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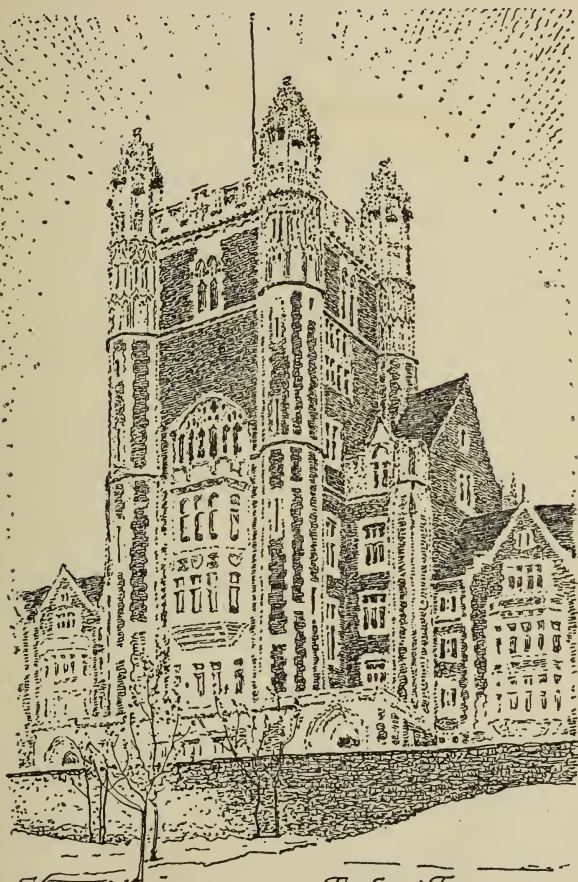


The College
of the
City of New York

REGISTER FOR 1912-1913
BULLETIN FOR 1913-1914

THE COLLEGE
OF
THE CITY OF NEW YORK

Withdrawn

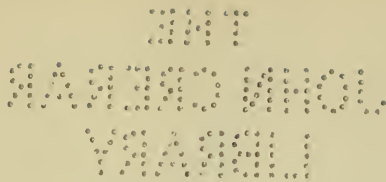


*The Great Tower
of the City College*

SIXTY-FOURTH ANNUAL REGISTER
1912-1913

ANNOUNCEMENT OF COURSES FOR 1913-1914

173



COLLEGIATE CALENDAR.

1913-1914

1913.

Sept. 16. Tuesday—Registration Day.

Sept. 18. Thursday—Recitations begin.

Nov. 4. Tuesday—Election Day.

Nov. 7. Friday—Prize Speaking.

Nov. 27. Thursday—Thanksgiving Day.

Dec. 23. Tuesday, 4 P. M.—
1914. } Winter Vacation.
Jan. 5. Monday, 9 A. M.— }

Jan. 19. Monday—Beginning of Examinations.

Feb. 3. Tuesday—Registration Day.

Feb. 5. Thursday—Beginning of Second Term.

Feb. 12. Thursday—Lincoln's Birthday.

Feb. 23. Monday—Washington's Birthday.

April 9. Thursday, 4 P. M.—
April 20. Monday, 9 A. M.— } Spring Vacation.

May 8. Friday—Prize Speaking.

June 4. Thursday—Beginning of Examinations.

June 18. Thursday—Commencement.

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BOARD OF TRUSTEES.

* THEODORE F. MILLER, *Chairman.*

JAMES W. HYDE, *Secretary.*

	Term Expires July 1st.
BRADLEY MARTIN, B.A., M.A., LL.B.....	1913
JAMES W. HYDE, A.B., LL.B.....	1914.
BERNARD M. BARUCH, A.B.....	1915.
WILLIAM HENRY CORBITT, A.B., LL.B.....	1916.
MOSES J. STROOCK, B.S., LL.B.....	1917.
WILLIAM F. McCOMBS, A.B., LL.B.....	1918.
LEE KOHNS, B.S.....	1919.
FREDERICK P. BELLAMY, A.M., LL.B.....	1920.
CHARLES H. TUTTLE, A.B., LL.B.....	1921.
THOMAS W. CHURCHILL, A.B., LL.B.....	[<i>ex-officio</i>].

* Died May 19, 1913.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

Arranged in Order of Seniority.

- JOHN HUSTON FINLEY, President.
A.B., Knox, 1887; A.M., 1890; LL.D., Park College, 1897; Knox, 1899;
University of Wisconsin, 1904; Princeton, 1905; Tulane, 1906;
Williams, 1908; Dartmouth, 1909.
- ADOLPH WERNER, Professor of the German Language and Literature.
B.S., College of the City of New York, 1857; M.S., 1860; Ph.D., Rutgers
Female College, 1880.
- CHARLES GEORGE HERBERMANN, Professor of the Latin Language and
Literature, and Librarian.
A.B., Fordham, 1858; A.M., 1860; Ph.D., St. Francis Xavier, 1865;
LL.D., 1882; Litt.D., Holy Cross, 1906.
- FITZ GERALD TISDALL, Professor of the Greek Language and Literature.
A.B., College of the City of New York, 1859; A.M., 1862; Ph.D., New
York University, 1874.
- HENRY PHELPS JOHNSTON, Professor of History.
B.A., Yale, 1862; M.A., 1884.
- LEWIS FREEMAN MOTT, Professor of the English Language
and Literature.
B.S., College of the City of New York, 1883; M.S., 1886; Ph.D., Colum-
bia, 1896.
- FREDERICK DIELMAN, Professor of Art.
B.A., Calvert College, 1864; N.A., 1883.
- CHARLES A. DOWNER, Professor of Romance Languages.
A.B., College of the City of New York, 1886; Ph.D., Columbia, 1901;
Officier d'Académie, 1906; Chevalier de la Légion d'Honneur, 1913.
- CHARLES BASKERVILLE, Professor of Chemistry,
and Director of the Chemistry Building.
B.S., University of North Carolina, 1892; Ph.D., 1894; F.C.S., 1898.
- JOHN ROBERT SIM, Professor of Mathematics.
and Director of Townsend Harris Hall.
A.B., College of the City of New York, 1868.
- IVIN SICKELS, Professor of Natural History,
and Chairman of the Executive Council.
B.S., College of the City of New York, 1874; M.S., 1878; M.D., New
York University, 1883.
- WALTER ERNEST CLARK, Professor of Political Science.
A.B., Ohio Wesleyan University, 1896; A.M., 1898; Ph.D., Columbia,
1903.

- THOMAS ANDREW STOREY, Professor of Physical Instruction and
Hygiene, and Director of the Gymnasium.
A.B., Leland Stanford Jr. University, 1896; A.M., 1900; Ph.D., 1902;
M.D., Harvard, 1905.
- HARRY ALLEN OVERSTREET, Professor of Philosophy.
A.B., University of California, 1899; B.Sc., Oxford, 1901.
- STEPHEN PIERCE DUGGAN, Professor of Education,
and Director of the Extension Courses and the Evening Session.
B.S., College of the City of New York, 1890; M.S., 1897; A.M., Columbia,
1898; Ph.D., 1901.
- WILLIAM GEORGE MCGUCKIN, Associate Professor of History.
A.B., College of the City of New York, 1869; LL.B., Columbia, 1881.
- LEIGH HARRISON HUNT, Associate Professor of Art.
B.S., College of the City of New York, 1877; M.S., 1880; M.D., New
York University, 1880.
- CALVIN RAE SMITH, Associate Professor of Art.
- AUGUST RUPP, Associate Professor of Latin.
A.B., College of the City of New York, 1884.
- WILLIAM FOX, Associate Professor of Physics.
B.S., College of the City of New York, 1884; M.E., Stevens Institute,
1886.
- ERNEST ILGEN, Associate Professor of German.
A.B., College of the City of New York, 1882; A.M., New York Uni-
versity, 1902.
- C. HOWARD PARMLY, Associate Professor of Physics,
and Director of the Mechanic Arts Building.
B.S., College of the City of New York, 1888; M.S., 1893; E.E., Colum-
bia, 1892.
- CARLETON L. BROWNSON, Associate Professor of Greek,
and Dean of the Faculty.
B.A., Yale, 1887; Ph.D., 1897.
- ERASTUS PALMER, Associate Professor of Public Speaking.
A.B., Hamilton, 1882; A.M., 1890.
- PAUL L. SAUREL, Associate Professor of Mathematics.
B.S., College of the City of New York, 1890; D.Sc., Bordeaux, 1900.
- HERBERT R. MOODY, Associate Professor of Chemistry,
and Secretary of the Executive Council.
S.B., Massachusetts Institute of Technology, 1892; A.M., Columbia, 1900;
Ph.D., 1901.
- SAMUEL A. BALDWIN, Associate Professor of Music.
F. A. G. O., 1902.

- VICTOR EMMANUEL FRANÇOIS,* Associate Professor of French.
Candidat en philosophie et lettres, University of Brussels, 1888; A.M.,
University of Michigan, 1902; Ph.D., New York University, 1906.
- CHARLES-EDWARD A. WINSLOW, Associate Professor of Biology.
S.B., Massachusetts Institute of Technology, 1898; M.S., 1899.
- L. HENRY FRIEDBURG, Associate Professor of Chemistry.
Ph.D., Göttingen, 1870.
- HARRY C. KROWL, Associate Professor of English.
A.B., College of the City of New York, 1895; Ph.D., New York Uni-
versity, 1900.
- WILLIAM B. GUTHRIE, Associate Professor of Political Science.
B.S., Lenox, 1893; Ph.B., State University of Iowa, 1895; Ph.D., Colum-
bia, 1905.
- EDMUND BURKE, Assistant Professor of Latin.
A.B., College of the City of New York, 1890.
- FREDERICK G. REYNOLDS, Assistant Professor of Mathematics,
and Secretary of the Faculty.
B.S., College of the City of New York, 1891; LL.B., New York Uni-
versity, 1896; M.S., 1899; Sc.D., 1904.
- JOSEPH ALLEN, Assistant Professor of Mathematics.
A.B., Harvard, 1892; A.M., 1892.
- HOLLAND THOMPSON, Assistant Professor of History,
and Director of the Townsend Harris Hall Annex.
Ph.B., University of North Carolina, 1895; A.M., Columbia, 1900; Ph.D.,
1906.
- LIVINGSTON ROWE SCHUYLER, Assistant Professor of History.
A.B., College of the City of New York, 1889; S.T.B., General Theological
Seminary, 1894; Ph.D., New York University, 1904.
- CHARLES F. HORNE, Assistant Professor of English.
B.S., College of the City of New York, 1889; M.S., 1898; Ph.D., New
York University, 1905.
- VENTURA FUENTES, Assistant Professor of Spanish.
A.B., College of the City of New York, 1889; M.D., Columbia, 1892.
- NELSON P. MEAD, Assistant Professor of History.
B.S., College of the City of New York, 1899; A.M., Columbia, 1903;
Ph.D., 1906.
- HENRY S. CARR, Assistant Professor of Mathematics.
A.B., College of the City of New York, 1866; A.M., 1869.
- SAMUEL HANAWAY, Assistant Professor of Mathematics.
B.S., College of the City of New York, 1883.
- FREDERICK MALLING PEDERSEN, Assistant Professor of Mathematics.
B.S., College of the City of New York, 1889; M.S., 1893; E.E., Columbia,
1893; Sc.D., New York University, 1905.

* On leave of absence.

- ARTHUR BRUCKNER, Assistant Professor of Physics.
B.S., College of the City of New York, 1892; M.E., Cornell, 1898.
- ALLAN P. BALL, Assistant Professor of Latin.
B.A., Amherst, 1892; M.A., 1895; Ph.D., Columbia, 1903.
- LOUIS DELAMARRE, Assistant Professor of French.
B-ès-L., Paris, 1881; L-ès-L., 1894; Ph.D., New York University, 1905.
- HOWARD WOOLSTON, Assistant Professor of Political Science.
B.A., Yale, 1898; S.T.B., Chicago, 1901; A.M., Harvard, 1902; Ph.D.,
Columbia, 1909.
- JOSEPH G. COFFIN, Assistant Professor of Physics.
B.S., Massachusetts Institute of Technology, 1898; Ph.D., Clark Univer-
sity, 1903.
- ALEXIS I. DU PONT COLEMAN, Assistant Professor of English.
B.A., Oxford, 1887; M.A., 1906.
- ARTHUR B. TURNER, Assistant Professor of Mathematics.
A.B., Johns Hopkins, 1892; Ph.D., University of Pennsylvania, 1902.
- CARROLL N. BROWN, Assistant Professor of Greek.
A.B., Harvard, 1891; A.M., 1891; Ph.D., 1900.
- MORRIS RAPHAEL COHEN, Assistant Professor of Philosophy.
B.S., College of the City of New York, 1900; Ph.D., Harvard, 1906.
- FREDERICK B. ROBINSON, Assistant Professor of Public Speaking
and Assistant to the Director of the Evening Session.
A.B., College of the City of New York, 1904; M.A., New York Univer-
sity, 1906; Ph.D., 1907.
- GASTON A. LAFFARGUE, Assistant Professor of French.
B-ès-L. [1^{ère} Partie], University of Rennes, 1882; Officier d'Académie,
1906.
- HENRY G. KOST, Instructor in German.
B.S., College of the City of New York, 1880.
- ROBERT F. SMITH, Instructor in Mathematics.
B.S., College of the City of New York, 1887; M.S., New York Uni-
versity, 1903.
- MOSES STUART LEVUSSOVE, Instructor in Descriptive Geometry.
B.S., College of the City of New York, 1893; LL.B., New York Law
School, 1900.
- EMORY B. LEASE, Instructor in Latin.
A.B., Ohio Wesleyan University, 1885; A.M., 1888; Ph.D., Johns Hopkins,
1894.
- ENGELBERT NEUS, Instructor in Descriptive Geometry
and Architectural Drawing.
B.S., College of the City of New York, 1893; A.M., Columbia, 1904.

- ALFRED D. COMPTON, Instructor in English.
B.S., College of the City of New York, 1897.
- DONALD G. WHITESIDE, Instructor in English.
B.S., College of the City of New York, 1897; M.A., New York University, 1900.
- FELIX WEILL, Instructor in French.
B-ès-L., Paris, 1888; L-ès-L., 1892; Officier d'Académie, 1904; Officier de l'Instruction Publique, 1910.
- CARL W. KINKELDEY, Instructor in German.
A.B., College of the City of New York, 1893; A.M., New York University, 1898; Ph.D., 1906.
- LIVINGSTON B. MORSE, Instructor in History.
B.S., College of the City of New York, 1889.
- HOMER C. NEWTON, Instructor in Latin.
B.A., University of Colorado, 1899; M.A., 1900; Ph.D., Cornell, 1902.
- STANLEY SIMONDS, Instructor in Latin.
A.B., Harvard, 1884; Ph.D., Johns Hopkins, 1896.
- JOSEPH VINCENT CROWNE, Instructor in English.
A.B., St. Joseph's College, Philadelphia, 1896; A.M., University of Pennsylvania, 1898; Ph.D., 1899.
- BARCLAY W. BRADLEY, Instructor in Latin.
A.B., University of Pennsylvania, 1897; Ph.D., 1900.
- DANIEL W. REDMOND, Special Instructor in Public Speaking.
Ph.B., Hamilton, 1901; Ph.D., Columbia, 1913.
- GEORGE G. SCOTT, Instructor in Natural History.
A.B., Williams, 1898; A.M., 1899; Ph.D., Columbia, 1913.
- HUGH S. LOWTHER, Instructor in French.
A.B., Syracuse, 1899; Ph.D., University of Pennsylvania, 1904.
- THOMAS GAFFNEY TAAFFE, Instructor in English.
A.B., Fordham, 1890; A.M., 1891; Ph.D., 1901.
- JAMES H. DE GROODT, Instructor in Mechanic Arts.
- ROBERT H. HATCH, Instructor in Public Speaking.
- EMILE SCHOEN, Special Instructor in Music, Dept. of Education.
- EARLE FENTON PALMER, Instructor in English.
B.S., College of the City of New York, 1888; A.M., New York University, 1903; Ph.D., 1906.
- MARIO E. COSENZA, Instructor in Latin.
A.B., College of the City of New York, 1901; Ph.D., Columbia, 1906.
- THOMAS R. MOORE, Instructor in History.
A.B., Wesleyan, 1897; A.M., New York University, 1905; Ph.D., 1906.

- GEORGE V. EDWARDS, Instructor in Latin.
A.B., Hamilton, 1891; A.M., 1894; Ph.D., Johns Hopkins, 1899.
- MAXIMILIAN PHILIP, Instructor in Mathematics.
B.S., College of the City of New York, 1898; M.S., New York University,
1903; Sc.D., 1906.
- TITUS BERTHEAU VOELKEL, Instructor in German.
Ph.D., Halle, 1875.
- ALEXIS EUGENE SENFTNER, Instructor in Latin.
A.B., Columbia, 1899; B.D., Union Theological Seminary, 1902; A.M.,
New York University, 1902; Ph.D., 1904.
- NORRIS A. BRISCO, Instructor in Political Science.
A.B., Queen's University, 1898; A.M., 1900; Ph.D., Columbia, 1907.
- GUY EDWARD SNIDER, Instructor in History.
B.L., University of Wisconsin, 1901; M.A., University of Missouri, 1902;
Ph.D., Columbia, 1907.
- HERBERT MILES HOLTON, Instructor in Mechanic Arts.
B.S., College of the City of New York, 1899.
- J. REDDING KELLY, Instructor in Free-Hand Drawing.
- GEORGE C. AUTENRIETH, Instructor in Descriptive Geometry
and Mechanical Drawing.
B.S., College of the City of New York, 1902; A.M., Columbia, 1906.
- KURT E. RICHTER, Instructor in German.
Dipl. Addition Teachers College, 1894; B.S., New York University, 1905;
Pd.D., 1908.
- WILLIAM L. PRAGER, Instructor in Chemistry.
B.S., College of the City of New York, 1900; M.S., New York University,
1904; Ph.D., Clark University, 1908.
- WILLIAM BRADLEY OTIS, Instructor in English.
A.B., Iowa College, 1901; A.M., Columbia, 1904; Ph.D., New York Uni-
versity, 1908.
- FREDERICK W. HUTCHISON, Instructor in Free-Hand Drawing.
- CHARLES JASTROW MENDELSON, Instructor in Greek.
A.B., University of Pennsylvania, 1900; Ph.D., 1904.
- SAMUEL B. HECKMAN, Instructor in Education.
Ph.B., Earlham, 1893; A.B., Harvard, 1894; A.M., University of Penn-
sylvania, 1905; Ph.D., 1906.
- JUSTIN HARTLEY MOORE, Instructor in French.
A.B., College of the City of New York, 1903; A.M., Columbia, 1904;
Ph.D., 1908; J.D., New York University, 1913; LL.M., 1913.
- RESTON STEVENSON, Instructor in Chemistry.
A.B., University of North Carolina, 1902; A.M., 1903; Ph.D., Columbia,
1908.

- WALLACE WHITELOCK,* Instructor in French.
A.B., Johns Hopkins, 1890; Ph.D., Munich, 1893.
- HOWARD D. MARSH, Instructor in Philosophy.
A.B., Ohio Wesleyan University, 1901; A.M., 1902; Ph.D., Columbia,
1905.
- ROBERT W. CURTIS, Instructor in Chemistry.
B.S., Trinity, 1896; Ph.D., Yale, 1904.
- FELIX GRENDON, Instructor in English.
B.S., College of the City of New York, 1900; A.M., Columbia, 1902;
Ph.D., 1909.
- FREDERICK E. BREITHUT, Instructor in Chemistry.
B.S., College of the City of New York, 1900; Sc.D., New York Uni-
versity, 1909.
- FRANCESCO ETTARI, Instructor in Italian.
Licenza Liceale, University of Naples, 1881; Baccelliere in Lettere, 1883;
Dottore in Lettere, 1885; Professore di Letteratura Italiana, 1886.
- JOSEPH CUMMINGS CHASE, Instructor in Free-Hand Drawing.
- JACOB SALWYN SCHAPIRO, Instructor in History.
A.B., College of the City of New York, 1904; Ph.D., Columbia, 1909.
- PAUL KLAPPER, Instructor in Education,
and Secretary of the Extension Courses.
A.B., College of the City of New York, 1904; M.A., New York Univer-
sity, 1907; Ph.D., 1909.
- LOUIS J. CURTMAN, Instructor in Chemistry.
B.S., College of the City of New York, 1899; M.S., New York University,
1902; Ph.D., Columbia, 1907.
- WILLIAM L. ESTABROOKE, Instructor in Chemistry.
A.B., Harvard, 1901; A.M., University of New Brunswick, 1902; Ph.D.,
1905.
- JOHN PICKETT TURNER, Instructor in Philosophy.
A.B., Vanderbilt, 1900; A.M., 1901; Ph.D., Columbia, 1910.
- LYNN MATEER SAXTON, Instructor in Mathematics.
B.S., Lafayette, 1897; M.S., 1900; Pd.M., New York University, 1908;
Pd.D., 1909.
- JOHN SCHULER, Instructor in German.
B.A., German Wallace College, 1891; Ph.D., Columbia, 1909.
- FAUST CHARLES DE WALSH, Instructor in German.
A.B., University of Rochester, 1903; Ph.D., Columbia, 1910.
- DAVID KLEIN, Instructor in English.
A.B., College of the City of New York, 1902; A.M., Columbia, 1904;
Ph.D., New York University, 1909.

* On leave of absence.

- HENRY W. PECKWELL, Instructor in Free-Hand Drawing.
- JAMES ROBERT WHITE, Instructor in Education.
 Pd.B., Normal College, Albany, N. Y., 1893; A.M., Illinois Wesleyan
 University, 1896; Ph.D., 1910.
- PIERRE J. MARIQUE, Instructor in French.
 Professeur agrégé de l'enseignement moyen, State Board, Brussels, 1902;
 Pd.D., New York University, 1910; Ph.D., 1912.
- WILLIAM E. KNICKERBOCKER, Instructor in French.
 A.B., College of the City of New York, 1904; Ph.D., Columbia, 1911.
- GEORGES L. M. LAMOURET,* Instructor in French.
 B.-ès-L., Paris, 1899; Ph.D., New York University, 1911.
- FRANCIS L. ROUGIER, Instructor in French.
 B.-ès-Sc., Paris, 1894; A.B., Fordham, 1905; A. M., New York Univer-
 sity, 1907; Ph.D., 1911.
- JACOB WITTMER HARTMANN, Instructor in German.
 B.S., College of the City of New York, 1901; Ph.D., Columbia, 1912.
- GEORGE C. O. HAAS, Instructor in German.
 A.M., Columbia, 1903; Ph.D., 1909.
- JOSEPH A. MOSHER, Instructor in Public Speaking.
 Ph.B., Syracuse, 1905; Ph.M., 1906; A.M., Columbia, 1907; Ph.D., 1911.
- ABRAHAM J. GOLDFARB, Instructor in Natural History.
 B.S., College of the City of New York, 1900; Ph.D., Columbia, 1909.
- AUSTIN BAXTER KEEP, Instructor in History.
 B.A., Amherst, 1897; M.A., 1901; Ph.D., Columbia, 1911.
- LIONEL B. MCKENZIE, Special Instructor in Physical Instruction
 and Hygiene.
- ALFRED N. GOLDSMITH, Instructor in Physics.
 B.S., College of the City of New York, 1907; Ph.D., Columbia, 1911.
- EDWARD E. WHITFORD, Instructor in Mathematics.
 A.B., Colgate, 1886; A.M., 1890; Ph.D., Columbia, 1912.
- ALFRED G. PANARONI, Instructor in Romance Languages.
 B.S., College of the City of New York, 1902.
- GEORGE PAYN QUACKENBOS, Instructor in Latin.
 A.B., Columbia, 1900; A.M., 1901.
- JARVIS KEILEY, Instructor in English.
 A.B., Harvard, 1899; A.M., 1900.
- PAUL H. LINEHAN, Instructor in Mathematics.
 A.B., Harvard, 1902.
- SAMUEL CARLETON HAIGHT, Instructor in History.
 B.S., College of the City of New York, 1892.

* On leave of absence.

- JOHN R. TODD, Instructor in History.
A.B., Dickinson, 1887; A.M., 1890.
- AMERICO ULYSSES N. CAMERA, Instructor in French.
Ph.B., New York University, 1900; A.M., Columbia, 1901; Ph.D., New York University, 1912.
- DAVID H. RAY, Instructor in Surveying
in the Evening Session.
A.B., College of the City of New York, 1897; B.S., Columbia, 1901;
A.M., 1902; C.E., New York University, 1902; Sc.D., 1908.
- ABRAM G. SCHULMAN, Tutor in Mechanical and Free-Hand Drawing.
A.B., College of the City of New York, 1902.
- JAMES BOARER, Tutor in Mathematics.
A.B., College of the City of New York, 1859.
- JOHN A. MACDOUGALL, Tutor in Free-Hand Drawing.
- ROBERT J. DAMEN, Tutor in French.
Agrée de l'Académie de Paris, 1899.
- EMIL A. C. KEPPLER, Tutor in German.
Ph.B., Columbia, 1895; A.M., 1897.
- ALFONSO ARBIB-COSTA, Tutor in French.
Dipl., Royal Technical Institute, Rome, 1888.
- RICHARD O. HEYNICH, Tutor in German.
Dipl., Lehrer-Seminar, Osterode, Germany, 1892.
- JOSEPH SOHN, Tutor in German.
A.B., Neue Akademie, Berlin, 1887.
- EDMOND ERNEST ADRIEN LE MAIRE, Tutor in French.
B.-ès-L., Paris, 1870.
- MAXIME L. BERGERON, Tutor in French.
A.B., College of the City of New York, 1903; M.A., Yale, 1904.
- H. WHEELER POWELL, Tutor in Mathematics.
B.S., College of the City of New York, 1883.
- BIRD W. STAIR, Tutor in English.
B.S., Purdue, 1899; M.S., 1901.
- BRUNO FEDTER,* Tutor in German.
A.B., College of the City of New York, 1903; A.M., Columbia, 1905;
Ph.D., New York University, 1913.
- JOSEPH L. TYNAN, Tutor in English.
A.B., College of the City of New York, 1901; A.M., Columbia, 1907.
- EDGAR HALLIDAY, Tutor in Latin.
A.B., Princeton, 1898; A.M., Columbia, 1902.
- GEORGE MONROE BRETT, Tutor in Mathematics.
A.B., Bowdoin, 1897.

* On leave of absence.

- WILLIAM F. X. GEOGHAN, Tutor in English.
A.B., St. Joseph's College, Philadelphia, 1903; A.M., 1905; LL.B., Georgetown, 1906.
- HOWARD C. GREEN, Tutor in History.
A.B., College of the City of New York, 1902.
- SAMUEL J. MAGARGE, Tutor in Mathematics.
A.B., St. Joseph's College, Philadelphia, 1896; B.S., University of Pennsylvania, 1900.
- FRANCIS J. MACINTYRE, Tutor in English.
A.B., St. Joseph's College, Philadelphia, 1903; LL.B., Fordham, 1909.
- WALDO BROMLEY TRUESDELL, Tutor in Physics.
A.B., Harvard, 1897; A.M., Columbia, 1912.
- GEORGE M. HAYES, Tutor in Mathematics.
A.B., Fordham, 1906.
- LEONARD L. PALMER, Tutor in Physical Instruction and Hygiene.
- RICHARD J. O'NEIL, Tutor in Physical Instruction and Hygiene.
- JOSEPH FRANCIS WICKHAM, Tutor in English
A.B., Holy Cross, 1904; A.M., Columbia, 1908.
- JOSEPH EDWARD FITZPATRICK, Tutor in English.
A.B., Fordham, 1906.
- CHARLES A. CORCORAN, Tutor in Physics.
B.S., College of the City of New York, 1904; A.M., Columbia, 1906.
- CAMILLE A. TOUSSAINT, Tutor in Mathematics.
A.B., Columbia, 1903; A.M., 1904.
- EDMUND C. COOK, Tutor in Mathematics.
A.B., Dartmouth, 1892; Harvard, 1894; A.M., Dartmouth, 1900.
- JOHN ALFRED BREWSTER, Tutor in Mathematics.
A.B., Harvard, 1896.
- R. BRUCE MACDOUGALL, Tutor in Mechanical
and Free-Hand Drawing.
- FREDERICK A. WOLL, Tutor in Physical Instruction and Hygiene.
B.S., Teachers College, Columbia, 1910; A.M., 1911.
- WILLIAM BALLANTINE BOYD, Tutor in Physical Instruction
and Hygiene.
B.S., College of the City of New York, 1897; M.D., Columbia, 1905.
- SAMUEL A. SCHWARZ, Tutor in Mathematics.
A.B., College of the City of New York, 1902; C.E., Columbia, 1905;
A.M., 1905.
- LOUIS SIGMUND FRIEDLAND, Tutor in English.
A.B., College of the City of New York, 1905; A.M., New York University,
1910; Ph.D., 1912.

- LOUIS WEINBERG, Tutor in Mechanical and Free-Hand Drawing.
A.B., College of the City of New York, 1905.
- WILLIAM ALEXANDER WHYTE, Tutor in Mathematics.
B.S., New York University, 1911.
- VICTOR OSCAR FREEBURG, Tutor in Public Speaking.
B.A., Yale, 1905; M.A., 1908.
- JEAN DES GARENNES, Tutor in French.
A.M., Georgetown, 1906.
- RALPH TILMONT, Tutor in French.
Candidat en philosophie et lettres, University of Brussels, 1889; Doctor
Juris, 1893.
- HASWELL C. JEFFERY, Tutor in Physics.
- DAYTON JAMES EDWARDS, Tutor in Natural History.
B.S., University of Maine, 1906.
- MICHAEL J. KELEHER, Tutor in English.
A.B., Georgetown, 1904; A.M., St. Francis Xavier, 1906.
- ALFREDO ELÍAS, Tutor in Spanish.
Licenciado en Derecho, University of Barcelona, 1894.
- BERTRAM T. BUTLER, Tutor in Natural History.
Ph.B., Hamline, 1901; A.M., Columbia, 1908.
- JOSEPH PEARL, Tutor in Latin.
A.B., College of the City of New York, 1906; Ph.D., New York Uni-
versity, 1913.
- ROBERT H. ALLES, Tutor in English.
B.S., College of the City of New York, 1906; A.M., Columbia, 1908.
- BENJAMIN G. FEINBERG, Tutor in Chemistry.
B.S., College of the City of New York, 1906; A.M., Columbia, 1910;
Ph.D., 1913.
- WALTER WILLIAMSON, Tutor in Physical Instruction and Hygiene.
A.B., New York University, 1906.
- CANUTE H. HANSEN, Tutor in Physical Instruction and Hygiene.
- EDWARD R. MALONEY, Tutor in English.
A.B., St. Joseph's College, Philadelphia, 1902.
- JAMES I. CONWAY, Tutor in Mathematics.
A.B., Loyola College, 1896.
- LEON H. CANFIELD, Tutor in History.
A.B., Syracuse, 1908; Ph.D., Columbia, 1913.
- WILLIAM H. HASKELL, Tutor in Free-Hand and Mechanical Drawing.
- KENNETH GROESBECK, Tutor in English.
A.B., College of the City of New York, 1905.

- REINHARD A. WETZEL, Tutor in Physics.
B.S., University of Minnesota, 1901.
- ARTHUR J. KLEIN, Tutor in History.
B.A., Wabash, 1906; B.D., Union Theological Seminary, 1909; A.M.,
Columbia, 1909.
- GUSTAV F. SCHULZ, Tutor in English.
B.S., College of the City of New York, 1907; A.M., Columbia, 1909.
- RADFORD J. McCORMICK, Tutor in Physical Instruction and Hygiene.
- PAUL T. KAMMERER, JR., Tutor in History.
B.S., College of the City of New York, 1906; LL.B., Fordham, 1909.
- GORDON LA FAYETTE CRAM, Tutor in French.
B.A., Toronto, 1894; A.M., Columbia, 1904.
- EDWARD CHRISTOPHER BRENNER, Tutor in Physical Instruction
and Hygiene.
A.B., College of the City of New York, 1904; M.D., Columbia University,
1908.
- HOWARD L. KING, Tutor in Mathematics.
A.B., College of the City of New York, 1908; A.M., Columbia, 1912.
- DAVID LE ROY WILLIAMS, Tutor in Chemistry.
B.S., Hobart, 1906.
- HOMER ADOLPH STEBBINS, Tutor in History.
Ph.B., Syracuse, 1906; Ph.M., 1907; LL.B., 1908; Ph.D., Columbia,
1913.
- ROBERT THOMAS STOKES, Tutor in Chemistry.
B.S., Dartmouth, 1907.
- FREDERIC O. X. McLOUGHLIN, Tutor in Physics.
B.S., College of the City of New York, 1909; C.E., Columbia, 1913.
- ARTHUR DICKSON, Tutor.
B.S., College of the City of New York, 1909; A.M., Columbia, 1911.
- HARRY KURZ, Tutor in French.
A.B., College of the City of New York, 1909; A.M., Columbia, 1911.
- PAUL H. REICHARDT, Tutor in Physical Instruction and Hygiene.
Dipl., International Y. M. C. A. College, Springfield, Mass., 1907.
- WALTER SCOTT HEARD, Tutor in Physical Instruction and Hygiene.
- WILLIAM WARD BROWNE, Tutor in Natural History.
A.B., Brown, 1908; A.M., 1909; Ph.D., 1912.
- WARREN G. HUBERT, Tutor in Mathematics
B.S., College of the City of New York, 1907; M.S., New York Uni-
versity, 1909.

- LEWIS MAYERS, Tutor in Mathematics.
A.B., College of the City of New York, 1910; A.M., Columbia, 1912.
- JOHN T. LANG, Tutor in Free-Hand Drawing.
- BENJAMIN ERNEST MITCHELL, Tutor in Mathematics.
A.B., Scarritt-Morrisville College, Mo., 1900; A.M., Vanderbilt, 1908.
- EMILE M. CHOFFLET, Tutor in French.
Diplome Superieure, University of Dijon.
- ROBERT DRESSLER, Assistant Tutor in Physics.
- THOMAS E. HUSER,* Assistant Tutor in Physical Instruction
and Hygiene.
Ph.B., Hamline, 1910.
- HENRY EUGENE HANSEN, Assistant Tutor in Physical Instruction
and Hygiene.
- RAY FORREST PURCELL, Assistant Tutor in Physical Instruction
and Hygiene.
- FRANCIS PARKER JORALEMON, Assistant Tutor in Chemistry.
- JOSEPH X. HEALY, Assistant Tutor.
A.B., College of the City of New York, 1912.
- WILFORD L. STORK, Assistant Tutor in Surveying
in the Evening Session.
B.S., College of the City of New York, 1912.
- ABRAM N. KERNER,* Assistant Tutor in Chemistry
in the Evening Session.
B.S., College of the City of New York, 1912.
- JOHN DAILEY, Assistant Tutor in Physical Instruction
and Hygiene.
- PHILIP R. V. CUROE, Assistant Tutor.
B.S., College of the City of New York, 1913.
- THOMAS SIMMONS, Assistant Tutor in Physical Instruction
and Hygiene.
- ALEXANDER GREEN, Fellow.
A.B., College of the City of New York, 1910; A.M., Columbia, 1911.
- SAMUEL B. APPLEBAUM, Fellow.
B.S., College of the City of New York, 1910.
- LORENZ REICH, JR. Fellow.
A.B., College of the City of New York, 1911.

* Resigned February 28, 1913.

MARKS NEIDLE, Fellow.
B.S., College of the City of New York, 1911; A.M., Columbia, 1912;
Ph.D., 1913.

GEORGE W. EDWARDS, Fellow.
A.B., College of the City of New York, 1911; A.M., Columbia, 1913.

GABRIEL M. GREEN, Fellow.
B.S., College of the City of New York, 1911; A.M., Columbia, 1912;
Ph.D., 1913.

ROBERT V. DAVIS, JR., Curator.

ARVID D. ANDERSON, Registrar.

HARRIET L. McCARTIE, Secretary to the President.

HENRY E. BLISS, Deputy Librarian.

STANDING COMMITTEES.

- ON COURSE AND STANDING: Professors Mott, Herbermann, Downer, Overstreet, and Dean Brownson.
- EXECUTIVE COUNCIL: Professors Sickels, Baskerville, Sim, Storey, Duggan, Parmly, Moody, Thompson, and Mr. Davis.
- ON ADMISSION: Professors Saurel, Allen, and Fuentes; Dr. Cosenza, Secretary.
- ON ATHLETICS: Professors Storey, Clark, Rupp, Palmer, and Moody.
- ON ATHLETICS OF TOWNSEND HARRIS HALL: Dr. Newton, Dr. Cosenza, Mr. Quackenbos, Mr. Linehan, and Mr. Whyte.
- ON COURSE AND STANDING IN THE EVENING SESSION: Professors Duggan, Reynolds, Krowl, Schuyler, and Coffin.
- ON EMPLOYMENT: Professors Ilgen, McGuckin, and Woolston.
- ON HIGH SCHOOLS: Professors Winslow, Clark, Fox, Schuyler, Horne, Mead, and Guthrie, and Dr. Taaffe, Dr. Palmer, Dr. Cosenza, Dr. Robinson, Mr. Holton, and Dr. Estabrooke.
- ON HYGIENE AND SANITATION: Professors Storey, Winslow, Guthrie, Thompson, Dr. Breithut, and Dr. Cosenza.
- ON THE LIBRARY: The President, and Professors Herbermann, Mott, Sickels, and Saurel.
- ON THE REGISTER: Professors Parmly, Pedersen, and Ball.
- ON UNIVERSITIES AND PROFESSIONAL SCHOOLS: Professors Baskerville, Sickels, Clark, Duggan, and Fox.
- MARSHALS: Professors Palmer, Moody, Reynolds, Schuyler, and Fuentes.
- ADVISERS TO THE FRESHMAN CLASS: Professors Burke, Fuentes, Pedersen, Ball, Woolston, and Brown, and Mr. Redmond Dr. Palmer, Dr. T. R. Moore, and Dr. Estabrooke.

