, N. Y.
 MARY D. (PRATT) RHODES, A.B. Bowdle, S. Dak.

CLASS OF 1886

EMMA S. (BONES) STONE, B.L. New Brighton, N. Y.
 *ARTHUR S. COCHRAN, B.S. 1899.
 GEORGE J. FREEDLEY, B.S., 1900 E. Cary St. . Richmond, Va.
 HELEN G. JOHNSON, A.B., 901 W. 4th St. . Williamsport, Pa.
 ELLA (MERRICK) TOMLINSON, A.B. Wrightstown, Pa.

* Deceased.

- EDGAR M. SMEDLEY, B.S.....Media, Pa.
 ROWLAND J. SPENCER, B.L., care Oregon
 Land Co.....Salem, Ore.
 MARTHA M. (WATSON) SUTPHEN, A.M.,
 1891, 150 W. 14th St.....Holland, Mich.
 C. PERCY WILLCOX, B.S. (Ph.B., Yale Univ.,
 1887; LL.B., Univ. of Pa., 1891), Betz
 BldgPhiladelphia, Pa.

CLASS OF 1887

- ALICE T. (BATTIN) LEWIS, A.B.....Rumford Falls, Me.
 HARRIET J. (COX) MCDOWELL, B.S., 960
 Park Ave.....New York, N. Y.
 HORACE DARLINGTON, B.S.....Darling, Pa.
 HARRY B. GOODWIN, B.S.....Bordentown, N. J.
 ANNA M. (JENKINS) WEBSTER, A.B., 808
 S. 2d St.....Mankato, Minn.
 T. ATKINSON JENKINS, A.B. (Ph.B., Univ.
 of Pa., 1888; Ph. D., Johns Hopkins
 Univ., 1894, 488 E. 54th Place.....Chicago, Ill.
 FREDERICK K. LANE, B.S., 9215 Commercial
 Ave.Chicago, Ill.
 LINDA B. (PALMER) JONES, A.M., 1893, 802
 Washington St.....Wilmington, Del.
 HORACE ROBERTS, A.B.....Fellowship, N. J.
 ELIZABETH B. (SMEDLEY) REYNOLDS, A.M.,
 1896Malvern, Pa.
 ELIZABETH B. (SMITH) WILSON, A.B.....Purcellville, Va.
 WILLIAM G. UNDERWOOD, B.S., 1133 S.
 Broad St.....Philadelphia, Pa.

CLASS OF 1888

- ALICE M. ATKINSON, A.B. (and Cornell
 Univ., 1889; Ph.D., Univ. of Pa., 1895). Holicong, Pa.
 T. JANNEY BROWN, B.S., 1003 F St., N. W.. Washington, D. C.
 *FRANK CAWLEY, C.E., 1891.....1896.
 JESSIE L. COLSON, B.S.....Woodstown, N. J.

* Deceased.

- SADIE M. (CONROW) HUTCHINSON, A.B.,
46 Westervelt Ave. Plainfield, N. J.
- WILLIAM L. DUDLEY, B.S. New York, N. Y.
- ROBERT P. ERVIEN, B.S. Clayton, N. M.
- E. LAWRENCE FELL, B.S., 3639 N. 15th St. Philadelphia, Pa.
- JOYEUSE L. (FULLERTON) SWEET, A.B. (and
Cornell Univ., 1889), 1370 Gilpin St. Denver, Col.
- EMMA (GAWTHROP) HAYES, B.S. Swarthmore, Pa.
- ALICE (HALL) PAXSON, A.B. Swarthmore, Pa.
- P. SHARPLES HALL, B.S. (M.D., Hahn. Med.
Col., Phila., 1891), 1604 Arch St. Philadelphia, Pa.
- WALTER HANCOCK, B.S., 40th St. and Lan-
caster Ave. Philadelphia, Pa.
- JOHN RUSSELL HAYES, A.B. (and Harvard,
1889; LL.B., Univ. of Pa., 1892) Swarthmore, Pa.
- MARTHA P. (JONES) MILLER, A.B., 2117
N. 3d St. Harrisburg, Pa.
- T. MONTGOMERY LIGHTFOOT, M.S., 1890
(Ph.D., Univ. of Pa., 1893), 5935 Greene
St., Germantown. Philadelphia, Pa.
- HETTY C. (LIPPINCOTT) MILLER, A.B. Riverton, N. J.
- ELLIS P. MARSHALL, JR., B.S. London Grove, Pa.
- WILLIAM S. MARSHALL, B.S. (Ph.D., Leip-
sic, 1892), 116 E. Gorham St. Madison, Wis.
- AARON C. PANCOAST, B.S. San Antonio, Texas.
- JESSIE PYLE, A.B. (and Cornell Univ.,
1889) London Grove, Pa.
- JOSEPH J. RHOADS, B.S. Jamesburg, N. J.
- CATHERINE M. RIDER, B.L., 813 Franklin St. Wilmington, Del.
- WILLIAM H. SEAMAN, B.S. Glen Cove, N. Y.
- AMELIA SKILLIN, A.B. Glen Head, L. I.
- CARROLL H. SUDLER, A.B., 1127 Monadnock
Block Chicago, Ill.
- CHARLOTTE M. WAY, B.S. (A.B., Leland
Stanford, Jr., Univ.), 64 W. 109th St. New York, N. Y.
- ANNIE E. WILLITS, A.B. Syosset, N. Y.
- ESTHER M. (WILLITS) FELL, B.L., 3639 N.
15th St. Philadelphia, Pa.
- FRANKLIN P. WILSON, A.B., 1320 F St.,
N. W. Washington, D. C.