The College of the City of New York.

The College of the City of New York, originally called the Free Academy, was established in 1848 by the Board of Education of the City of New York, in pursuance of an Act of the Legislature of the State passed May 7, 1847, and ratified by a vote of the people of the city, June 9, 1847. The first class entered in January, 1849, and completed its course in July, 1853. In the year 1854 the Legislature passed a law endowing the institution with collegiate powers and privileges, so far as pertained to conferring upon its graduates the usual collegiate degrees and diplomas in the Arts and Sciences. In the year 1866, on the recommendation of the Board of Education, the Legislature of the State changed the name to that of "*The College of the City of New York*," and conferred on the institution the powers and privileges of a college, pursuant to the Revised Statutes of the State, rendering it subject to the provisions of the said statutes relative to colleges and to visitation of the Regents of the University, in like manner with other colleges of the State, and making the members of the Board of Education, *ex officio*, the Trustees of the College. In the year 1882 the Legislature repealed so much of the statutes relating to the College as had made attendance at the public schools of the city a requisite for admission, thus opening the College to all young men of the city of proper age and sufficient preparation.

In May, 1900, the Legislature created a separate Board of Trustees, composed of nine members, to be appointed by the Mayor, charged with the sole care and control of the College. Of this Board, the President of the Board of Education of the City of New York is, *ex officio*, an additional member. The appointive members serve for nine years each.

In September, 1907, the College removed from the buildings which from its foundation it had occupied at the corner of Twenty-third Street and Lexington Avenue, to the new buildings which the City has erected for it on Washington Heights, between One Hundred and Thirty-eighth and One Hundred and Fortieth Streets, Amsterdam Avenue and St. Nicholas Terrace. These buildings stand upon an elevation a short distance from the Hudson River, and rise immediately above St. Nicholas Park, which lies about them to the north and east and south, and affords a permanently unobstructed view over a large part of the

city. Their location insures not only an attractive environment and space for recreation, but also freedom from most of the noises of the city streets. Some of the advantages of a rural campus are thus within reach of the homes of every borough of the City of New York.

The new group includes the following buildings:

1. The Main Building, containing rooms for most of the departments of study, besides the Great Hall, the Library and the Executive Offices.
2. The Chemistry Building.
3. The Mechanic Arts Building.
4. Townsend Harris Hall, occupied by the Academic Department.
5. The Gymnasium.

All the buildings are in the English Gothic style, and are constructed of the native grey stone with white terra cotta ornament. Built around a central plaza they form one of the city's most attractive architectural groups. The equipment is exceptionally complete.

The College of the City of New York is a free college maintained by the city for those of her sons who have the ambition and ability to go beyond the high school curriculum and to prepare themselves for service in the higher grades of intellectual and professional life. Since 1900 the old course of study has been steadily expanded, strengthened and enriched so that it now includes a preparatory course extending over a period of from three to four years and a college course of four years which, in the scope and character of the work offered, is comparable with the best.

The College has no graduate department, although many college graduates, as special students, avail themselves of its facilities for higher work. It has never lost sight, however, of the two aims which were clearly set forth in the report of the first Executive Committee for the government of the Academy. This Committee meant to establish an institution which, on the one hand, "in the character, kind and value of the education imparted, should be inferior to none of our colleges," and on the other hand, "should be so organized that the course of studies to be pursued would tend to educate the pupils practically." These two ideas have recently borne fruit in a revision of the curriculum of the college which, while it prescribes the disciplines of the first two years as a basis for sound general culture, makes it possible for the student to do very serious work in a few subjects in the upper years and to go, if he desires, in the direction of his life work.

For the student who contemplates professional study in schools of medicine, law, theology or applied sciences and arts,

the College furnishes the general training required by the best professional schools as prerequisites and also allows opportunity for specialization which may be used materially to shorten the period of professional work. Graduates of the College are admitted to all higher institutions requiring the A.B. or B.S. degree for entrance; and at the principal schools of applied science and engineering, graduates of the College who have chosen their electives wisely, have no difficulty in completing their professional course in two years instead of four.

ADMISSION REQUIREMENTS.

For admission to the Freshman Class a candidate must offer a total of $14\frac{1}{2}$ units. A unit in any subject represents one year's work of four or five periods a week.

Required Subjects.

Every candidate must offer:*

ENGLISH.....	$\left. \begin{array}{l} a \text{ Reading and Practice} \\ b \text{ Study and Practice} \end{array} \right\}$3 Units	
HISTORY.....	$\left. \begin{array}{l} a \text{ Ancient} \\ b \text{ Medieval and Modern} \\ c \text{ English} \\ d \text{ American and Civics} \end{array} \right\}$1 Unit	
Any two			
LANGUAGES....	$\left. \begin{array}{l} \text{French} \\ \text{German} \\ \text{Greek} \\ \text{Latin} \end{array} \right\}$	Three years of any one.....3 Units and Two years of any other2 Units	
MATHEMATICS..	<i>For Arts</i>	$\left. \begin{array}{l} a1 \text{ Algebra to Quad-} \\ \text{ratics} \\ a2 \text{ Quadratics and} \\ \text{beyond} \\ c \text{ Plane Geometry} \end{array} \right\}$	2 Units
	<i>For Science</i>	$\left. \begin{array}{l} a1 \text{ Algebra to Quad-} \\ \text{ratics} \\ a2 \text{ Quadratics and} \\ \text{beyond} \\ c \text{ Plane Geometry} \\ d \text{ Solid Geometry} \end{array} \right\}$	$2\frac{1}{2}$ Units

Elective Subjects.

The *remainder* of the $14\frac{1}{2}$ units required for entrance may be chosen from the following list of Electives:

ADDITIONAL LANGUAGE, one or two years.....		1 or 2 Units
MATHEMATICS	<i>b</i> Advanced Algebra	$\frac{1}{2}$ Unit
	<i>d</i> Solid Geometry	$\frac{1}{2}$ Unit
	<i>e</i> Trigonometry	$\frac{1}{2}$ Unit
HISTORY, one or two courses.....		$\frac{1}{2}$ or 1 Unit
DRAWING (according to the number of hours).....		$\frac{1}{2}$ or 1 Unit
ELEMENTARY PHYSICS		1 Unit
ELEMENTARY CHEMISTRY		1 Unit
ELEMENTARY BIOLOGY		1 Unit
PHYSICAL INSTRUCTION AND HYGIENE.....		$\frac{1}{2}$ Unit

* The letters in italics preceding the titles of the courses refer to the definitions of the College Entrance Examination Board.

Additional Explanation of the Admission Requirements.

The candidate for admission should thoroughly understand the following explanations:

ENGLISH.

The three (3) unit requirement in English represents four (4) years of work in that subject completed in a recognized preparatory school.

MATHEMATICS.

Candidates for entrance to the Science Course (see below) must offer ***Solid Geometry***, otherwise they will be conditioned one-half ($\frac{1}{2}$) a unit in Mathematics. ***Trigonometry and Advanced Algebra*** also are required for the degree of B.S. (see below). *It is advised, therefore, that prospective candidates for the Science Course elect not only Solid Geometry, but also Trigonometry and Advanced Algebra while at the preparatory school.*

LANGUAGES.

In the Language requirement, the candidate for admission should distinctly understand that three (3) years of any one language in the specified list plus two (2) years of any other language in said list will meet the five (5) years of total language requirement which must be offered for entrance to the Freshman class of the College.

Additional Language Preparation. If the candidate for admission has more than a total of five (5) years of languages, he may offer such work under the first of the ***Elective Subjects*** described above as ADDITIONAL LANGUAGES. This additional language preparation is limited to a maximum of two (2) years, thus bringing the number of years of language work for which a candidate may receive credit for entrance to a grand total of seven (7). Furthermore, this additional year, or these additional two years, may have been spent upon the language or the languages already presented, or upon a third language, or upon a third and a fourth language, such as Spanish or Italian. Finally it must be noted that the candidate will receive College credit for any additional language which he may present, after he has met the minimum requirement for entrance of three years in a first language and of two years in a second language, provided said additional language be of a grade equivalent to that of the work done in the classes of the College. It is understood, however, that any given course offered by the candidate cannot receive double credit—that is to say, it cannot be given College credit and be counted towards graduation from the College if it has already been counted as credit for entrance among the $14\frac{1}{2}$ units required for admission to the Freshman class.

Credentials that may be presented for entrance.

The units for entrance may be acquired in any of the following ways:

- Class I. By presenting certificates from the New York City High Schools or from other accepted High Schools.
- Class II. By presenting a College Entrance Diploma issued by the New York State Education Department.
- Class III. By presenting certificates of the College Entrance Examination Board.

Note. Certificates such as are described in Classes I, II and III are accepted only in so far as they cover specifically, and by name, subjects or lettered parts of those subjects which are accepted for admission to the Freshman class as given above in the list of ***Admission Requirements.***

Candidates must place all credentials in the hands of the Committee on Admission in due time for consideration thereon by the Committee.

- Class IV. By passing the entrance examinations of The College of the City of New York.

Note. Entrance Examinations are held at the College in January, in June and in September. Application for permission to take Entrance Examinations should be made at least two weeks before the beginning thereof. The dates may be ascertained by addressing the Committee on Admission.

A candidate may take examinations in some subjects at one time, in other subjects at other times; but he may not present himself for said entrance examinations more than four (4) successive times, except by special consent of the Committee on Admission. The results of these entrance examinations may stand to the credit of the candidate for the period of one and one-half (1½) years, but no longer.

Conditions.

A candidate may, in the discretion of the Committee on Admission, be admitted to the Freshman class carrying conditions equal to two (2) units, but these conditions must be removed before the student can be registered as a member of the Sophomore class.

A candidate admitted to the Freshman class and lacking the preparation in Languages, Mathematics or Physics, which is necessary to the work of the course that he wishes to pursue, will be obliged to take such work as a part of his course, and he will receive College credit for it. It is clearly understood, however, that work done to remove an entrance condition shall not receive College credit.

Credit will be given for advanced standing in any subject, except that all credits of the Senior year must be acquired by work at the College.

Special Students.

The Board of Trustees of The College of the City of New York authorizes, from term to term, the enrollment of Special Students. Men who are not regularly enrolled in the College may, in accordance with said resolutions, be admitted to any particular course or courses which they may choose. The following restrictions, however, should be clearly understood:

1. The privileges of special students are extended only to male students, twenty-one years or over, who are actual residents of the City of New York. In all cases the Committee on Admission reserves the right of requesting official confirmation of the candidate's age.
2. All candidates who desire to enroll as special students must meet in full the regular requirements for admission to the Freshman class of the College. (For the Admission Requirements see above.)
3. All candidates must give satisfactory evidence to the Head of the Department to whose course or courses they seek admission, that they are fully equipped to pursue the work of the course or courses chosen.
4. The number of hours for which special students may enroll shall be not less than five (5) hours a week.

COURSES OF STUDY.

The College offers two general courses of study, one leading to the Degree of Bachelor of Arts (A.B.), the other leading to the Degree of Bachelor of Science (B.S.).

These general courses are designed to give a thorough college training on broad and liberal lines; to give the student in the upper classes an opportunity to follow a well-defined group of subjects leading toward a definitely chosen life work; to qualify him for entering with advanced standing a professional or technical school upon graduation from the College, and to furnish him with a thorough training in those technological branches for which the science departments are well equipped.

To attain these results, the four (4) year course has been divided into two nearly equal parts—an earlier portion consisting mainly of Prescribed Work, and a later portion consisting mainly of Elective Work.

The total number of credits required for graduation is 128. A little more than one-half of these credits is Prescribed Work, and a little less than one-half is Elective Work.

A *normal* term schedule is 16 credits. The number of credits which a student may take during any term may be as high as 17½, but only students of the highest scholarship will be allowed to take more than 17½ credits a term.

It is expected that the candidate for a degree should complete all of the prescribed work before taking up elective courses, except four credits in Public Speaking which it is contemplated will be taken in the last two years.

PRESCRIBED WORK

For Candidates for the Degree of BACHELOR OF ARTS.

	No. of Terms.	Total Credits.
FIRST LANGUAGE (LATIN)	4	14
SECOND LANGUAGE (GREEK, FRENCH OR GERMAN)	4	13
THIRD LANGUAGE OR COMPARATIVE LITERATURE AND ART	2	6
ENGLISH	2	6
CHEMISTRY	2	6
HISTORY	2	7

	No. of Terms.	Total Credits.
*MATHEMATICS—		
TRIGONOMETRY	1	3
ADVANCED ALGEBRA	1	3
NATURAL HISTORY	1	4
PHILOSOPHY	1	3
PHYSICAL INSTRUCTION AND HYGIENE.....	4	2
*PHYSICS	2	6
POLITICAL SCIENCE	1	3
PUBLIC SPEAKING	8	8

* If not presented for admission.

Additional Explanation of the Prescribed Work.

FIRST LANGUAGE (LATIN).

Candidates for the degree of A.B. must take Latin. The total of prescribed work in Latin is therefore five years—three (3) years completed at the preparatory school, plus two (2) years completed at College.

SECOND LANGUAGE (GREEK, FRENCH OR GERMAN).

The total of prescribed work in a *Second Language* is four years—two (2) years completed at the preparatory school, plus two (2) years completed at College.

It should be clearly understood that the language grouping for the degree of A.B. may vary as follows: Latin and Greek, Latin and French, Latin and German.

ENGLISH.

When a student who has completed the prescribed courses in English is found by any Department, at any time, to be inaccurate or slovenly in his written English, one-half ($\frac{1}{2}$) credit of his English requirement may be *recalled*, and he may be required to regain it by work in composition to be prescribed by the Department of English; and he is not eligible for graduation until such work has been successfully completed and the half credit regained.

MATHEMATICS AND PHYSICS.

The courses in Trigonometry, Advanced Algebra and Physics will not be prescribed for the candidates who have already presented said courses for entrance.

The Table of Prescribed Work as outlined above therefore

applies to those students who present at entrance only the *minimum* entrance requirement in the various subjects. Students who present more than the minimum entrance requirements will receive College credits, in consequence of which they will correspondingly diminish the number of prescribed credits and increase the number of the elective credits necessary for graduation. In short, the number of prescribed credits will vary according to the amount of work presented at entrance by the individual student.

PRESCRIBED WORK
For Candidates for the Degree of
BACHELOR OF SCIENCE.

	No. of Terms.	Total Credits.
A MODERN LANGUAGE.....	2	7
DESCRIPTIVE GEOMETRY AND MECHANICAL DRAWING	2	4
ENGLISH	2	6
CHEMISTRY	3	9
HISTORY	2	7
MATHEMATICS—		
*TRIGONOMETRY	1	3
*ADVANCED ALGEBRA	1	3
ANALYTICAL GEOMETRY	1	4
CALCULUS	3	9
NATURAL HISTORY	1	4
PHILOSOPHY	1	3
PHYSICAL INSTRUCTION AND HYGIENE.....	4	2
PHYSICS	2	6
POLITICAL SCIENCE	1	3
PUBLIC SPEAKING	8	8

* If not presented for admission.

Additional Explanation of the Prescribed Work.

A MODERN LANGUAGE.

Candidates for the degree of B.S. must present at least one modern language; that is to say, either French or German. If, upon entrance, a student offers three (3) years of Latin and two (2) of French, this requirement means that he will be required to take a third year of French, making the language requirement necessary for the B.S. degree a total of six (6) years. Again if, upon entrance, a student offers three (3) years of French and two (2) of German, he may elect to make the additional

year of required modern language either fourth year French or third year German, in either way bringing up his total of language requirement to six (6) years. Other combinations are possible, of course, but this will suffice to make clear the meaning of this requirement.

ENGLISH.

See note on English, under the Prescribed Work for the degree of A.B.

MATHEMATICS.

This requirement is meant for those candidates who have not already offered at entrance either Trigonometry or Advanced Algebra. Candidates who have offered said subjects at entrance have correspondingly less to do in College.

PHYSICS.

This requirement represents a year of College Physics, based upon a year of High School preparation.

The Table of Prescribed Work as outlined above, therefore, applies to those students who present at entrance only the *minimum* entrance requirement in the various subjects. Students who present more than the minimum entrance requirements will receive College credits, in consequence of which they will correspondingly diminish the number of prescribed credits and increase the number of the elective credits necessary for graduation. In short, the number of Prescribed Credits will vary according to the amount of work presented at entrance by the individual student.

ELECTIVE WORK.

The Curriculum for the Junior and the Senior Years.

The remaining credits required for a degree are elective under restrictions which oblige a certain concentration, but which permit beyond that wide distribution or further specialization, as the student may, upon advice, choose. At the end of the Sophomore year, therefore, the student is asked to decide in which of the *Divisions* named below he desires to pursue his major work.

I. *Language and Literature.*

ENGLISH.
GERMAN.
GREEK.
LATIN.
ROMANCE LANGUAGES.

II. *Social Science.*

HISTORY.
PHILOSOPHY.
POLITICAL SCIENCE.

III. *Natural Science.*

CHEMISTRY.
MATHEMATICS.
NATURAL HISTORY.
PHYSICS.

In the Division so elected he will be required to take at least *one-half* of his elective credits, and at least twelve (12) credits of this number in one Department of the Division so elected.

The other half of the elective credits may be acquired in any Department or Departments of the College, including with those named in the above Divisions, the Departments of ART, EDUCATION, MUSIC, PHYSICAL INSTRUCTION AND HYGIENE, and PUBLIC SPEAKING.

Students are recommended to consult with the Chairmen of the Divisions and with the Heads of Departments when about to make their elections. It cannot be too strongly emphasized that when, at the end of the Sophomore year, the student begins to make his elections, he should plan, not merely for the Lower Junior term, but also for all the terms before him until graduation. The student who, as the result of his High School and College preparation in Prescribed Work, comes to the choice of his Elective Work with a full consciousness of his capacities and limitations, should be able to decide as to the general direction of his future study. Some of the elective groups which may be formed, having for their purpose the achievement of some definite end, are presented in order to show the possibilities of the elective freedom. A judicious choice of elective courses, covering the period of the last two years, may be made to assist the student in preparing himself for a specific life work, as, for example, City, State, or the Federal service, commercial and industrial positions of responsibility, and teaching. It may also be directed to the shortening of the period of residence in professional and post-graduate schools—whether the graduate desires to proceed with special work in biology, chemistry, engineering, languages, law, history, medicine, philosophy or political science. This enumeration is not meant to be exhaustive. Such pursuits have been selected merely as suggestions to the student of the many possibilities presented to him by the course of study at The College of the City of New York.

ILLUSTRATIVE ELECTIVE GROUPS.

DIVISION I. LANGUAGE AND LITERATURE.

The possibilities of grouping in this Division are many, as all the Departments of Language and Literature are included within it. Every student who contemplates teaching a language or literature will elect a major here, as will those students who are looking forward to life work in journalism, the ministry, the law or letters. And those who elect majors in the other Divisions are strongly urged to take at least one course each semester within the scope of this Division.

DIVISION II. HISTORY, PHILOSOPHY, AND POLITICAL SCIENCE.

The electives offered by the Departments within this Division afford an opportunity for the student to extend his knowledge of those subjects which deal primarily with social man—his achievements, his thoughts, his organizations. The study of these subjects leads to a greater comprehension and to a fuller appreciation of the complex phenomena of organized society. Those students who contemplate studying Law or Journalism, entering Business, or devoting themselves to Public or to Social Service, will find among the subjects offered many which will assist them in preparing for their chosen work. For such students the following groups of courses from this Division are suggested.

For those preparing for LAW.

HISTORY.		POLITICAL SCIENCE.	
5. Eng. Constitutional..	3	3. Immigra. & Tariff..	} 3
7. Am. Const. & Polit..	3	or	
8. Civil War & Recon..	3	4. Trusts & Trade Uns..	} 3
PHILOSOPHY.		11. Constitutional Law..	
2. Logic & Sci. Method.	3	12. International Law...	3
5. Philosophy of Law..	3	23. Criminology	3
6. Social & Polit. Phil..	3	ADDITIONAL ELECTIVES....	23
21. General Psychology..	3		

For those preparing for JOURNALISM.

HISTORY.		POLITICAL SCIENCE.	
6. Am. Colonial & Rev.	3	2. Money & Banking...	3
7. Am. Const. & Polit..	3	3. Immigra. & Tariff...	3
8. Civil War & Recon...	3	4. Trusts & Trade Uns..	3
9. Contemporary Euro.	3	11. Constitutional Law..	3
PHILOSOPHY.		21. Elem. of Sociology..	3
2. Logic & Sci. Method.	3	24. Municipal Affairs...	3
21. General Psychology.	3	ADDITIONAL ELECTIVES....	20

For those preparing for BUSINESS.

HISTORY.		POLITICAL SCIENCE.	
7. Am. Const. & Polit..	3	2. Money & Banking...	3
9. Contemporary Euro.	3	3. Immigra. & Tariff...	3
PHILOSOPHY.		4. Trusts & Trade Uns..	3
2. Logic & Sci. Method.	3	5. Economy of Business	3
5. Philosophy of Law..	3	6. Business Methods...	3
21. General Psychology.	3	25. Statistics	3
24. Psych. of Efficiency.	3	ADDITIONAL ELECTIVES....	20

For those preparing for PUBLIC SERVICE.

HISTORY.		POLITICAL SCIENCE.	
7. Am. Const. & Polit..	3	3. Immigra & Tariff..	} 3
8. Civil War & Recon..	3	or	
PHILOSOPHY.		4. Trusts & Trade Uns.	} 3
2. Logic & Sci. Method.	3	11. Constitutional Law..	
5. Philosophy of Law..	3	21. Elem. of Sociology..	
6. Social & Pol. Phil...	3	25. Statistics	
21. General Psychology.	3	ADDITIONAL ELECTIVES.... 26	

For those preparing for SOCIAL SERVICE.

HISTORY.		POLITICAL SCIENCE.	
7. Am. Const. & Polit..	3	3. Immigra. & Tariff..	} 3
8. Civil War & Recon..	3	or	
PHILOSOPHY.		4. Trusts & Trade Uns.	} 3
2. Logic & Sci. Method.	3	21. Elem. of Sociology..	
5. Philosophy of Law..	3	22. Philanthropy	
6. Social & Pol. Phil...	3	25. Statistics	
21. General Psychology.	3	ADDITIONAL ELECTIVES.... 23	
24. Psych. of Efficiency..	3		

These courses are considered to be particularly helpful to students intending to pursue the professions or activities suggested by these groups. Other courses within this Division are available from which the student can make such a selection as will best fit his individual needs.

The student is strongly urged to distribute a part of his free elective time among departments other than those in this Division. He is advised to consult the heads of those departments that he may choose courses best suited to his particular line of work.

DIVISION III. CHEMISTRY, MATHEMATICS, NATURAL HISTORY, AND PHYSICS.

This Division contains the Departments dealing with the Natural Sciences and Mathematics. Not only is a broad training obtainable in this Division, but opportunity is provided for preparation along professional lines as well. While in some cases the courses advised for specific preparation for a life work approach a technical character, still there is opportunity for the student to choose approximately a quarter of his elective subjects within the other two Divisions. However, provided the student has a reading knowledge of French and German, he may make further elections looking toward a specific profession. The subjects named in the groups herewith presented are essential to more advanced work, provision for which is made in part by the several Departments of the College in other electives offered, some of which are required in Technical Schools or Universities. The student may avail himself of the privilege of pursuing the more technical subjects offered by remaining as a special student for one or two terms after graduation in accordance with a resolution of the Board of Trustees, or he may, by advice, elect them as partial requirements for the bachelor's degree. The groups suggested are summarized below and their content is shown under separate headings in the pages which follow. Students should, however, consult the Chairman of the Division:

GENERAL SCIENCE	{	CHEMISTRY	9	} Teaching } Business } Science Training
		NATURAL HISTORY ..	9	
		PHILOSOPHY	6	
		PHYSICS	5	
		ADDITIONAL ELECTIVES	27	
CHEMISTRY	{	CHEMISTRY	30	} Analytical Chemist } Chemical Engineering } Chemical Industries
		PHILOSOPHY	3	
		PHYSICS	3	
		ADDITIONAL ELECTIVES	20	
MATHEMATICS, PHYSICS	{	CHEMISTRY	6	} University Courses } Physical Research
		MATHEMATICS	18	
		PHILOSOPHY	3	
		PHYSICS	9	
		ADDITIONAL ELECTIVES	20	
NATURAL HISTORY	{	CHEMISTRY	12	} Medicine } Public Health } Sanitary Engineering
		NATURAL HISTORY ..	21	
		PHILOSOPHY	3	
		ADDITIONAL ELECTIVES	20	
ENGINEERING ...	{	CHEMISTRY	6	} Civil } Electrical } Mechanical
		DRAWING	2	
		PHYSICS	25	
		POLITICAL SCIENCE ..	3	
		ADDITIONAL ELECTIVES	20	

GENERAL SCIENCE.

For students who contemplate becoming Teachers of Science, or who expect to enter General Business, or who wish a broad Scientific Training without specialization. By a judicious choice of additional electives this group may be extended to meet a great variety of individual aims. A reading knowledge of French and German is necessary :

<p>CHEMISTRY.</p> <p>4. Quantitative 3</p> <p>5. Organic 3</p> <p>7. Physical 3</p> <p>NATURAL HISTORY.</p> <p>3. Elementary Botany.. 3</p> <p>4. Invertebrate Zoology. 3</p> <p>12. Geology 3</p>	<p>PHILOSOPHY.</p> <p>2. Logic & Sci. Method. 3</p> <p>21. General Psychology.. 3</p> <p>PHYSICS.</p> <p>12. Descriptive Astron.. 3</p> <p>21. Joinery 2</p> <p>ADDITIONAL ELECTIVES.... 27</p>
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CHEMISTRY.

For students who wish to specialize in Chemistry with the view of becoming Analytical Chemists, of preparing for the profession of Chemical Engineering, of engaging in Chemical Industries, or of pursuing Graduate Work in Chemistry. A reading knowledge of French and German is necessary :

<p>CHEMISTRY.</p> <p>4. Quantitative 3</p> <p>5-6. Organic 6</p> <p>7. Physical 3</p> <p>8. Electro 3</p> <p>9. Applied Inorganic... 3</p> <p>10. Applied Organic.... 3</p> <p>13. Advanced Qualitative 3</p>	<p>CHEMISTRY.</p> <p>14. Advanced Quantitative 3</p> <p>15. Advanced Inorganic. 3</p> <p>PHILOSOPHY.</p> <p>2. Logic & Sci. Method. 3</p> <p>PHYSICS.</p> <p>5. Advanced Electricity 3</p> <p>ADDITIONAL ELECTIVES.... 20</p>
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MATHEMATICS—PHYSICS.

For students who wish to specialize in Mathematics and in Mathematical Physics with the view of pursuing University Courses in these subjects, or of entering the field of Physical Research. A reading knowledge of French and German is necessary :

<p>CHEMISTRY.</p> <p>7. Physical 3</p> <p>MATHEMATICS.</p> <p>7. Advanced Dif. Cal... 3</p> <p>8. Advanced Int. Cal... 3</p> <p>9. Ordinary Dif. Equa.. 3</p> <p>10. Vector Analysis.... 3</p> <p>11. Differential Geometry 3</p> <p>12. Partial Dif. Equa... 3</p>	<p>PHILOSOPHY.</p> <p>2. Logic & Sci. Method. 3</p> <p>4. Phil. of Science..... 3</p> <p>PHYSICS.</p> <p>5. Advanced Electricity 3</p> <p>6. Advanced Mechanics 3</p> <p>16. Advanced Heat..... 3</p> <p>ADDITIONAL ELECTIVES.... 20</p>
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MEDICINE AND PUBLIC HEALTH.

For students who wish to specialize in Natural History with the view of studying Medicine, or of following a career in Public Health, or of preparing to become Sanitary Engineers. A reading knowledge of French and German is necessary. All the subjects named are essential to both Medicine and Public Health. Additional subjects are offered which enable the student to specialize in either of them:

NATURAL HISTORY.

3. Botany	3
4. Zoology	3
6. Embryology & Hist..	3
7. Theoretical Biology.	3
10. Anthropology	3
13. Bacteriology	3
15. Municipal Sanitation.	3

CHEMISTRY.

4. Quantitative	3
5-6. Organic	6
7. Physical	3

PHILOSOPHY.

2. Logic & Sci. Method.	3
ADDITIONAL ELECTIVES....	20

ENGINEERING.

For students who wish to prepare for Civil, Electrical, or Mechanical Engineering. All the subjects named are common to all three professions. Additional subjects are offered which enable the student to specialize toward any one of them. He should seek advice in planning the sequence of his work in order that he may most advantageously distribute it:

PHYSICS.

5. Advanced Electricity	3
6. Mechanics	3
7. Materials	3
8. Hydraulics	4
9. Heat Engines.....	4
14. Surveying	3
16. Advanced Heat.....	3
22. Forge & Foundry...	2

CHEMISTRY.

4. Quantitative	3
7. Physical	3

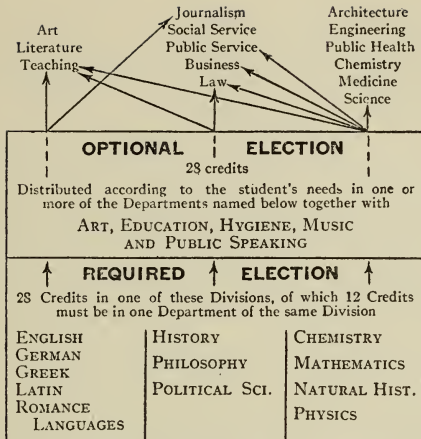
DRAWING.

6. Mechanical	2
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POLITICAL SCIENCE.

10. Municipal Affairs...	3
ADDITIONAL ELECTIVES....	17

Years
4



2

PRESCRIBED COLLEGE COURSE			
ARTS	72 credits	SCIENCE	
LATIN	14	MOD. LANGUAGE	7
GREEK	13	MATHEMATICS	13
FRENCH, OR GERMAN		PHYSICS	6
3° LANGUAGE OR COMP. LIT. & ART.	6	DRAWING	4
CHEMISTRY	6	CHEMISTRY	9
	ENGLISH	6	
	HISTORY	7	
	NATURAL HISTORY	4	
	PHILOSOPHY	3	
	PHYSICAL INSTRUCTION	2	
	POLITICAL SCIENCE	3	
	PUBLIC SPEAKING	8	

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ENGLISH	3				
1° LANGUAGE	3	TOWNSEND HARRIS HALL PREPARATION	14½ units	DRAWING	½
2° LANGUAGE	2		DRAWING OR MANUAL TRAINING	½	
MATHEMATICS	3	PHYSICS	1		
HISTORY	1	PHYSIOLOGY	½		

ELEMENTARY SCHOOL FOUNDATION

SUMMARIZED COURSE OF STUDY AT THE COLLEGE OF THE CITY OF NEW YORK

DEPARTMENTS.

ART.

The work in this department embraces courses in the following subjects: Freehand Drawing, Mechanical Drawing, Descriptive Geometry, and Aesthetics.

The course in Freehand Drawing aims to give the student the knowledge and skill required for the truthful reproduction of geometrical forms, and of artificial and natural objects, and by this training to develop his perceptive faculties in the just appreciation of lines, forms, proportion, light and shade, color values, etc. In the advanced course attention is given to the further development of taste, to the elements of Design, and to the teaching of Drawing.

The course in Mechanical Drawing begins with instruction and practice in the use of instruments, the making of working drawings for constructions of various kinds; always with regard to the practical requirements of the modern workshop.

The more advanced work offers the students in Science a completely rounded course in the subjects usually comprised under this head. To students intending to pursue one of the engineering professions, or architecture, training is given bearing directly on their future work without, however, transgressing the limits of the regular college curriculum.

The course in Descriptive Geometry aims to familiarize the student with the means afforded by this applied science and art for complete graphic expression of forms and their relation in space; further, to develop his projective imagination, as well as to habituate him to accuracy, clearness and neatness in execution.

The course in Aesthetics embraces a brief consideration of the philosophy and psychology of Art, its bearing upon human life and the development of civilization. The history of the evolution of the various forms of historic art, in architecture, sculpture, painting, and the minor arts, together with their relation to general history, is given in a series of fully illustrated lectures.

1-2. DESCRIPTIVE GEOMETRY AND MECHANICAL DRAWING.

Messrs. Levussove, Neus, Autenrieth, Kelly and Shulman.

This course consists of lectures, recitations, and practice on problems in Descriptive Geometry involving lines, planes, surfaces, solids; their relations, tangencies, intersections, and development. The principles of Descriptive Geometry are applied in the making of working drawings of simple constructions

in accordance with the best modern practice. Emphasis is laid on the various conventions.

Prescribed: Science, two terms, four hours a week, counts 4.
Elective for Arts students.

3. FREEHAND DRAWING. *Professors Dielman and Hunt.*

Freehand Drawing with special application to scientific work, such as the making of graphic notes or records in connection with Chemistry, Physics, or Natural History.

One term, four hours a week, counts 2.

4. TOPOGRAPHICAL DRAWING. *Mr. Autenrieth.*

Study of signs employed in making topographical maps fully rendered. Plotting; particular attention being given to contour maps and the solution of problems relating thereto. The student is also required to plot the surveys made in the field during his course in practical surveying.

Prerequisite: Art 1-2, and Physics 14. One term, six hours a week, counts 2.

5. SHADES, SHADOWS AND PERSPECTIVE. *Professor Hunt.*

Theory of shades and shadows. Shadows of mechanical and geometrical objects on planes; of solids on solids with special reference to rendering of mechanic and architectural drawings.

Theory of perspective. Its basis on descriptive geometry. Discussion of and practice in the vanishing and division point method, and in the so-called ground-plane and "office" methods. All of Art 5 is given with reference to work pursued later by those electing Art 10 and 11.

Prerequisite: Art 1-2. One term, six hours a week, counts 2.

6. MECHANICAL DRAWING. *Mr. Autenrieth.*

The work of this course embraces drawing of mechanical details, such as bolts and nuts, screws, springs, keys, pipe fittings, etc.; methods of dimensioning, tracing, etc.; making of scale drawings from sketches of parts of machines; also the drawing of details from "assembly" drawings as a drill in the reading of drawings.

Prerequisite: Art 1-2. One term, six hours a week, counts 2.

7-8. AESTHETICS. *Professor Dielman.*

Lectures on the history of architecture, sculpture, painting, and the minor arts; the place of the fine arts in the history of civilization; the appreciation of art; historic ornament; the great art of the world illustrated by means of casts, photographs, slides, etc. Notes of lectures are written up and sub-

mitted by the students. The course aims to give the general student such comprehension of the subject as is essential to a liberal education; it has special value for those who may devote themselves to teaching, to writing or criticism in connection with art, or to other pursuits requiring knowledge and training in matters of taste.

Two terms, two hours a week each term, counts 3.

9. ADVANCED FREEHAND.

Professors Dielman and Hunt, and Mr. Kelly.

Drawing from casts, natural objects, articles of glass, pottery, etc., involving the rendering in black and white of color values; from casts of the human figure in part or entire; practical application of perspective; the elements of Decorative Design; the use of color, and instruction in the teaching of art. The course has been planned with a view to the requirements that must be met by applicants for teachers' License No. 1, and in connection with aesthetics, it enables the student to prepare for the intelligent and effective teaching of art.

One term, four hours a week, counts 2.

10. ADVANCED MECHANICAL AND ELEMENTARY MACHINE DESIGN. *Professor Hunt.*

Construction of mechanical curves, cycloids, epicycloids, volute, involute, cams, and their application to gears. Warped surfaces. Topographical drawing in black and white and tinted. Working drawings of steam engine drawn in detail, and finished drawings from these. Sections of engineers' transit and V level. Practice in flat washing, applied to machine, architectural and topographical drawing. Construction of hydrants, valves, steam engines, finishing with Corliss and gas engines. Advanced work in lettering.

Prerequisite: Art 5, 6. One term, six hours a week, counts 2.

11. ARCHITECTURAL DRAWING.

Mr. Neus.

The classic orders and brush rendering. The proportions of the orders are studied from Ware's *American Vignola*; they are rendered in India ink outline as well as in India ink and color wash. Shadows are constructed by the student.

Prerequisite: Art 5, 6. One term, six hours a week, counts 2.

The casts belonging to the department are very fine, most of them having been taken from early molds. The collection contains many beautiful examples of the Phidian era, the most notable being a large number from the Frieze of the Parthenon, and a few of the best-preserved Metopes; the heroic statues of Theseus and Cephisus; a Caryatid from the Erechtheum. These copies of the Elgin Marbles were given by Charles M.

Leupp, Esq. There are, furthermore, the busts of Jupiter from Otricoli, the Venus of Milo, the Venus of Arles, Juno, the Hermes, the Apollo Belvedere, the Belvedere Torso and examples of the work of Michael Angelo, Cellini and Thorwaldsen.

This department also makes use of a collection of about 275 photographs, the gift of the Class of '75, illustrating the architecture and sculpture of the Greeks and Romans, early Christians and Renaissance painting in Italy and a number of the most noted buildings of all European countries. Each print is marked with the name, the date of production and the present location of the subject represented. East Indian, Egyptian, Romanesque and Gothic Architecture are likewise illustrated by a number of photographs purchased by the College; and a collection of over 500 lantern slides is used in the lectures on the history of the Fine Arts.

CHEMISTRY.

Note.—*Physics 1 and 2 are prerequisite for all work in Chemistry.*

1-2. DESCRIPTIVE CHEMISTRY.

Professor Baskerville and Drs. Curtis, Estabrooke and Feinberg and Mr. Stokes.

For the student's general culture, acquainting him with the principles of chemical philosophy. Twenty-six weeks are given to the study of Inorganic Chemistry, essentially based upon the natural system, but involving the most modern conceptions of Physical Chemistry; the last six weeks are devoted to the Chemistry of the Carbon Compounds. During the second term, when the student has gained sufficient knowledge to appreciate it, parallel reading is assigned in the History of Chemistry. The lectures are accompanied throughout the session by weekly examinations and laboratory work to test the facts and principles upon which the science is founded. Text-books: Baskerville's *Inorganic Chemistry*, Baskerville and Curtis' *Laboratory Exercises*, Baskerville and Estabrooke's *Progressive Problems in Chemistry*, Remsen's *Organic Chemistry*, and Venable's *Short History of Chemistry*.

Prescribed: { Arts and } two terms, one recitation, two lectures and
 { Science. } two laboratory hours a week; counts 6.

The privilege of a limited amount of extra laboratory work is extended to those who wish to avail themselves of the opportunity.

3. QUALITATIVE ANALYSIS. *Drs. Curtman, Breithut and Neidle.*

A grounding is given in the principles involved in the detection of unknown substances. Text-books: Moody's *Hobart Manual*, and Baskerville and Curtman's *Qualitative Analysis*. Parallel reading: Morgan's *Qualitative Analysis*.

Prerequisite: Chemistry 1-2.

Prescribed: Science, Sophomore, one term; laboratory work with a lecture or recitation every week; eight hours a week; counts 3.

Elective in Arts.

Students wishing electives should consult the head of the Department.

4. QUANTITATIVE ANALYSIS. *Drs. Prager and Neidle.*

A training is given in the accurate determination of the quantity of an element or compound present, by both gravimetric and volumetric methods. Text-book: Moody's *Quantitative Analysis*.

Prerequisite: Chemistry 3. Laboratory work with a lecture or recitation every fortnight; eight hours a week; counts 3.

Further elective subjects may be taken only by those students who have acquired a grade of 70 per cent. in Chemistry 3 and 4.

5. ORGANIC CHEMISTRY. *Professor Friedburg.*

The fundamental principles involving carbon compounds are studied. The lectures deal mainly with the aliphatic series and their derivatives, but at the end a few lectures are devoted to the cyclic series to indicate the lines followed in Chemistry 6. The laboratory practice is given over to the qualitative examination of carbon compounds and the making of some of the simpler preparations. Text-books: Holleman's *Organic Chemistry and Laboratory Manual*, Gatterman's *Practical Methods of Organic Chemistry* (English Edition), and Lassar-Cohn's *Arbeitsmethoden*.

Prerequisite: Chemistry 4. One term, Fall and Spring; lecture and recitation two hours and laboratory four hours a week; counts 3.

6. ADVANCED ORGANIC CHEMISTRY.

Professor Friedburg and Dr. Prager.

The lectures deal with the cyclic and more complex carbon compounds, showing their relations in living processes. Many of them are isolated, prepared, and analyzed quantitatively in the laboratory. Text-books: Same as in Chemistry 5, and Fischer's *Anleitung zur Darstellung organischer Preparate*.

Prerequisite: Chemistry 5. One term, Fall and Spring; lecture and recitation two hours and four laboratory hours a week; counts 3.

7. PHYSICAL CHEMISTRY. *Dr. Stevenson.*

The lectures cover the entire field of physical chemistry except electro-chemistry, and are supplemented by problems and parallel reading. The laboratory practice includes such topics as standardization of apparatus, molecular weights, viscosity, thermostats, index of refraction, vapor pressure, velocity of reaction, etc. Special experiments are also laid out for students who indicate a desire to prepare for some particular line of work. Text-books: Walker's *Introduction to Physical Chemistry* and Findlay's *Practical Physical Chemistry*.

Prerequisites: Chemistry 4. Mathematics 2 and 3 are desirable. One term, Fall and Spring. Lectures two hours, and five hours of laboratory work a week; counts 3.

8. ELECTRO-CHEMISTRY. *Dr. Stevenson.*

The lectures are upon theoretical and industrial electro-chemistry, and are supplemented by problems and parallel reading. The laboratory practice includes such topics as conductivity, electrolysis, electro-plating, electro-analysis, decomposition voltage, electrolytic reactions and electric furnace syntheses. Text-books: Le Blanc's *Electro-Chemistry* and Findlay's *Practical Physical Chemistry*.

Prerequisites: Chemistry 4. Mathematics 2 and 3 are desirable. One term, Fall and Spring. Lectures two hours, and five laboratory hours a week; counts 3.

9. APPLIED INORGANIC CHEMISTRY. *Professor Moody.*

Lectures and laboratory practice, with parallel reading, are given on such subjects as air, water, and its safeguarding, the most important acids and alkalies, the soil, fertilizers, fire-proofing and explosives, etc. Text-books: Mason's *Examination of Water*, Richards and Woodman's *Air, Water and Food*, Bailey's *Sanitary and Applied Chemistry*. Parallel reading is assigned in such standard works of reference as Lunge's *Sulphuric Acid*, Mason's *Water Supply*, Snyder's *Soil*, Toch's *Chemistry of Mixed Paints*, and in current technical journals. Excursions.

Prerequisite: Chemistry 4. One term, Fall. Lectures and recitations two hours, and five laboratory hours a week; counts 3.

10. APPLIED ORGANIC CHEMISTRY. *Professor Moody.*

Lectures and laboratory practice, with parallel reading are given on such subjects as fabrics, leather, bleaching, dyeing, oils, soaps, etc. Text-books: Sadtler's *Industrial Organic Chemistry* and Bailey's *Sanitary and Applied Chemistry*. Parallel reading is assigned in Herrick's *Denatured Alcohol*, Nagel's *Mechanical Appliances of Chemical Industries and Lay-out, Design and Construction of Chemical Plants*. Excursions.

Prerequisites: Chemistry 4 and 5. One term, Spring; lectures and recitations two hours and five laboratory hours a week; counts 3.

11. CHEMISTRY OF METALS (FERRIFEROUS). *Professor Moody.*

Such topics as fuels, cement, concrete, furnace building materials and the construction of typical furnaces, cast and wrought iron, and steel are considered. The several subjects are studied practically in the laboratory. Text-books: The professor's notes with assigned work in standard books of reference. Excursions.

Prerequisite: Chemistry 4. Natural History 11 and 12 should be taken in advance or pursued at the same time. One term, Fall; seminar and recitations two hours and five laboratory hours a week; counts 3.

12. CHEMISTRY OF METALS (NON-FERRIFEROUS).

Professor Moody.

The treatment of ores for the winning of metals, their subsequent working for various uses, as in coinage, alloys, electroplating, etc. The several steps are accompanied by practical verification in the laboratory. Text-books: The professor's notes with assigned work in standard books of reference. Excursions.

Prerequisites: Chemistry 4, 11. Natural History 11 and 12 should be taken in advance or pursued at the same time. One term, Spring; seminar and recitations two hours and five laboratory hours a week; counts 3.

13. ADVANCED QUALITATIVE ANALYSIS. *Dr. Curtman.*

An extension of Chemistry 3. The instruction follows the preceptorial plan and is laid out so as to allow the student to

acquire advanced standing in a professional school. Text-books: Baskerville and Curtman's *Qualitative Analysis*, Treadwell's *Analytical Chemistry*.

Prerequisite: Chemistry 4, or may be taken at the same time. The subject may be taken concurrently with any other elective in the Department, except 15. Fall and Spring terms; laboratory practice eight hours a week, counts 3.

14. ADVANCED QUANTITATIVE ANALYSIS.

Professor Moody and Mr. Williams.

An extension of Chemistry 4. The instruction follows the preceptorial plan and is so laid out as to allow the students to acquire advanced standing in a professional school. Text-books: Standard works of reference.

Prerequisite: Chemistry 4. The subject may be taken concurrently with any other elective in the Department, except 15. Fall and Spring terms; laboratory practice eight hours a week, counts 3.

15. ADVANCED INORGANIC CHEMISTRY.

Professor Baskerville and Dr. Stevenson.

This course is essentially all laboratory practice, involving the more refined methods of gas analysis, use of the spectroscope, mineral analysis, etc., or research work may be undertaken. Instruction in this subject follows the preceptorial plan.

Prerequisite: Chemistry 14 or its equivalent. Fall and Spring terms; laboratory practice and work in the chemical library nine hours a week; counts 3.

Note.—A special department certificate may be acquired by completing Courses 1-8 inclusive, and 13-15, inclusive, with an average of at least 80 per cent. or C grade.

16. PHYSICAL CHEMISTRY.

Dr. Stevenson.

An extension course in Physical Chemistry consisting of thirty lectures and fifteen laboratory periods of three hours, throughout the college year, is offered to properly qualified persons. It is essentially a course in laboratory technique. Applicants must guarantee the cost of chemicals used and breakage. Applications should be made to the Director of the Laboratory. This course will not be given in 1913-14 unless there is a sufficient demand for it.

17. MUNICIPAL CHEMISTRY.

Dr. Breithut.

Special practice in the analysis of products purchased by (as cements, asphalts, oils, etc.) or whose sale is controlled by the City (as milk and other foods), not dealt with in other courses.

Prerequisites: Chemistry 4 and 10, or the latter may be taken at the same time. One term, Spring and Fall, six laboratory hours a week; counts 2.

18. MUNICIPAL SANITARY INSPECTION.

Professor Winslow and Dr. Breithut.

This course is given in conjunction with Natural History 15, the seminar work being done in the College and the field work in company with and under the direct supervision of an Inspector of the Department of Health of the City. The course is limited to six students each semester, and is intended for those planning to go into this branch of the City's service. The qualifications will be based upon individuality, personality playing a prominent part.

One term, Fall and Spring, two seminar hours and one recitation, with one inspection tour a week; counts 3.

The *Museum* has been equipped with many specimens for the illustration of the lectures and observation by the students. Many more valuable exhibits have recently been presented to the College by chemical manufacturers in this country and abroad.

The *Wolcott Gibbs Library of Chemistry*, containing about 6,000 volumes and 7,000 pamphlets, is open from 10 to 3, five days in the week, a member of the staff always being present for conference. The library is being added to constantly. Mr. James R. Steers, '53, presented the library with 4,000 volumes and endowed it so that it is kept abreast of the times with current journals and by purchase of the most modern authoritative works on chemistry.

A *Chemical Club*, organized and directed by the Junior and Senior students meets every week, at times duly posted on the bulletin board of the Department. Members of the staff attend the meetings, and from time to time arrange excursions to works where chemistry as applied to commerce is seen and studied in operation. Papers and digests of the current journals in English, German, French and Italian are presented and discussed. Graduates are welcomed at these meetings.

Special Students. All the courses in the various departments of the College are open to men twenty-one years of age who are able to satisfy the entrance requirements to the College and who are also qualified to pursue the course desired. Under this provision, choice may be made of a limited number of subjects without pursuing the regular College course for a degree. A minimum attendance of five hours a week is required.

EDUCATION.

All the work in this department is elective. The aims are :

(1) to contribute to a truly liberal culture by a study of the educational history of the race and the underlying forces that make for a higher civilization—Course 1;

(2) to provide the future citizen with a knowledge of sound principles of school administration and management—Courses 2 and 3;

(3) to provide those who intend to make teaching their profession with adequate training in the principles and methods of teaching—Courses 4 and 5.

To become eligible for the College Graduate Professional Certificate of the New York State Education Department, it is necessary to complete the courses numbered 1, 2 and 4.

To become eligible for the City Superintendent's examination for license to teach in the elementary school, it is necessary to complete the courses numbered 1, 2 and 4.

To become eligible for the examination for license to teach in the High School it is necessary to complete Course 5 and in addition other courses amounting to 90 hours of work.

1. HISTORY OF EDUCATION.

Professor Duggan.

The aim is, first, to describe the systems of education by which the principal culture nations of the world have attempted to realize their social ideals; and, second, to criticise educational theories and practices from the standpoint of the educational principles now accepted as sound. The work is conducted by means of lectures, recitations, assigned readings and the writing of themes. Text-book: Monroe, *A Brief Course in the History of Education*.

One term, three hours a week, counts 3.

2. PHILOSOPHY AND PRINCIPLES OF EDUCATION. *Dr. Heckman.*

This subject is devoted, first, to a consideration of the general basis of educational doctrine. The important principles contributed to education by biology, physiology, psychology and sociology are considered in determining their practical application and the modern trend of educational thought. This is followed by work designed to serve as a transition from theoretical psychology to the methods of teaching. The aim is to interpret the lessons of psychology in terms of education and to formulate the scientific principles for a sound pedagogy. These principles are derived from a detailed study of the emotional, intellectual and volitional activities of the child in class teaching. The work is conducted as in Education 1. Text-books: Horne, *Philosophy of Education*; Horne, *Psychological Principles of Education*.

Prerequisite: Education 1. One term, three hours a week, counts 3.

3. SCHOOL MANAGEMENT AND ADMINISTRATION. *Dr. White.*

This subject treats of the organization, administration, and supervision of schools and the school system. It considers the methods and processes by which school authority is expressed in national, in state, and in local administrative divisions. The emphasis is upon the administration of city school systems and the management of their schools. The work is conducted as in Education 1. In addition, students must visit schools for purposes of observation and report.

Prerequisites: Education 1 and 2. One term, three hours a week, counts 3.

4. METHODS OF TEACHING AND CLASS MANAGEMENT.

Dr. Klapper.

A survey of the problems of general method, of the conduct of the recitation and the principles of class management. Special emphasis is laid upon methods of teaching each of the elementary school subjects. In addition, time is devoted to practice work by the students under the supervision and criticism of the instructor. The work is conducted as in Education 1. Text-books: Fitch, *Lectures on Teaching*; Garlick, *Manual of Method*; McMurry, *Method of Recitation*, Klapper, *Principles of Educational Practice*.

Prerequisites: Education 1 and 2. One term, five hours a week, counts 3.

5. SECONDARY TEACHING.

Dr. White.

The course is designed to prepare those students who desire to teach in the High Schools. It will be limited to about twenty students, each of whom must present a certificate from the Department Head of the subject he wishes to teach, testifying to his personality and scholarship. The student studies the psychology of the adolescent, and the principles and methods applicable to teaching in the secondary schools. He then applies these principles and methods in Practice Teaching in Townsend Harris Hall. The work in the classroom is conducted by lectures, quizzes and discussions on assigned reading in Hall's *Adolescence*; DeGarmo, *Principles of Secondary Education*; *Report of the Committee of Ten*, etc. In addition, students must visit other High Schools for the purpose of observation.

Co-requisite: Education 4. One term, three hours a week, counts 3.

In addition to the work of the classroom, the City Superintendent requires that every student devote twenty hours in the Senior year to observation work in the public schools. A course of lectures is also given at regular intervals by school superintendents, school principals, and other experts in educational work, on the various problems of school management and administration and instruction.

6. EDUCATION OF BACKWARD AND DEFECTIVE CHILDREN.

Dr. Heckman.

The purpose of the course is to acquaint the student with the methods and tests used in making physical and mental examinations of backward and mentally deficient children, and with the significance of these defectives to the school and to society; to acquaint him with the causes of defectiveness, *e. g.*, heredity, natal influences, childhood diseases and injuries; to acquaint him with the methods of treatment and training of children in special classes and institutions.

Students will be given not only opportunity to observe diagnoses and examinations made in the laboratory, but they will be given practice in making tests and diagnoses for themselves so that they will be prepared to apply the results of their work to pupils in the school-room.

In conjunction with the practical demonstration work, lectures with assigned readings will be given dealing with the theoretic phases of the problem including the history, classification, treatment and training of backward and feebleminded children.

Students will be required to visit classes for defective children in the public schools or in institutions for the purpose of observing methods of teaching and treatment.

Text-books to be used in connection with the course are: Whipple, *Manual of Mental and Physical Tests*; Lapage, *Feeble-mindedness in Children of School-Age*; Tredgold, *Mental Deficiency*; Cornell, *Health and Medical Inspection of School Children*; Walter, *Genetics*.

Prerequisite: Education 2. Three hours a week, counts 3.

ENGLISH LANGUAGE AND LITERATURE.

1. THE HISTORY OF ENGLISH LITERATURE.

Collateral reading required. Essays are also written and corrected in personal conference with the instructors. Text-books: Moody and Lovett's *First View of English Literature*, Pancoast's *Standard English Poems* and *Standard English Prose*.

Prescribed: One term, four hours a week, counts 4.

2. RHETORIC.

Theme and plan, kinds of composition—particularly argumentation—paragraph, sentence and diction. Frequent exercises, briefs and essays are required, some written work being done at least once a week. Personal conferences. Text-books: Lamont's *English Composition* and Genung's *Hand-book*.

Prescribed: One term, two hours a week, counts 2.

3. GRAMMAR AND DICTION.

The aim is to enlarge the student's vocabulary and give him a sense of the fine distinctions between words. Peculiarities of idiom are examined and some attention is given to the history of the language. Home reading is required. Composition as in English 2. Text-book: West's *English Grammar*.

Prerequisite: English 2. Cannot be taken at the same time as English 13.

One term, two hours a week, counts 2.

5. SHAKESPEAREAN COMEDY.

Professor Mott.

Four comedies will be carefully studied and several others will be read.

Prerequisite: English 1 and 2.

Fall term, three hours a week, counts 3.

6. SHAKESPEAREAN TRAGEDY.

Professor Mott.

Four tragedies will be carefully studied and several others will be read.

Prerequisite: English 1 and 2.

Spring term, three hours a week, counts 3.

7. ENGLISH POETRY.

Professor Mott.

The Renaissance and the Classic Influences; a study of the Pastoral, Epic Romance, Epic, Classic Drama, Satire and Epistle. Text-books: Selections from the words of Spenser, Milton and Pope.

Fall term, two hours a week, counts 2.

8. ENGLISH POETRY OF THE XIXTH CENTURY. *Professor Mott.*

Text-book: Ward's *English Poets*, Vol. IV.

Spring term, two hours a week, counts 2.

9. ENGLISH PROSE TO THE END OF THE XVIIITH CENTURY.

Professor Krowl.

The work of this subject is divided into three parts: (1) lectures, recitations and reports, intended to familiarize the student with the history of prose and its relation to contemporary social and political movements; (2) private reading of a considerable amount of prose literature; (3) occasional themes, designed to give the student practice in composition. Text-book: Clark's *A Study of English Prose Writers*.

Fall term, two hours a week, counts 2.

10. ENGLISH AND AMERICAN PROSE OF THE XIXTH CENTURY.

Professor Krowl.

The work is divided as in 9, and the same text-book is used. Spring term, two hours a week, counts 2.

11. THE DEVELOPMENT OF FICTION.

Professor Horne.

The progress of fiction and man's development as shown in fiction are traced from antiquity to the evolution of modern society and the modern novel. Text-books: Horne's *Technique of the Novel*, and a selected series of works, covering the masterpieces of early fiction.

Fall term, two hours a week, counts 2.

12. THE NOVEL OF THE XIXTH CENTURY.

Professor Horne.

Text-books: Horne's *Technique of the Novel*, and a selected series of great novels both English and foreign.

Spring term, two hours a week, counts 2.

Applicants for this course who have not taken English 11, must consult Professor Horne and do some preparatory work.

13. SYNTAX AND STYLE.

Professor Mott.

A study of present English usage. Text-books: Onion's *Advanced English Syntax* and Barnett and Dale's *Anthology of Modern English Prose*.

Prerequisites: English 1 and 2. Cannot be taken at the same time as English 3.

One term, two hours a week, counts 2.

GERMAN.

I. SECOND LANGUAGE IN ARTS.

For students in Arts who present as a second language two years of German for admission, the following course covering four semesters is prescribed.

During each semester the subject is taken four hours a week and counts thirteen credits for the two years.

1. INTERMEDIATE.

Schiller's *Wilhelm Tell*, Harris's *Composition*, and Arndt's *Deutsche Patrioten* (at sight).

2. INTERMEDIATE. (Continued.)

Prose texts, history and oratory; Harris's *Composition*, Hauff's *Lichtenstein* (at sight).

3. ADVANCED.

Schiller's *Wallenstein* and composition.

4. ADVANCED. (Continued.)

Goethe's *Tasso* and *Iphigenie*, and composition.

II. THIRD LANGUAGE IN ARTS.

For students in Arts who elect as a third language one year of German, the following course of two semesters is prescribed. During each semester the subject is taken three hours a week and counts 3.

5. ELEMENTARY.

Pronunciation, essentials of grammar, elementary phraseology, reading and translation. Collar's *German Lessons*, Joynes's *Reader*.

6. ELEMENTARY. (Continued.)

Seidel's *Leberecht Huehnchen*, Harris's *Composition*, Collar's *German Lessons*.

III. SECOND LANGUAGE IN SCIENCE.

For students in Science who present as a second language two years of German for admission the following course of two semesters is prescribed unless German 1 and 2 be chosen instead.

During each semester the subject is taken four hours a week and counts seven credits for the two semesters.

7-8. INTERMEDIATE.

Scientific German and Composition.

IV. ELECTIVE.

9. COMEDY. *Professor Werner.*
Lessing's *Minna von Barnhelm*, and Fulda's *Talisman*.
Prerequisite: German 4. Fall term; three hours a week, counts 3.
10. MODERN NOVEL AND POETRY. *Professor Werner.*
Prerequisite: German 4. Three hours a week, counts 3.
11. HISTORY OF THE LITERATURE. *Professor Werner.*
Thomas' *German Literature*, and Thomas' *German Anthology*,
with sight reading of the works discussed.
Prerequisite: German 4. Spring term; three hours a week, counts 3.
12. ADVANCED COMPOSITION. *Mr. Kost.*
Prerequisite: German 2 or 8. Two hours a week, counts 2.

GREEK.

The study of Greek in the College is continued after two years of preparation in Townsend Harris Hall or an equivalent elsewhere. At present White's *First Greek Book* complete and four books of Xenophon's *Anabasis*, and lessons in Greek prose composition are required from those presenting Greek for admission to College. The study is continued for two years in College, four hours a week, counting thirteen credits in all. As the continuation of the study is no longer required in the Junior year, some changes will gradually be made in the content of the subject in the Freshman and Sophomore classes. For the year 1913-1914 the content will be the same, or very nearly the same, as heretofore.

Four terms of Greek prescribed for those students in the Arts Course who choose Greek as their second language.

1. HOMER (ILIAD OR ODYSSEY).

Arnold's *Greek Prose*, and sight reading.

2. HOMER. (Continued.)

3. DEMOSTHENES AND AESCHINES.

Sight reading. Greek prose.

4. PLATO OR ARISTOPHANES (OR BOTH).

Greek prose. Sight reading.

5. { For qualified registered students of the Junior and
6. { Senior classes one, two, or three authors in groups
7. { may be chosen from the following list, and the study
8. { of Greek continued for one, two, three, or four
8. { terms, three hours a week, counting three credits each
8. { term.

Hesiod's works.

Aeschylus' *Prometheus Bound*.

Sophocles' *King Oedipus*.

Euripides' *Alcestis*.

Herodotus' *History*.

Thucydides' *History*.

Aristophanes' *Knights and Buds*

Xenophon's *Memorabilia*.

Lucian's *Dialogs*, etc.

Pausanias.

Cebes' *Tablet*.

Lyric Poets.

9. PHILOLOGY (Introduction to).

For students registered in the Junior and Senior classes.

One term, one hour a week, counts 1.

10. GREEK WORDS IN ENGLISH.

One term, one hour a week, counts 1.

11-12. ELEMENTARY.

For qualified registered students of the Junior and Senior classes who have not studied Greek.

Two terms, five hours a week, counts 10.

HISTORY.

1. MEDIEVAL AND MODERN.

Professors McGuckin and Schuyler.

Important features of medieval history from Charlemagne's time are dwelt on, with modern European history treated more fully. The aim is to build up and explain the Europe of today to the American student before he takes up elective courses in this department. Origins, formations, changes—political, social and material—will be traced.

Text-books: Robinson's *History of Western Europe, Readings in Modern European History*. References, such as Seignobos, Adams, Duruy, etc. Recitations and note books.

Prescribed: one term, four hours a week, counts 4.

2. INSTITUTIONAL AND POLITICAL HISTORY.

This course will not be offered for the term beginning September, 1913. Students eligible will complete courses of the previous curriculum. The content of this new course, with the names of instructors conducting it, will be given later.

Prerequisite: History 1.

Prescribed: one term.

3. ANCIENT CIVILIZATIONS.

Professor Schuyler.

A general review of Greek and Roman political and civic life. What it was and the survival of its influence to modern times. Forms of government, laws, religions, morals, literature, art, architecture, etc., are considered as factors of different values in the make-up of the old civilizations. By way of comparison the changed or distinctively new factors in the national types of to-day are considered. Lectures, reference works, essays by students.

Prerequisite: History 1.

One term; three hours a week, counts 3.

5. ENGLISH CONSTITUTIONAL AND POLITICAL HISTORY.

Dr. Moore.

The important periods are taken up, the Stuart and later periods especially, both with the view of showing how England has evolved her own political principles and methods, and to what extent these have been followed by other nations. The narrative portion includes the leading facts of English history and the work and influence of leading Englishmen. Lectures, reference works, essays.

One term; three hours a week, counts 3.

6. AMERICAN COLONIAL AND REVOLUTIONARY HISTORY.

Professor Mead.

The aim here is to trace the development of the American nation in its earlier periods rather than deal with details of

the history of the individual colonies. Emphasis is laid upon the growth of our governmental forms and special characteristics, indicating the influence of European institutions upon those of America. The system of English Colonial administration and the conflict of imperial and colonial interests are considered in order to understand the underlying causes of the Revolution and the growth of the spirit of independence and union. Lectures, reference books, reports, recitations.

One term; three hours a week, counts 3.

7. AMERICAN CONSTITUTIONAL AND POLITICAL HISTORY.

Professor Johnston.

A study of our national period from Washington to Lincoln. Our experiences as a new people dealing with many new situations and problems—constitutional interpretation, political parties, territorial growth, critical issues—are treated according to their importance. The strength of the Republic and the spreading and deepening of the popular belief in its principles and promise are traced in the succession of events. Lectures, seminar work, essays.

One term; three hours a week, counts 3.

8. CIVIL WAR AND RECONSTRUCTION PERIOD.

Professor Johnston.

The main events of this critical epoch are reviewed in the light of accumulating new material and the calmer temper of the day. The grand results of the conflict, with the various treatment of the subject generally by historical writers, are discussed in the class-room. Lectures, seminar work, essays.

One term; three hours a week, counts 3.

9. MAIN CURRENTS OF CONTEMPORARY EUROPEAN HISTORY.

Professor McGuckin and Dr. Schapiro.

This course deals mainly with the tendency of European civilization during the Nineteenth and Twentieth Centuries. Its aim is to acquaint the students with the larger aspects of the subject; hence the treatment will be topical and not narrative. Among subjects to be discussed will be Heritage of the French Revolution, Industrial Revolution, Growth of the National Spirit, Expansion of Democratic Ideals and Systems, Social Legislation, International Problems, Cultural and Scientific Progress. The influence of great personalities like Gladstone, Bismarck, Gambetta and Cavour, will receive special attention. Lectures, seminar work, student essays.

One term; three hours a week, counts 3.

HYGIENE.

The organization in this department has been planned primarily to give the student such supervision, instruction and experience as will enable him to understand his own peculiar health possibilities and therefore to formulate intelligently his own policy of personal health control. In addition instruction is offered in a variety of those motor activities that are known to have a desirable influence on the development of neuromuscular strength, endurance and co-ordination, and which are also known to develop certain valuable traits of character.

It is calculated that these educational influences may, on the one hand, teach the young man how to secure and conserve his own health, and, on the other hand, lead him in his graduate years to become an important factor in the advancement of the public health and character.

In addition, this Department is concerned with all those influences within the College which affect the health of the student. Every reasonable effort is exercised to make the institution safe and attractive to the clean, healthy student.

The following phases of departmental work are combined for the purpose of securing these results:

I. INDIVIDUAL INSTRUCTION IN HYGIENE.

This instruction is of a personal character, and is given in the form of advice based upon medical history supplied by the individual, and upon medical and hygienic examinations and inspections of the individual.

(a) Medical and hygienic history and examinations.

In this relationship with the student the Department attempts to secure such information concerning environmental and habit influences in the life of the student as may be used as a basis for supplying him with helpful advice concerning the organization of his policy of personal health control. The medical examinations are utilized for the purpose of finding remediable physical defects whose proper treatment may add to the health possibilities and physiological efficiency of the student.

Prescribed: Arts and Science; Classes "C," "B," "A," Freshman, Sophomore and Junior. Once each term. No credit.

(b) Hygienic inspections.

These inspections are applied in the mutual interest of personal, departmental and institutional hygiene.

Prescribed: Arts and Science; Classes, Freshman and Sophomore.

(c) Conferences.

All students who have been given personal hygienic or medical advice are required to report in conference by appointment in order that the advice may be followed up.

All individuals found with communicable diseases are debarred from all classes until it is shown in conference that they are receiving proper medical treatment, and that they may return to class attendance with safety to their comrades.

All individuals found with remediable physical or hygienic defects are required to report in conference with evidence that the abnormal condition has been brought to the serious attention of the parent, guardian or family medical or hygienic adviser. Students failing to report as directed may be debarred from all classes.

II. MEDICAL AND SANITARY SUPERVISION.

(a) Sanitary supervision.

An "Advisory Committee on Hygiene and Sanitation" with the Professor of Hygiene as Chairman, has been appointed by the President. This committee has been instructed to "inquire from time to time into all our institutional influences which are likely to affect the health of the student and instructor, and to make such reports and recommendations to the President as may seem wise and expedient.

(b) Board of Health Regulations. Reports of contagious cases in all the Boroughs of Greater New York are daily received from the Board of Health, and under section 145 of the Sanitary Code, all students exposed to contagious disease are debarred from further attendance until properly certified by the Board of Health.

(c) Medical Consultation.

Open to all students.

(d) Medical examination of Athletes.

(See "c" under VI.)

(e) Treatment.

Emergency treatment is the only treatment attempted by the Department.

(f) Conferences.

(See "c" under I.)

(g) Laboratory: The Department Laboratory is equipped for efficient bacteriological and chemical analyses. The water in the swimming pool is examined daily. The laboratory service will be utilized to identify typhoid and diphtheria carriers, and in every other reasonable way to assist in the protection of student health.

III. LECTURES IN HYGIENE.

Eight terms, sixteen lectures each term.

(a) Some of the common causes of disease.

(b) The carriers of disease.

(c) Defenses against disease.

(d) The nature of some common diseases.

IV. INSTRUCTION IN PHYSICAL EXERCISE.

- (a) Drills. Graded through four terms.
- (b) Apparatus. Graded through four terms.
- (c) Swimming. Graded through four terms.
- (d) Games and outdoor exercise, four terms.

V. WRITTEN AND PRACTICAL EXAMINATIONS.

- (a) Daily examinations in personal hygiene (inspections).
- (b) Monthly examinations, both written and practical.
- (c) Term examinations. Final written examination.

VI. ATHLETIC CONTROL.

(a) Under the direction of the Faculty Athletic Committee.

(b) The Professor of Hygiene is Chairman of the Faculty Athletic Committee.

(c) The Professor of Hygiene as medical examiner passes on all candidates for teams. No candidate may begin training until approved.

(d) Members of the Faculty Athletic Committee are members of the Executive Board of the Athletic Association.

(e) No money is paid out by the Athletic Association without the approval of the chairman of the Faculty Athletic Committee.

(f) Regulations of the Intercollegiate Athletic Association are enforced.

1. ELEMENTARY HYGIENE.

(a) Hygiene. "Some of the common causes of disease." These lectures deal with bacteria, protozoa, filtrate viruses, higher animal parasites, the unknown causes of disease, and the contributory causes of disease. The general nature, distribution, transmission and modes of pathogenic action of these agents are discussed simply and without technicality. Sixteen lectures.

(b) Physical Exercise.

1. Graded mass drills.

(a) Elementary drills are used in order to develop obedience and ready response to command, accurate execution, good form and carriage and facility of control.

(b) More advanced drills are given in which movements are made in response to commands. Strength, endurance and co-ordination are brought into play. Only fundamental and larger accessory movements are utilized. These exercises affect chiefly the larger muscle groups and the organs of circulation and respiration.

2. Apparatus work. Graded exercises for squads of five students each on the track, horizontal ladder, chest weights,

rings, horse. These exercises develop speed, strength, endurance and co-ordination; exercise the organs of circulation and respiration; and develop self-control, self-reliance and courage.

3. Out-of-door work when the weather permits.
4. Swimming. Each student is required to learn to swim with more than one variety of stroke.

Prescribed: Freshman; first term, two hours a week, counts $\frac{1}{2}$.

2. ELEMENTARY HYGIENE (continued).

(a) Hygiene. "The carriers of disease." A discussion of the human being as a carrier of disease and his relation to the dissemination of the organisms of disease by means of such secondary carriers as food, water, dust, air, flies, mosquitoes and other insects and animals.

(b) Physical Exercise.

1. Graded mass drills. Two-count movements for the further development of strength, endurance and co-ordination, and for the further exercise of the organs of circulation and respiration. These drills are continuations of, but more advanced than those given in the preceding term.
2. Apparatus work. Graded exercises for squads of five men each on indoor track, horse, vaulting bar, mat and buck. These exercises secure a further development of the anatomical, physiological and psychological objects noted in 1.
3. Out-of-door work when weather permits.
4. Swimming. Each student is required to develop endurance in swimming.

Prerequisite: 1.

Prescribed: Freshman; second term, two hours a week, counts $\frac{1}{2}$.

3. ADVANCED HYGIENE.

(a) Hygiene. "Defenses against disease." These lectures deal with certain natural defenses against the organisms that cause and carry disease, such as the biological requirements of micro-organisms, and the physiological defenses of the human being. They further deal with measures that may be utilized by the individual and the community for protection against disease.

(b) Physical Exercise.

1. Graded mass drills. Four-count movements. More advanced work making greater demands on speed, strength, endurance and co-ordination, and on the circulation and respiration, and further developing good carriage and form.
2. Apparatus work. Graded exercises for squads of five on the buck, horizontal bar, parallel bars, and the pieces already covered in the earlier terms. These exercises are planned for the further development of the objects previously outlined.

3. Out-of-door work when weather permits.
4. Swimming. Diving, rescue and resuscitation of the drowning.

Prerequisite: 2.

Prescribed: Sophomore; first term, two hours a week, counts $\frac{1}{2}$.

4. ADVANCED HYGIENE (continued).

(a) Hygiene. "The nature of some common diseases." These lectures deal with the economic importance, the cause, symptoms, and prophylaxis of such diseases as tuberculosis, pneumonia, malaria, syphilis and gonorrhoea. Sixteen lectures.

(b) Physical Exercise.

1. Advanced graded mass drills. Eight-count movements.
2. Advanced graded apparatus work. For squads of five.
3. Games: hand-ball, wrestling, and swimming (see under five).
4. Out-of-door work when weather permits.
5. Swimming. Advanced continuation of requirements outlined for courses two and three.

The instruction in physical exercise in this term is planned to secure a further development of self-control, self-reliance, self-respect, courage, team work (the appreciation of the value of a unity of effort), loyalty, and the courtesy of sport, in addition to those anatomical, physiological, and practical hygienic objects that are in view throughout all the instruction.

Prerequisite: 3.

Prescribed: Sophomore; second term, two hours a week, counts $\frac{1}{2}$.

Note: In each of the above compulsory courses provision is made for those students whose organic condition may permanently disqualify them for the regular scheduled work.

Voluntary Classes. These are organized at such times of the day as do not conflict with the required work. They are open to all collegiate students without credit. Opportunity is given in these classes for advanced work and for experience in certain phases of normal work.

LATIN LANGUAGE AND LITERATURE.

Note.—Every prescribed subject is prerequisite for the subjects following. The four prescribed terms count fourteen credits.

1-2. VERGIL.

Five books of the *Aeneid*, with study of Latin prosody; prose composition, with suitable grammatical lessons. Text-books: Frieze's *Vergil's Aeneid*; Ritchie's *Latin Prose Composition*.

Prescribed: Arts, Fresh.; two terms, four hours a week.

3. HORACE'S ODES.

About 1,500 lines, with metrical, historical and aesthetic commentary; prose composition. Text-books: C. L. Smith's *Horace's Odes*; Ritchie's *Easy Continuous Latin Prose*.

Prescribed: Arts, Soph.; first term, four hours a week.

4. HORACE'S SATIRES AND EPISTLES.

With historical and metrical commentary, and lectures on etymology; prose composition. Text-books: Greenough's *Horace's Satires*; Ritchie's *Easy Continuous Latin Prose*.

Prescribed: Arts, Soph.; second term, four hours a week.