CLASS OF 1889

- JUSTIN K. ANDERSON, B.S. Dunlow, W. Va.
 ALEXANDER G. CUMMINS, JR., A.B. (A.M.,
 Columbia, 1898) Poughkeepsie, N. Y.
 HOWARD A. DILL, B.S. (and Mass. Inst.
 Tech., 1891) Richmond, Ind.
 HORACE B. FORMAN, JR., B.S., 222 W. 49th
 St. New York, N. Y.
 ELLIS M. HARVEY, B.S. (M.D., Univ. of Pa.,
 1893) Media, Pa.
 CLARA HAYDOCK, B.L. Locust Valley, N. Y.
 J. CARROLL HAYES, A.B. (and Harvard,
 1890) (LL.B., Univ. of Pa., 1893) West Chester, Pa.
 JULIA HICKS, B.S., 645 Carlton Ave. Brooklyn, N. Y.
 MARY KIRK, A.B., Bureau of the American
 Republics Washington, D. C.
 MARGARET J. (LAURIE) SEAMAN, A.B. Glen Cove, N. Y.
 GEORGE A. MASTERS, B.S., 3308 Baring St. Philadelphia, Pa.
 ALICE S. PALMER, A.B., 215 E. 15th St. New York, N. Y.
 LOUELLA (PASSMORE) HAYES, A.B. West Chester, Pa.
 FREDERICK B. PYLE, B.S., 1345 T St.,
 N. W. Washington, D. C.
 RALPH STONE, A.B., (LL.B., Univ. of
 Mich., 1892), 1305 Majestic Bldg. Detroit, Mich.
 ELSIE D. (STONER) WILDES, B.L. Everett, Wash.
 WILLIS W. VAIL, B.S. Gulfport, Miss.
 JENNIE F. WADDINGTON, M.S., 1892. Salem, N. J.

CLASS OF 1890

- ALVAN W. ATKINSON, A.B. (M.D., Hahne-
 mann Med. College, Phila., 1893), 428
 E. State St. Trenton, N. J.
 SARA H. (ATKINSON) ENGLE, A.B. Mt. Holly, N. J.
 GEORGE H. BARTRAM, B.S. Lenape, Pa.
 MARTHA M. BIDDLE, B.L. Riverton, N. J.
 EMMA J. BROOMELL, B.S. (and Univ. of
 Mich., 1893), 2128 Bolton St. Baltimore, Md.
 MORRIS L. CLOTHIER, B.S., 8th and Market
 Sts. Philadelphia, Pa.

- BEULAH W. (DARLINGTON) PRATT, A.B.,
305 N. High St. West Chester, Pa.
EDWARD DARLINGTON, B. S. Chadd's Ford Junc., Pa.
GEORGE ELLSLER, A.B., "The Alvord" East Orange, N. J.
CAROLINE R. (GASTON) BARBER, A.M., 1895,
1625 N. 17th St. Philadelphia, Pa.
JOHN C. GIFFORD, B.S., 1893 (D.Cec., Univ.
of Munich, 1899) Ithaca, N. Y.
ABBY M. HALL, A.B. (and Cornell Univ.,
1893) Swarthmore, Pa.
CLARA A. (HUGHES) MARSHALL, A.B., 324
N. Carroll St. Madison, Wis.
SAMUEL R. LIPPINCOTT, B.S., 1021 Walnut
St. Philadelphia, Pa.
WILLIAM D. LIPPINCOTT, B.S., 35 N. 2d St. . Camden, N. J.
*WILLARD L. MARIS, M.S., 1892 (B.S.,
Univ. of Mich., 1891; M.D., Univ. of
Pa., 1895) 1895.
ROBERT S. McCONNELL, B.S., 2112 Ontario
St., Tioga Philadelphia, Pa.
FRANCES E. OTLEY, A.B., 1207 Jacinto St. . Austin, Texas.
*MARY D. PALMER, A.B. 1892.
MARY E. PANCOAST, B.L., 932 B St., S. W. . Washington, D. C.
JAMES W. PONDER, A.B., 909 Market St. . . Wilmington, Del.
ELLIS B. RIDGWAY, B.S. Coatesville, Pa.
WALTER ROBERTS, A.B. (M.D., Univ. of Pa.,
1893), 26 S. 18th St. Philadelphia, Pa.
RICHARD C. SELLERS, B.S. Swarthmore, Pa.
FRANCES B. (SMITH) HERR, A.B. Moorestown, N. J.
MARY F. (SOPER) PANCOAST, B.S. San Antonio, Texas.
R. BARCLAY SPICER, A.B., Franklin College. . New Athens, Ohio.
WILLIAM E. SWEET, A.B., 1370 Gilpin St. . Denver, Col.
ALICE W. TITUS, M.L., 1892 Old Westbury, N. Y.
MARY H. (WHITE) BARTRAM, A.B. Lansdowne, Pa.