5. THE LATIN DRAMA.

For students of general literature and the drama, for students intending to become teachers of Latin or English. Selected comedies of Terence and Plautus.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

6. LATIN LYRIC AND SATIRIC POETRY.

For the same class of students as Latin 5. Selections from Crowell's *Latin Lyric Poets* and *Juvenal's Satires*.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

7. THE LATIN HISTORIANS.

For students of history, Latin grammar and the Latin language. The Latin historians, *Sallust*, *Livy*, *Tacitus*.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

8. THE LATIN ORATORS AND RHETORIC.

For students of oratory of the Latin language and rhetoric. Selected orations of Cicero and selections from Quintilian.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

9. CICERO'S PHILOSOPHICAL WORKS.

For students interested in the history of ancient philosophy. Some of Cicero's philosophical works.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

10. LATIN LINGUISTICS.

For students of Language, especially the Latin, Romance and English languages.

Prerequisite: Latin 4. One term, one hour a week, counts 1.

11. LATIN PROSE COMPOSITION.

For students intending to become teachers of language, especially Latin.

Prerequisite: Latin 4. One term, one hour a week, counts 1.

13-14. ELEMENTARY LATIN.

Prescribed for students of the Arts Course who matriculated before May, 1913, and have not had Latin.

Two terms, three hours a week, counts 6.

15-16. ELEMENTARY LATIN.

Elective for students of the Junior and Senior classes who have not had Latin, especially such as mean to study Medicine or Law.

Two terms, five hours a week, counts 10.

MATHEMATICS.

1a. TRIGONOMETRY.

Text-book: Crawley, *Short Course in Trigonometry*.

Prescribed for students who do not present Trigonometry for entrance.

One term, three hours a week, counts 3.

2a. ADVANCED ALGEBRA.

Text-book: Hawkes, *Advanced Algebra*.

Prescribed for:

{	Science students who do not present Advanced Algebra for entrance.
	Arts students who do not present Advanced Algebra for entrance, unless Mathematics 3a is elected.

One term, three hours a week, counts 3.

3a. ANALYTIC GEOMETRY (Outline).

Text-book: Wentworth, *Analytic Geometry*.

Prerequisite: Entrance Trigonometry or Mathematics 1a.

Elective for students in Arts.

One term, three hours a week, counts 3.

4a. DIFFERENTIAL AND INTEGRAL CALCULUS (Outline).

Text-books: Fisher, *Infinitesimal Calculus*, Osborne, *Differential and Integral Calculus*.

Prerequisite: Mathematics 3a. Elective for students in Arts.

One term, three hours a week, counts 3.

1. PLANE AND SOLID ANALYTIC GEOMETRY.

Text-book: Wentworth, *Analytic Geometry*.

Prerequisites: Entrance Trigonometry or Mathematics 1a, and Entrance Advanced Algebra or Mathematics 2a.

Prescribed for students in Science.

One term, four hours a week, counts 4.

2-3-4. CALCULUS.

Text-book: Osgood, *A First Course in the Differential and Integral Calculus* or Osborne, *Differential and Integral Calculus*.

Prerequisites: For Mathematics 2, Mathematics 1 or 3a; for Mathematics 3, Mathematics 2; for Mathematics 4, Mathematics 3.

Prescribed for students in Science, elective for students in Arts.

Three terms, three hours a week, counts 9.

5. ARITHMETIC.

Professor Saurel.

Text-books: Tannery, *Leçons d'Arithmétique*; Fine, *College Algebra*.

Prerequisites: Mathematics 4 or 4a, and a good reading knowledge of French.

Fall term, two hours a week, counts 2.

6. HISTORY OF MATHEMATICS.

Professor Allen.

Prerequisite: Mathematics 4 or 4a.

Spring term, two hours a week, counts 2.

7. ADVANCED DIFFERENTIAL CALCULUS. *Professor Reynolds.*
 Text-book: Williamson, *Differential Calculus.*
 Prerequisite: Mathematics 4.
 Fall term, three hours a week, counts 3.
8. ADVANCED INTEGRAL CALCULUS. *Professor Reynolds.*
 Text-book: Williamson, *Integral Calculus.*
 Prerequisite: Mathematics 4.
 Spring term, three hours a week, counts 3.
9. ORDINARY DIFFERENTIAL EQUATIONS. } Fall term, *Professor Saurel.*
 } Spring term, *Professor Reynolds.*
 Text-book: Murray, *Differential Equations.*
 Prerequisite: Mathematics 4.
 One term, three hours a week, counts 3.
10. VECTOR ANALYSIS. } Fall term, *Professor Reynolds.*
 } Spring term, *Professor Saurel.*
 Text-book: Gibbs, *Vector Analysis.*
 Prerequisite: Mathematics 4.
 One term, three hours a week, counts 3.
11. DIFFERENTIAL GEOMETRY. *Professor Reynolds.*
 Text-book: Kommerell and Kommerell, *Theorie der Raumkurven und Flächen.*
 Prerequisites: Mathematics 9 and a reading knowledge of German.
 Fall term, three hours a week, counts 3.
12. PARTIAL DIFFERENTIAL EQUATIONS. *Professor Saurel.*
 Text-book: Johnson, *Differential Equations*; Byerly, *Fourier's Series and Spherical Harmonics.*
 Prerequisites: Mathematics 9 and 11.
 Spring term, three hours a week, counts 3.

MUSIC.

1. HISTORY AND APPRECIATION OF MUSIC. *Professor Baldwin.*

A comprehensive study of the growth of music as an Art, the development and analysis of Musical forms, and the Great Composers from the standpoint of an intelligent appreciation. No practical knowledge of music is required. The work is conducted by means of lectures with ample musical illustrations, recitations, text-book study and prepared papers. Text-book: Pratt, *The History of Music.*

One term, two hours a week, counts 2.

2. A STUDY OF MODERN MUSIC. *Professor Baldwin.*

This subject is intended to supplement the preceding, and is devoted to a detailed study of composers of the nineteenth and twentieth centuries, including the various phases of instrumental music since Beethoven, and the development of the modern Music-Drama. Lectures are given with musical illustrations; and recitations, readings and a thesis from each student upon some assigned phase of the subject are required.

Prerequisite 1. One term, two hours a week, counts 2.

This Department also conducts the following:

WEEKLY PUBLIC LECTURES IN APPRECIATION OF MUSIC.
Tuesday afternoons at 4.15, October to May, inclusive.

CHORAL SOCIETY, the object of which is to develop choral singing in the College, and includes instruction in the rudiments of voice production.

ORCHESTRA. A course in orchestral training is open to all students of the College, who are properly qualified, and to students of music outside of the College, in order that instruments which cannot be supplied by the College students may be secured.

ORGAN RECITALS given by Professor Baldwin twice each week throughout the College year.

NATURAL HISTORY.

The Department of Natural History aims to secure in all subjects taught that all-round culture which may be obtained only through the study of nature, and also to train in the methods and technique of science with a view toward preparation for investigation or for teaching.

Students who have decided upon a particular line of post-graduate study or work will find the following subjects of advantage in obtaining credits or employment:

a. To those who have had botany, an advanced botany is offered in preparation for the study of agriculture, forestry or medicine.

b. For teachers of biology and for the study of medicine the complete course in biology is recommended, including:

Invertebrate zoology and comparative anatomy, embryology and histology, theoretic biology, advanced physiology and anthropology.

c. Bacteriology and municipal sanitation prepare students for service in departments of health.

d. For those professional pursuits which pertain to agriculture, forestry and engineering, mineralogy and geology with their economic applications will be found valuable.

1. GENERAL BIOLOGY. *Professor Winslow and Dr. Goldfarb.*

A lecture and laboratory course in the fundamental laws and principles which underlie all the biologic sciences. The structure and functions, the behavior, the development and the history of living things will be discussed and studied in the laboratory by the use of specially selected types. This course furnishes the necessary basis for more advanced work in biology, and it gives to students in other departments a viewpoint essential to a proper comprehension of the laws of hygiene and sanitation and helpful in a consideration of the broader problems of organization and development as they are manifested in the life of human societies.

Text-book: Sedgwick and Wilson's *General Biology*.

Prescribed: Two lectures and four laboratory hours a week, counts 4.

2. ELEMENTS OF HUMAN PHYSIOLOGY. *Mr. Edwards.*

An introductory course designed to instruct the student in the general principles of human physiology. The subject matter deals with the functions of the organs of the body accompanied by laboratory work illustrating their activities, the general principles of the chemistry of foods and nutrition, with especial reference to the food requirements of man, and such physiologic facts as are of practical worth in enabling the student to better understand the laws of health and apply them to daily living.

One lecture, one recitation and three laboratory hours, counts 3.

3. ELEMENTARY BOTANY.

Mr. Butler.

A course on the nature and development of plant life, including lectures on morphology, physiology and ecology. Laboratory work will consist of the study of types of the four great groups of plants, with demonstrations of the more common physiologic processes. Field excursions will be made for ecologic study, to obtain familiarity with the more common plants and for the collection of leaves, flowers and fruits. Text-book: Bergen and Caldwell.

One lecture and five laboratory hours a week, counts 3.

4. INVERTEBRATE ZOOLOGY.

Dr. Goldfarb.

This course is intended to give the student a general idea of the invertebrate animals, based upon a comparative study of the chief types, their structure and functions and adaptations to their environment. Special emphasis will be placed upon the history of the present forms and the nature of the evidence upon which the theory of evolution is founded.

One lecture and five laboratory hours a week, counts 3.

5. COMPARATIVE ANATOMY.

Dr. Scott.

This course consists of lectures on the relationships of the various groups of vertebrates, the comparative anatomy of the various systems of organs, and questions relating to the origin and evolution of the vertebrates. In the laboratory the student will dissect the dog-fish, perch, mud-puppy, frog, turtle, pigeon and cat or equivalent forms. The department museum furnishes abundant material for illustration. Original and independent work will be encouraged. Intended not only for the general student but especially recommended for those who expect to study medicine or any other biologic science.

Spring term only; one lecture and six laboratory hours a week, counts 3.

6. EMBRYOLOGY AND HISTOLOGY.

Dr. Scott.

This course consists of lectures and laboratory work on the embryology and histology of representative vertebrates. As far as possible studies will be made from preparations made by the student. The course includes the embryology of the frog, chick and pig, and the histology of the frog and cat. A training is given in the various processes of microscopic technique. The laboratory is completely equipped with all necessary apparatus including the latest model microtomes. This course is not only of general interest but is recommended for all students intending to go into medicine, public health work or other biologic fields.

One lecture and six laboratory hours a week, counts 3.

7. THEORETIC BIOLOGY. *Dr. Goldfarb.*

In this course it is proposed to study somewhat critically the larger problems of biology, such as evolution, heredity, growth, regeneration and sex determination, to give the requisite historic background, and to examine the problems in the light of recent experimental researches.

Prerequisite: N. H. 3 and 4. Two lectures, one seminar and reading conference, counts 3.

8. ADVANCED PHYSIOLOGY. *Mr. Edwards.*

A study of the fundamental facts of physiology, its principles, modes of reasoning and methods of investigation. The aim is to give a more exhaustive study to special subjects, comprising the phenomena of contraction, conduction, sense perception and the various mechanisms of general metabolism. The subjects treated in the laboratory are designed to show the methods of physiologic experimentation and to emphasize the necessity of using care and accuracy in their application.

Spring term only; two lectures and three laboratory hours a week, counts 3.

9. APPLIED BOTANY. *Mr. Butler.*

This course is designed as a foundation for practical economic botany. Lectures and laboratory work will deal with the more important plants used in the arts and industries, with foods, textiles, building materials and other plant products, considering their characteristics, comparative utility and commercial value. Field work and visits to mills and factories will be included.

Prerequisite: N. H. 3. Fall term; one lecture and five laboratory hours a week, counts 3.

10. ANTHROPOLOGY. *Professor Sickels and Dr. Scott.*

This subject deals with the natural history of man; his comparison with the lower animals, apes and primitive man, his relations to fellow men, his structure, racial variations, such as stature, cranial measures, color of skin and hair; his origin, development and distribution.

A portion of the time will be given to the study of the human brain and special senses. References: Gray, Quain, Edinger, Howell, Duckworth and Brinton.

Two lectures and three laboratory hours a week, counts 3.

11. MINERALOGY. *Professor Sickels.*

This subject includes a short course in crystallography, blow-pipe analysis, and economic mineralogy. Students are required to recognize the commoner minerals and rocks by their physical and chemical properties. Reference: Dana.

Two lectures and two laboratory hours a week, counts 3.

12. GEOLOGY.

Professor Sickels.

In this course the student is given a general knowledge of the origin, structure and history of the earth and of the forces which have brought about its present condition. The course includes Palaeontology, the study of fossil plants and animals from the point of view of evolution. Text-books: Norton, Dana. References: Scott, Zittel, etc.

Two recitations and three laboratory hours a week, counts 3.

13. GENERAL BACTERIOLOGY.

Professor Winslow and Dr. Browne.

Lectures, recitations and laboratory work, introducing the student to the technique of bacteriology and to the more important facts about the structure and functions of the bacteria. Particular attention will be paid to the general biology of these micro-organisms, and to the part they play in the world at large. Special applications of bacteriology to agriculture and the industries will be discussed and brief references made to the activities of allied microbes, the yeasts and molds. No laboratory work will be done by the student with disease bacteria; but the general relations of bacteria to disease and the principles of immunity and its control will be discussed. Training in the elements of the bacteriologic examination of water and milk for sanitary purposes will be included in the laboratory. Text-book: Fischer's *Structure and Functions of Bacteria*.

One lecture, one recitation and three laboratory hours a week, counts 3.

14. ADVANCED BACTERIOLOGY.

Dr. Browne.

This course is devoted to the laboratory methods of biology as applied in the work of state and municipal boards of health. Practice will be given in the methods used for the diagnosis of diphtheria, tuberculosis, malaria and typhoid fever, and in the sanitary examination of water supplies and milk supplies. The higher microscopic forms, Algae and Protozoa, which are the cause of tastes and odors in reservoirs, will also be studied, with the technique used for their recognition and enumeration.

Prerequisite: N. H. 13. Spring term; one lecture and six laboratory hours a week, counts 3.

15. MUNICIPAL SANITATION.

Professor Winslow.

Lectures, discussions, and visits to public works of special importance. The problems of the municipality are among the most important of modern life, and some of the most difficult are those which concern the public health. In this course the city is considered as an organism, having its income and its outgo, and its internal conditions which make either for health or disease. The principles which underly a pure water supply will be dis-

cussed and the means by which the wastes of the city, its sewage and garbage may be successfully disposed of. The problems of pure milk and pure food supplies will be considered. The housing question with its special phase of ventilation, plumbing, etc., will be discussed and the method by which a municipal Board of Health is organized to fight tuberculosis and other specific diseases will be studied as fully as time allows.

Two lectures and two hours for recitation or field work, counts 3.

16. RESEARCH WORK.

Seniors who have completed satisfactorily a sufficient amount of work in the department may be assigned some topic to serve as a basis for a thesis which will be submitted as credit for the work at its completion. The student will receive the advice of the instructor in the subject in which the research falls, but as much independent work as possible will be insisted upon. The purpose is to introduce the student into research methods and also to foster independence. Class work will consist of instruction in the preparation and proper presentation of scientific results. Counts 3.

PHILOSOPHY.

1. ETHICS. *Professors Overstreet and Cohen.*

A study of the principles of individual and social conduct, particularly as these have application in the moral conflicts of modern life.

Prescribed: one term, three hours a week, counts 3.

2. LOGIC AND SCIENTIFIC METHOD.

Professor Cohen and Dr. Turner.

This course is of fundamental importance to the student inasmuch as it aims to lay the foundation for clear and accurate thinking. It is therefore strongly advised as a preparation for all other elective work. The course aims to acquaint the student with the main principles of deductive and inductive inference and with the more specific methods of scientific thinking and research. By the use of practical examples the student is taught to recognize true and to detect false reasoning and is trained in the habit of correct judgment.

One term, three hours a week, counts 3.

3. PROBLEMS AND HISTORY OF PHILOSOPHY. *Dr. Turner.*

In this course the main problems of philosophy are examined for the purpose, first, of understanding their significance as living issues, and second, of attempting their solution. To this end the leading historical solutions from early Oriental and Greek thought to the present day are passed in review. The course aims primarily to introduce the student to constructive philosophical thinking.

Fall term, three hours a week, counts 3.

4. THE PHILOSOPHY OF SCIENCE. *Professor Cohen.*

A study of the logical and metaphysical problems presented by the mathematical, natural and social sciences. The aim of the course is to deepen the student's insight into the nature of scientific method and to help him to construct a rational world view. The work will be carried on mainly through reports on memoirs which have had an important influence in the history of science.

Prerequisite: Completion of all the prescribed science work.

Fall term, three hours a week, counts 3.

5. THE PHILOSOPHY OF LAW. *Professor Cohen.*

A study of the ethical and metaphysical principles at the basis of our judicial procedure and social legislation. The leading features of the Roman and the common law, and such topics as the theory of property, contract, tort, etc., will be studied. The aim of this course is to place the student in a position to estimate the resources and limitations of the law as a factor in the ethical transformation of society. Lectures and student reports on selected readings from such works as Sohm's *Institutes of*

Roman Law, Bentham's Theory of Legislation and Salmond's Jurisprudence.

Spring term, three hours a week, counts 3.

6. SOCIAL AND POLITICAL PHILOSOPHY. *Professor Overstreet.*

In this course the various social activities, relations and institutions are studied in such manner as to lead to an understanding of the fundamental ends involved in social life. The course aims to be synthetic in relation to the several social sciences and so to give to the student a comprehensive grasp of the significance of the social structure and processes.

One term, three hours a week, counts 3.

PSYCHOLOGY.

21. GENERAL PSYCHOLOGY. *Dr. Marsh and Dr. Turner.*

The object of this course is to present the essential facts and laws of mental activity and to indicate their bearing upon the various practical interests of life.

One term, three hours a week, counts 3.

22. EXPERIMENTAL PSYCHOLOGY. *Dr. Marsh.*

This course is designed to give the student a general introductory knowledge of the methods and results of experimental psychology. Tests and measurements will be made of sensory, perceptual and retentive capacities, and of the emotional and volitional phases of conscious life. This course is particularly valuable for students who desire to pursue the study of psychology beyond its elementary stages. Class demonstrations and individual experimental work.

Prerequisite: Philosophy 21.

One term, one lecture and four laboratory hours a week, counts 3.

23. ABNORMAL PSYCHOLOGY. *Dr. Turner.*

This course is offered with particular reference to the needs of students who plan to enter the medical profession; but it is designed also for students whose interest in psychology is more general. The special field traversed is suggested by the topics treated: hysteria, multi-personality, dreams, suggestions, etc. Lectures, recitations and clinical visits.

Prerequisite: Philosophy 21.

Spring term, three hours a week, counts 3.

24. THE PSYCHOLOGY OF EFFICIENCY. *Dr. Marsh.*

This course deals, in the main, with the psychology pertaining to occupational life. Emphasis is placed upon the study of personal resources and initiative, likeness and unlikeness of individuals, measurement of psychic traits and differences, the mutual adaptation of worker and work.

Prerequisite: Philosophy 21.

One term, two lectures and two laboratory hours a week, counts 3.

PHYSICS.

I. ELEMENTARY.

In the elementary work of the first year the primary facts and laws are taught by means of lectures with full demonstrations, individual laboratory exercises, and recitations and quizzes upon assigned work at home. Particular attention is given to the quantitative as well as to the qualitative relations between physical quantities, and numerous problems illustrative of these relations are solved by the students. Students are held strictly accountable for all the apparatus assigned to their use, and must replace any lost by breakage or waste through carelessness.

1. MECHANICS, HEAT AND MAGNETISM.

Text-books: Millikan and Gale, *A First Course in Physics*.
Cheston, Dean, Timmerman, *Laboratory Manual of Physics*.

The laboratory work includes the following: the measurement of mass, volume and density; the study of Hooke's law, of the law of the composition of concurrent forces, of the pendulum, the lever, the inclined plane, pulleys, and of the laws of friction; applications of Archimedes' principle, and the determination of the specific gravity of various solids and liquids; Boyle's law of gases; the fixed points of the mercury thermometer; specific heat of various solids; the heat of fusion of ice and the heat of vaporization of water.

Prescribed for all students who do not offer Physics for entrance; one lecture, one laboratory and two recitation hours a week.

2. SOUND, LIGHT AND ELECTRICITY.

The same text-books are used as in Physics 1.

The following exercises are performed in the laboratory; the determination of the vibration frequency of a tuning-fork; of the wave-length of its tone in air; the tones produced by vibrating strings; photometric measurement; the study of plane mirrors, curved mirrors, lenses and prisms; experiments involving the chemical batteries, electrolysis, electroplating, Ohm's law, the use of Wheatstone's bridge, electro-magnetic induction, the dynamo and motor, electric bell and telegraph.

Prerequisite: Physics 1. Prescribed as in Physics 1.

II. COLLEGE PHYSICS.

These courses are intended more especially for students of science. The aim is to secure a thorough knowledge of the physical facts and of their quantitative relations both for the purpose of understanding the unity of natural phenomena, and also for the application of these facts and relations to practical problems. In all of the experimental work attention is especially given to the

setting-up and to the use of the apparatus for the purpose of securing the best conditions of manipulation and the most accurate results of which the apparatus is capable. All observed data are carefully tabulated and reports upon every experiment are required to contain a description of the method of manipulation, complete calculations and conclusions based upon the observations, and appropriate diagrams and plots. Special attention is given to practical methods of computation.

3. MECHANICS, WAVE MOTION AND HEAT.

Text-book: Watson, *General Physics*.

The experiments are: the construction and use of a model vernier caliper, the composition of vectors by graphical methods and verification by numerous calculations, the use of micrometers, the optical micrometer, the finding of the relation between the metric and English units of length, the use and theory of the balance, the determination of "g" from the simple pendulum and the reversible pendulum, the study of torque, angular velocity and angular acceleration and their relations to rotational mass, several uses of the Joly balance, the laws of torsion, the determination of the moment of inertia of a body by means of the torsion and the compound pendulum, the verification of the laws of capillarity, Boyle's law of gases at pressures both higher and lower than atmospheric, the calibration of thermometers, the constant of radiation, specific heat and latent heat of substances by accurate methods, determination of the mechanical equivalent of heat.

Prerequisite: Elementary Physics.

Prescribed: Science } one term, one lecture, two recitations and two
Elective: Arts } laboratory hours a week, counts 3.

4. LIGHT AND ELECTRICITY.

Text-book: Watson, *General Physics*.

The following experimental determinations are made: the radius of curvature of a lens by means of the spherometer; the relations between real conjugate foci of a converging lens; the index of refraction of light passing from water to air; power, spherical aberration, and astigmatism of a converging lens; the study and construction of simple optical instruments; the refracting angle of a glass prism and the index of refraction measured with the spectrometer; the use of the spectroscope; the wave length of sodium light with spectrometer and diffraction grating; distribution of magnetism in a bar magnet; measurement of resistances by both the slide-wire and coil form of Wheatstone bridge; verification of the laws of resistance; determination of the specific resistance and of the temperature co-efficient of a metal; measurement of a current by both a copper and a gas

voltmeter ; determination of the mechanical equivalent of heat by means of a current.

Prerequisite : Physics 3.

Prescribed : Science } one lecture, two recitations and two laboratory
Elective : Arts } hours a week, counts 3.

III. ELECTIVE.

These courses are offered with two objects in view : to enable a student to complete his training in theoretical physics by the choice of a subject in which the mathematical treatment of physical problems serves to show the adaptability of mathematics to the investigation of natural phenomena ; or to begin his preparation for engineering and technical work by choosing subjects involving the application of physics and mathematics to practical problems.

5. ADVANCED ELECTRICITY.

Professor Parmly.

The purpose of this course is to prepare the student for the study of electrical engineering by presenting to him the principles of electricity and magnetism which form the foundation of the art. The term's work is nearly equally divided between the exposition of those principles which apply equally to both direct and to alternating currents, and to those which belong particularly to varying currents. Precise measurements are made of all the quantities which appear in practical work. A few experiments will familiarize the student with the operation of generators and motors.

Text-book : Pender, *Principles of Electrical Engineering.*

Prerequisite : Physics 4 and Mathematics 4.

One term ; one lecture, two recitations, and two laboratory hours a week, counts 3.

6. ADVANCED MECHANICS.

Professor Fox.

This is principally an application of mathematics to the principles of the mechanics of rigid bodies. It includes a theoretical study of Statics, Kinetics and Kinematics and also the solution of practical problems.

Text-books : Dadourian, *Analytical Mechanics* ; Martin, *Text-Book of Mechanics.*

Prerequisites : Physics 3 and Mathematics 4.

One term ; two lectures and two recitations a week, counts 3.

7. STRENGTH OF MATERIALS.

Professor Fox and Mr. McLoughlin.

In this course there are developed the special rules of design and formulae applicable to the structural forms in common use, such as beams, columns, and struts, shafts, springs, spheres and cylinders under pressure, flat plates, hooks and links, and foun-

dations. The physical properties of materials are studied and tests are made with the Riehle machine, cement tester, and other devices, determining the elastic constants used in the formulae. Text-book: Slocum and Hancock, *Strength of Materials*.

Prerequisites: Physics 6 and Mathematics 4.

One term; one lecture, two recitation and two laboratory hours a week, counts 3.

8-9. THE THEORY OF PRIME MOVERS.

Professor Fox and Mr. Corcoran.

Lectures are given on the mechanics of fluids, with applications to hydraulics and pneumatics, and on the principles of thermodynamics, with an introduction to the theory of heat engines. Air pressure, water pressure, wind power and water power are studied, and the mechanical principles involved in navigation, aeronautics, pumps, water wheels, water turbines and pressure engines. Hot-air engines, internal combustion engines, steam engines and turbines, boilers and furnaces are studied in a similar manner. Methods for calculating the theoretical efficiency of all these machines are taught, and the conditions for obtaining the highest efficiency are determined.

The laboratory work is done in the well-equipped mechanical laboratory of the Mechanic Arts Building. It consists in the practical study of the devices used in testing power plants, *e. g.*, gauges, scales, weirs, meters, indicators, calorimeters. Full tests are made of a hydraulic ram, a Pelton wheel, a water turbine, a boiler and furnace, different types of steam engines, a steam turbine, a gas engine, a gasolene engine, a hot-air engine and pumps. Complete calculations and reports of the tests are required of every student. The power plants of the College and of other institutions in the city are also inspected and studied. Text-books: Rankine's *Manual of Prime Movers*; Church, *Hydraulic Motors*; Reeve, *Thermodynamics of Heat Engines*; Allen and Bursley, *Heat Engines*; Smart, *Engineering Laboratory Practice*; Carpenter and Diedrichs, *Experimental Engineering*.

Prerequisites: Physics 3 and Mathematics 4, and after June, 1914, Physics 6 and 16.

Beginning in the Fall, two terms, one lecture, two recitation and four laboratory hours a week, counts 4 each term.

10. ELECTRODYNAMICS OF DIRECT CURRENTS. *Professor Parmly.*

Lectures and quizzes are given upon the theory and calculation of the magnetic circuit; derivation of the fundamental equation of the dynamo, purpose and design of the essential parts of a dynamo; theory of the shunt, series and compound generators; methods of distribution; theory of the shunt, series and compound motors; conditions of operation and methods of speed variation; numerous problems embodying the various principles.

The theoretical work is supplemented in the Electrical Labora-

tory of the Mechanic Arts Building by practical work with both generators and motors. The following tests are made: measurement of the resistance of the field and of the armature of a dynamo; critical examination of the construction and operation of various types of ammeters and voltmeters; study of the magnetic circuit to determine the influence of length, cross-section, and air-gap upon the reluctance; determination of the magnetic distribution in the air-gap of a D. C. machine; determination of the permeability curve of a sample of iron by the ballistic galvanometer; measurement of the candle-power and efficiency of an incandescent lamp at various voltages; operation and control of an arc lamp; determination of the influence of load, distance, and cross-section upon the voltage drop of transmission and distribution lines; setting-up and operating both generators and motors, including all the measuring and controlling apparatus; no-load, voltage and excitation characteristics of a shunt-wound and of a compound-wound generator; operation of two shunt-wound generators in parallel; direct-current armature windings.

Prerequisite: Physics 5. Spring term, two lectures or recitations, one afternoon in the laboratory a week, counts 3.

11. ELECTRODYNAMICS OF ALTERNATING CURRENTS.

Professor Parmly.

In the theoretical work the following topics are studied from Rhode's *Alternating Currents*: energy equations, inductance, capacity, power, graphical representations, vector algebra, vector solutions, harmonics, choke coils, theory and design of transformers, synchronous motors, polyphase currents, induction motors, rotary converter, transmission lines, power measurement. Numerous examples and problems illustrative of the text are solved, and in the laboratory work the verification of the theory is made prominent as well as the practical operation of alternating currents. The tests performed in the Electrical Laboratory of the Mechanic Arts Building include the calibration of ammeters and voltmeters, study and calibration of indicating wattmeters, test of an integrating wattmeter, determination of the factors which influence reactance, measurement of impedance, power relations with impedances in series and in parallel, measurement of capacities, effect of power-factor upon voltage drop in a transmission line, loading and testing transformers, determination of the electrical relations in polyphase systems, characteristics of single phase alternators, parallel operation of alternators, operation and test of two and of three phase induction motors, armature windings.

Prerequisites: Physics 5 and 10. Fall term, two recitations and one afternoon in the laboratory a week, counts 3.

12. DESCRIPTIVE ASTRONOMY. *Dr. Turner.*

An elementary treatment of the facts concerning the heavenly bodies. Lectures and recitations are supplemented by observation. Text-book: Young, *General Astronomy*.

Fall term; three hours a week and an occasional evening for observation; counts 3.

13. DESCRIPTIVE AND PRACTICAL ASTRONOMY. *Dr. Turner.*

A more advanced course than 12, including the study of the problems of time, latitude, longitude and azimuth. The student will make and reduce his own observations. The two small towers on the main building are fitted up with instruments and conveniences for this purpose. The Newcomb Library, donated by Mr. John Clafin, '69, is available for reference.

Text-books: Young, *General Astronomy*; Campbell, *Practical Astronomy*.

Prerequisite: Physics 12.

Spring term; three hours a week and eight evenings for observation; counts 3.

14. THEORY OF SURVEYING. *Mr. McLoughlin.*

In this course are taken up the fundamental principles of surveying, the construction, adjustment and use of the tape, the transit, the level, the plane table and the sextant. Methods of surveying for area, profile and topography are studied, and the stadia method of measuring distances is fully treated. The work is supplemented by lectures and practice. Two hours a week are devoted to the field practice, in which the manipulation of the various instruments is taught and a traverse is run, with compass, transit, tape and land level, of a small area of rough ground. Problems in the reduction of actual field notes are solved by the students every week.

Text-book: Breed and Hosmer, *Principles and Practice of Surveying*, and instructor's notes.

Elective: One term, two recitations and two field work hours a week, counts 3.

15a. PRACTICAL SURVEYING. *Mr. McLoughlin.*

This course consists of fifteen days' continuous field work during the summer months, with weekly conferences during the term.

The transit and level are adjusted by each student and five preliminary traverses are run: 1° B. M. Leveling and Profile, 2° Open Azimuth for Distance, 3° Azimuth and Stadia for area, 4° Hand Level for Contours, and 5° Repetition for Distance and Angles. A complete survey is then made for a proposed road two miles long. Stakes are set, volumes computed, and maps prepared as in actual practice.

Text-books: Tracy, *Plane Surveying*, instructor's notes. References: Tracy, *Exercises in Surveying*, Crandall, *Earthwork*, Searles, *Field Engineering*.

Prerequisite: Physics 14.

One term, one conference hour a week and at least twelve clear days during June and July or September.

15b. PRACTICAL SURVEYING. (Continued.)

The work consists of five surveys: 1° The estimation of cubic yards of cut and fill to bring a city lot to grade for building purposes. 2° The location of a city street through a piece of property and the staking out of two city lots thereon. 3° The location of a simple railroad curve with inaccessible P. T. or P. C. The location of a curve with transitions. 4° Plane Table traverse of a portion of Van Cortlandt Park. 5° Observations on Polaris for Meridian and Latitude. Sextant observations for latitude, longitude, time and true meridian.

Text-books and References: Tracy, *Plane Surveying*; Breed and Hosmer, *Plane Surveying*, vol. II.; Searles, *Field Engineering*; Crandall, *Transition Curve*; Wilson, *Topographic Surveying*; Mitchell, *Notes on Astronomy and Geodesy*.

Prerequisite: Physics 15a.

One term, one hour conference weekly and at least twelve clear days in June, July or September, counts 3.

16. MATHEMATICAL PHYSICS.

Professor Coffin.

During the coming year hydraulics and thermodynamics will be studied from the mathematical point of view. Stress will, however, be laid upon the possible application of the results obtained and the students will be prepared to take up the subject of Engines in a thorough and intelligent manner. The treatment will be chiefly by lecture, with numerous references to standard works.

Prerequisite: Physics 3 and Mathematics 4. After June, 1914, Physics 16 is a prerequisite for Physics 9.

Two lectures and two recitations a week, counts 3.

17. ADVANCED EXPERIMENTAL PHYSICS.

Dr. Goldsmith.

During the coming year this will be a course in

RADIO-COMMUNICATION.

There will be studied the theory of high tension apparatus, *e. g.*, high voltage transformers, and of high frequency apparatus, *e. g.*, sparks, arcs and special alternation, together with the design, construction and maintenance of radio-telegraph and radio-telephone apparatus.

Partly through the generosity of Mr. Gano Dunn, '89, the laboratory is well equipped with all the modern appliances in these fields. In the laboratory the students will be made familiar

with the use of these appliances and will determine their electrical constants and operating characteristics. Special encouragement and opportunity for original work will be given. Visits to typical stations and factories are included in the course.

Prerequisite: Physics 5 and Mathematics 4. Physics 10 and 11 are desirable.

Six hours a week, counts 3.

THE MECHANIC ARTS LABORATORIES.

The instruction in these laboratories is given with a view to its cultural value, and not with the purpose of training the student in a handicraft. The student is taught to consider the relation between the physical peculiarities of the materials used and the shape and manipulation of the tools to work them; habits of neatness and orderliness are inculcated; precision of method is insisted upon; in short, manual training is taken to be a training *through* the hands, as well as *of* the hands.

Students using these laboratories are required to provide themselves with a suit of overalls, are held strictly accountable for the tools assigned to their use, and are charged for all material wasted.

The following electives are offered:

21. GENERAL ELEMENTARY WOODWORKING.

This includes the elements of joinery and wood-turning. The student is instructed in the use of the principal wood-working bench tools and in the typical operations of wood-turning. The structure and properties of wood are studied with the purpose of demonstrating the bearing of these on tool design and manipulation, and of developing notions of sound wood construction. The use of the speed lathe is taught by graded exercises and the student is made familiar with the parts of the machine tool used. This course is intended to be followed by 23 or 24 or both.

One term; six laboratory hours a week, counts 2.

22. FORGE AND FOUNDRY LABORATORY.

This laboratory is equipped with thirteen down draft forges and twenty-six anvils, with six molding benches, a core oven, a furnace for melting cast iron, three vise benches, a steam hammer, a drill press and the necessary hand tools to accommodate sections of twenty-six.

The greater part of the term is devoted to forge work, which comprises exercises in pointing, turning, flattening and bending, in the making of various kinds of welds, in steel working, hardening, annealing and tempering.

Enough work in chipping, filing, molding and casting is done to familiarize the students with these operations.

Frequent talks are given on the manufacture of the different varieties of iron, their properties, defects and suitability for various purposes.

One term; six laboratory hours a week, counts 2.

23. CABINET-MAKING.

This course includes instruction in the use of the wood-working machines and in shop management. This is especially valuable for those who wish to qualify to teach shopwork in the schools.

The equipment is for sections of twenty-six, and consists of twenty-six speed lathes, a pattern-maker's lathe, a band saw, a universal saw-bench, a drum and disk sander, a jointer or planing machine and a wood trimmer. Students use these machines only under the direct supervision of their instructor.

Prerequisite: Physics 21.

One term; six laboratory hours a week, counts 2.

24. PATTERN MAKING AND BRASS TURNING.

The principles of joinery and of turning are applied to the making of patterns in sufficient variety to exemplify typical patterns for small and medium-sized castings. Brass-turning will be exemplified by the making of small electrical connections and fittings.

The equipment is the same as in Physics 23.

This course is intended especially for students who expect to follow engineering.

Prerequisites: Physics 21 and 22.

One term; six laboratory hours a week, counts 2.

25. MACHINE TOOL LABORATORY.

This laboratory is equipped with seventeen lathes, two planers, two shapers, two milling machines, a universal grinder, a centering machine, a sensitive drill, a radial drill, a power hack saw, a hardening and annealing oven, and a double emery grinder. Over one-half the machines are provided with individual motor drive. The exercises on the lathe are graded and cover all the typical lathe operations. After the student has completed these lathe exercises, he takes up the work on the other machines and advanced lathe work. The student is required to make a careful study of each machine before being allowed to operate it.

Prerequisite: Physics 24.

One term, six hours a week, counts 2.

POLITICAL SCIENCE.

ECONOMICS.

1. ELEMENTS OF ECONOMICS.

An introductory course in the principles underlying the production, the distribution and the consumption of wealth. One lecture is given each week. The other two hours are devoted to recitation and discussion. Text, recitations and discussions.

Prescribed: one term, three hours a week, counts 3.

2. MONEY AND BANKING. *Professor Clark and Dr. Brisco.*

This course develops the origin and uses of money, the laws of money, the history of coin and paper money, the problems of rising prices, bimetallism and gold exchange, the history and the principles of banking and the problems of banking reform. Especial attention is given throughout to money and banking conditions in the United States. Lectures, required readings, text.

Prerequisite: Pol. Sci. 1. One term, three hours a week, counts 3.

3. IMMIGRATION AND TARIFF. *Professor Clark.*

This course is devoted to a study of two practical economic problems: Immigration and Tariff. Reports upon assigned phases of these problems are required from each student. Lectures, required readings, student reports, and discussions.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week, counts 3.

4. TRUSTS AND TRADE UNIONS. *Professor Clark.*

This course is devoted to a study of two practical economic problems: Trusts and Trade Unions. Reports upon assigned phases of these problems are required from each student. Lectures, required readings, student reports, and discussions.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

5. ECONOMICS OF BUSINESS. *Dr. Brisco.*

This course treats leading economic phases of the business world, such as corporate organization, markets, buying, selling, advertising, credit and credit agencies, store and factory safety and sanitation, wage systems, efficiency and scientific management. Required readings, reports, discussions and lectures.

Prerequisite: Pol. Sci. 1. Fall term; three hours a week, counts 3.

6. BUSINESS METHODS IN FOREIGN TRADE. *Dr. Snider.*

This course includes a study of the resources of the principal commercial nations, of their struggle for the markets, of their operant tariff systems and of world trade routes and a description of the financial, commercial and governmental institutions employed in promoting commerce. Particular attention through-

out is given to the resources and commerce of the United States. Reports, lectures, required readings in selected reference books,, trade journals, etc.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

GOVERNMENT.

11. AMERICAN CONSTITUTIONAL LAW. *Professor Guthrie.*

An interpretative study of the Constitution of the United States in the light of the actual workings of the governmental system. Text, lectures, discussions and case reports.

One term, three hours a week, counts 3.

12. INTERNATIONAL LAW. *Professor Guthrie,*

A study of the rules controlling the relations between nations. Text, recitations, discussions and case reports.

One term, three hours a week, counts 3.

14. POLITICAL THEORY. *Professor Guthrie.*

This course outlines the evolution of the State and presents historic and present political theories. American political theory is emphasized. Texts, lectures, recitations and student reports.

Fall term, three hours a week, counts 3.

15. COMPARATIVE GOVERNMENT. *Professor Guthrie.*

This course outlines five foreign governmental systems and presents systems of governing colonies and dependencies. Lectures, text, recitations and reports by the students. Text-book.

Spring term, three hours a week, counts 3.

SOCIOLOGY.

21. ELEMENTS OF SOCIOLOGY. *Professor Woolston.*

This course offers an introduction to the study of society. It treats of the origin and development of human institutions, of the principles of organization and the motives of group action. The laws of association, progress and social control are considered; the problems of adjustment, co-operation and uplift are indicated. Text, lectures and discussions.

One term, three hours a week, counts 3.

22. APPLIED SOCIOLOGY—PHILANTHROPY. *Professor Woolston.*

This course presents the facts and causes of poverty, describes methods of public and private relief, discusses the care of defectives, and indicates lines of constructive philanthropy. Special attention is given to the organization and work of local charitable institutions. Required readings, visits, student reports, lectures and discussions.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week, counts 3.

23. APPLIED SOCIOLOGY—CRIMINOLOGY. *Professor Woolston.*

This course deals with the character, causes and treatment of crime. It describes the criminal, his trial and punishment. Especial study is made of local courts, reformatories and preventative agencies. Required readings, student reports, lectures and discussions.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

24. MUNICIPAL AFFAIRS. *Professor Woolston.*

This course presents the problems arising from the growth of cities, describes the agencies developed to meet urban conditions, and analyzes the organization of municipal government. The social and political economy of the City of New York is the special theme for study. Required readings, student reports, lectures and discussions.

One term, three hours a week, counts 3.

25. STATISTICS. *Professor Woolston.*

The quantitative analysis of social groups. Introductory study of averages, variation and probability. Use of short methods and mechanical devices for calculation. Criticism of data, tabulation and graphic methods. Investigation of problems in demography, vital, administrative, moral and educational statistics. Text, laboratory, reports and discussions.

Prerequisite: Pol. Sci. 1. Two hours recitations and two hours laboratory, counts 3.

PUBLIC SPEAKING.

The purpose of the prescribed work of this department is the development of the art of public speaking. The students are first trained in the Principles of Expression and their elocutionary application, during the Freshman and Sophomore years; and then in Public Speaking proper, during the Junior and Senior years. The first, which treats the manner of delivery, is a necessary preparation for the second, in which, all the speeches being original, the emphasis is placed on the matter. All the prescribed courses (1 to 8) must be taken in sequence.

Classes are formed to give special help to those who, because of foreign birth or foreign influences, do not pronounce the English language well, and for those who have some impediment of speech, as lisping or stuttering.

I. EXPRESSION.

1-2. PRINCIPLES OF EXPRESSION.

Dr. Redmond and Mr. Freeburg.

(a) *Vocal Means of Expression.*

The appeal to the ear. Breathing, Articulation, Orthoepy, Modulation (including the application of vocal inflection to the various grammatical forms of discourse) and Emphasis. The aim of this work is to secure good articulation and pronunciation, and to enlarge the powers of expression through an appreciative study and delivery of English composition.

(b) *Visible Means of Expression or Gesture.*

The physical means that appeal to the eye. Oratorical and Dramatic gesture are treated, and a complete system of oratorical gestures is taken up in detail. The class-room work consists of lectures, pantomimes, and the delivery of selections with appropriate action.

Text-books: Palmer and Sammis, *Principles of Oral English*, and Bacon, *Manual of Gestures*.

Prescribed: two terms, one hour a week, counts 2.

3-4. PRACTICE IN EXPRESSION.

Mr. Hatch.

(a) *Prose Declamation.*

Dramatic and oratorical selections are declaimed, as much time as possible being given to actual practice in speech. As a preparation for delivery the students are required to make analyses of the intellectual and emotional content of their selections. The aim is to secure an intelligent and sympathetic rendition of the selections.

(b) *Poetry Declamation.*

The analytic method of preparation employed in (a) is continued, but especial attention is paid to the elements of composition

more clearly demonstrable in poetry than in prose, such as alliteration, assonance, onomatopoeia, rhyme, rhythm, cadence and melody. The aim is to secure a just vocal expression of the music and suggestiveness of poetry. Instruction is given by lectures and criticism.

Prescribed: two terms, one hour a week, counts 2.

II. PUBLIC SPEAKING.

A knowledge of the means of expression is presupposed, and a training in the delivery of original thought is given. All the work in courses 5, 6, 7, 8 is extemporaneous; memorizing is not allowed.

5. DEBATE. (First Term.)

Professor Robinson and Dr. Redmond.

Lectures are given on Evidence, the Principles of Argumentation and Brief Construction. This is followed by debates by the students. One debate, involving presentation and refutation, is given each period and is followed by a criticism of the students' floor work and by further instruction in presentation. A written brief showing research, analysis and arrangement must be presented by each student before he delivers his oral argument.

Prescribed: one term, one hour a week, counts 1.

6. DEBATE. (Second Term.)

Professor Robinson.

Less time is given to formal instruction and more is devoted to actual debating by the students. Briefs are required as in Course 5, but two debates are heard each period. The order of speaking is arranged so as to emphasize the practice in rebuttal, and the criticism seeks particularly to strengthen the student in his analysis of an opponent's argument and in his refutation.

Prescribed: one term, one hour a week, counts 1.

7. EXTEMPORANEOUS SPEAKING. (First Term.)

Professor Palmer.

The aim of this term's work is to acquaint the student with the various types of speeches and to give him abundant practice in delivering them. Instruction is given by lectures and criticism. The students' speeches are limited to seven minutes in length and five or six are heard each period. This enables each student to deliver many short, extemporaneous (though not impromptu) speeches during the term.

Prescribed: one term, one hour a week, counts 1.

8. EXTEMPORANEOUS SPEAKING. (Second Term.)

Professor Palmer.

The aim of the second term's work is to train the student in sustained power for the delivery of long speeches and in readiness

for participation in discussion from the floor. The work is conducted in convention form. One student is assigned to deliver, each period, a speech not less than twenty minutes in length. The others are then called upon to discuss it in shorter addresses of from four to five minutes. Thus each man is given one or two opportunities to speak at length, during the term, and many opportunities for shorter discussion from the floor.

Prescribed: one term, one hour a week, counts 1.

III. ELECTIVES.

The electives 9 and 10 are more strictly cultural and scientific than the prescribed, practical work of the department. They deal with the theory and history of public speaking rather than with the practical development of the art of public speech.

9. SCIENCE OF DEBATE.

Professor Robinson.

The regular Junior work in the Art of Debate is supplemented by a careful consideration of the science that underlies the art. Specimens of argumentation illustrating the different forms of reasoning are studied, until the student is able immediately to classify any argument presented to him and point out its vulnerable points. The several classes of fallacies are examined with the two-fold purpose in view (1st) of enabling the student to detect fallacies, and (2d) of enabling him to make clear to an audience the fact of fallacy and the reason for it. As much as possible of the student's class-room work is in the regular speech form.

One term, two hours a week, counts 2.

10. HISTORY OF ORATORY.

Professor Robinson.

The lives of the world's greatest orators are studied and examples of their eloquence are presented for appreciation and analysis. The rhetorical theories of the Greek writers, of Quintilian, Cicero and other Latins, as well as modern views on eloquence are explained and tested by the actual speeches of great orators. An attempt is made to give a sympathetic grasp of the crises which stirred the orators and led to their speeches. The times and the individual lives of the orators serve as a background for their works. The students receive special topics to look up and are given essay assignments.

One term, two hours a week, counts 2.

ROMANCE LANGUAGES.

FRENCH.

I. AS FIRST LANGUAGE.

7-8. Optional course of two semesters for Science students who have completed six terms of Academic French. Same as French 2 and 3 respectively.

II. AS SECOND LANGUAGE.

Course of four semesters prescribed for students who have chosen French as a second language. Each semester, four hours a week, counting thirteen credits in all.

1. INTRODUCTION TO FRENCH LITERATURE.

Biays' *Histoire de la Littérature Française*. A standard play is studied. François, *Introductory French Composition*. Review in grammar. Sight-reading in a modern writer.

2. NINETEENTH CENTURY LITERATURE.

Biays' *Histoire de la Littérature Française*. Extracts in Demogéot's *Textes classiques de la littérature française*, vol. II. Sight-reading in a modern writer. François' *Introductory French Prose Composition*.

3. THE CLASSICAL DRAMA.

Extracts in Demogéot's *Textes classiques de la littérature française*, vol. I. Two plays are read entire. Sight-reading in Delpit's *L'Age d'or de la littérature française*.

4. STUDIES IN XVIIITH CENTURY LITERATURE.

Certain authors are studied with special care, as Molière, La Fontaine, Boileau, Bossuet. A play of Victor Hugo is read at sight.

III. AS THIRD LANGUAGE.

5-6. Course of two semesters for Arts students who choose French as a third language. Each semester, three hours a week, three credits. Elementary grammar, reading, translation and composition.

IV. ELECTIVE.

9-10. ELEMENTARY.

A course in elementary grammar, reading of simple texts, translation into French, portions of the classical authors, outline of the history of French literature.

Elective for Juniors and Seniors who have not had French. Must be taken two consecutive semesters; five hours a week, counts 10.

11. XVIIITH OR XIXTH CENTURY PROSE.

Elective for those who have had French 4, or who have completed French 3 (or 8), with grade B, or French 6 with grade A.
Fall term; three hours a week, counts 3.

12. POETRY.

Some poems in former centuries are read, but the work deals mainly with the XIXth and XXth centuries.
Prerequisites as for French 11. Spring term; three hours a week, counts 3.

13. MODERN DRAMA. A.

History of French drama; special study of the XIXth century plays.
Prerequisites as for French 11. Fall term; two hours a week, counts 2.

14. MODERN DRAMA. B.

Methods as in 13, but differing in content.
Prerequisites as for French 11. Spring term; two hours a week, counts 2.

15. COMPOSITION.

Prerequisites as for French 11. One term, two hours a week, counts 2.

17-18. ADVANCED STUDY.

Work in Grammar, Diction, History of French literature, History of France.
Prerequisites: French 4 with Grade B, or for Science students French 3 with Grade A. Must be taken two consecutive semesters; two hours a week, counts 4.

19. SCIENCE READINGS. A.

Prerequisites: For Arts students 2 or 6, for Science students 3.
Fall term; two hours a week, counts 2.

20. SCIENCE READINGS. B.

Prerequisites as for 19. Spring term; two hours a week, counts 2.

ITALIAN.

1-2. ELEMENTARY.

A course in elementary grammar, reading of simple modern texts, exercises in translation into Italian, portions of the great classical authors, and an outline of the History of Italian literature. Texts: Arbib-Casta's *Italian Lessons*, Bowens' *First Italian Readings*, Martini's *Antologia della Prosa Moderna*, Grandgent's *Italian Composition*.

Elective for Juniors and Seniors who have not had Italian. Must be taken two consecutive semesters; five hours a week, counts 10.

SPANISH.

1-2. Course of two semesters for Arts students who choose Spanish as a third language. Each semester three hours a week, counts three. Elementary grammar, reading, translation and composition.

3. GALDÓS—MARIANELA.

Prerequisite 2: one term; two hours a week, counts 2.

4. MORATÍN—EL SÍ DE LAS NIÑAS.

Sight reading.

Prerequisite 3: one term; two hours a week, counts 2.

5. DON QUIJOTE.

Prerequisite 4: one term; two hours a week, counts 2.

6. LITERATURE.

Lectures giving briefly an outline of the History of Spanish literature. Reading of extracts from the works of some of the best authors and the writing of short essays by the students.

Prerequisite 4: one term; two hours a week, counts 2.

7-8. THE CLASSICAL DRAMA.

Lectures, and the reading of extracts from the works of Lope de Vega, Calderón, Juan Ruiz de Alarcón, Tirso de Molina and others.

Prerequisite 4: two terms, three hours a week, counts 6.

9-10. ELEMENTARY.

Open to Juniors and Seniors who have never studied Spanish. The work done in T 1 and T 2 and in 1 and 2 is completed in a single year. Text-books: the same as in the courses mentioned.

Two terms, five hours a week, counts 10.

EXAMINATION AND ADVANCEMENT.

In the college classes a student whose examination mark in any subject equals or exceeds 60 per cent. of the examination maximum, and whose term and examination marks together aggregate 60 per cent. of the term and examination maxima, shall receive a number of credits equaling the credit value of that subject.

The normal number of credits for each term is 16; but for special reasons the Committee on Course and Standing may permit a student to pursue subjects amounting to more or less.

The requirement for enrollment in a class is as follows :

For Upper Freshman.....	12	credits.
“ Lower Sophomore.....	28	“
“ Upper Sophomore.....	45	“
“ Lower Junior.....	61	“
“ Upper Junior.....	78	“
“ Lower Senior.....	94	“
“ Upper Senior.....	111	“
“ Graduation	128	“

And further, no student shall be enrolled as a Sophomore until he has removed all entrance conditions; provided, however, that any student who is carrying a schedule enabling him to be graduated shall be registered as an Upper Senior.

If at the end of any term in the college classes a student has not acquired the credits in any subject, he shall be reported either as *deficient* or *failed* in such subject; *deficient* when the aggregate of the term and examination marks equals or exceeds 50 per cent., provided the term mark is at least 60 per cent.; and *failed* in all other cases.

A student reported as *failed* in any subject must make up that subject by repeating the work in class. A *deficiency* may be removed by passing an examination at a time designated by the President, provided that if the deficiency be not then removed the student shall be rated as *failed*.

Unless he has the approval of the head of the department a student shall not be permitted to undertake a subject in that department until he has obtained the credits in those subjects announced as prerequisite.

A student who is required to repeat any work may, with the consent of the Committee on Course and Standing, take with a higher class other subjects, to which such work is not a prerequisite, sufficient to make up the prescribed number of credits, provided the hours do not conflict with the subjects he is pursuing with the lower class; and such students may be allowed by the Committee to take such subjects in a higher class in addition to the regular number of credits as may in its judgment be taken without injury to his other work. All extra work done

by such student in the attempt to regain standing must be by regular attendance in class room.

Work in a higher class than that in which a student is enrolled may be done only with the consent both of the head of the department and of the Committee.

A student shall not be graduated until he has received for every term the credits prescribed for that term, and until all his indebtedness to the college has been discharged.

The case of any student apparently guilty of communicating, copying or other like offense during examination, shall be referred to the Faculty for consideration.

HONORS.

Class.—There shall be published annually in the Register an “Honorable Mention List” for each of the four college classes. In the Freshman and Sophomore classes this list shall contain four grades, and in the Junior and Senior classes it shall contain but three grades, the lowest grade being omitted. In all the grades the names shall be printed alphabetically without marks.

Failure to attain 60 per cent. in one subject shall debar a student from any of these grades.

Commencement.—At commencement there shall be two grades of honors:

First—The *summa cum laude* shall be granted to those students who have received 90 per cent., or over, of the total aggregate of maxima from the beginning of the Freshman to the end of the Senior year.

Second—The *cum laude* shall be granted to those students who have received from 85 to 90 per cent. of the total aggregate of maxima from the beginning of the Freshman to the end of the Senior year.

Subject.—Honorable mention will be made at graduation of those students who during their course have shown exceptional ability in some department.

MEDALS AND PRIZES.

THE PELL MEDALS.

In 1849, Duncan C. Pell, by a gift of \$500, established a gold medal, to be awarded annually to the student who shall rank highest in all the studies of the year taken together; and in 1856 the donor authorized the trustees of the fund to devote a portion of the income to the provision of a silver medal to be given to the student who shall rank second.

Trustees: The Chairman of the Board of Trustees, the President of the College.

THE CROMWELL MEDALS.

In 1850, Charles T. Cromwell, by a gift of \$500, established a gold medal, to be awarded annually to the best scholar in History and Belles-Lettres; in 1856 the donor authorized the provision of a silver medal for the second scholar.

Trustees: The President of the College, the Professor of History, Hon. Stuyvesant Fish.

THE WARD MEDALS.

In 1853, Augustus H. Ward established twenty bronze medals, one for each of the studies named, to be awarded annually to the student of most proficiency therein, provided he shall have regularly pursued each study for not less than two months of the collegiate year then closing; a student gaining one medal not to be precluded from gaining others at the same time or subsequently.

The subjects are: Chemistry, Natural History, Natural Philosophy, Moral Philosophy, Political Science, English, Greek, Latin, French, Spanish, German, Oratory, Composition, Logic, Astronomy, History, Drawing, Algebra and Geometry, Descriptive Geometry, Botany.

Trustees: The Board of Trustees.

THE PRIZE OF THE BOARD OF TRUSTEES AND THE DRUMMOND PRIZE FOR PUBLIC SPEAKING.

In 1852, the President of the Board of Education established a prize for excellence in public speaking. It is continued by the present Board of Trustees.

Members of the Junior and Senior classes present original orations to compete for the privilege of entering the contest. Six are selected to be delivered in public for the prize.

In 1901, Mr. Lewis F. Drummond, of the Class of 1888,

offered a prize for excellence in public speaking, in memory of Mrs. Jane M. Drummond, of the Normal College class of 1890, to be awarded to the student who stands second in the competition for the Prize of the Board of Trustees. The award, of the value of twenty dollars, is granted annually by the donor.

THE ROEMER PRIZE.

For thirty-eight years the late Professor Roemer provided anonymously a prize for the best declamation of poetry. In recognition of this fact and in honor of his memory and name, the Roemer Prize was established by a group of officers and graduates of the College. The speakers are selected from the Sophomore class by competition. The declamations are delivered on the same occasion as the prose orations, and judged by the same judges. The Trustees of the fund (\$300) are the Chairman of the Board of Trustees of the College, the President of the Associate Alumni, and one other.

THE RIGGS MEDAL.

In 1864, Elisha Riggs, by a gift of \$1,000, established a gold medal to be annually awarded to the author of the best English prose composition in the Senior or Junior class. The subject is announced early in the term, and the essays must be handed in on the last day of recitations in May, each signed with pseudonym and accompanied by the student's real name in a sealed envelope.

Trustees: The President of the College, the Professor of History, the Professor of the English Language and Literature.

THE KELLY PRIZES.

In 1868, James Kelly, by a gift of \$1,000, established two prizes for debate and literary criticism. One prize is given to the best debater in the Literary Societies, three contestants being chosen by the Clonian Society, and three by the Phrenocosmian. The Chairman of the Board of Trustees selects the subjects and submits it to the Faculty for approval.

The other prize is given to the member of either Society who shall write the best critique on some work of English literature. The subject is announced before the Christmas vacation, and the essays must be handed in on the last day of recitations in May.

The judges of the debate are selected by the Chairman of the Board of Trustees; the judges of the essays are the President of the College, the Professor of History and the Professor of the English Language and Literature.

THE CLAFLIN MEDALS.

In 1871, John Clafin, by a gift of \$1,250, established two gold and two silver medals, which are awarded as follows:

A gold medal to the student of the Senior Class electing Greek who shall pass the best competitive examination in that and a gold medal to the student of the Senior Class electing Latin who shall pass the best competitive examination in that subject, it being provided, however, that in either subject the medal may be offered to the Junior instead of to the Senior Class, at the discretion of the Head of the Department; a silver medal to the student of the Freshman Class most proficient in Greek; and a silver medal to the student of the Freshman Class most proficient in Latin.

THE BELDEN PRIZES.

In 1883, William Belden, by a gift of \$1,000, established prizes for excellence in Pure Mathematics, the nature of the prizes and the terms of their award to be determined from time to time by the President of the College and the Professor of Pure Mathematics.

At present the prizes are awarded annually on Commencement Day, in the Junior and Sophomore classes, as follows:

1. A gold medal to the student in each class of greatest proficiency in the studies of the department during the year. This greatest proficiency is to be determined either by the marks from recitations and examinations, or by a special competitive examination, as may in each case seem best to the Trustees of the Prize.

2. A silver medal to any other student, in either class, whose aggregate marks for recitations and examinations shall reach ninety-five per cent. of the maximum.

Trustees: The President of the College, the Professor of Pure Mathematics.

THE F. W. DEVOE AND COMPANY PRIZES.

In 1885, F. W. Devoe & Co. offered two annual prizes, each to consist of a set of drawing instruments of the value of twenty-five dollars for proficiency in the Mechanic Arts. They are to be awarded by a committee, consisting of the President of the College, the Chairman of the Board of Trustees and the Professor of Physics, to the student of greatest merit, in the first and second years respectively, of the work in Mechanic Arts. The merits of the competitors are to be judged by the excellence and quickness of their work, and by the improvement made by them during the year. In 1909 the donors modified their gift by making provision for the award at each semi-annual commencement.

THE KETCHUM PRIZES.

In 1891, Col. Alexander P. Ketchum, of the Class of 1858, established two prizes in the History of Philosophy and two prizes in Political Economy, the awards to be made by the professors, on the papers presented in the regular final examinations.

The Trustees of the Fund (of \$1,000) are the President of the College, Professor Werner, and W. Rogers Westerfield, Esq.

THE BENNETT PRIZE IN POLITICAL SCIENCE.

In 1893, James Gordon Bennett, by the gift of \$1,000, established a prize to be given annually upon Commencement Day to the "member of the Senior Class who shall have taken the prescribed course of the institution in Political Science and English Literature, and who shall have prepared the best essay in English prose upon some subject of American governmental domestic or foreign policy of contemporaneous interest." The subjects are announced and the decision is rendered by the Faculty of the College.

THE RALPH WEINBERG MEMORIAL PRIZE.

In 1898, Miriam Richter, by a gift of \$500, established an annual prize to be awarded to that student of the Senior Class who shall present the best oration upon a topic approved by the Professor of the English Language and Literature. This prize is to be known as the Ralph Weinberg Memorial Prize.

Trustees: The President of the College, the Professor of History, and the Professor of the English Language and Literature.

THE DRUMMOND HISTORY PRIZE.

In 1903, Mr. Lewis F. Drummond, of the Class of 1888, offered a prize consisting of a gold medal, to be awarded to that student of the Junior Class who submits the best essay on local self-government in America, or a given phase of it, treated mainly with reference to its historical development. The topic is given out by the Professor of History. A committee of three, including the Professor and two other instructors of the department, awards the prize.

THE PRAGER MEMORIAL PRIZE.

In 1903, Mr. William Prager established a prize in memory of his son, David Prager, of the Class of 1903, which is awarded to that member of the Senior Class who receives the highest aggregate mark in his studies for the Senior year.

THE KENYON PRIZES.

In 1904, Messrs. William H. Kenyon, Alan D. Kenyon, and Robert N. Kenyon, all graduates of the College, by the gift of \$1,000, established a gold and bronze medal, to be awarded annually at Commencement to those students who, in the course of the year, attain the highest distinction in Pure and Applied Mathematics. The Trustees of the Fund each year determine the award.

The present Trustees are President Finley, W. H. Kenyon, and

THE GENERAL TREMAIN PRIZE.

In 1908, General Henry Edwin Tremain, of the Class of 1860, established for a period of ten years—and longer if provision be made for the purpose meantime—two annual prizes, the first prize of one hundred and fifty dollars (\$150.00), and the second prize of fifty dollars (\$50.00); such prizes to be awarded annually, under rules and regulations to be made by the Faculty of the College, for the best essays on the theme "Causes, Conduct and Conclusions of the Great Civil War in the United States." The competitors are to be members of the Senior and Junior classes, and the prizes are to be awarded by two judges who shall be annually selected, one by the Faculty and one by the Commander for that year of the New York Commandery of the "Military Order of the Loyal Legion of the United States"; the two judges thus selected, in case they disagree as to the award, to appoint a third judge. For this year the judges are Brigadier-General James N. Allison, U. S. A., and Max J. Kohler, Esq.

THE JAMES R. STEERS PRIZE.

In 1912, Mr. James R. Steers, of the Class of 1853, established a fund the interest on which is devoted to the payment of an annual prize, or semi-annual prizes, for excellence in the Department of Art, the basis for such award, and the character of such award or awards, to be determined from time to time by the Trustees of this Fund. The Trustees are the President of the College, the Professor of Art, and the Chairman of the Board of Trustees.

THE LIBRARY.

The Library of the College contains 61,467 volumes, 16,269 of these being distributed in twelve departmental libraries and 45,198 being classified in the general library as follows:

Reading-room Collection.....	2,838	Science, General and Miscel-	
Bibliography	218	laneous	1,989
Periodicals and Societies'		Physics	908
Publications	2,302	Chemistry	437
Astronomy	287	Latin Philology	937
Geology and Natural History	407	Greek Philology	779
Biological Sciences	679	Sanskrit, Semitic and other	
Anthropology	262	non-Aryan Philology	172
Psychology	223	Philosophy	481
Ethnology	315	Theology.....	907
History, Social-political	10,101	United States Documents....	5,529
Social Sciences	2,023	Unclassified and Miscellane-	
Useful Arts	415	ous	2,972
Fine Arts	1,201	Antiquated, Duplicates, etc...	1,247
Philology, General and Misc.	500		<hr/>
English Language and Liter-		General Library	45,198
ature	4,400	Departmental Libraries..	16,269
Germanic and Slavonic Phi-			<hr/>
lology	1,200	Total	61,467
Romance Philology	1,469		

Besides these there are about 10,000 pamphlets, and several of the departments of instruction have small departmental libraries.

Books may be borrowed from the library by the instructors, by the students, by the alumni upon a deposit of \$10, and by the teachers in the public schools of the city.

Purchases are made with the income of the Seth M. Grosvenor fund of \$30,000 and the Ephraim Holbrook fund of \$5,000, which were established in 1857 and 1852, respectively. Many volumes have been presented by authors, publishers and others. The Board of Trustees annually appropriates funds for library purposes.

In 1907, Mr. James R. Steers, of the Class of 1853, gave a fund of \$10,000, the interest on said fund to be applied to the purchase of such scientific books as the President of the College may direct, for the use of members of the instructional staff and the students and such other persons as the President may designate. The books are at present purchased from this fund for the Departments of Chemistry, Natural History and Physics.

In 1909, by the generous donation of Mr. John Clafin, of the Class of 1869, the library of the late Professor Simon Newcomb, of Washington, D. C., was purchased for the library. Mr.

Clafin has also supplied a catalogue for this library. The Newcomb Library contains about 4,000 volumes and 2,000 pamphlets.

In 1910, Mr. Adolph Lewisohn made a donation for the purchase of books for the library of the Department of German.

In 1912, Mr. Felix M. Warberg gave a fund of \$2,500, the interest on which is applied to the purchase of books for the library of the Department of Natural History.

The Class of 1885, on the occasion of the twenty-fifth year of graduation in 1910, resolved upon a gift to the College, and the following year gave the Department of Romance Languages a library of about one thousand French volumes and established a permanent fund which will enable the department to purchase forty or fifty volumes a year. This library was inaugurated on the 11th of May, 1911, in the presence of M. Jules Jusserand, Ambassador from France, and accepted for the College by President Finley.

STUDENT GOVERNMENT.

Supervision of student activities and control of interclass functions are in the hands of a Student Council which is composed of representatives chosen by the students. Regular meetings are held at which questions concerning the welfare of the students and of the college are discussed. The results have been helpful both to the student body and to the Faculty.

COLLEGE PERIODICALS.

Every periodical or paper published by the students, and sold or distributed by them within the College, shall have printed upon it the name of the managing editor, who shall be a student.

No such periodical or paper shall be sold or distributed in the College until the President shall be satisfied that the foregoing regulation has been complied with.

It shall be the duty of the managing editor to exclude from the columns of the College publication controlled by him all discourteous remarks on the officers or management of the College.

For any infraction of the preceding rules the managing editor shall be held responsible.

No periodical or paper, whose managing editor has violated the preceding rules, shall be sold or distributed in the College while he remains the editor.

COLLEGE ATHLETICS.

The Athletic Organizations of the College are under the supervision of the Faculty Athletic Committee. This committee has adopted and published rules for the purpose of maintaining a proper academic standing among the athletes of the institution,

and of securing a clean amateur policy in the various student athletic enterprises. No student is permitted to go into training whose organic condition makes such a procedure unsafe.

The executive work connected with the management of the teams and the general administrative details are conducted by an Athletic Association through a board of officers elected by the students.

This Association offers a number of opportunities to those students who desire to secure business and managerial experience in connection with athletic enterprises. The College supervision of these enterprises restricts student initiative as little as possible although a careful and persistent effort is made to secure reliable and effective business methods in all of the transactions of the Association. This supervision of business details is secured through the authority of the Faculty Athletic Committee and through the services of various of the instructors in the Department of Physical Instruction and Hygiene. The services of instructors from other departments are frequently utilized for this purpose.

During the last year the City of New York turned over to the College two entire city blocks immediately south of the Gymnasium building. These blocks are to be transformed into an athletic field for the use of the Department of Physical Instruction and Hygiene and for the benefit of the entire student body. Plans are now being laid for the construction of an adequate Stadium which, it is hoped, will be equipped with such conveniences as to make it available for indoor and out-of-door work throughout the entire College season.

STUDENTS' AID FUND.

In 1857 the Associate Alumni established a fund for the purpose of granting pecuniary aid to such students as might otherwise find difficulty in completing their College course. This fund is maintained by contributions from the alumni. In 1865 the Students' Aid Association was incorporated under the laws of the State of New York. The management of the fund is committed to five trustees, who loan, without interest, such sums as they think proper to deserving students. Neither the names of those to whom the loans are made, nor the amounts of the loans, are known to any but the trustees and the auditors of the fund. Further information may be obtained by consulting any one of the trustees.

The following are the present trustees:

John R. Sim, '68, President.....Office, T. H. Hall.
Edmund Burke, '90, Treasurer.....Room 224, College.
Alfred D. Compton, '97, Secretary.....Room 116, College.
Sigmund Pollitzer, '79.....51 East 60th Street.
William H. Kenyon, '76.....49 Wall Street.

STUDENT EMPLOYMENT.

In view of the large number of students of the College compelled to contribute toward their own support, a Committee on Employment has been appointed from the Faculty to aid in bringing together those wishing work and those who want extra or part time work done.

The work sought for students is mainly afternoon and evening work, and on Saturdays, holidays and during vacations in summer and winter. For this purpose the Committee maintains a bureau in the Main Building of the College in Room 305A. All the expenses of the bureau, such as clerk hire, circularizing places of business, stationery, etc., are defrayed by Alumni and other friends of the College. No fee is demanded from the students, but simply the faithful performance of whatever work is secured for them. The success of the bureau depends largely upon the conscientious fulfillment of the tasks assigned to the students by their employers.

LITERARY SOCIETIES.

Two literary societies, the Clonian and the Phrenocosmian, have for many years been maintained by the students of the College. Membership in these is confined to the students of the Junior and Senior classes. A third society, the Adelphian, is supported from the Freshman and Sophomore classes. They are devoted to the cultivation of the arts of composition, oratory and debate, and the promotion of friendly intercourse between students. Weekly meetings are held during the Collegiate year. The first two societies annually choose the contestants for the Kelly Prize Debate.

TERMS AND VACATIONS.

There are three vacations in each Collegiate year:

Summer Vacation—From the day after Commencement to the Thursday after the second Monday in September.

Winter Vacation—From the 24th day of December to the 1st day of January, inclusive.

Spring Vacation—The week either preceding or following Easter.

There are no College exercises on Saturdays, on the 12th of February, on the 22nd of February, on Good Friday, on Decoration Day, on Election Day, on Thanksgiving Day, or on any Friday immediately following a legal holiday, a College holiday, or a regular vacation. The College year ends on the fortieth Thursday after the opening in September, on which day the Commencement is held. The College year is divided into two terms

COMMENCEMENT.

JUNE 20, 1912.

GRADUATION HONORS.

Cum Laude.

For having received from 85 per cent. to 90 per cent. of the total aggregate of maxima from the beginning of the Freshman to the end of the Senior year.

Cecil B. Dyer.

SENIOR ADDRESSES.

"Wisdom"	Emanuel Cohen
"Character"	Maurice L. Nadler
"Faith"	Cecil B. Dyer

AWARD OF PRIZES.

The Pell Medals.

To the student who shall rank highest in all the studies of the year:

Gold	Morton Gottschall.....	Junior
Silver	Samuel I. Rosenman.....	Freshman

The Cromwell Medal.

For proficiency in History:

Gold	Everett D. Hood.....	Freshman
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The Ward Medals.

For the greatest proficiency in:

Chemistry	Samuel Ginsburg.....	Senior
Natural History.....	William J. Crozier.....	Senior
Moral Philosophy	Joseph Raywid.....	Senior
Honorable Mention	George Landy.....	Senior
Honorable Mention	Philip Leiboff.....	Senior
Political Science	Hyman L. Roth.....	Junior
English	Sidney Abrams.....	Junior
Greek	Morton Gottschall.....	Junior
Latin	Morton Gottschall.....	Junior
French	Paul F. Frabbito.....	Junior
German	Adolph Noschkes.....	Senior
Spanish	Max M. Sindeband.....	Freshman
Composition	Morton Gottschall.....	Junior
Logic	Hyman Feldman.....	Sophomore

The Ward Medals—Continued.

For the greatest proficiency in:

Astronomy	William Hasenfratz	Junior
History	Jacob Umans	Senior
Descriptive Geometry	Morris Horowitz	Freshman
Botany	Cullen Adlerblum	Senior
Algebra and Geometry	Charles H. Lehman	Upper B Class
Honorable Mention	Thomas R. Clendenin	Upper B Class
Public Speaking	Philip R. V. Curoe	Senior
Natural Philosophy	Maurice L. Nadler	Senior

Certificate of Equal Merit:

Logic	Harry Rotkowitz	Sophomore
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The Drummond History Prize.

Medal	Morton Gottschall	Junior
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The Prager Memorial Prize.

Medal	Cecil B. Dyer	Senior
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The Ketchum Prizes.

For proficiency in Philosophy:

First	George Landy	Senior
Second	Cecil B. Dyer	Senior
Honorable Mention	Morris Kaufman	Senior
Honorable Mention	David J. Schweitzer	Junior

For proficiency in Political Science:

First	Morris Cohen	Junior
Second	Morton Gottschall	Junior

The Ralph Weinberg Memorial Prizes.

For the best written oration:

Medal	George Landy	Senior
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F. W. Devoe and Company Prizes.

For proficiency in Mechanic Arts:

Metal Working	Alexander L. Shluger	Sophomore
Wood Working	Hans Bjorck	Freshman

The Claflin Medals.

For proficiency in Greek:

Silver	Alexander Kadison	Freshman
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For proficiency in Latin:

Gold	Charles Pape	Senior
Honorable Mention	Arthur Silverman	Senior
Silver	Samuel I. Rosenman	Freshman

The General Tremain Prize.

For the best essays on the theme "Causes, Conduct and Conclusions of the Great Civil War in the United States":

FirstGeorge Landy.....Senior
SecondAbraham Gergofsky.....Junior

The Bennett Prize.

For the best essay in Political Science:

FirstWilliam G. Steinmetz.....Senior

The Riggs Medal.

For the best English Prose Composition:

FirstMorton Gottschall.....Junior
Honorable MentionMeyer Cohn.....Junior

The Kelly Prizes.