CLASS OF 1891

- EMILY ATKINSON, A.B. Moorestown, N. J.
COSMELIA J. (BROWN) HUGHES, B.L. Hughesville, Va.

* Deceased.

- LOUIS P. CLARK, B.S. Ridley Park, Pa.
 HANNAH H. (CLOTHIER) HULL, B.L. Swarthmore, Pa.
 EVA M. (DANIELS) CAPEN, B.S., 1892, 534
 E. 4th St. East Boston, Mass.
 ELIZA R. HAMPTON, A.B. Waverly, N. Y.
 ISAAC O. HARPER, B.S., 1608 Bolton St. Baltimore, Md.
 ESTHER (HAVILAND) CORNELL, B.L., 307
 6th Ave. Brooklyn, N. Y.
 ELIZA G. (HOLMES) BENNETT, A.B. George School, Pa.
 JOHN W. HUTCHINSON, JR., B.S., Mutual
 Life Bldg. New York, N. Y.
 DORA LEWIS, B.L. Media, Pa.
 *LUCY S. LIPPINCOTT, A.B. 1891.
 CHESTER P. MARTINDALE, B.L. West Chester, Pa.
 HARRY L. McDONALD, B.S., 1005 Locust St. Kansas City, Mo.
 SARAH T. (MOORE) ADAMS, B.L. Sandy Spring, Md.
 A. MITCHELL PALMER, A.B. Stroudsburg, Pa.
 ELLEN (PASSMORE) PYLE, B.L., 1345 T St.,
 N. W. Washington, D. C.
 MARIANNA (SMITH) RAWSON, B.L., 226 E.
 16th St. New York, N. Y.
 WILLIAM C. SPROUL, B.S. Chester, Pa.
 EDWARD B. TEMPLE, B.S. Lansdowne, Pa.
 KATHARINE L. (TYLER) MEHAFFEY, B.S.,
 52 Hereford St. Boston, Mass.
 FRANCES M. WHITE, B.L., 823 Park Ave. Baltimore, Md.
 EDWARD C. WILSON, B.S., Friends' Central
 School, 15th and Race Sts. Philadelphia, Pa.
 M. LILIAN (YARNALL) DE COU, A.B. Trenton Junction, N. J.

CLASS OF 1892

- M. ELLEN (ATKINSON) JENKINS, B.L., 537
 Maple Ave. Oak Park, Ill.
 M. ROSAMOND (BAKER) HAINES, A.B. Swarthmore, Pa.
 BENJAMIN F. BATTIN, A.B. (Ph.D., Jena,
 1900) Swarthmore, Pa.
 JOSEPHINE BEISTLE, A.B. Swarthmore, Pa.
 MARY E. (BROOMELL) HULL, B.L. Swarthmore, Pa.
 FREDERIC N. CARR, A.B., 215 Shrewsbury
 St. Charleston, W. Va.

* Deceased.

- HOWARD N. EAVENSON, C.E., 1897.....Uniontown, Pa.
 HENRY H. GARRETT, B.S.....Wallingford, Pa.
 HOWARD B. GREEN, B.S.....Swarthmore, Pa.
 CHARLES HART, B.S.....Youngstown, Ohio.
 ANNIE HILLBORN, B.L.....Swarthmore, Pa.
 EDWARD A. JENKINS, B.S., 537 Maple Ave.. Oak Park, Ill.
 CHARLES B. KETCHAM, A.B., 1893, 80 Broad-
 wayNew York, N. Y.
 PHEBE H. (KETCHAM) McALLISTER, B.S...Colorado Springs, Col.
 HENRY McALLISTER, JR., B.L.....Colorado Springs, Col.
 BERNARD S. McILVAIN, B.L.....Churchville, Md.
 JOHN S. MURRAY, B.S., 3703 Woodland Ave. Philadelphia, Pa.
 ELLEN PYLE, A.B.....London Grove, Pa.
 MARY E. STEBBINS, B.L., 2115 Maryland
 Ave.Baltimore, Md.
 JOSEPH J. WALKER, B.S., 330 E. 17th St...New York, N. Y.
 WILLIAM E. WALTER, B.S.....Wallingford, Pa.
 FLORENCE N. WOLVERTON, A.B.....Vancouver, Wash.
 MARY L. (WOLVERTON) GREEN, A.B....Swarthmore, Pa.

CLASS OF 1893

- JANE ATKINSON, A.B.....Holicong, Pa.
 GEORGE H. BROOKE, B.S. (Ph.B., Univ of Pa.,
 1895; LL.B., Univ. of Pa., 1898), 807
 Land Title Bldg.....Philadelphia, Pa.
 FRANCIS E. BROOMELL, B.S., 496 Monroe
 St.Chicago, Ill.
 JOHN L. CARVER, B.L., Friends' Central
 School, 15th and Race Sts.....Philadelphia, Pa.
 JOSEPH T. FREEMAN, C.E., 1899, 18 Phelps
 Ave.Rochester, N. Y.
 DORA A. GILBERT, A.B., Broad St.....Chester, Pa.
 CHARLES S. HALLOWELL, B.S., 166 Remsen
 St.New York, N. Y.
 *CLEMENT LODGE, B.S.....1895. .
 LORENA B. MATLACK, A.B.....West Chester, Pa.
 CARLIE McCLURE, A.B., Friends' Academy.. Locust Valley, N. Y.