For the best critique on English Literature:

PrizeMeyer Cohn.....Junior
For the best debate.....Hyman SchwartzJunior

The Prize of the Board of Trustees.

For the best oration.....David Boehm.....Senior

The Drummond Prize.

For the second best

orationEmanuel M. Weinraub.....Senior

The Roemer Prize.

For the best Poetry

DeclamationHarry Rotkowitz.....Sophomore

HONORABLE MENTION.

In Chemistry.

Emil J. Baumann
William J. Crozier
Harry Dubin
Matthew M. Feldstein
Edward M. Frankel
Samuel Ginsburg
Edward J. Kelley
Abram N. Kerner
Maurice L. Nadler
Monroe J. Schlesinger
Harry I. Shultz
Alexander A. Singer
Paul Ullman
George Willett

In Education.

Harry Hershkowitz
Abram N. Kerner
Joseph Lichtenberg
Isidor Nanes

In English.

H. Anthony Boger
Cecil B. Dyer
Harry Hershkowitz

In German.

Benjamin Frumberg
Samuel Ginsburg
Adolph Noschkes

In History.

Cecil B. Dyer
Mark Frackman
Barnett Goldfarb
Louis Kraft
Joseph Machlowitz

In Mathematics.

Matthew M. Feldstein
Hyman I. Jacobson

In Natural History.

Frederick Abramson
Cullen Adlerblum
William J. Crozier
Monroe J. Schlesinger
Cornell R. Smith

In Philosophy.

Emanuel Cohen
Cecil B. Dyer
Benjamin Frumberg
Milton Hochenberg
George Landy
Philip Leiboff
Maurice L. Nadler
David J. Schweitzer
Arthur Silverman

In Physics.

Maurice L. Nadler

In Political Science.

Emanuel Cohen
Theodore Cohen
Sol Goldberg
Morris Kaufman
George Landy
Isidor Nanes
Eugene C. Raggie, Jr.

In Romance Languages.

Cecil B. Dyer
Barnett Goldfarb
Milton Hochenberg
Eugene C. Raggie, Jr.

DEGREES CONFERRED.

Bachelor of Arts.

Adlerblum, Cullen	Kaplan, Boris
Alstat, Philip	Kaplan, David I.
Birnbaum, Alexander	Kaplan, Jacob
Boehm, David	Kaufman, Morris
Boger, H. Anthony	Keisler, Samuel
Borden, William H., Jr.	Kelly, Thomas
Bull, William J.	Landy, George
Cahn, Harry	Lappen, James H.
Coughlin, George	Leibowitz, Isidor
Davis, Herman B.	Levinsohn, Joseph
Donaldson, George	Levy, Harry
Drucker, Lewis	Low, Philip
Dyer, Cecil B.	Malone, Harry T.
Feldman, Henry	Nachumson, Edward
Fensterblau, Louis	Noschkes, Adolph
Frackman, Mark	Notarius, Louis
Friedman, Louis	Raywid, Joseph
Frumberg, Benjamin	Reich, Leo
Goldberg, Sol	Sabbatino, Peter L. F.
Goldfarb, Barnett	Schloss, Carl
Goldman, Paul	Selmanowitz, Milton
Goldstein, Henry M.	Shientag, Jacob
Gottlieb, Moses	Shiple, Joseph T.
Graner, Arthur	Silverman, Arthur
Green, Nathan	Silverstein, Jacob
Grollman, Meyer	Smith, Cornell R.
Hochenberg, Milton	Smithline, Harry
Jacobs, Elias	Ward, Joseph P.
Jacobson, Hyman I.	Weinraub, Emanuel M.
Janover, Cyrus J.	Wiener, Abraham
July, Robert H.	Wolinsky, Philip
Kadlec, Thomas	

Bachelor of Science.

Abramson, Frederick	Dubin, Harry
Altschul, Alexander	Duffy, Vincent J.
Baumann, Emil J.	Fabis, Adolph I.
Bischoff, Sylvan H.	Feldbaum, Jacob
Bookey, Isidore	Feldstein, Matthew M.
Cohen, Abraham	Fielding, Franklin R., Jr.
Cohen, Emanuel	Flegenheimer, Monroe
Cohen, Morris	Frank, Solomon
Cohen, Simon H.	Frankel, Edward M.
Cohen, Theodore	Frankel, Edward T.
Crozier, William J.	Ginsburg, Samuel

Hecht, William C.
Hershkowitz, Harry
Hertz, Michael
Hollander, Edward
Horowitz, Samuel R.
Jonas, Philip
Kelley, Edward J.
Kerner, Abram N.
Kohs, Samuel C.
Kosches, Reuben
Kost, Edgar L.
Kraft, Louis
Leiboff, Philip
Levinson, David
Levy, Samuel
Lichtenberg, Joseph
Lind, Ira N.
Machlowitz, Joseph
Nadler, Maurice L.
Nanes, Isidor

Nolan, Joseph P.
Posner, Henry
Potash, Louis
Raggie, Eugene C., Jr.
Sandak, Louis
Schlesinger, Monroe J.
Schnitzer, Max M.
Schweitzer, David J.
Shapiro, Harry
Shultz, Harry I.
Siegel, Samuel
Singer, Alexander A.
Stork, Wilford L.
Strumwasser, Samuel
Ullman, Paul
Umans, William
Waldron, Charles A.
Widockler, Philip
Wiener, Morris
Willett, George

COMMENCEMENT.

FEBRUARY 13th, 1913.

GRADUATION HONORS.

Cum Laude.

For having received from 85 per cent. to 90 per cent. of the total aggregate of maxima from the beginning of the Freshman year to the end of the Senior year.

Philip R. V. Curoe, Benjamin Elwyn, Selig Hecht

SENIOR ADDRESSES.

"The Passing of the Family".....Samuel Davis
"The Broader View".....Max Lieberman
"Hope"Philip R. V. Curoe

AWARD OF PRIZES.

The Pell Medals.

To the student who shall rank highest in all the studies of the year :

GoldPhilip R. V. Curoe.....Senior
SilverHarry Eisner.....Sophomore

The Cromwell Medal.

For proficiency in History :

GoldJoseph J. Zweifel.....Sophomore

The Ward Medals.

For the greatest proficiency in :

ChemistrySelig Hecht.....Senior
Natural HistorySelig Hecht.....Senior
Natural PhilosophyEdward E. Bloodgood.....Senior
Moral PhilosophyPhilip R. V. Curoe.....Senior
Honorable MentionSelig Hecht.....Senior
Honorable MentionHarry R. Fox.....Senior
Political ScienceJoseph B. Strauss.....Junior
EnglishDavid W. Park.....Sophomore
GreekSidney Abrams.....Junior
Honorable MentionDavid Schneidman.....Junior
LatinSidney Abrams.....Junior
FrenchDaniel Tenrosen.....Junior
Descriptive GeometryRobert J. McAusland.....Freshman
OratoryPhilip R. V. Curoe.....Senior
CompositionNathaniel Rosenzweig.....Junior
LogicMax A. Slavin.....Sophomore

The Ward Medals—Continued.

For the greatest proficiency in:

History	Jacob M. Richman.....	Senior
Honorable Mention	Edward E. Bloodgood.....	Senior
Honorable Mention	William G. Steinmetz.....	Senior
Botany	Jacob Greenberg.....	Freshman
Spanish	Jesse Raphael.....	Senior
Algebra and Geometry	Carl Thumin.....	Upper B.

The Prager Memorial Prize.

Medal	Philip R. V. Curoe.....	Senior
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The Ketchum Prizes.

For proficiency in Political Science:

First	Emanuel Obstfeld.....	Junior
Second	Sidney Abrams.....	Junior

For proficiency in Philosophy:

First	Selig Hecht.....	Senior
Second	Philip R. V. Curoe.....	Senior

The Ralph Weinberg Memorial Prize.

For proficiency in English:

Medal	Meyer Cohn.....	Junior
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The F. W. Devoe and Company Prizes.

For proficiency in Mechanical Arts:

Metal Working	Donald McConnoughy.....	Freshman
Wood Working	John Boschen.....	Freshman

The Clafin Medals.

For proficiency in Greek:

Gold	Morton Gottschall.....	Senior
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For proficiency in Latin:

Silver	Morton Abrahams.....	Freshman
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The Prize of the Board of Trustees.

For best Oration.....	David E. Grant.....	Junior
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The Drummond Prize.

For second best Oration... Samuel Davis		Senior
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The Roemer Prize.

For best Poetry

Declamation	James W. Donoghue.....	Sophomore
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HONORABLE MENTION.

In Natural History.

Selig Hecht
Moses A. Orange

In Philosophy.

Benjamin Elwyn
Selig Hecht
Charles Schwartz
Bertram Sommer

In Physics.

Julian Barth
Jacob Umans

In Political Science.

Arthur Huebsch
Samuel Keepnews
Daniel Nessler
Henry J. Newman
Jacob M. Richman
William G. Steinmetz

In Romance Languages.

Philip Abramovitz
Arthur Huebsch
Herman Lax
Bertram Sommer
Benjamin Wallack

In Chemistry.

Abraham M. Aronson
Julian Barth
Philip R. V. Curoe
Selig Hecht
Louis Kornfeld
Jacob Lattman
Jacob Umans

In Education.

Philip R. V. Curoe

In English.

Samuel Charles Cohen
Philip R. V. Curoe
James Englander

In Greek.

Benjamin Elwyn
Mervin Isaacs

In History.

Philip Abramovitz
Jacob M. Richman
Abraham Schapiro

In Mathematics.

Julian Barth
Louis A. Goldman
Henry Shattyn

DEGREES CONFERRED.

Bachelor of Arts.

Abramovitz, Philip
Aronson, Abraham M.
Auerbach, Joseph
Berkowitz, Nathan
Bradner, Palmer
Cohen, Morris
Cohen, Samuel Charles
Davis, Samuel
Donnelly, Albert E., Jr.
Elwyn, Benjamin
Englander, James
Fox, Harry R.
Fromm, Louis

Gewirtz, Max
Goldberg, Jacob A.
Goldman, Louis A.
Gordon, Harry F.
Greenky, Abraham
Hellman, Philip
Huebsch, Arthur
Isaacs, Mervin
Isaacson, Samuel
Keepnews, Samuel
Kohn, Jerome
Lax, Herman
Levy, Harold

Lieberman, Max
Lissauer, Herman
Nessler, Daniel
Netter, Joseph
Newman, Henry J.
Pape, Charles, Jr.
Prashker, Louis
Rothstein, Herman Z.
Savitsky, Nathaniel
Schapiro, Abraham
Schwartz, Charles

Siegel, Louis
Slutzker, Joseph
Sommer, Bertram
Sporn, Harry
Steinhoff, Charles
Stern, Max
Steuer, Bernard
Stollmack, Martin
Wallack, Benjamin
Weissberger, Joseph

Bachelor of Science.

Abelson, Joseph
Barth, Julian
Bloodgood, Edward E.
Bloom, Jesse R.
Bose, Henry P.
Cohan, Herbert
Curoe, Philip R. V.
Dircks, Curt
Eisenberg, Louis
Gerber, Herman
Glassenberg, Abraham L.
Greenberg, David
Hecht, Selig
Jurans, Robert
Kautsky, George C.
Kornfeld, Louis

Lattman, Jacob
Lindholm, Thor C.
Lockwood, Walter
Miller, Samuel
Nagelberg, J. Leo.
Novotny, Robert
Orange, Moses A.
Rabinoff, George
Richman, Jacob M.
Rovitch, John Charles
Safren, Louis
Schwarzbarth, Max
Shattyn, Henry
Steinmetz, William G.
Umans, Jacob

HONORABLE MENTION LIST.

Grade A includes those who have received 90 per cent. or more of the total aggregate of marks for the term.

Grade B includes those who have received from 85 to 90 per cent.

Grade C includes those who have received from 80 to 85 per cent.

Grade D includes those who have received from 75 to 80 per cent.

TERM ENDING JUNE, 1912.

Class of June, 1912.

A	Ginsburg, Samuel
Dyer, Cecil B.	Green, Nathan
	Hochenberg, Milton
B	July, Robert H.
Adlerblum, Cullen	Kerner, Abram N.
Cohen, Emanuel	Landy, George
Kost, Edgar L.	Leiboff, Philip
Raggie, Eugene C., Jr.	Lind, Ira N.
	Nadler, Maurice L.
C	Nanes, Isidor
Baumann, Emil J.	Noschkes, Adolph
Boger, H. Anthony	Schlesinger, Monroe J.
Cohen, Morris	Shientag, Jacob
Crozier, William J.	Silverman, Arthur
Frackman, Mark	

Class of February, 1913.

A	Keepnews, Samuel
Curoe, Philip R. V.	Lax, Herman
Hecht, Selig	Newman, Henry J.
	Orange, Moses A.
B	Pape, Charles, Jr.
Elwyn, Benjamin	Prashker, Louis
	Richman, Jacob M.
C	Savitsky, Nathan
Abramovitz, Philip	Schwartz, Charles
Aronson, Abraham M.	Sommer, Bertram
Berkowitz, Nathan	Steinhoff, Charles
Englander, James	Steinmetz, William G.
Glassenberg, Abraham L.	Stollmack, Martin
Goldman, Louis A.	Umans, Jacob
Huebsch, Arthur	Wallack, Benjamin
Kautsky, George C.	

Class of June, 1913.

A	Fox, Harry R.
Gottschall, Morton	Hasenfratz, William
B	Herzstein, Joseph
Dieuaide, Francis R.	James, Maxwell
Gergofsky, Abraham	Kuhn, Alfred S.
Hartwig, Alfred A. D.	Lurie, Isidore J.
Israel, Lester L.	Meyer, Emanuel M.
Schiff, Thomas I.	Murray, Thomas J.
C	Raphael, Jesse
Bach, Lesem	Roth, Hyman L.
Bose, Henry P.	Weinberger, Julius
Brodowsky, Reuben	Weinstein, Israel
Cohn, Joseph J.	Weirich, Clarence L.
	Zoole, Leonard

Class of February, 1914.

B	Kraus, David
Abrams, Sidney	Mosher, Max
Markel, Lester	Rosen, Meyer S.
C	Rosenzweig, Nathaniel
Bové, Anthony J.	Soletsky, David
Gussow, Nathan	Wolff, Harry W.

Class of June, 1914.

C	D
Kawanov, Jacob	Bluhm, Solomon
Kramer, Rudolph	Christiano, Charles G.
Licht, Emanuel	Deutsch, Abraham
Lodato, August, Jr.	Goldberg, Jacob
Raskin, Irving	Hammond, Robert J.
Rotkowitz, Harry	Park, David W.
	Rosowsky, Lazarus D.
	Tenrosen, Daniel

Class of February, 1915.

B	Goodman, Theodore
Buchter, Morris	Hirschberg, Samuel
Eisner, Harry	Langh, Philip A.
Johnson, Ellis A.	Ringer, Michael
C	Schneider, Herbert W.
Cohen, Isidore	Strauss, Joseph
Feldman, Hyman	Suchman, Harry
Freilich, Aaron	Weiss, Julius
	Zimmerman, Joseph

Zuckerman, Solomon
Zweifel, Joseph J.
D
Boston, Henry
Coleman, Laurence V.
Flanagan, John
Fried, Sydney W.

Isaacs, Harold J.
Knapp, Ernest
Lieberman, Jacob
Neuman, Mortimer
Rierner, Edwin
Slavin, Max A.
Wenderoff, Abraham

Class of June, 1915.

A
Rosenman, Samuel I.
Shapiro, David
Weiss, Joseph

B
Berkowitz, Harry
Davidson, Arthur W.
Mintzer, Joseph
Weiss, Charles

C
Krauskopf, Joseph
Kuchar, Joseph J.
Lieb, Michael

Medine, Simon
Silverstein, Louis
D
Braun, Harry
Bristol, Edward S.
Brown, David
Enklewitz, Isidore
Jaffe, Solomon
Katz, Herbert S.
Kurtz, Louis
Markowitz, Alexander
Meyerson, Oscar
Shaffer, Charles N., Jr.
Smith, Karl
Wasserman, Morris

Class of February, 1916.

B
Kohn, Harold
Shauer, Melville A.
Wallach, Max

C
Adler, Howard
Aronovitz, Henry
Bauman, Benjamin
Dounn, David
Kretzmer, John
Steinman, David
Wikoff, Alan G.

D
Abrahams, Morton

Gutowitz, Solomon
Hoffman, Harold C.
Kosloff, Meyer L.
Kraus, Michael
Krinowsky, Daniel
Landy, Abraham
Marcus, Siegbert
Neuschatz, Gerald
Popkin, Maxwell
Rosenzweig, Charles L.
Shulman, Gilbert
Weiss, Charles
Zimmerman, Julius

TERM ENDING FEBRUARY, 1913.

Class of February, 1913.

B
Aronson, Abraham M.
Bloodgood, Edward E.
Curoe, Philip R. V.

Elwyn, Benjamin
Hecht, Selig
Steinmetz, William G.

C

Abramovitz, Philip
Barth, Julian
Eisenberg, Louis
Englander, James
Fox, Harry R.
Huebsch, Arthur
Levy, Harold
Lieberman, Max

Orange, Moses A.
Pape, Charles, Jr.
Richman, Jacob M.
Schwartz, Charles
Sommer, Bertram
Steinhoff, Charles
Umans, Jacob
Wallack, Benjamin

Class of June, 1913.

A

Gottschall, Morton
Raphael, Jesse

B

Dieuaide, Francis R.
Gergofsky, Abraham
Hasenfratz, William
Israel, Lester L.
Kuhn, Alfred S.
Lurie, Isidore J.
Murray, Thomas J.
Roth, Hyman L.
Schiff, Thomas I.
Schwartz, Hyman
Sper, Felix

C

Bach, Lesem

Bové, Anthony J.
Brodowsky, Reuben
Caulfield, Sydney W.
Cross, Ephraim
Drogin, Isaac
Herzstein, Joseph
Horowitz, Murray P.
Magui, Meyer
Meyer, Bernard
Meyer, Emanuel M.
Schechter, Harry
Suer, Arthur
Weinstein, Israel
Weirich, Clarence L.
Weitzen, Max
Zoole, Leonard

Class of February, 1914.

C

Abrams, Sidney
Caldwell, Arthur P., Jr.
Grant, David E.
Gussow, Nathan
Herrmann, Henry F.
James, Maxwell
Kraus, David
Levine, Herman

Lodato, August, Jr.
Mosher, Max
Reinhardt, Charles
Rosen, Meyer S.
Rosenzweig, Nathaniel
Rosowsky, Lazarus D.
Shapiro, Lazarus
Solomon, Benjamin
Wolff, Harry W.

Class of June, 1914.

B

Deutsch, Abraham

C

Astrofsky, Philip
Bluhm, Solomon
Harris, Meyer

Kramer, Rudolph
Malino, Jerome
Ritter, Irving
Tenrosen, Daniel
Troper, Morris

Class of February, 1915.

A
Eisner, Harry

B
Freilich, Aaron
Johnson, Ellis A.

C
Cohen, Isidore
Feldman, Hyman
Hirschberg, Samuel
Lieberman, Jacob
Park, David W.
Schneider, Herbert W.
Suchman, Harry

Zimmerman, Joseph
Zweifel, Joseph J.

D
Cantor, Jacob A.
Farb, Henry
Flanagan, John
Langh, Philip A.
Pitler, Morris
Riemer, Edwin
Ringer, Michael
Shircas, Hyman
Slavin, Max A.
Weinberg, Aaron O.
Weiss, Julius

Class of June, 1915.

B
Davidson, Arthur W.
Markowitz, Alexander
Weiss, Joseph

C
Lieb, Michael
Lipschitz, Joseph
Meyerson, Oscar
Mintzer, Joseph
Shapiro, David

D
Bristol, Edward S.
Brown, David

Cohen, Mortimer
Eichner, Benjamin
Fried, Sydney W.
Icahn, Michael
Inkeles, Abraham
Jaffe, Solomon
Kadison, Alexander
Krauskopf, Joseph
Muhlhauser, Carl
Ryba, J. Francis
Smith, Karl
Zukin, Isidor

Class of February, 1916.

B
Kohn, Harold
Wallach, Max

C
Abrahams, Morton
Adler, Howard
Graham, Jacob
Kaslofsky, Emanuel
Marcus, Siegbert
Popkin, Maxwell
Schwartz, Otto
Shanholt, Henry H.
Shauer, Melville A.
Steinman, David
Weiss, Charles
Zimmerman, Julius

D
Apfel, Howard
Aronovitz, Henry
Braun, Harry
Cohen, Jacob E.
Dounn, David
Goodman, Hyman
Greenberg, Jacob
Gross, Paul
Gutowitz, Solomon
Jaffe, Benjamin
Krinowsky, Daniel
Rosenstein, David
Schneider, Abraham
Smith, Alexander
Wikoff, Alan G.

Class of June, 1916.

A
Kaplan, Isaac

B
Waldheim, Franklin

C
Clendenin, Thomas P.
Daschavsky, Peter
Lamm, Lucian
Levy, Max
Magna, Clamor H.
Marrs, Aubrey R.
Meister, Morris
Neuhausen, Benjamin
Randolph, Wendell
Rotgard, Isidore
Silver, Samuel
Wolfe, Bertram D.

D
Archer, Benjamin

Babor, Joseph A.
Barash, Louis
Ciaccio, Paul
Cohen, Abraham
Cohen, Harry
Davis, L. Laird
Goldberg, Abraham
Goldenthal, Isidore
Grablowsky, Herman A.
Gramet, Solomon
Kimmelman, Max
McGill, James V.
McNeill, John F.
Montero, Harry E.
Nemser, Charles
Pasachoff, Harry D.
Sobel, Nathan
Viscardi, John
Weeks, Frederick T.

DIRECTORY.

BOARD OF TRUSTEES.

Name.	Place of Business.
BARUCH, BERNARD M.....	111 Broadway.
BELLAMY, FREDERICK P.....	204 Montague Street, Brooklyn.
CHURCHILL, THOMAS W.....	63 Wall Street.
CORBITT, WILLIAM HENRY.....	60 Wall Street.
HYDE, JAMES W.....	10 Wall Street.
KOHNS, LEE	42 Warren Street.
MCCOMBS, WILLIAM F.....	96 Broadway.
MARTIN, BRADLEY	Security Bank.
STROOCK, MOSES J.....	30 Broad Street.
TUTTLE, CHARLES H.....	34 Nassau Street.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

ABBREVIATIONS.

Main.	=	Main Building.
Mech.	=	Mechanic Arts Building.
Chem.	=	Chemistry Building.
Gym.	=	Gymnasium.
T. H. H.	=	Townsend Harris Hall.

Allen, Joseph,	Main	9 Myrtle St., White Plains, N.Y.
Alles, Robert H.,	Main	205 S. Van Dien Ave., Ridgewood, N. J.
Anderson, Arvid D.,	Main	Forest Hills, L. I.
Applebaum, Samuel B.,	T. H. H.	804 E. 178th St.
Arbib-Costa, Alfonso,	T. H. H.	500 W. 144th St.
Autenrieth, George C.,	Main	55 Second St., Clifton Park, Wee- hawken, N. J.
Baldwin, Samuel A.,	Main	611 W. 137th St.
Ball, Allan P.,	Main	436 Convent Ave.
Baskerville, Charles,	Chem.	344 W. 72d St.
Bergeron, Maxime L.,	T. H. H.	511 W. 146th St.
Bliss, Henry Evelyn,	Main	Belden Ave., Dobbs Ferry, N. Y.
Boarer, James,	Main	330 N. Spruce St., Richmond Hill, L. I.
Boyd, William B.,	Gym.	25 Claremont Ave.
Bradley, Barclay W.,	T. H. H.	Hastings-upon-Hudson, N. Y.
Breithut, Frederick E.,	Chem.	569 W. 171st St.
Brenner, Edward C.,	Gym.	840 West End Ave.
Brett, George M.,	T. H. H.	1120 Amsterdam Ave.
Brewster, John A.,	Main	419 W. 119th St.
Brisco, Norris A.,	Main	527 W. 124th St.
Brown, Carroll N.,	Main	6035 Tyndall Ave., Bronx.
Browne, William Ward,	Main	401 W. 118th St.
Brownson, Carleton L.,	Main	164 W. 74th St.
Bruckner, Arthur,	Mech.	Hastings-on-Hudson, N. Y.
Burke, Edmund,	Main	135 Hamilton Place.
Butler, Bertram T.,	Main	Leonia, N. J.
Camera, A. U. N.,	T. H. H.	575 West Ave., Flatbush, Brook- lyn.

Canfield, Leon H.,	Main	876 W. 180th St.
Carr, Henry S.,	Main	133 Manhattan Ave.
Chase, Jos. Cummings,	T. H. H.	222 W. 23d St.
Chofflet, Emile M.,	Main	19 Rich Ave., Mt. Vernon, N. Y.
Clark, Walter Ernest,	Main	824 St. Nicholas Ave.
Coffin, Joseph G.,	Main	115 Hamilton Place.
Cohen, Morris R.,	Main	131 W. 112th St.
Coleman, A. I. du P.,	Main	39 W. 24th St.
Compton, Alfred D.,	Main	2 St. Nicholas Terrace.
Conway, James I.,	Main	1680 Clay Ave., Bronx.
Cook, Edmund C.,	T. H. H.	560 W. 113th St.
Corcoran, Chas. A.,	Main	2408 Morris Ave., Bronx.
Cosenza, Mario E.,	T. H. H.	746 St. Nicholas Ave.
Cram, G. La Fayette,	T. H. H.	3184 Perry Ave., Bronx.
Crowne, Jos. Vincent,	Main	607 W. 138th St.
Curoe, Philip R. V.,	Main	467 W. 166th St.
Curtis, Robert W.,	Chem.	515 W. 143d St.
Curtman, Louis J.,	Chem.	600 W. 150th St.
Dailey, John,	Gym.	227 E. 43d St.
Damen, Robert J.,	T. H. H.	Howland Ave., Englewood, N. J.
Davis, Robert V., Jr.,	Main	222 W. 23d St.
DeGrootd, Jas. Hervey,	Mech.	73 Prescott Pl., Jersey City, N. J.
Delamarre, Louis,	Main	237 Tecumseh Ave., Mt. Vernon, N. Y.
De Walsh, Faust C.,	T. H. H.	664 W. 179th St.
Dickson, Arthur,	Main	52 W. 129th St.
Dielman, Frederick,	Main	Convent Ave. and 139th St.
Downer, Charles A.,	Main	802 W. 181st St.
Dressler, Robert,	Main	518 E. 85th St.
Duggan, Stephen P.,	Main	11 Myrtle St., White Plains, N.Y.
Edwards, Dayton J.,	Main	524 W. 123d St
Edwards, George V.,	T. H. H.	2413 Lorillard Pl., Bronx.
Edwards, George W.,	T. H. H.	Hartsdale, N. Y.
Elias, Alfredo,	Main	561 W. 144th St.
Estabrooke, Wm L.,	Chem.	12 Prospect Drive, Yonkers, N.Y.
Ettari, Francesco,	Main	43 Mayflower Ave., New Ro- chelle, N. Y.
Feinberg, Benj. G.,	Chem.	530 W. 123d St.
Finley, John Huston,	Main	280 Convent Ave.
Fitzpatrick, Jos. E.,	T. H. H.	327 W. 51st St.
Fox, William,	Main	575 W. 183d St.
Freeburg, Victor O.,	Main	603 W. 139th St.
Friedburg, L. Henry,	Chem.	601 W. 148th St.
Friedland, Louis S.,	T. H. H.	901 Prospect Ave., Bronx.
Fuentes, Ventura,	Main	518 W. 143d St.
Garennnes, Jean des,	T. H. H.	601 W. 148th St.
Geoghan, Wm. F. X.,	Main	1748 46th St., Brooklyn.
Goldfarb, A. J.,	Main	251 W. 112th St.

Goldsmith, Alfred N.,	Main	100 Hamilton Place.
Green, Alexander,	T. H. H.	216 W. 143d St.
Green, Gabriel M.,	Main	460 Manhattan Ave.
Green, Howard C.,	T. H. H.	261 W. 21st St.
Grendon, Felix,	Main	139 E. 21st St.
Groesbeck, Kenneth,	T. H. H.	447 Fort Washington Ave.
Guthrie, William B.,	Main	515 W. 111th St.
Haas, George C. O.,	T. H. H.	254 W. 136th St.
Haight, Samuel C.,	T. H. H.	1426 Clinton Ave.
Halliday, Edgar,	Main	221 Eighth Ave., Brooklyn.
Hanaway, Samuel,	Main	220 Audubon Ave.
Hansen, Canute H.,	Gym.	49 E. 128th St.
Hansen, Henry E.,	Gym.	505 W. 177th St.
Hartmann, Jacob W.,	Main	468 W. 153d St.
Haskell, William H.,	T. H. H.	Scarsdale, N. Y.
Hatch, Robert H.,	Main	166 W. 74th St.
Hayes, George M.,	T. H. H.	3091 Decatur Ave., Bronx.
Healy, Joseph X.,	Main	2582 Eighth Ave.
Heard, Walter S.,	Gym.	610 W. 115th St.
Heckman, Samuel B.,	Main	390 Wadsworth Ave.
Herbermann, Chas. Geo.,	Main	346 Convent Ave.
Heynich, Richard O.,	T. H. H.	500 W. 144th St.
Holton, Herbert M.,	Mech.	3872 Boston Road, Bronx.
Horne, Chas. F.,	Main	616 W. 148th St.
Hubert, Warren G.,	T. H. H.	45 Van Sice Ave., Yonkers, N. Y.
Hunt, Leigh Harrison,	Main	45 W. 11th St.
Hutchison, Frederick W.,	T. H. H.	45 E. 59th St.
Ilgel, Ernest,	Main	1356 Pacific St., Brooklyn.
Jeffery, Haswell C.,	Mech.	148 E. 78th St.
Johnston, Henry P.,	Main	221 W. 49th St.
Joralemon, F. Parker,	Chem.	75 Grant St., Boonton, N. J.
Kammerer, Paul T., Jr.,	Main	157 E. 46th St.
Keep, Austin, B.,	T. H. H.	Livingston Hall, Columbia.
Keiley, Jarvis,	T. H. H.	Grantwood, N. J.
Keleher, Michael J.,	T. H. H.	1059 Tiffany St., Bronx.
Kelly, J. Redding,	T. H. H.	217 W. 125th St.
Keppler, Emil A. C.,	Main	210 Drake Ave., New Rochelle, N.Y.
King, Howard L.,	Main	559 W. 164th St.
Kinkeldey, Carl W.,	Main	1041 Faile St., Bronx.
Klapper, Paul,	Main	2567 Decatur Ave., Bronx.
Klein, Arthur J.,	Main	421 W. 118th St.
Klein, David,	Main	1214 Boston Road, Bronx.
Knickerbocker, Wm. E.,	T. H. H.	23 W. 129th St.
Kost, Henry G.,	Main	472 E. 134th St.
Krowl, Harry C.,	Main	335 W. 14th St.
Kurz, Harry,	T. H. H.	507 W. 113th St.
Laffargue, Gaston A.,	Main	1944 Madison Ave.

Lang, John T.,	Gym.	53 Charlton St.
Lease, Emory B.,	Main	St. Regis Court, 3675 Broadway.
Le Maire, Edmond E. A.,	T.H.H.	Webster Ave., Bedford Park, Bronx.
Levussove, M. Stuart,	Main	118 E. 92d St.
Linehan, Paul H.,	Main	607 W. 138th St.
Lowther, Hugh S.,	Main	610 Riverside Drive.
McCartie, Harriet L.,	Main	197 Elm St., New Rochelle, N. Y.
McCormick, Radford J.,	Gym.	323 Edgecombe Ave.
MacDougall, John A.,	T. H. H.	239 E. 19th St.
MacDougall, Robert B.,	T. H. H.	623 W. 136th St.
McGuckin, William G.,	Main	176 W. 105th St.
MacIntyre, Francis J.,	T. H. H.	793 Lexington Ave.
McKenzie, Lionel B.,	Gym.	474 W. 152d St.
McLoughlin, F. O. X.,	Main	260 Convent Ave.
Magarge, Samuel J.,	T. H. H.	510 W. 140th St.
Maloney, Edward R.,	Main	P.O. Box 6, Keyport, N. J.
Marique, Pierre J.,	Main	345 E. 193d St.
Marsh, Howard D.,	Main	550 W. 153d St.
Mayers, Lewis,	T.H.H.	678 Greene Ave., Brooklyn.
Mead, Nelson P.,	Main	1601 Jerome Ave.
Mendelsohn, Chas. J.,	T. H. H.	18 Hamilton Terrace.
Mitchell, Benjamin E.	T. H. H.	3100 Broadway.
Moody, Herbert R.,	Chem.	330 Convent Ave.
Moore, Justin H.,	Main	11 E. 130th St.
Moore, Thomas R.,	Main	14 E. 128th St.
Morse, Livingston B.,	T. H. H.	Spring Valley, N. Y.
Mosher, Joseph A.,	T. H. H.	603 W. 139th St.
Mott, Lewis F.,	Main	172 W. 79th St.
Neidle, Marks,	Chem.	108 Pitt St.
Neus, Engelbert,	Main	703 W. 171st St.
Newton, Homer C.,	Main	Hastings-on-Hudson, N. Y.
O'Neil, Richard J.,	Gym.	506 W. 151st St.
Otis, Wm. Bradley,	Main	504 W. 112th St.
Overstreet, Harry A.,	Main	2426 Aqueduct Ave.
Palmer, Earle Fenton,	Main	828 St. Nicholas Ave.
Palmer, Erastus,	Main	571 W. 139th St.
Palmer, Leonard L.,	Gym.	Livingston Hall, Columbia.
Panaroni, Alfred G.,	Main	244 W. 124th St.
Parmly, C. Howard	Main	524 W. 114th St.
Pearl, Joseph,	T. H. H.	1375 Franklin Ave.
Peckwell, Henry W.,	T. H. H.	2338 Aqueduct Ave.
Pedersen, Frederick M.,	Main	452 W. 144th St.
Philip, Maximilian,	Main	450 W. 149th St.
Powell, H. Wheeler,	T. H. H.	The Apthorp, Broadway and 79th St.
Prager, William L.,	Chem.	414 W. 120th St.
Purcell, Ray F.,	Gym.	551 W. 161st St.

Quackenbos, G. Payn,	T. H. H.	331 W. 28th St.
Ray, David H.,	Main	72 E. 77th St.
Redmond, Daniel W.,	Main	1743 Montgomery Ave., Bronx.
Reich, Lorenz, Jr.,	Main	23 E. 44th St.
Reichardt, Paul H.,	Gym.	318 W. 57th St.
Reynolds, Frederick G.,	Main	437 W. 147th St.
Richter, Kurt E.,	Main	2730 Creston Ave., Bronx.
Robinson, Frederick B.,	Main	456 W. 149th St.
Rougier, Francis L.,	Main	507 W. 138th St.
Rupp, August,	Main	14 Hamilton Terrace.
Saurel, Paul L.,	Main	524 W. 150th St.
Saxton, Lynn Mateer,	T. H. H.	1136 River Road, Edgewater, N. J.
Schapiro, Jacob S.,	T. H. H.	51 Hamilton Place.
Schoen, Emile,	Main	65 E. 93d St.
Schuler, John,	Main	1243 E. 40th St., Brooklyn.
Schulman, Abram G.,	Main	346 E. 173d St.
Schulz, Gustav F.,	T. H. H.	506 W. 143d St.
Schuyler, Livingston R.,	Main	567 W. 139th St.
Schwarz, Samuel A.,	T. H. H.	558 W. 164th St.
Scott, George G.,	Main	899 Valley Road, Upper Montclair, N. J.
Senftner, Alexis E.,	T. H. H.	428 W. 154th St.
Sickels, Ivin,	Main	West Nyack, N. Y.
Sim, John Robert,	T. H. H.	536 W. 156th St.
Simmons, Thomas A.,	Gym.	235 E. 28th St.
Simonds, Stanley,	Main	516 W. 142d St.
Smith, Calvin Rae,	T. H. H.	104 Decatur St., Brooklyn.
Smith, Robert F.,	T. H. H.	614 W. 146th St.
Snider, Guy Edward,	Main	511 W. 112th St.
Sohn, Joseph,	T. H. H.	562 W. 164th St.
Stair, Bird W.,	T. H. H.	580 W. 161st St.
Stebbins, Homer A.,	T. H. H.	431 W. 121st St.
Stevenson, Reston,	Chem.	210 W. 107th St.
Stokes, Robert T.,	Chem.	634 Westminster Road, Brooklyn.
Storey, Thomas Andrew,	Gym.	611 W. 137th St.
Stork, Wilford L.,	Main	54 Hamilton Place
Taaffe, Thos. Gaffney,	Main	332 Manor Road, Castleton Corners, S. I.
Thompson, Holland,	Main	102 Waverly Place.
Tilmont, Ralph,	Main	508 W. 139th St.
Tisdall, FitzGerald,	Main	146 Central Park West.
Todd, John R.,	T. H. H.	1120 Amsterdam Ave.
Toussaint, Camille A.,	Main	3688 Boulevard, Jersey City, N. J.
Truesdell, Waldo B.,	Main	515 W. 143d St.
Turner, Arthur B.,	Main	245 N. Mountain Ave., Montclair, N. J.
Turner, John P.,	Main	504 W. 122d St.
Tynan, Joseph L.,	T. H. H.	911 Ogden Ave., Bronx.

Voelkel, Titus,	Main	502 W. 139th St.
Weill, Félix,	Main	612 W. 138th St.
Weinberg, Louis,	Main	519 W. 147th St.
Werner, Adolph,	Main	401 West End Ave.
Wetzel, Reinhard A.,	Main	505 W. 142d St.
White, James R.,	Main	382 Wadsworth Ave.
Whiteside, Donald,	Main	541 W. 124th St.
Whitford, Edward E.,	T. H. H.	180 Claremont Ave.
Whyte, W. Alexander,	T. H. H.	627 W. 138th St.
Wickham, Joseph F.,	T. H. H.	513 W. 144th St.
Williams, David L.,	Main	38 W. 75th St.
Williamson, Walter,	Gym.	450 W. 153d St.
Winslow, C.-E. A.,	Main	411 W. 114th St.
Woll, Frederic A.,	Gym.	1013 Home St., Bronx.
Woolston, Howard B.,	Main	431 W. 121st St.

ENROLLMENT.

For the Year Ending June, 1913.

UPPER SENIOR CLASS.

Abrahams, Thomas J.....	Arts 2	240 E. 123d St.
Apisdorf, Alexander.....	Sc. 2	26 Lewis St.
Aronow, David.....	Sc. 3	356 Warwick St., Bklyn.
Bach, Lesem.....	Arts 2	508 W. 114th St.
Bankoff, Jacob.....	Arts 2	230 Monroe St.
Baruch, Bernard.....	Sc. 2	210 Eckford St., Bklyn.
Bogen, David.....	Sc. 2	4 Hancock Place
Bové, Anthony J.....	Arts 3	946 Herkimer St., Bklyn.
Brodowsky, Reuben.....	Sc. 1	43 W. 114th St.
Burchell, Arthur V.....	Arts 2	563 W. 182d St.
Cahn, Mitchell.....	Arts 2	165 W. 10th St.
Cattell, James E.....	Arts 1	133 E. 35th St.
Caulfield, Sydney W.....	Arts 2	54 Hamilton Place
Cohn, Joseph J.....	Sc. 3	73 W. 118th St.
Cross, Ephraim.....	Arts 2	227 Alexander Ave., Bronx
Dann, Oscar.....	Arts 1	541 Flushing Ave., Bklyn.
Dieuaide, Francis R.....	Arts 1	601 W. 191st St.
Drogin, Isaac.....	Arts 2	140 Norfolk St.
Eleston, Joseph.....	Sc. 3	631 Jefferson Place, Bronx
Falk, Harry C.....	Sc. 1	1820 Crotona Ave., Bronx
Falk, Max.....	Sc. 1	411 Cherry St.
Fischer, George W.....	Sc. 3	755 Home St., Bronx
Freedman, Samuel.....	Sc. 3	236 Sixth St.
Ginsberg, Joseph.....	Arts 2	6 W. 114th St.
Glicksman, Joseph.....	Arts 3	810 Elton Ave., Bronx
Goldberg, George.....	Arts 2	47 E. 105th St.
Gollomb, Louis C.....	Arts 2	18 E. 108th St.
Gottschall, Morton.....	Arts 1	947 Ave. St. John, Bronx
Grant, David E.....	Arts 3	527 W. 142d St.
Greenberg, Isadore A.....	Arts 2	470 W. 146th St.
Greiner, Louis.....	Arts 2	601 E. 138th St., Bronx
Gross, Emanuel.....	Arts 2	568 E. 166th St., Bronx
Hartwig, Alfred A. D.....	Sc. 2	28 South Chestnut St., Richmond Hill, L. I.
Hasenfratz, William.....	Sc. 1	131 Norfolk St.
Hendelman, Sydney.....	Arts 3	966 St. Nicholas Ave.
Herrmann, Henry F.....	Sc. 2	1224 Union Ave., Bronx

Herzstein, Joseph.....	Sc. 2	71 W. 118th St.
Horowitz, Murray P.....	Sc. 3	122 E. 103d St.
Isler, Isaac.....	Arts 3	753 Sixth St.
Isler, Samuel.....	Sc. 3	753 Sixth St.
Israel, Lester L.....	Sc. 3	61 E. 86th St.
James, Maxwell.....	Sc. 3	881 E. 170th St., Bronx
Johnston, Herman W.....	Sc. 3	Boston Road, Eastchester, Bronx
Kaplan, Hyman.....	Sc. 1	68 E. 117th St.
Katz, William.....	Sc. 1	71 Lenox Ave.
Kear, John A., Jr.....	Sc. 1	300 W. 130th St.
Kesler, Samuel.....	Arts 2	28 Lafayette St., Queens
Kuhn, Alfred S.....	Sc. 3	415 Fort Washington Ave.
Lichtenstein, Harry R.....	Sc. 3	5 W. 114th St.
Lurie, Isidore J.....	Arts 2	309 E. 5th St.
Magui, Meyer.....	Arts 3	809 Freeman St., Bronx
Meltsner, Henry H.....	Arts 2	1329 Clay Ave., Bronx
Metz, Morris.....	Arts 3	938 Longwood Ave., Bronx
Meyer, Bernard.....	Arts 3	317 Bedford Ave., Bklyn.
Meyer, Emanuel M.....	Sc. 3	380 E. 167th St., Bronx
Murray, Thomas J.....	Sc. 2	3085 Third Ave., Bronx
Nathanson, Pincus.....	Arts 2	189 Livonia Ave., Bklyn.
Noethen, Joseph C.....	Arts 3	160 E. 94th St.
Raphael, Jesse.....	Arts 2	204 W. 143d St.
Reinhardt, Charles.....	Sc. 1	49 W. 117th St.
Roth, Hyman L.....	Arts 3	828 Dawson St., Bronx
Roth, Louis.....	Arts 3	1654 Lexington Ave.
Schechter, Harry.....	Arts 3	132 Suffolk St.
Schiff, Thomas I.....	Arts 3	18 E. 120th St.
Schoenbrun, Isidor.....	Arts 2	51 E. 107th St.
Schwanken, Samuel.....	Arts 3	80 Essex St.
Schwartz, Hyman.....	Arts 3	1160 Tiffany St., Bronx
Schwartz, Isidore A.....	Sc. 3	10 W. 118th St.
Shapiro, William.....	Arts 3	174 Essex St.
Shavit, Samuel.....	Arts 2	1414 Prospect Ave., Bronx
Soons, Sydney G.....	Arts 2	1 Walton Ave., Bronx
Sorrin, Leo M.....	Arts 3	1 E. 106th St.
Sper, Felix.....	Arts 3	216 Graham Ave., Bklyn.
Steinkamp, Christopher.....	Arts 1	34 W. 190th St., Bronx
Stitt, Edward W., Jr.....	Arts 2	605 W. 179th St.
Suer, Arthur.....	Sc. 3	114 Chrystie St.
Weichsler, Leopold.....	Sc. 3	69 E. 103d St.
Weinberger, Julius.....	Sc. 1	214 E. 4th St.
Weinstein, Israel.....	Arts 2	436 E. 138th St., Bronx
Weinstock, George J.....	Arts 3	157 Rivington St.
Weirich, Clarence L.....	Sc. 1	111 E. 127th St.
Weitzen, Max.....	Arts 3	168 E. 104th St.
Wilens, Ira.....	Sc. 1	40 Stuyvesant St.

Yarnall, Warren H.....	Arts 1	196 Wilson St., Bklyn.
Zoole, Leonard.....	Sc. 1	507 Concord Ave., Bronx
Total		85

LOWER SENIOR CLASS.

Abrams, Sidney.....	Arts 1	128 W. 139th St.
Bluhm, Solomon.....	Arts 1	555 Ninth Ave.
Brown, Louis.....	Arts 2	320 E. 77th St.
Buchner, George J.....	Sc. 3	40 W. 129th St.
Caldwell, Arthur P., Jr.....	Sc. 3	13 W. 88th St.
Cohn, Meyer.....	Arts 1	14 E. 120th St.
Conroy, John.....	Sc. 3	227 Henry St.
David, Isidore.....	Sc. 3	153 Essex St.
Drogin, David.....	Arts 2	140 Norfolk St.
Fish, Abraham.....	Sc. 1	1971 Broadway, Bklyn.
Frabbito, Paul F.....	Arts 2	141 Hudson St.
Frankel, Louis.....	Arts 2	11 E. 116th St.
Gergofsky, Abraham.....	Sc. 1	235 Cherry St.
Goldklang, Samuel.....	Sc. 3	57 E. 117th St.
Gordon, Alexander S.....	Arts 1	75 E. 121st St.
Gottlieb, Aaron J.....	Arts 2	166 Cook St., Bklyn.
Grosin, Philip.....	Arts 1	1039 Second Ave.
Grossberg, Hyman.....	Sc. 1	153 Ludlow St.
Gussow, Nathan.....	Sc. 3	564 Prospect Ave., Bronx
Hammer, David.....	Sc. 3	52 Cannon St.
Hellner, John C.....	Arts 1	537 W. 156th St.
Hirschler, Max N.....	Sc. 3	860 Cauldwell Ave., Bronx
Honor, Leo L.....	Arts 1	51 E. 122d St.
Jessen, Charles P.....	Arts 2	903 Sixth Ave.
Katz, Jacob.....	Arts 3	60 Henry St.
Klein, Henry J.....	Sc. 3	305 E. 79th St.
Kramer, Rudolph.....	Sc. 1	40 W. 115th St.
Kraner, Israel.....	Arts 3	109 E. 114th St.
Kraus, David.....	Arts 3	349 E. 76th St.
Landsman, William.....	Sc. 3	815 E. 168th St., Bronx
Levine, Herman.....	Arts 2	344 Christopher Ave., Bklyn.
Lodato, August, Jr.....	Arts 2	263 Ave. A
Marcus, Joseph.....	Arts 2	853 Beck St., Bronx
Marz, George A., Jr.....	Arts 2	424 E. 162d St., Bronx
Meisel, Max.....	Sc. 2	16 Linden St., Bklyn.
Mosher, Max.....	Sc. 3	16-22 W. 111th St.
Mutterperl, Louis J.....	Arts 2	717 Jackson Ave., Bronx
Neuman, Samuel.....	Arts 3	119 Cannon St.
Nussey, Herbert V.....	Arts 2	157 Schenectady Ave., Bklyn.
Obstfeld, Emanuel.....	Arts 2	364 Lenox Ave.

Pagnotta, Joseph.....	Arts 2	820 Fifth Ave., Bklyn.
Perlman, Milton B.....	Arts 2	949 St. John's Ave., Bronx
Priess, William.....	Sc. 3	523 W. 123d St.
Raskin, Irving.....	Arts 3	12 E. 106th St.
Rosen, Meyer S.....	Sc. 3	1239 Simpson St., Bronx
Rosenzweig, Nathaniel.....	Arts 3	90 Second Ave.
Rosowsky, Lazarus D.....	Arts 2	669 Gates Ave., Bklyn.
Samuels, Leon.....	Arts 3	64 W. 124th St.
Schalkenstein, Alvin.....	Arts 3	182 St. Nicholas Ave.
Schneidman, David.....	Arts 1	463 17th St., Bklyn.
Schnitzer, Isadore.....	Sc. 3	874 Southern Boulevard, Bronx
Shapiro, Lazarus.....	Sc. 3	32 Stanton St.
Soletsky, David.....	Sc. 1	568 Columbus Ave.
Solomon, Benjamin.....	Sc. 3	69 W. 115th St.
Spector, Thomas.....	Sc. 3	17 E. 107th St.
Steigman, Max.....	Sc. 1	64-66 Suffolk St.
Strauss, Joseph B.....	Arts 3	194 E. 76th St.
Tabachnick, Morris.....	Sc. 1	126 E. 104th St.
Thomas, Anthony B.....	Arts 2	233 E. 115th St.
Wolff, Harry W.....	Sc. 1	336 Marcy Ave., Bklyn.

Total 60

UPPER JUNIOR CLASS.

Abelson, Aaron.....	Arts 3	445 E. 88th St.
Astrofsky, Philip.....	Sc. 3	200 Madison St.
Banks, Louis.....	Sc. 1	47 Morton St.
Batt, Ralph.....	Sc. 2	450 E. 175th St., Bronx
Bennett, Alfred C.....	Arts 2	602 W. 137th St.
Berman, Gustave.....	Arts 3	3675 Broadway
Caicedo, Hernando.....	Arts 3	102 Bay 31st St., Bklyn.
Cantor, Jacob A.....	Arts 1	500 W. 135th St.
Carr, Stephen C.....	Sc. 3	18 W. 96th St.
Cohen, Louis.....	Arts 2	408 W. 42d St.
Costello, Harold L.....	Arts 1	58 Terrace View Ave., Marble Hill
Cristiano, Charles G.....	Arts 2	788 Forest Ave., Bronx
Crowley, Henry L.....	Sc. 3	71 E. 87th St.
Deutsch, Abraham.....	Arts 2	1319 Clay Ave., Bronx
Deutsch, Jacob.....	Arts 3	57 E. 105th St.
Drapkin, Jacob.....	Sc. 3	77 Market St.
Feinstein, Abraham.....	Arts 2	270 New Lots Road, Bklyn.
Goldberg, Jacob.....	Arts 2	1742 Bathgate Ave., Bronx
Goldstein, Harry.....	Sc. 3	11 E. 118th St.
Goldstein, Herman.....	Arts 2	115 W. 137th St.
Goldstein, Samuel.....	Sc. 3	1067 Prospect Ave., Bronx
Goodstein, Jacob.....	Arts 2	30 Willett St.
Grossman, Leonard.....	Arts 2	119 Sumner Ave., Bklyn.

Gutowitz, Benjamin.....	Arts 3	2153 Seventh Ave.
Hahn, Paul M.....	Arts 2	385 Fort Washington Ave.
Hammond, Robert J.....	Arts 3	657 46th St., Bklyn.
Harris, Meyer.....	Sc. 3	10 Eldridge St.
Havender, Joseph.....	Sc. 2	236 Tremont Ave., Bronx
Hohenstein, Jack.....	Sc. 1	422 E. 79th St.
Ivler, Samuel.....	Arts 3	431 Grand St., Bklyn.
Jacobson, Joseph.....	Sc. 3	240 E. 21st St.
Kahn, Jesse.....	Arts 3	310 Convent Ave.
Kawanov, Jacob.....	Sc. 1	200 W. 133d St.
Klenke, Francis M.....	Sc. 3	1165 Park Ave.
Kohn, Max.....	Arts 3	212 E. 2d St.
Kraft, James.....	Arts 3	343 South 1st St., Bklyn.
Kramer, Sidney D.....	Sc. 3	1653 St. Mark's Ave., Bklyn.
Kümmerle, Harrison M.....	Sc. 3	538 E. 142d St., Bronx
Kunicki, Stanley.....	Arts 1	1664 Lexington Ave.
La Chapelle, Jacques H.....	Sc. 3	33 South William St.
Levy, Joseph.....	Sc. 3	59 E. 117th St.
Licht, Emanuel.....	Arts 3	5 W. 112th St.
Lugand, Henry.....	Sc. 3	508 W. 180th St.
Malino, Jerome.....	Arts 2	1363 Stebbins Ave., Bronx
Mandeville, Stuart E.....	Arts 2	233 W. 128th St.
Matthews, Jerome.....	Arts 3	625 W. 156th St.
McGrath, Harold.....	Sc. 3	615 W. 179th St.
Measom, Gilbert.....	Sc. 2	23 W. 123d St.
Miller, Samuel C.....	Arts 3	111 Essex St.
Mullen, George J.....	Sc. 3	295 W. 150th St.
Nussbaum, Sydney.....	Sc. 2	115 W. 137th St.
O'Connell, Richard J.....	Arts 3	354 E. 79th St.
Park, David W.....	Arts 1	1155 Vyse Ave., Bronx
Pellerano, Silvio.....	Sc. 3	149 Sullivan St.
Ritter, Irving.....	Arts 2	548a Willoughby Ave., Bklyn.
Rotkowitz, Harry.....	Arts 2	12 E. 85th St.
Sasserath, Ira.....	Sc. 3	241 E. 87th St.
Schiff, Hyman.....	Arts 2	232 Division St.
Schulberg, Solomon.....	Arts 2	2140 Hughes Ave., Bronx
Siebern, George H.....	Arts 1	1765 Clay Ave., Bronx
Southwick, Everett.....	Sc. 3	116 W. 11th St.
Swartz, Sidney A.....	Arts 2	1190 Franklin Ave., Bronx
Tenrosen, Daniel.....	Arts 2	272 E. 4th St.
Troper, Morris.....	Arts 2	1806 Bath Ave., Bklyn.
Vinegrad, George.....	Sc. 1	335 E. 65th St.
Wallman, Samuel.....	Arts 3	280 E. 10th St.
Weber, Emanuel.....	Sc. 3	127 W. 22d St.
Weinberg, Aaron O.....	Arts 3	127 Clinton St.
Weiss, Abraham.....	Arts 2	156 N. 5th St., Bklyn.
Wiesenberg, William M.....	Sc. 3	307 E. 83d St.
Willbach, Harry.....	Arts 3	419 E. 5th St.

Ziegler, Jerome M.....	Arts 2	155 E. 97th St.
Zucker, Harry	Sc. 1	23 E. 109th St.
Zuckerman, Frank.....	Sc. 3	178 E. 7th St.

Total 74

LOWER JUNIOR CLASS.

Balenzweig, Isidor.....	Sc. 1	454 Brook Ave., Bronx
Balkind, Max.....	Sc. 3	35 E. 110th St.
Berger, Joseph.....	Sc. 3	105 E. 123d St.
Berrigan, John F.....	Arts 2	Beacon St., Westchester, Bronx
Biloon, Sol.....	Sc. 2	1222 Boston Road, Bronx
Blodnick, Morris.....	Arts 2	39 Attorney St.
Boskowitz, Morris.....	Arts 3	8 W. 115th St.
Brandstadter, Simon.....	Sc. 3	1462 Fifth Ave.
Broeder, George J.....	Arts 1	114 E. 90th St.
Buchter, Morris.....	Arts 1	553 Ninth Ave.
Burrows, Joseph C.....	Arts 2	82 W. 105th St.
Cawley, Charles A.....	Sc. 3	308 E. 70th St.
Chapman, Isaac.....	Sc. 2	422 W. 119th St.
Cohen, Isidore.....	Sc. 3	846 Kelly St., Bronx
Dalton, Hugh F.....	Arts 2	33 Vandam St.
Denslow, Roy R.....	Sc. 3	201 W. 130th St.
Diamond, Joseph.....	Arts 2	310 E. 27th St.
Distefano, Alfredo.....	Arts 3	18 First Ave.
Donoghue, James W.....	Arts 1	209 E. 205th St., Bronx
Drachman, Julian M.....	Sc. 2	128 W. 121st St.
Eisner, Harry.....	Sc. 1	652 E. 12th St.
Epstein, Moses P.....	Arts 2	748 Beck St., Bronx
Farb, Henry.....	Arts 2	938 Longwood Ave., Bronx
Feinstein, Abraham.....	Arts 2	79 Stanton St.
Feldman, Hyman.....	Arts 3	1505 Charlotte St., Bronx
Flanagan, John.....	Arts 1	272 W. 11th St.
Fleisher, Leon.....	Arts 1	138 Smart Ave., Flushing, L. I.
Freilich, Aaron.....	Sc. 1	280 Stanton St.
Fried, Henry.....	Arts 2	1456 Wilkins Ave., Bronx
Goldberg, Benjamin.....	Sc. 2	507 W. 155th St.
Goodman, Herman.....	Arts 2	27 Lewis St.
Goodman, Theodore.....	Arts 1	435 Lenox Ave.
Gordon, Frank E.....	Arts 2	182 Russell St., Bklyn.
Grabson, Emanuel.....	Sc. 3	185 E. 7th St.
Greenberg, Joseph.....	Sc. 3	15 E. 119th St.
Greenberg, Lewis.....	Sc. 3	543 E. 139th St., Bronx
Hartman, John J.....	Sc. 3	203 W. 122d St.
Harvey, Maitland.....	Sc. 3	300 W. 142d St.
Hendelman, Isidor.....	Arts 3	966 St. Nicholas Ave.
Heyl, Lawrence A. C.....	Arts 2	270 W. 43d St.

Hickey, Daniel M.....	Sc. 2	463 W. 166th St.
Hirschberg, Samuel.....	Sc. 1	201 Ave. B
Holmes, Robert D., Jr.....	Arts 1	279 Winthrop St., Bklyn.
Hyak, Charles.....	Sc. 3	403 E. 73d St.
Johnson, Ellis A.....	Sc. 1	247 Hopkins St., Bklyn.
Kanner, Samuel.....	Arts 3	805 E. 5th St.
Kaplan, Isaac.....	Sc. 3	204 Stanton St.
Karowsky, David.....	Sc. 3	50-54 E. 112th St.
Katz, Henry.....	Arts 2	154 Ridge St.
King, Bernard H.....	Arts 2	1486 Fifth Ave.
Knapp, Ernest.....	Sc. 3	491 E. 141st St., Bronx
Laufer, Morris.....	Sc. 3	152 E. 106th St.
Lieberman, Jacob.....	Sc. 3	29 Cannon St.
Liftman, Emanuel.....	Sc. 2	687 Wales Ave., Bronx
Linhart, Emanuel.....	Arts 3	424 E. 77th St.
Loew, Allan.....	Arts 2	473 Madison St., Bklyn.
Malone, John S.....	Arts 2	795 E. 160th St., Bronx
Malzberg, Benjamin.....	Sc. 1	1761 Bathgate Ave., Bronx
McPherson, James B.....	Arts 3	211 W. 85th St.
Meyer, E. Pennington.....	Sc. 3	104 W. 94th St.
Mones, Leon.....	Arts 2	1779 Fulton Ave., Bronx
Moore, George P.....	Arts 1	235 W. 137th St.
Murphy, Edmund.....	Sc. 3	612 W. 182d St.
Neuman, Mortimer.....	Arts 2	114 W. 120th St.
O'Connor, Edward P.....	Sc. 2	515 Clinton St., Bklyn.
Oesterreicher, Osias.....	Sc. 3	1754 Washington Ave., Bronx
Paucek, George.....	Sc. 3	338 E. 70th St.
Pels, Herbert.....	Sc. 2	840 Lexington Ave.
Pitler, Morris.....	Arts 2	485 E. 173d St., Bronx
Planick, Charles.....	Arts 2	623 W. 136th St.
Resnick, Samuel.....	Arts 3	243 W. 43d St.
Riemer, Edwin.....	Arts 3	201 W. 121st St.
Ringer, Michael.....	Sc. 2	1660 Bathgate Ave., Bronx
Salkin, Bernard.....	Sc. 1	342 Hopkinson Ave., Bklyn.
Saltman, Joseph.....	Arts 3	814 Hewitt Place, Bronx
Schiffman, Frank.....	Sc. 3	234 E. 100th St.
Schneider, Herbert W.....	Arts 1	1169 Greene Ave., Bklyn.
Schurman, Max.....	Sc. 3	174 Broome St.
Schwartz, Joseph.....	Sc. 3	135 Henry St.
Shainmark, Frank J.....	Sc. 3	1779 Fulton Ave., Bronx
Shluger, Alexander L.....	Sc. 3	629 E. 5th St.
Slavin, Max A.....	Arts 2	61 East Broadway
Spiegler, Charles.....	Sc. 1	365 Sutter Ave., Bklyn.
Stern, Harry R.....	Sc. 3	171 E. 69th St.
Stevenson, D. Franklin.....	Arts 2	1731 Garfield St., Bronx
Storch, Hyman.....	Sc. 3	1737 Madison Ave.
Strauss, Joseph.....	Sc. 3	2 Attorney St.
Strumpf, Benjamin.....	Arts 3	174 Broome St.

Suchman, Harry.....	Arts 3	113 Second St.
Sullivan, William P.....	Arts 2	426 E. 162d St., Bronx
Summerfield, David W.....	Sc. 1	7 E. 119th St.
Waring, J. Ferris.....	Sc. 2	654 Southern Boulevard, Bronx
Weiss, Julius.....	Arts 3	309 E. 79th St.
Wenderoff, Abraham.....	Sc. 3	174 Monroe St.
Youngwitz, Gabriel.....	Arts 2	507 Concord Ave., Bronx
Zimmerman, Joseph.....	Arts 3	636 E. 5th St.
Zinner, Jacob.....	Sc. 3	62-64 Columbia St.
Zweifel, Joseph J.....	Sc. 1	59 E. 136th St.
Zwickel, Isidor.....	Arts 2	36 Osborn St., Bklyn.

Total 99

UPPER SOPHOMORE CLASS.

Abrams, Sol.....	Arts 3	107-09 E. 110th St.
Amend, Charles E.....	Arts 2	459 W. 155th St.
Apir, Max.....	Sc. 3	1997 Seventh Ave.
Auerbach, Solomon.....	Sc. 2	501 W. 135th St.
Barnason, Charles F.....	Arts 2	660 Willoughby Ave., Bklyn.
Battistella, Francesco.....	Sc. 1	506 E. 82d St.
Berkowitz, Harry.....	Sc. 1	543 E. 171st St., Bronx
Boston, Henry R.....	Sc. 3	3 Sutton Place
Bott, Alfred E.....	Arts 2	3819 Third Ave., Bronx
Brenner, Isadore P.....	Arts 2	436 E. 138th St., Bronx
Bristol, Edward S.....	Sc. 3	167 W. 81st St.
Brown, David	Sc. 1	103 E. 2d St.
Brown, J. T. Lindsay.....	Sc. 3	2439 Jerome Ave., Bronx
Campbell, Charles.....	Arts 2	1123 Lind Ave., Bronx
Campiglia, Frank.....	Arts 2	170 Union Ave., Bklyn.
Cohen, Frank.....	Arts 3	279 Hinsdale St., Bklyn.
Cohen, Jacob.....	Sc. 3	289 Wyona St., Bklyn.
Cohen, Mortimer J.....	Arts 1	240 W. 143d St.
Coleman, Laurence V.....	Sc. 3	150 Maple St., Bklyn.
Conlan, Vincent.....	Sc. 3	2821 Valentine Ave., Bronx
Coulton, Thomas E.....	Arts 3	1790 Clinton Ave., Bronx
Crandall, Paul H.....	Arts 1	410 St. Nicholas Ave.
Davidson, Arthur W.....	Sc. 3	238 E. 69th St.
Doigenas, Samuel.....	Sc. 3	23 E. 111th St.
Eichner, Benjamin.....	Arts 3	1392 Madison Ave.
Entelis, Isidore.....	Sc. 3	110-12 St. Mark's Place
Finkelstein, Louis.....	Arts 1	39 Thatford Ave., Bklyn.
Frank, David H.....	Sc. 1	850 E. 156th St., Bronx
Frankel, Leo.....	Arts 3	20 E. 106th St.
Frankenstein, Louis.....	Sc. 1	57 E. 117th St.
Freiberg, Hyman.....	Sc. 3	147 Lenox Ave.
Fried, Samuel.....	Sc. 1	340 E. 4th St.

Fried, Sydney W.....Arts 3	1228 Clay Ave., Bronx
Furman, Martin A.....Arts 2	83 Second Ave.
Goldberg, Ferdinand.....Arts 3	968 Kelly St., Bronx
Goldberg, Philip P.....Sc. 3	916 Southern Boulevard, Bronx
Goldsmith, Max.....Sc. 3	359 E. 8th St.
Haff, Richard M.....Arts 2	16-18 E. 40th St.
Hammer, Jacob.....Sc. 2	282 Broome St.
Hammer, Louis.....Arts 1	166 Henry St.
Handelman, Jacob.....Arts 2	121 St. Mark's Place
Hauser, Edwin T.....Arts 2	145 E. 82d St.
Held, Nathaniel.....Arts 2	7 W. 111th St.
Horowitz, Morris.....Sc. 3	72 Ridge St.
Icahn, Michael.....Arts 2	213 Scholes St., Bklyn.
Inkeles, Abraham.....Sc. 3	90 Chrystie St.
Jaffe, Solomon.....Sc. 1	1326 Fifth Ave.
Kadison, Alexander.....Arts 1	1109 Jefferson Ave., Bklyn.
Kanter, Emanuel.....Sc. 3	65 Lenox Ave.
Karshan, Max.....Sc. 2	1863 Park Place, Bklyn.
Katz, Herbert S.....Sc. 2	249 E. 68th St.
Katz, Samuel.....Arts 3	70-72 Clinton St.
Kilpatrick, Martin, Jr.....Arts 2	511 W. 168th St.
Koster, Frederick W.....Sc. 1	1157 Madison St., Bklyn.
Kowarsky, Milton.....Arts 3	14 Ave. D
Kramer, Samuel.....Arts 3	232 Henry St.
Krauskopf, Joseph.....Arts 2	2067 Vyse Ave., Bronx
Kupec, William J.....Sc. 3	340 E. 71st St.
Kurtz, Louis.....Sc. 1	170 Rivington St.
Langh, Philip A.....Arts 3	637 E. 6th St.
Leff, JacobSc. 1	1807 Clinton Ave., Bronx
Leichtman, Max.....Arts 1	605 E. 138th St., Bronx
Levisohn, Edwin.....Sc. 3	511 W. 139th St.
Lewis, Harold.....Arts 3	555 W. 149th St.
Lichtenstein, Michael.....Arts 2	531 W. 123d St.
Lieb, Michael.....Arts 3	129 E. 4th St.
Lipschitz, Joseph H.....Sc. 3	104 E. 107th St.
Luft, Harry L.....Arts 3	1012 Manhattan Ave., Bklyn.
Lund, Joel V.....Arts 2	471 12th St., Bklyn.
Manley, Donald.....Sc. 1	214 Macon St., Bklyn.
Markowitz, Alexander.....Sc. 1	263 S. 2d St., Bklyn.
Martin, Joseph E.....Arts 1	403 W. 19th St.
Mendelsohn, Harry B.....Sc. 3	299 S. 2d St., Bklyn.
Merckel, Frederick G.....Sc. 3	107 E. 10th St.
Meyerson, OscarArts 2	83 E. 114th St.
Meyrowitz, Julius.....Arts 2	1069 Boston Road, Bronx
Mikol, Louis C.....Sc. 3	241 E. 87th St.
Miller, George.....Sc. 1	724 E. 158th St., Bronx
Mintzer, Joseph.....Arts 3	66 Stanton St.

Muhlhauser, Carl.....	Sc. 1	50 Sheridan Boulevard, Far Rock- away, L. I.
Muller, Walter J.....	Arts 3	15 Bleecker St.
Nachsatz, Jesse.....	Sc. 3	318 Madison St., Bklyn.
Nelson, George A., Jr.....	Sc. 3	114 Morningside Drive
O'Connell, Augustus A.....	Arts 3	354 E. 79th St.
O'Connell, Nicholas.....	Sc. 3	354 E. 79th St.
Olsson, Nils W.....	Arts 2	2233 Story Ave., Bronx
Peterson, Martin D. S.....	Arts 2	161 E. 34th St.
Port, Benjamin.....	Arts 2	264 Cherry St.
Rabinowitz, Benjamin.....	Arts 2	159 Marcy Ave., Bklyn.
Rappaport, Gustav S.....	Sc. 3	1519 St. Mark's Ave., Bklyn.
Rauch, Nathan A.....	Sc. 3	1328 Fifth Ave.
Regard, Leon.....	Sc. 3	707 Amsterdam Ave.
Reiman, Harry	Arts 3	1165 Vyse Ave., Bronx
Ricca, Frank J.....	Arts 2	314 E. 115th St.
Rosen, Max.....	Sc. 3	71 E. 109th St.
Rosenblum, Joseph.....	Sc. 2	100 Second Ave.
Rothenstein, Jacob.....	Arts 3	400 Vermont St., Bklyn.
Rothstein, Morris.....	Arts 2	940 Union Ave., Bronx
Ryba, J. Francis.....	Sc. 3	447 E. 77th St.
Samuelson, Sidney E.....	Sc. 2	736 Home St., Bronx
Schachner, Nathan.....	Sc. 1	2022 Eastchester Road, Bronx
Schaffer, Harry.....	Arts 2	255 East Broadway
Schaffer, Harry E.....	Sc. 3	101 W. 112th St.
Schatzberg, Sigmund.....	Sc. 3	110 W. 144th St.
Schechter, Louis.....	Arts 1	305 S. 4th St., Bklyn.
Scheer, Henry I.....	Sc. 2	472 E. 146th St., Bronx
Shapiro, Alex.....	Sc. 3	857 Beck St., Bronx
Shapiro, David A.....	Sc. 3	1648 Lexington Ave.
Shircas, Hyman.....	Arts 2	124 Boerum St., Bklyn.
Siegel, Martin.....	Arts 2	757 Trinity Ave., Bronx
Silverstein, Louis.....	Sc. 3	97½ E. 7th St.
Siyavitz, Benjamin.....	Arts 1	265 Madison St.
Smith, Frank.....	Arts 2	1846 E. 177th St., Bronx
Smith, Karl.....	Arts 2	800 Jennings St., Bronx
Stickney, George J.....	Arts 2	464 E. 186th St., Bronx
Stockel, Samuel.....	Arts 2	2615 Third Ave., Bronx
Studley, William H. S.....	Sc. 3	346 W. 42d St.
Weinstein, Nathan.....	Sc. 1	131-33 Ave. A
Weiss, Charles.....	Sc. 3	359 E. 10th St.
Weiss, Joseph.....	Sc. 3	380 E. 8th St.
Welke, Rudolph.....	Sc. 3	25 St. John's Place, Bklyn.
Welkowitz, Herman.....	Sc. 1	293 E. 3d St.
Wilchins, Moe.....	Arts 2	4817 White Plains Road, Bronx
Wright, Harold.....	Arts 2	161 E. 82d St.
Zajac, Harry M.....	Sc. 1	562 Columbus Ave.

Zitner, Morris.....	Arts 1	172-74 McKibben St., Bklyn.
Zukin, Isidor.....	Sc. 2	264 East Broadway

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LOWER SOPHOMORE CLASS.

Aaronson, Henry A.....	Sc. 1	230 E. 41st St.
Abrahams, Morton.....	Arts 2	40 W. 128th St.
Ackerman, Herbert R.....	Arts 1	454 W. 44th St.
Adler, Howard.....	Sc. 3	811 St. Nicholas Ave.
Albrecht, Arthur E.....	Arts 2	1681 Lexington Ave.
Alport, Max.....	Sc. 2	1355 East New York Ave., Bklyn.
Apfel, Howard.....	Sc. 1	507 W. 155th St.
Aronovitz, Henry.....	Sc. 3	1581 First Ave.
Becker, Abram.....	Sc. 2	128 W. 139th St.
Born, Otto W.....	Arts 3	47 Second Ave.
Bracken, James J.....	Sc. 3	143 Ludlow Ave., Elmhurst, L. I.
Budd, Ogden D., Jr.....	Arts 1	244 W. 104th St.
Cohen, Jacob E.....	Sc. 3	666 E. 164th St., Bronx
Deutsch, Max	Arts 3	48 E. 104th St.
Dill, Gilbert T.....	Sc. 3	1590 Amsterdam Ave.
Dounn, David K.....	Sc. 3	101 Clinton St.
Ellenbogen, Henry.....	Arts 3	125 E. 90th St.
Ennis, Hugh J.....	Arts 2	574 E. 168th St., Bronx
Epstein, David.....	Arts 1	106 W. 114th St.
Epstein, Jacob.....	Sc. 1	63 W. 117th St.
Feingold, Norman.....	Sc. 2	310 E. 79th St.
Feingold, Philip.....	Sc. 1	441 Hopkinson Ave., Bklyn.
Fiedler, J. Le Roy.....	Arts 3	1426 Walnut St., Richmond Hill, L. I.
Fried, Maurice A.....	Arts 3	2 E. 115th St.
Fuchs, Richard	Arts 3	826 Rogers Ave., Bklyn.
Ginsberg, Benjamin.....	Arts 1	296 Sackman St., Bklyn.
Goldberg, Simon.....	Sc. 3	201 Henry St.
Goldsmith, Jacob B.....	Arts 3	351 E. 3d St.
Goodman, Hyman.....	Sc. 2	1518 Madison Ave.
Goold, James.....	Sc. 2	235 Second Ave.
Graham, Jacob.....	Arts 2	122-24 W. 143d St.
Greenberg, Jacob.....	Sc. 2	416 Grand St.
Greene, Matthew.....	Arts 2	945 Hoe Ave., Bronx
Gross, Frank S.....	Sc. 3	168 Delancey St.
Gross, Paul.....	Sc. 1	620 W. 179th St.
Grossman, Max.....	Arts 2	234 E. 14th St.
Gutowitz, Solomon.....	Arts 2	2153 Seventh Ave.
Halpern, Isaac	Arts 3	239 E. 36th St.
Hammond, Simeon.....	Sc. 3	58 E. 11th St.
Harap, Henry.....	Sc. 1	166 E. 2d St.
Havender, James.....	Arts 2	236 Tremont Ave., Bronx
Hebald, Selian.....	Sc. 2	200 Bowery

Herrmann, Paul J.....	Arts 2	1224 Union Ave., Bronx
Himowich, Harold E.....	Sc. 1	1913 Madison Ave.
Hirsch, George D.....	Arts 3	516 W. 134th St.
Hirschberg, Abraham A.....	Arts 2	311 Wallabout St., Bklyn.
Hirshfeld, Samuel.....	Sc. 2	45 E. 82d St.
Hirshhorn, Herman.....	Arts 2	63 E. 111th St.
Hoffman, Samuel.....	Arts 2	501 W. 172d St.
Hood, Everett D.....	Arts 1	920 Delamere Place, Bklyn.
Hopkins, Carleton R.....	Arts 2	275 Halsey St., Bklyn.
Horowitz, George J.....	Arts 3	156 E. 94th St.
Huppenbauer, Edwin J.....	Sc. 3	11 Third Place, Bklyn.
Isaacs, Hyman.....	Arts 2	545 E. 146th St., Bronx
Isaacson, Isidor.....	Sc. 3	1671 Pitkin Ave., Bklyn.
Jacobson, Jacob A.....	Arts 2	659 Morris Park Ave., Bronx
Jaffe, Benjamin.....	Sc. 3	241 Monroe St.
Just, John E.....	Arts 3	1859 Morris Ave., Bronx
Kaplan, Benjamin D.....	Arts 2	199 Forsyth St.
Kaslofsky, Emanuel.....	Sc. 3	328 Henry St.
Kassenbrock, Christopher G.....	Sc. 3	19 Wolcott St., Bklyn.
Klein, Nelson.....	Arts 2	565 W. 139th St.
Kosloff, Alexander H.....	Arts 2	214 Madison St.
Kosloff, Meyer L.....	Arts 2	214 Madison St.
Kramer, Felix.....	Sc. 1	654 E. 183d St., Bronx
Krinowsky, Daniel G.....	Sc. 3	253 Madison St.
Kuenstler, Armen.....	Sc. 1	45 E. 2d St.
Kurdelski, Henry.....	Sc. 3	427 Bronx Park Ave., Bronx
Landy, Abraham.....	Sc. 2	2948 Third Ave., Bronx
Lasker, Abraham.....	Arts 2	60 St. Nicholas Ave.
Leikin, Royal.....	Sc. 2	73 Conselyea St., Bklyn.
Lerner, Nathan H.....	Arts 2	5 E. 112th St.
Levine, Samuel Z.....	Arts 2	9 E. 101st St.
Levinson, Sol.....	Sc. 2	11 W. 115th St.
Levy, Abraham A.....	Sc. 3	607 Water St.
Licht, Benjamin H.....	Arts 3	79 Ridge St.
Logie, Quentin R.....	Sc. 3	2652 Decatur Ave., Bronx
Maclaire, Aaron S.....	Arts 2	347 E. 87th St.
Malmberg, Axel.....	Arts 3	2477 Devoe Terrace, Bronx
Marcus, Siegbert.....	Arts 2	933 E. 167th St., Bronx
Marx, Aaron.....	Arts 2	907 Third Ave.
McAusland, Robert J., Jr....	Sc. 3	704 Ninth Ave.
McMichael, Charles.....	Arts 2	472 15th St., Bklyn.
Moerchen, Helmuth A.....	Arts 2	101 E. 91st St.
Moskowitz, Morris A.....	Arts 2	121 Rivington St.
Muldofsky, Samuel.....	Arts 2	166 Riverdale Ave., Bklyn.
Mulholland, James V.....	Arts 2	447 W. 47th St.
Padden, Henry J., Jr.....	Arts 2	239 E. 31st St.
Palinsky, Max.....	Arts 3	4015 13th Ave., Bklyn.
Pashman, David.....	Sc. 1	59 Scammel St.