* Deceased.

- OMAR B. PANCOAST, B.S. (M.D., Johns Hopkins Univ., 1897), Union Protestant Infirmary Baltimore, Md.
- JESSE H. RHEINHARDT, B.S., 120 N. 8th St. Lebanon, Pa.
- ESTHER E. SPICER, B.L., Johns Hopkins Hospital Baltimore, Md.
- JULIUS STAAB, A.B. Chicago, Ill.
- JOHN B. STETSON, B.S. (M.D., Med. Chi. Col., Phila., 1896), 1329 Spruce St. Philadelphia, Pa.
- FRANCES B. (STEVENSON) PETTUS, A.B., 273 Washington St. Atlanta, Ga.
- GEORGE H. STROUT, A.B. Netherwood, N. J.
- ESTHER H. SUTTON, B.L. Chappaqua, N. Y.
- HENRY C. TURNER, B.S., 50 Pineapple St. Brooklyn, N. Y.
- CARRIE B. WAY, B.L., Abington Friends' School Jenkintown, Pa.
- LILA K. WILLETS, B.L. Roslyn, N. Y.
- *E. NEWLIN WILLIAMS, B.S. (M.D., Univ. of Pa., 1898) 1902.
- S. ELLEN (WILLIAMS) BATTIN, B.S. Swarthmore, Pa.
- GENEVIEVE S. ZANE, A.B., 1894, 342 W. Miner St. West Chester, Pa.

CLASS OF 1894

- MABEL ALEXANDER, B.L., 1434 N. 18th St. Philadelphia, Pa.
- ANNA S. (ATKINSON) SELLERS, A.B. Swarthmore, Pa.
- LYDIA BIDDLE, B.L. Lansdowne, Pa.
- EDWIN P. BOND, A.B., 70 Fifth Ave. New York, N. Y.
- BERTHA L. BROOMELL, B.S., 808 Washington St. Wilmington, Del.
- EMMA S. (CHAMBERS) WHITE, A.B., "Hotel Marlborough" Atlantic City, N. J.
- ELIZABETH CONROW, A.B. Ithaca, N. Y.
- HERMAN CONROW, C.E., 1897. Hempstead, Long Island.
- ALTHA T. COONS, B.S., 1906 H St., N. W. Washington, D. C.
- ESTHER L. COX, B.L., 1516 Linden Ave. Baltimore, Md.
- JOSEPH C. EMLEY, B.S., 3409 N. 17th St. Philadelphia, Pa.

* Deceased.

- FREDERIC H. GAWTHROP, B.S., 2515 W.
North Ave.....Baltimore, Md.
- JOHN W. GREGG, B.L., Friends' School,
Park Ave. and Laurens St.....Baltimore, Md.
- GEORGE G. GRIEST, B.S., 195 Broadway.....New York, N. Y.
- MARY A. (HAYES) GAWTHROP, A.B., 2515
W. North Ave.....Baltimore, Md.
- HELEN R. HILLBORN, A.B.....Swarthmore, Pa.
- HELEN S. (HUTCHINSON) CAPLES, B.S....Overbrook, Pa.
- MARY B. (JANVIER) PUGH, B.L.....Lansdowne, Pa.
- HARRIET M. (KENT) HILTON, A.B.....Swarthmore, Pa.
- HELEN P. (LAMB) HULL, B.L., 232 Laurens
St.Baltimore, Md.
- M. ELIZABETH LAMB, B.L., 1432 McCulloh
St.Baltimore, Md.
- OWEN MOON, JR., B.S.....Trenton, N. J.
- MARION D. (PERKINS) JESSUP, A.B.....Moorestown, N. J.
- MARGARET D. PFAHLER, B.S., 4046 Walnut
St.Philadelphia, Pa.
- DAVID B. RUSHMORE (M.E., Cornell Univ.,
1895), C.E., 1897, care Stanley Electric
Co.Pittsfield, Mass.
- CAROLINE P. (SARGENT) WALTER, A.B....Wallingford, Pa.
- PHILIP SELLERS, C.E., 1897.....Meriden, Conn.
- CORNELIA J. SHOEMAKER, B.L., 226 E. 16th
St.New York, N. Y.
- EDWARD A. STAAB, A.B. (and Harvard,
1896)Berlin, Germany.
- MARY W. TITUS, B.L.....Old Westbury, N. Y.
- HELEN (TRAIN) TANNEHILL, B.S., 1895...McConnellsville, Ohio.
- DANIEL UNDERHILL, JR., B.S.....Jericho, N. Y.
- MARY UNDERHILL, M.S., 1895, 227 E. 18th
St.New York, N. Y.
- ALLEN K. WHITE, B. S., "Hotel Marl-
borough"Atlantic City, N. J.
- STUART WILDER, B.S.....Chestoa, Tenn.
- JOHN M. WILLIS, B.S.....Fowling Creek, Md.
- MARY E. YEO., B.S., 414 W. Colton Ave..Redlands, Cal.
- *SUSANNA S. YEO, B.L.....1895.
- HARRY P. YOUNG, B.S.....Morton, Pa.

CLASS OF 1895

- FRANK C. ANDREWS, B.S. (M.E., Cornell,
1897)Woodstown, N. J.
- ELIZABETH M. BAILY, B.S., 902 Swede St...Norristown, Pa.
- WILLIAM S. BARKER, B.S.....Lansdowne, Pa.
- HENRY E. BEAN, B.S., 822 N. Illinois St...Indianapolis, Ind.
- HILDEGARD BROOKS, B.S.....Newburgh, N. Y.
- FRANCES W. (CHEAIRS) MANNING, B.L.,
110 Greenwood Ave.....Trenton, N. J.
- WALTER CLOTHIER, B.L.....Wynnewood, Pa.
- MAY GIFFORD, B.L.....Princeton, N. J.
- ANNA R. H. (HARRISON) WHINFIELD, B.L..Sea Breeze, Fla.
- MARY B. (HOLLINGSHEAD) HANCOCK, A.B.,
3720 Chestnut St.....Philadelphia, Pa.
- EMMA S. (HUTCHINSON) CONROW, B.L....Hempstead, Long Island.
- ROLAND G. KENT, A.M., 1898; B.L., 1896,
1411 Van Buren St.....Wilmington, Del.
- JOHN A. LAFORE, C.E., 1898; E.E., 1901....Overbrook, Pa.
- C. IRVINE LEIPER, B.S., 1896.....Wallingford, Pa.
- EGBERT P. LINCOLN, B.S., "The Loudoun,"
314 E. Capital St.....Washington, D. C.
- BERTHA (LIPPINCOTT) PARRISH, B.L.....Riverton, N. J.
- EDGAR LIPPINCOTT, B.S.....Riverton, N. J.
- JOSEPH R. LIPPINCOTT, A.B.....Moorestown, N. J.
- ELIZABETH B. MILLER, A.M., 1900.....Media, Pa.
- CHARLES S. MOORE, B.L., 131 St. James Pl..Atlantic City, N. J.
- SAMUEL C. PALMER, A.B.....Swarthmore, Pa.
- LYDIA M. PARRY, A.B.....Hainesport, N. J.
- ALFRED E. PFAHLER, B.S., 4046 Walnut St..Philadelphia, Pa.
- M. ELIZABETH (POWNALL) WALTON, B.L..Coatesville, Pa.
- *FRANK L. PRICE, A.B.....1896.
- ARTHUR H. SCOTT, B.S., care Scott Paper
Co.Philadelphia, Pa.
- JANE C. (SHAW) HEPBURN, B.L.....Avondale Pa.
- HELEN B. (SMITH) BRINTON, A.M., 1899...Media, Pa.
- G. EDMUND STRATTAN, B.S., 1427 11th Ave..Altoona, Pa.
- WILLIAM H. WANZER, A.B., Kyle Institute..Flushing, N. Y.
- EMMA A. (WASLEY) SNYDER, B.L.....Philadelphia, Pa.

HOWARD WHITE, JR., C.E., 1900 (M.S.,
 Univ. of Mich., 1896).....Lansdowne, Pa.
 ALICE P. WILLITS, A.B.....Jericho, N. Y.
 ALBERT T. YARNALL, B.L., Manor School...Stamford, Conn.

CLASS OF 1896

MARY S. BARTRAM, A.B.....London Grove, Pa.
 WILLIAM I. BATTIN, A.B., 640 42d St.....Chicago, Ill.
 LEOPOLD W. BIERWIRTH, B.S.....Dover, N. J.
 MELLIE E. BISHOP, B.L., 608 E. Douglass
 St.Bloomington, Ill.
 ALBERT L. BUFFINGTON, A.B.....Rising Sun, Md.
 CAROLIEN H. (CHAMBERS) TURNER, B.L.,
 404 Ward St.....Norfolk, Va.
 CHARLES CHANDLER, B.S.....Bushnell, Ill.
 WILLIAM B. CHAPIN, B.S., 122 Fort Green
 Pl.Brooklyn, N. Y.
 ISAAC H. CLOTHIER, JR., A.B.....Wynnewood, Pa.
 FRANCES DARLINGTON, A.B.....Glen Mills, Pa.
 AIDA T. EVANS, B.L.....Malvern, Pa.
 GEORGE B. FERRIER, JR., B.S.....Moorestown, N. J.
 *E. HARPER FIRTH, C.E., 1899.....1901.
 HARRIE H. FOUSE, B.S., 1898, 4335 Pine St..Philadelphia, Pa.
 SYLVESTER S. GARRETT, B.S., 1137 N. 15th St..Philadelphia, Pa.
 T. RUSSELL GLEIM, B.S.....Lansdowne, Pa.
 ELLEN (GUNTON) GUNNISON, A.B.,.....Merchantville, N. Y.
 HALLIE H. (HAINES) HODGE, B.L., 829 S.
 49th St.....Philadelphia, Pa.
 VIOLETTE T. HAINES, A.B.....Rising Sun, Md.
 CHARLES G. HODGE, B.L., 829 S. 49th St....Philadelphia, Pa.
 IOLENE M. (HOLLENSHEAD) SMITH, A.B....Kenwood, Cal.
 HOWARD COOPER JOHNSON, B.L. (LL.B.,
 Univ. of Pa., 1899), 709 Walnut St....Philadelphia, Pa.
 CHARLES KAIGHN, B.S., care Engineers'
 Dept., C. O. & G. R. R.....Mobeetie, Texas.
 PHILIP S. KNAUER, A.B., 4 Weybosset St..Providence, R. I.
 MARY C. McALLISTER, A.B., 419 N. Cas-
 cade Ave.....Colorado Springs, Col.

* Deceased.

- MARY S. McDOWELL, A.B., 231 W. 135th
St. New York, N. Y.
- ARABELLA E. MOORE, B.L., 2013 Arch St. . . . Philadelphia, Pa.
- WILLIAM J. MORRISON, B.S., 64 Prospect
Ave. Trenton, N. J.
- PERCIVAL PARRISH, B.L., 810 Pine St. Philadelphia, Pa.
- N. WILMER PLUMMER, B.S. Mount Pleasant, Md.
- CHARLES A. SCHOOLEY, B.S. Dundas, Ont., Can.
- MARY T. SHOEMAKER, B.L. George School, Pa.
- J. CHAUNCEY SHORTLIDGE, A.B. (and Har-
vard, 1898) Concordville, Pa.
- LAURETTA T. (SMEDLEY) DUTTON, A.B.,
"The Victoria," Lenox Ave. and 138th
St. New York, N. Y.
- A. ELLA SPICER, A.B., 108 W. Huntingdon
St. Baltimore, Md.
- ALBERT H. TAYLOR, B.S., 1745 Diamond St. . Philadelphia, Pa.
- FRANKLIN D. WALTON, B.L. London Grove, Pa.
- JOHN E. WELLS, M.L., 1899 (A.M., Colum-
bia, 1900), Hiram College. Hiram, Ohio.
- HANSON Z. WILSON, C.E., 1899, care Erie
R. R. Bradford, Pa.
- KETURAH E. YEO, B.S., 414 W. Colton
Ave. Redlands, Cal.

CLASS OF 1897

- SARAH (BANCROFT) CLARK, B.S. Street, England.
- FREDERIC D. BARBER, B.S. Normal, Ill.
- MARY E. BARTLESON, B.L., 703 Highland
Ave. Chester, Pa.
- REUBEN G. BENNETT, B.S. George School, Pa.
- FRANK G. BLAIR, B.S. Charleston, Ill.
- GRACE A. (BROSIUS) BIDDLE, B.L., 617 Ivy
St. Pittsburg, Pa.
- THOMAS CAHALL, B.L. (LL.B., Univ. of
Pa., 1900), 1015 Witherspoon Bldg. . . Philadelphia, Pa.
- DAISY R. CORSON, B.S. (M.D., Woman's
Medical College, Phila., 1901) Lansdowne, Pa.
- JARED W. DARLINGTON, B.S. Darling, Pa.
- WALTER C. DE GARMO, B.S. Ithaca, N. Y.
- GERRY B. DUDLEY, A.B., 123 E. 28th St. New York, N. Y.

- IOLA K. EASTBURN, B.L., Friends' Central
School, 15th and Race Sts.....Philadelphia, Pa.
- JESSIE D. ELLIS, B.L., 304 N. 35th St.....Philadelphia, Pa.
- GEORGE GLEIM, JR., B.S.....Lansdowne, Pa.
- MARIETTA HICKS, B.L.....Westbury Station, N. Y.
- CLARENCE B. HOADLEY, B.S., 206 San
Jacinto St.....Redlands, Cal.
- EDITH H. JOHN, B.L.....Media, Pa.
- FREDERIC S. LARISON, A.B.....El Paso, Ill.
- NELLIE LODGE, B.S., 1623 Race St.....Philadelphia, Pa.
- ROBERT E. MANLEY, B.S.....New Oxford, Pa.
- WALKER MATTESON, A.B.....Utica, N. Y.
- Laura C. (MILLER) CURRY, A.B., 62 W.
89th St.....New York, N. Y.
- HERBERT L. NOXON, B.S., care Globe Oil
Co.Barkersville, Cal.
- ELLWOOD C. PARRY, M.L., 1900.....Wyncote, Pa.
- ROBERT PYLE, A.B.....West Grove, Pa.
- SAMUEL RIDDLE, B.S.....Media, Pa.
- MIRIAM SENER, B.L., 233 Charlotte St.....Lancaster, Pa.
- BERTHA J. SMITH, B.L.....Lincoln, Va.
- MARSHALL P. SULLIVAN, B.L.....Moorestown, N. J.
- HENRIETTA F. WANZER, A.B.....Westbury, N. Y.
- CHANNING WAY, A.B.....West Chester, Pa.
- HOWARD J. WEBSTER, B.S., care Carnegie
Steel Co.Pittsburg, Pa.
- LYDIA P. (WILLIAMS) ROBERTS, B.L., 26
S. 18th St.....Philadelphia, Pa.
- JOSEPH A. WILLIS, B.S.....Fowling Creek, Md.

CLASS OF 1898

- CHARLES T. BROWN, A.B. (and Harvard,
1899), care Morley Pharmaceutical Co.,
N. E. Cor. 16th and Chestnut Sts.....Philadelphia, Pa.
- HIRAM D. CAMPBELL, B.S., 317 Ann St.....Homestead, Pa.
- EVA E. (FOSTER) FIRTH, B.L., "The
Hedges"Lancaster, Pa.
- A. VIRGINIA (GILLESPIE) VISKNISKKI, B.L.,
205 W. 103d St.....New York, N. Y.
- MABEL A. HARRIS, B.L.....Etna, N. H.

- JONATHAN Y. HIGGINSON, B.S., 215 E. 15th
St.New York, N. Y.
- MARY S. HOWELL, A.B.Pasadena, Cal.
- RACHEL KNIGHT, B.L.Somerton, Pa.
- EDITH LAMB, B.L.Govanstown, Md.
- CAROLINE A. LUKENS, B.L.Swarthmore College.
- WILLIAM B. MILLER, C.E., 1901 (M.E.,
Cornell, 1899), 224 Walnut St.Sewickley, Pa.
- ALBERT COOK MYERS, M.L., 1901.Penna. University.
- EDNA M. NICHOLL, B.L.Scotch Plains, N. J.
- ARTHUR L. PATTON, B.S.Port Collins, Col.
- S. EDNA POWNALL, B.L.Christiana, Pa.
- EDNA H. RICHARDS, B.L.Columbia University.
- ARTHUR C. SMEDLEY, B.S., Friends' Semi-
nary, Rutherford Place.New York, N. Y.
- ELY J. SMITH, B.L.Doylestown, Pa.
- LEVI S. TAYLOR, B.S., Johns Hopkins
Univ.Baltimore, Md.
- FREDERIC L. THOMAS, B.S.Ashton, Md.
- ABNER P. WAY, B.S. (M.D., Hahnemann,
1901)Malvern, Pa.
- ALICE WITBECK, B.L.Decatur, Ill.

CLASS OF 1899

- MARY E. ARMSTRONG, B.L., Brooklyn Public
Library, 26 Brevoost Place.Brooklyn, N. Y.
- MARY G. BALL, B.L.Merchantville, N. J.
- RICHARD J. BOND, B.S., 18 E. Kinney St.Newark, N. J.
- LEVIS M. BOOTH, B.S.Plainfield, N. J.
- ANNA BRADBURY, B.L., 308 N. 14th St.Richmond, Ind.
- JOHN P. BROOMELL, 32 Morningside Ave.New York, N. Y.
- EMILY W. CARTER, B.L., Penna. Hospital.Philadelphia, Pa.
- CALVIN F. CROWELL, B.S.Moorestown, N. J.
- ANNA B. EISENHOWER, A.B. (and Rad-
cliffe, 1900), 802 DeKalb St.Norristown, Pa.
- EDITH FLITCRAFT, A.B.Woodstown, N. J.
- HELEN M. FOGG, B.L., 1114 Mt. Vernon St.Philadelphia, Pa.
- MABEL C. GILLESPIE, B.L., 1310 Western
Ave.Allegheny, Pa.
- GILBERT L. HALL, A.B., Galiano.Benguet, Luzon, P. I.

- ANNA C. HOLMES, B.L., 1930 Chestnut St.. Philadelphia, Pa.
 A. DAVIS JACKSON, B.S., Friends'
 Academy Locust Valley, N. Y.
 M. KATHARINE LACKEY, B.L..... Atlantic City, N. J.
 MARY G. LEIPER, B.L..... Wallingford, Pa.
 JANE E. LINVILL, B.L., 1931 Gratz Ave.... Philadelphia, Pa.
 ALICE (LIPPINCOTT) BOOTH, B.L..... Plainfield, N. J.
 WALTER H. LIPPINCOTT, B.S..... Riverton, N. J.
 ANNIE LODGE, B.S..... Kennett Square, Pa.
 HELEN S. MOORE, B.L., 131 St. James Pl. ... Atlantic City, N. J.
 MARSHALL PANCOAST, B.L., Friends' Acad-
 emy Locust Valley, N. Y.
 ANNIE B. PARRISH, B.L..... Woodbury, N. J.
 MARY E. SEAMAN, A.B., 1112 Bushwick
 Ave. Brooklyn, N. Y.
 BENJAMIN A. THOMAS, A.B., 3445 Walnut
 St. Philadelphia, Pa.
 EMILY R. UNDERHILL, B.L., Friends' Acad-
 emy Locust Valley, N. Y.
 J. SERRILL VERLENDEN, B.S..... Darby, Pa.
 ELIZABETH E. WILLITS, B.L..... Glen Cove, N. Y.

CLASS OF 1900

- BIRD T. BALDWIN, B.S., Harvard Univ.... Cambridge, Mass.
 LUCY BANCROFT, A.B..... Wilmington, Del.
 GEORGE L. BEAN, B.S., 1729 N. 19th St.... Philadelphia, Pa.
 A. MARY BROWN, B.L..... Cornwall, N. Y.
 ROBERT L. BROWNFIELD, JR., B.S., 37 W.
 32d St..... New York, N. Y.
 FLORENCE E. (CHRISTY) ANGLIN, B.L., 423
 St. Urbain St..... Montreal, Quebec.
 CAROLINE F. COMLY, B.L., 3311 Arch St.... Philadelphia, Pa.
 PAUL DARLINGTON, B.S..... Darling, Pa.
 MARGARET EVES, B.L., 17th St. and Girard
 Ave. Philadelphia, Pa.
 ROGER B. FARQUHAR, JR., B.S., 9 E. 39th
 St. New York, N. Y.
 ANNA GILLINGHAM, A.B. (and Radcliffe,
 1901), Friends' Central School, 15th
 and Race Sts..... Philadelphia, Pa.
 JOSEPH C. HAINES, B.L..... Mickleton, N. J.

- EDMUND A. HARVEY, A.B. Brandywine Summit, Pa.
 MARY S. HAVILAND, B.L. (A.B., Radcliffe,
 1901), 41 Union Park. Boston, Mass.
 CAROLINE L. HAWKE, A.B. Swarthmore, Pa.
 ANNA K. (HIMES) MANLEY, B.L. New Oxford, Pa.
 OTLEY E. JACKSON, B.S. Nine Points, Pa.
 GEORGE M. LAMB, JR., B.S., 106 South St. ... Baltimore, Md.
 ANNA H. LIPPINCOTT, B.L. Riverton, N. J.
 ALICE M. LUKENS, B.S. Swarthmore, Pa.
 JESSIE M. LUKENS, B.L. Swarthmore, Pa.
 EDNA M. MILLER, B.L., 236 W. Chestnut
 St. Lancaster, Pa.
 E. MAE MYERS, B.L. Langhorne, Pa.
 GEORGIA COOK MYERS, B.L. Kennett Square, Pa.
 KATHARINE PFEIFFER, B.L. Merchantville, N. J.
 MARGERY PYLE, A.B. London Grove, Pa.
 HELEN T. (SULLIVAN) BROWN, B.L., 1506
 Pine St. Philadelphia, Pa.
 WILLIAM H. THATCHER, B.S., 1415 Dela-
 ware Ave. Wilmington, Del.
 J. ETHEL THOMPSON, B.L., 2119 Maryland
 Ave. Baltimore, Md.

CLASS OF 1901

- EMILY M. ATKINSON, A.B. Woodbury, N. J.
 SUSAN E. (ATKINSON) RASH, B.L. Earlington, Ky.
 HENRY N. BENKERT, B.S. Morton, Pa.
 FANNY B. CHENEY, A.B. Media, Pa.
 ELIZABETH DINSMORE, B.L., 424 W. Chelton
 Ave., Germantown. Philadelphia, Pa.
 J. EDWARD DOWNING, B.L. East Norwich, N. Y.
 DEBORAH H. FERRIER, B. S. Moorestown, N. J.
 MAY K. FLANNERY, B.L., 300 W. 75th St. ... New York, N. Y.
 PERCIVAL M. FOGG, B.S., 1106 Mt. Vernon
 St. Philadelphia, Pa.
 GERTRUDE F. GILBERT, B.L. Flushing, N. Y.
 T. WALTER GILKYSON, A.B., Polo, Bulacan. Luzon, P. I.
 ETHEL GRIEST, B.L., 2231 Wallace St. Philadelphia, Pa.
 W. LYNDON HESS, B.L. Collingswood, N. J.
 ANNA B. HOWARD, B.L. Media, Pa.
 EDITH H. (JANNEY) HILDEBRAND, B.L. Mt. Crawford, Va.

- ARTHUR H. JENKINS, B.L.....Gwynedd, Pa.
 AMY W. KNICKERBOCKER, B.L.....New Lenox, Ill.
 MABEL W. LATIMER, B.L., 1500 Delaware
 Ave.Wilmington, Del.
 MARY W. LIPPINCOTT, B.L.....Riverton, N. J.
 J. WARNER E. LOVE, B.S.....Moorestown, N. J.
 FRANK M. McVAUGH, JR., B.S., 15 Wall
 St.New York, N. Y.
 MARTHA W. MOORE, B.L.....Phœnixville, Pa.
 J. WILMER PANCOAST, B.S., Abington
 Friends' School.....Jenkintown, Pa.
 ELWOOD RAMSEY, JR., B.S., 1900, 5321 Wake-
 field St., Germantown.....Philadelphia, Pa.
 MARY B. RICHARDS, B.L.....Toughkenamon, Pa.
 L. WINIFRED ROGERS, A.B.....Moorestown, N. J.
 G. ARTHUR SEAMAN, A.B., care Hon. Burd
 CassellWashington, D. C.
 IRA SMEDLEY, B.S.....Uwchlan, Pa.
 T. ARTHUR SMITH, B.S., 1902.....Philadelphia, Pa.
 MARK THISTLETHWAITE, B.L., care *The*
PressPhiladelphia, Pa.
 WILLIAM C. TYSON, B.S.....Guernsey, Pa.
 EDWARD WILLIAMS, B.L.....Holicong, Pa.
 EDITH M. WINDER, B.L.....Richmond, Ind.
 M. FLORENCE WYNN, A.B., Temple Col-
 legePhiladelphia, Pa.
 M. ALMA YOUNG, A.B.....Easton, Pa.

CLASS OF 1902

- MARY IDA ALLEY, B.S.....Lagrangeville, N. Y.
 ELIZABETH NEWLIN BAKER, B.L.....Coatesville, Pa.
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