Pasvolsky, Leo.....	Arts 2	903 Prospect Ave., Bronx
Pettit, Edgar A.....	Arts 1	1345 E. 37th St., Bklyn.
Plessner, Benjamin.....	Sc. 2	29 Ave. D
Ponch, Frank.....	Sc. 2	148 W. 118th St.
Popkin, Maxwell	Sc. 2	3 E. 114th St.
Rabiner, Max.....	Sc. 1	1396 Prospect Ave., Bronx
Rabinowitz, Benjamin.....	Arts 1	15 Meserole St., Bklyn.
Rogoff, Abraham M.....	Arts 2	192 Thatford Ave., Bklyn.
Rogoff, Samuel.....	Arts 2	240 Floyd St., Bklyn.
Rosenman, Samuel I.....	Arts 2	1860 Seventh Ave.
Rosenstein, David.....	Sc. 2	62 Sheriff St.
Rosenzweig, Charles L.....	Sc. 2	221 East Broadway
Rost, Benjamin H.....	Arts 2	1344 Park Ave.
Rotgard, Isidore.....	Arts 2	1703 Fulton Ave., Bronx
Salzman, Alexander.....	Arts 2	346 Beekman Ave., Bronx
Salzman, Hyman T.....	Arts 2	5403 15th Ave., Bklyn.
Scarlata, Joseph.....	Arts 2	1937 Gravesend Ave., Bklyn.
Schneider, Abraham.....	Arts 3	2196 Dean St., Bklyn.
Schwartz, Louis G.....	Arts 3	103 E. 4th St.
Schwartz, Otto.....	Arts 2	343 S. 4th St., Bklyn.
Sender, Morris.....	Sc. 3	238-40 E. 7th St.
Seplovin, Samuel.....	Sc. 1	1056 Second Ave.
Shaffer, Charles N., Jr.....	Sc. 3	222 W. 38th St.
Shanholt, Henry H.....	Sc. 1	2 E. 107th St.
Shapiro, Philip.....	Arts 3	102 E. 109th St.
Shauer, Melville A.....	Sc. 1	849 St. Nicholas Ave.
Shulman, Gilbert.....	Arts 2	145 E. 111th St.
Siegel, Isaac.....	Arts 2	29 W. 111th St.
Silverstein, Morris.....	Arts 3	1947 Second Ave.
Simon, Samuel B.....	Sc. 3	68 E. 109th St.
Singer, Frederick.....	Arts 3	1162 Madison St., Bklyn.
Singer, Nathan.....	Arts 2	150 Suffolk St.
Smith, Alexander.....	Arts 2	507 W. 155th St.
Sokomsky, Jacob.....	Sc. 3	308 Rivington St.
Solomon, Joseph E.....	Arts 3	323 E. 79th St.
Sommerfeld, George J.....	Arts 2	907 Jackson Ave., Bronx
Stark, Irving W.....	Arts 2	3378 Fort Independence St., Bronx
Steinman, David.....	Sc. 2	269 W. 141st St.
Stich, Herman.....	Arts 3	444 Wendover Ave., Bronx
Stoloff, Charles I.....	Sc. 2	314 E. 4th St.
Strumpf, David L.....	Sc. 3	946 Kelly St., Bronx
Sugarman, Jacob.....	Sc. 3	67 Canal St.
Tabor, Otto V.....	Arts 2	289 Brook Ave., Bronx
Tinsley, Theodore A.....	Arts 1	159 E. 116th St.
Tyler, Edward E.....	Arts 1	378 Cumberland St., Bklyn.
Valverde, Robert.....	Sc. 3	162 W. 73d St.
Van de Vort, Stuart L.....	Arts 3	535 W. 162d St.
Vogel, Nathan.....	Sc. 1	246 E. 4th St.

Wallach, Max.....	Sc. 3	165 Floyd St., Bklyn.
Wanderer, Henry.....	Arts 2	2214 85th St., Bklyn.
Weil, Walter L.....	Arts 2	253 Burnside Ave., Bronx
Weiss, Charles.....	Sc. 2	51 Hamilton Place
Wikoff, Alan G.....	Sc. 1	661 W. 179th St.
Wodzacka, Jacob.....	Arts 3	4713 Richardson Ave., Bronx
Wolf, Solomon.....	Sc. 3	1699 Fulton Ave., Bronx
Wolfe, Bertram D.....	Arts 3	148 Berriman St., Bklyn.
Wolff, Samuel.....	Sc. 1	1327 Bristow St., Bronx
Wolk, Irving.....	Arts 3	1 E. 111th St.
Zolowitz, Abraham C.....	Sc. 1	605 Sutter Ave., Bklyn.
Zimmerman, Julius.....	Sc. 1	627 Saratoga Ave., Bklyn.

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UPPER FRESHMAN CLASS.

Abelson, Louis I.....	Sc. 3	43 Delancey St.
Ackman, Benjamin.....	Sc. 2	50 E. 99th St.
Archer, Benjamin.....	Arts 2	1342 Franklin Ave., Bronx
Aronin, Joseph.....	Sc. 3	812 E. 165th St., Bronx
Aronson, David.....	Arts 1	167 E. 112th St.
Asurowitz, Solomon.....	Sc. 2	661 E. 158th St., Bronx
Austin, Harold W.....	Sc. 3	1294 Lexington Ave.
Babor, Joseph.....	Sc. 1	447 E. 77th St.
Barash, Louis.....	Arts 2	177 Forsyth St.
Barnett, David.....	Sc. 1	62 W. 114th St.
Baron, William.....	Arts 3	55 E. 102d St.
Bauman, Benjamin.....	Sc. 1	186 Ludlow St.
Berkowitz, Bernard.....	Sc. 3	230 E. 114th St.
Berman, Irving.....	Arts 1	1332 E. 51st St., Bklyn.
Birnn, Roland.....	Sc. 3	449 W. 124th St.
Bisno, Louis.....	Sc. 1	1104 Clay Ave., Bronx
Block, Isadore.....	Sc. 3	82 E. 115th St.
Bondy, Alfred R.....	Sc. 3	1266 Boston Road, Bronx
Bossowich, Isadore.....	Arts 3	59 E. 104th St.
Bosworth, Clarence M.....	Arts 1	471 W. 145th St.
Bramson, Reuben.....	Sc. 3	80 Montgomery St.
Brand, Jacob.....	Arts 3	59 E. 104th St.
Braun, Harry.....	Sc. 2	184 E. 104th St.
Brody, David S.....	Arts 2	1165 45th St., Bklyn.
Bronner, Frank.....	Arts 1	318 Flushing Ave., Bklyn.
Buckley, John J.....	Arts 2	202 W. 119th St.
Caro, Alexander.....	Arts 3	235 E. 85th St.
Carso, A. Francis.....	Sc. 3	879 Flatbush Ave., Bklyn.
Caserta, Herman.....	Arts 3	3644 Holland Ave., Bronx
Chess, Maurice.....	Sc. 2	957 Hoe Ave., Bronx
Ciaccio, Paul.....	Sc. 1	606 E. 14th St.

Clendenin, Thomas P.....	Sc. 2	53 W. 104th St.
Cohen, Abraham.....	Sc. 1	2160 Dean St., Bklyn.
Cohen, Harry.....	Sc. 2	5 W. 118th St.
Cohen, Lewis.....	Sc. 3	109 W. 89th St.
Cohen, Samuel L.....	Arts 2	159 W. 80th St.
Cole, Jacob.....	Sc. 2	426 W. 42d St.
Colin, David H.....	Sc. 2	822 E. 167th St., Bronx
Colish, Nathan H.....	Arts 3	82 E. 115th St.
Connolly, John.....	Arts 2	514 Bainbridge St., Bklyn.
Coombes, Donaldson.....	Arts 2	308 Alexander Ave., Bronx
Couhill, Walter C.....	Sc. 3	234 Spencer St., Bklyn.
Cox, Harold C.....	Sc. 3	467 W. 143d St.
Coyne, Howard L.....	Sc. 3	1366 St. Nicholas Ave.
Daschavsky, Peter.....	Sc. 2	610 W. 135th St.
Davidson, Gustav.....	Arts 2	995 Southern Boulevard, Bronx
Davis, L. Laird.....	Sc. 3	742 St. Nicholas Ave.
De Groot, Archibald.....	Sc. 3	267 W. 113th St.
Delman, David.....	Arts 3	45 Clinton St.
Delman, Zachary M.....	Sc. 2	45 Clinton St.
Douglas, Jesse.....	Sc. 1	275 East Broadway
Drake, Joseph W.....	Arts 1	455 Sanford Ave., Queens
Dryfoos, Jerome H.....	Sc. 3	195 Edgecombe Ave.
Edelman, Isidore.....	Sc. 2	703 E. 175th St., Bronx
Eichel, David.....	Arts 3	196 Stanton St.
Ellis, William J.....	Sc. 3	439 62d St., Bklyn.
Farber, Samuel.....	Arts 3	5313 New Utrecht Ave., Bklyn.
Fasullo, Frank.....	Arts 2	115 Hamburg Ave., Bklyn.
Feigenbaum, Isidore.....	Arts 3	122 S. 4th St., Bklyn.
Feinberg, Isidore B.....	Arts 1	203 Livonia Ave., Bklyn.
Feinstein, Simon.....	Sc. 3	509 W. 134th St.
Fielder, Wilbur.....	Sc. 2	513 W. 145th St.
Fine, George.....	Sc. 2	402 Grand St.
Frank, Henry J.....	Sc. 1	211 E. 76th St.
Frey, Edward.....	Sc. 2	541 Van Nest Ave., Bronx
Friedgen, Harry.....	Arts 2	921 Trinity Ave., Bronx
Friedman, Abraham.....	Arts 3	2143 Second Ave.
Friedman, Samuel H.....	Arts 3	988 Jefferson Ave., Bklyn.
Friedman, Solomon L.....	Sc. 2	301 S. 4th St., Bklyn.
Frost, Max.....	Arts 2	607 E. 13th St.
Frutkin, Louis.....	Arts 3	320 Cherry St.
Fuchs, Joseph.....	Sc. 1	275 Stanton St.
Funk, Samuel T.....	Arts 2	126 E. 118th St.
Futterman, Harry.....	Sc. 3	1823 Barnes Ave., Bronx
Geer, Hobart.....	Sc. 2	1276 Clay Ave., Bronx
Goebel, Martin.....	Sc. 2	120 Nassau Ave., Bklyn.
Goldberg, Abraham.....	Sc. 2	1595 Bathgate Ave., Bronx
Goldberg, Alexander.....	Sc. 3	201 Henry St.
Goldenthal, Isidore.....	Arts 3	540 St. Paul Place, Bronx

Goldfarb, Isidor.....Arts 3	126 Henry St.
Goldman, Solomon.....Arts 2	110 Thatford Ave., Bklyn.
Goldstein, Abraham.....Arts 2	60 W. 118th St.
Goldstein, Charles.....Arts 1	99-101 E. 111th St.
Goldstein, Edward J.....Arts 2	945 Aldus St., Bronx
Goldstein, Louis E.....Sc. 3	134 Cannon St.
Golubock, Henry.....Sc. 3	749 De Kalb Ave., Bklyn.
Gordon, Meyer.....Sc. 3	1 Pike St.
Gottlieb, Benjamin.....Arts 2	308 Grand St., Bklyn.
Gottlieb, Jacob.....Arts 2	1388 Clinton Ave., Bronx
Grablowsky, Herman A.....Arts 3	1226 Boston Road, Bronx
Grablowsky, Simon.....Sc. 3	221 Henry St.
Gramet, Solomon.....Sc. 1	36 Sumner Ave., Bklyn.
Granat, Edward.....Arts 2	370 E. 145th St., Bronx
Greenberg, Max.....Arts 2	104 Second Ave.
Greenfield, Samuel.....Arts 3	726 E. 9th St.
Grossman, Daniel.....Arts 2	951 Washington Ave.. Bronx
Grossman, David.....Arts 3	17 E. 113th St.
Guinness, Ralph B.....Arts 2	1166 E. 18th St., Bklyn.
Hagan, EdwardSc. 3	427 Pleasant Ave.
Hankin, Henry.....Sc. 1	1172 Jackson Ave., Bronx
Hannley, Francis M.....Sc. 3	921 St. Nicholas Ave.
Harber, Abraham.....Sc. 2	425-29 Grand St.
Harber, Leo.....Arts 3	68 Pitt St.
Harris, Emanuel.....Arts 2	91 Eldridge St.
Harvey, Burwell T., Jr.....Sc. 2	737 E. 218th St., Bronx
Hayes, Thomas A.....Sc. 3	503 E. 80th St.
Healy, Gerald.....Arts 3	14 E. 106th St.
Healy, Jefferson.....Arts 1	166 Willoughby Ave.. Bklyn.
Heinz, Fredrick..Arts 3	1288 Union Ave., Bronx
Heinz, John G.....Arts 3	454 Onderdonk Ave., Queens
Henck, RobertArts 3	201 Seventh Ave.
Hertan, Samuel.....Arts 2	460 E. 139th St., Bronx
Herzenberg, Herbert.....Arts 3	44 Charlton St.
Hoechle, Ivo, Jr.....Arts 3	769 Third Ave.
Hollander, Julius.....Arts 2	1346 45th St., Bklyn.
Hummel, Adolph.....Arts 3	3688 Broadway
Iger, Morris.....Arts 3	248 E. 3d St.
Jaeger, Leo F.....Arts 2	2653 Third Ave., Bronx
James, Lord A.....Sc. 1	604 Franklin Ave., Bklyn.
Jones, William.....Sc. 2	3003 Clarendon Road, Bklyn.
Kaback, Abraham.....Arts 2	19 Hester St.
Kahn, Charles.....Arts 2	941 Tiffany St., Bronx
Kammerer, Austin.....Arts 3	157 E. 46th St.
Kaner, Benjamin.....Sc. 3	12 W. 112th St.
Kaplan, Isaac.....Arts 3	364 E. 123d St.
Karmioli, William.....Arts 2	57 E. 103d St.
Kaufman, Max.....Arts 3	66 E. 109th St.

Kaufman, Samuel.....	Sc. 1	162 E. 4th St.
Kear, Francis V.....	Arts 2	300 W. 130th St.
Kimmelman, Max.....	Sc. 1	393 E. 10th St.
Kleban, Morris.....	Arts 2	1800 Seventh Ave.
Kleiner, Benjamin.....	Sc. 2	119 Belmont Ave., Bklyn.
Kohn, Harold.....	Arts 2	200 E. 76th St.
Korminsky, Abraham.....	Sc. 3	182 E. 75th St.
Kraft, William.....	Arts 3	3 W. 112th St.
Krail, Jesse A.....	Arts 3	1053 Jackson Ave., Bronx
Krakowitz, Moses.....	Arts 1	1724 Washington Ave., Bronx
Krulewitch, Melvin L.....	Arts 2	422 W. 122d St.
Lamm, Lucian.....	Arts 1	229 E. 5th St.
Lease, Raymond.....	Arts 2	3675 Broadway
Lefkowitz, Max.....	Arts 1	15 E. 113th St.
Leikin, Samuel.....	Sc. 2	73 Conselyea St., Bklyn.
Lerner, Julius.....	Sc. 3	91 Eldridge St.
Levine, David.....	Sc. 2	411 Hart St., Bklyn.
Levy, Max.....	Sc. 3	237 S. 2d St., Bklyn.
Lichtman, Isidore.....	Sc. 1	213-15 E. 4th St.
Lieberson, Joseph.....	Sc. 2	1383 Fifth Ave.
Linder, Edward.....	Arts 3	232 E. 114th St.
Liss, Samuel S.....	Sc. 2	1338 Teller Ave., Bronx
Littwin, Joseph.....	Arts 2	294 Lorimer St., Bklyn.
Lyons, John J.....	Sc. 3	936 E. 217th St., Bronx
Maak, Otto J.....	Arts 2	601 E. 170th St., Bronx
MacDonald, William R.....	Sc. 1	1030 Cauldwell Ave., Bronx
Magee, Meyer.....	Arts 2	25 E. 112th St.
Magna, Clamor H.....	Sc. 2	186 Lenox Road, Bklyn.
Maguire, Sylvester.....	Arts 2	42 Tompkins Ave., Bklyn.
Manne, Alexander.....	Sc. 2	109 S. 3d St., Bklyn.
Manz, Henry A.....	Arts 2	593 Lorimer St., Bklyn.
Marcus, Lawrence.....	Sc. 3	262 W. 131st St.
Marder, Frank.....	Sc. 1	197 Moore St., Bklyn.
Mardfin, Emile.....	Sc. 2	850 E. 161st St., Bronx
Marrs, Aubrey R.....	Sc. 1	505 W. 122d St.
Mason, David N.....	Arts 2	357 W. 29th St.
McFarland, Donald C.....	Arts 1	64 W. 71st St.
McGill, James V.....	Arts 2	846 Lafayette Ave., Bklyn.
McNeill, John.....	Arts 2	112 Java St., Bklyn.
Meister, Morris.....	Sc. 3	161 Madison St.
Mendelsohn, Ephraim.....	Sc. 1	351 S. 3d St., Bklyn.
Merlis, Isidore.....	Sc. 3	507 E. 5th St.
Metz, Solomon.....	Arts 2	32 Suffolk St.
Millman, A. Matthew.....	Arts 2	207 Second Ave.
Mitchell, Max.....	Sc. 2	594 E. 138th St., Bronx
Montero, Harry E.....	Sc. 2	501 W. 178th St.
Moskovitz, Herman.....	Arts 3	244 Seventh St.
Moss, Arthur.....	Arts 2	1 W. 104th St.

Munday, William F.....	Sc. 3	1790 Amsterdam Ave.
Nemser, Charles.....	Arts 2	4315 13th Ave., Bklyn.
Neuhausen, Benjamin.....	Arts 2	1791 Lexington Ave.
Neulinger, Arnold.....	Sc. 2	500 W. 175th St.
Norman, Jesse J.....	Sc. 3	61 W. 106th St.
North, Solomon.....	Sc. 2	49 Fairview Ave., Corona, L. I.
Nussbaum, Benjamin.....	Sc. 3	115 W. 137th St.
O'Connell, Raymond T.....	Sc. 1	130 Penn St., Bklyn.
O'Neil, Alexander J.....	Arts 2	1654 Madison Ave.
Ornstein, Israel.....	Arts 2	912 Kelly St., Bronx
Pachinsky, Herman.....	Arts 2	395 Pennsylvania Ave., Bklyn.
Pasachoff, Harry D.....	Sc. 2	1526 Charlotte St., Bronx
Peters, Hallam B.....	Sc. 3	2322 Eighth Ave.
Piroshnikoff, Joseph.....	Sc. 2	894 Prospect Ave., Bronx
Posner, Hyman P.....	Sc. 2	685 Cauldwell Ave., Bronx
Quinn, John M.....	Sc. 2	814 Greenwood Ave., Richmond Hill, L. I.
Rabinowitz, Joshua.....	Sc. 1	1526 Brook Ave., Bronx
Randolph, Wendell S.....	Sc. 3	630 W. 147th St.
Raymond, Bernard.....	Arts 3	517 W. 113th St.
Redmond, Timothy F.....	Arts 2	529 Metropolitan Ave., Bklyn.
Rezofsky, David.....	Sc. 3	250 Monroe St.
Rosen, Ambrose.....	Sc. 3	1270 Stebbins Ave., Bronx
Rosenberg, Samuel.....	Sc. 3	216 S. 3d St., Bklyn.
Rosenblatt, Hymen.....	Arts 3	1650 Amsterdam Ave.
Rosenfeld, Bela.....	Sc. 2	937 Tiffany St., Bronx
Rosenzweig, Max.....	Sc. 2	903 Prospect Ave., Bronx
Roth, Willard E.....	Sc. 3	325 Clifton Place, Bklyn.
Rutstein, Myron M.....	Arts 3	21 E. 119th St.
Ryan, John.....	Arts 2	541 E. 144th St., Bronx
Salzman, Nathan.....	Sc. 2	78 Second Ave.
Samuels, Louis H.....	Arts 2	113 Johnson St., Bklyn.
Saposnekow, Jacob.....	Sc. 1	137 Broome St.
Sappoe, Peter.....	Sc. 2	508 Franklin Ave., Bklyn.
Savage, Walter.....	Arts 2	108 E. 127th St.
Schachter, Harry.....	Arts 2	80-82 First St.
Schevitz, Julius.....	Sc. 3	389 Marcy Ave., Bklyn.
Schloss, Malcolm B.....	Sc. 2	226 W. 122d St.
Schneeweiss, Charles.....	Arts 2	1246 45th St., Bklyn.
Schneider, Max.....	Sc. 2	216 E. Houston St.
Schoeler, Hermann R.....	Arts 2	227 E. 124th St.
Schulich, Reuben.....	Sc. 2	21 Rapalje Ave., Corona, L. I.
Schulman, Jacob.....	Arts 3	1450 49th St., Bklyn.
Schultz, Henry.....	Arts 2	86 Madison St.
Schussheim, Morris.....	Sc. 3	77 Ave. C
Schwalje, Walter.....	Arts 3	163 W. 62d St.
Schwartzwald, Leo.....	Arts 2	603 Prospect Ave., Bronx
Seikowitz, Louis.....	Sc. 2	24 St. Mark's Place

Shapiro, Isidor.....	Arts 3	187 Henry St.
Shea, J. John.....	Sc. 1	100 W. 143d St.
Siegel, Sidney.....	Arts 2	4 E. 108th St.
Silver, Nathan.....	Sc. 3	239-41 Cooper St., Bklyn.
Silver, Samuel.....	Sc. 3	470 15th St., Bklyn.
Simon, Julian.....	Arts 2	408 W. 130th St.
Sindeband, Max M.....	Arts 3	74 E. 93d St.
Singer, Abraham.....	Arts 2	48 Oak St.
Skoultchi, Milton.....	Arts 2	963 Prospect Ave., Bronx
Sobel, Nathan.....	Sc. 2	41 Ave. B
Sprung, Joseph.....	Sc. 3	126 W. 118th St.
Stahl, Frederick.....	Sc. 3	674 E. 240th St., Bronx
Stehl, Richard E.....	Arts 2	354 E. 87th St.
Steirman, Jacob.....	Sc. 1	49 Stanton St.
Strauss, Arthur.....	Arts 1	517 W. 144th St.
Stupel, Harry J.....	Arts 2	2168 Fulton St., Bklyn.
Swiedler, Herbert.....	Sc. 3	293 W. 147th St.
Thron, Daniel.....	Arts 2	358 W. 119th St.
Thurm, Max.....	Sc. 2	705 E. 6th St.
Trigger, Raymond.....	Sc. 3	813 Sixth Ave.
Tulchin, David.....	Sc. 3	243 Second St.
Turner, Egbert M.....	Arts 1	165 Manhattan Ave.
Uzdansky, Abraham.....	Arts 3	51 Spring St.
Viscardi, John.....	Arts 2	49 W. 112th St.
Von Bonin, Albert.....	Sc. 1	41 Convent Ave.
Waldheim, Franklin.....	Arts 2	539 E. 87th St.
Warchovsky, Herman.....	Sc. 1	272 E. 10th St.
Wechsler, Ralph.....	Sc. 1	285 Throop Ave., Bklyn.
Wedeen, Nathan.....	Arts 2	670 E. 176th St., Bronx
Weeks, Frederick T.....	Arts 2	2550 Marion Ave., Bronx
Weinberger, David.....	Arts 2	345 E. 120th St.
Weinfeld, Bennie L.....	Sc. 2	837 Beck St., Bronx
Weintraub, Sydney.....	Arts 1	1054 Third Ave.
Weissman, Harry.....	Sc. 3	1593 Lexington Ave.
Weltmann, Victor.....	Sc. 3	251 Ave. A
Werdermann, Robert J.....	Arts 2	858 Bushwick Ave., Bklyn.
Werner, Fred J.....	Arts 2	904 Tinton Ave., Bronx
Wetzel, Anton.....	Arts 2	1729 Victor St., Bronx
Wilk, Harold.....	Sc. 3	625 E. 11th St.
Wolf, Louis.....	Arts 2	33 Essex St.
Wray, Clive A.....	Sc. 1	786 Madison St., Bklyn.
Young, Robert H.....	Sc. 1	1767 Topping Ave., Bronx
Zagat, Arthur L.....	Sc. 3	751 Dawson St., Bronx

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LOWER FRESHMAN CLASS.

Adda, Moses.....	Arts 1	1217 Third Ave.
Adlerblum, David.....	Arts 3	1687 Bathgate Ave., Bronx
Alexander, Lawrence L.....	Sc. 3	141 E. 114th St.
Allyn, Francis.....	Sc. 1	1811 Woodhaven Ave., Queens
Amster, Solomon.....	Arts 3	109 Attorney St.
Anderson, John B.....	Sc. 1	916 Greene Ave., Bklyn.
Angrist, Frank.....	Sc. 1	415 E. Houston St.
Anopol, George.....	Sc. 2	502 W. 139th St.
Armored, Anthony J.....	Sc. 2	2366 Lorillard Place, Bronx
Aronowitz, Max.....	Arts 2	1 E. 117th St.
Atwood, Clifford.....	Sc. 3	499 W. 135th St.
Auerbach, Nathan.....	Sc. 2	501 W. 135th St.
Austein, William E.....	Sc. 1	532 E. 83d St.
Babcock, Edwin M.....	Sc. 3	1867 Bathgate Ave., Bronx
Bandler, Evon.....	Arts 3	216 W. 94th St.
Barach, Alvan L.....	Arts 1	925 Union Ave., Bronx
Barasz, Moses.....	Arts 2	102 E. 4th St.
Barnes, C. Raymond.....	Arts 2	126 E. 86th St.
Baron, Louis.....	Sc. 1	369 Vernon Ave., Bklyn.
Barry, Maurice.....	Arts 1	302 W. 138th St.
Barsky, Edward.....	Arts 2	206 Hewes St., Bklyn.
Barsky, George.....	Arts 2	206 Hewes St., Bklyn.
Beckett, Fred.....	Arts 2	12 W. 133d St.
Benjamin, Herbert B.....	Arts 2	723 Hancock St., Bklyn.
Berg, Benjamin N.....	Arts 2	1263-65 Fifth Ave.
Berger, Louis.....	Sc. 2	147 Bridge St., Bklyn.
Berman, Meyer.....	Arts 3	15 Audubon Ave.
Berman, Reuben.....	Arts 3	292 Monroe St.
Bernstein, Solon S.....	Arts 2	100 E. 89th St.
Beslofsky, Jacob.....	Arts 2	1269 39th St., Bklyn.
Biltschick, Abraham.....	Sc. 3	628 E. 9th St.
Blackstone, Basil B. G.....	Sc. 2	61 E. 86th St.
Blanch, Isidor A.....	Sc. 1	51 Pike St.
Block, Abraham S.....	Arts 3	263 Madison St.
Bloom, Samuel.....	Sc. 2	1470 Gates Ave., Bklyn.
Boley, Henry B.....	Sc. 1	11 Weirfield St., Bklyn.
Borchers, Fred W.....	Sc. 3	918 Forest Ave., Bronx
Borosky, Samuel J.....	Arts 3	254 Broome St.
Boschen, John H., Jr.....	Sc. 3	416 W. 154th St.
Boulard, George S.....	Sc. 2	142 W. 12th St.
Branner, Edward C.....	Arts 3	143 W. 127th St.
Brilliant, Nathan.....	Sc. 1	17 E. 115th St.
Brodie, Melvin M.....	Sc. 1	126 W. 112th St.
Brodsky, Frank.....	Arts 2	533 Lockwood St., Astoria, L. I.
Bronowitz, Benjamin.....	Arts 2	340 Van Sicklin Ave., Bklyn.
Bross, Samuel I.....	Sc. 2	2178 Lexington Ave.
Brotherton, John.....	Sc. 3	107 W. 62d St.

Bushnell, Charles W.....	Arts 2	Broadway and 34th St.
Butterworth, Horace, Jr.....	Sc. 2	1677 72d St., Bklyn.
Caesar, Isidor.....	Arts 2	361 Clifton Place, Bklyn.
Cahill, Harold M.....	Arts 1	336 56th St., Bklyn.
Christmann, Ludwig J.....	Sc. 3	2120 La Fontaine Ave., Bronx
Cohen, Abraham.....	Arts 2	290 Cherry St.
Cohen, Abraham C.....	Arts 2	481 Wendover Ave., Bronx
Cohen, Harry.....	Sc. 3	5718 Fifth Ave., Bklyn.
Cohen, Joseph.....	Arts 2	279 Hinsdale St., Bklyn.
Cohen, Louis.....	Arts 2	548 E. 13th St.
Cohen, Max.....	Arts 2	104 Stanton St.
Cohen, William.....	Arts 3	226 Henry St.
Cohn, David.....	Arts 2	70 Lenox Ave.
Cohn, Nathan.....	Arts 2	214 E. 89th St.
Comon, Charles.....	Arts 3	82 E. 115th St.
Conroy, Edwin.....	Sc. 3	227 Henry St.
Corrigan, Louis.....	Arts 2	342 E. 176th St., Bronx
Costello, Samuel W.....	Sc. 3	693 E. 2d St., Bklyn.
Cotellessa, Joseph.....	Sc. 3	2039 Hughes Ave., Bronx
Crosson, Matthew G.....	Sc. 2	2011 Vyse Ave., Bronx
Cunningham, Harold.....	Arts 2	217 W. 115th St.
Cusack, James R.....	Sc. 1	611 Putnam Ave., Bklyn.
Daly, John F.....	Sc. 3	125 W. 138th St.
Davidow, Morris.....	Sc. 3	47-53 Delancey St.
Dick, Abraham H.....	Sc. 1	249 Hart St., Bklyn.
Dolinsky, Joseph.....	Sc. 2	82 Ames St., Bklyn.
Donaldson, J. Howland.....	Sc. 2	Hamilton Ave., Richmond Hill, L.I.
Donovan, John C.....	Arts 1	Lincoln Ave., bet. Allen and West Sts., Queens
Drachman, Albert.....	Sc. 2	128 W. 121st St.
Drasner, Isidor.....	Arts 2	60 E. 102d St.
Dressler, David.....	Sc. 1	198 Orchard St.
Dreyer, Samuel.....	Arts 2	155 Eighth Ave.
Drucker, Abraham.....	Sc. 2	727 E. 156th St., Bronx
Durstenfeld, David.....	Arts 3	1347 44th St., Bklyn.
Dworetzky, Nathan P.....	Arts 2	559 W. 141st St.
Edelsack, Abraham.....	Sc. 3	240 E. 21st St.
Edelstein, Sollie.....	Arts 2	9 W. 118th St.
Edman, Irwin.....	Arts 2	416 W. 122d St.
Eichler, Isidore.....	Sc. 2	129 Ave. C
Eidt, Jacob W.....	Sc. 3	873 Second Ave.
Ellman, Morris.....	Arts 2	
Englander, Julius.....	Arts 2	401 E. 88th St.
Erdofy, Maxwell E.....	Sc. 3	981 Fox St., Bronx
Falk, Alexander.....	Sc. 2	137 Pitt St.
Farrell, Raymond.....	Arts 1	3253 Hull Ave., Bronx
Fertig, Joseph.....	Sc. 2	1871 Second Ave.
Fidler, Peter Z.....	Sc. 2	39 Graham Ave., Bklyn.

Filfuss, Julian.....	Sc. 1	83 W. 115th St.
Fineman, Abraham.....	Sc. 2	56 W. 118th St.
Fisher, Benjamin.....	Arts 2	522 W. 112th St.
Forscher, Sidney.....	Arts 2	251 W. 112th St.
Foster, Walter L.....	Arts 1	2170 Seventh Ave.
Fox, Hyman.....	Sc. 2	80 Hester St.
Freund, Henry.....	Sc. 1	96 Fifth Ave., Bklyn.
Friedman, Benjamin.....	Arts 3	17-19 Attorney St.
Friedman, Herman J.....	Sc. 2	126 Ludlow St.
Friedman, Maurice.....	Arts 3	384 E. 8th St.
Friedman, Robert.....	Arts 2	54 Riverdale Ave., Bklyn.
Friedrich, Samuel E.....	Arts 3	9 E. 106th St.
Gabrilove, Benjamin.....	Arts 2	970 Union Ave., Bronx
Gamoran, Emanuel.....	Arts 1	164 E. 112th St.
Garlock, John.....	Arts 1	348 W. 56th St.
Gavin, William J.....	Sc. 3	166 Engert Ave., Bklyn.
Gelb, Maurice.....	Sc. 2	96 East Broadway
Gennes, Morris.....	Arts 2	123 Lewis Ave., Bklyn.
Geoghegan, Charles.....	Arts 3	511 W. 185th St.
Gerardi, Simon.....	Sc. 3	271 E. 78th St.
Ginsberg, William.....	Arts 2	969 Fox St., Bronx
Gitelson, Moses H.....	Sc. 2	159 E. 95th St.
Gladstone, Sidney.....	Arts 2	1815 Crotona Ave., Bronx
Glicksberg, Louis.....	Sc. 3	36 Gouverneur St.
Glicksberg, Martin.....	Sc. 3	36 Gouverneur St.
Goldberg, Harry.....	Sc. 2	1-3 E. 107th St.
Goldberg, Jacob.....	Arts 3	278 E. 3d St.
Goldberger, Elias.....	Arts 3	277 Seventh St.
Goldblatt, David.....	Arts 2	231 E. 77th St.
Goldsmith, Julius.....	Arts 3	565 Hendrix St., Bklyn.
Goldstein, Abraham.....	Sc. 1	1419 Bryant Ave., Bronx
Goldstein, Louis A.....	Arts 3	260 Monroe St.
Golub, Jacob.....	Arts 1	7 E. 106th St.
Goodfriend, Milton.....	Arts 2	317 E. 78th St.
Goodman, Edward.....	Arts 3	19 E. 105th St.
Goodman, Isidore.....	Sc. 3	82 Monroe St.
Goodman, Max.....	Sc. 2	111 Norfolk St.
Gordon, David.....	Sc. 3	1200 Madison Ave.
Gordon, Max.....	Sc. 3	625 Boulevard R. B., Queens
Granich, Alfred M.....	Sc. 3	1320 Prospect Ave., Bronx
Greenbaum, Theodore.....	Arts 3	507 E. 139th St., Bronx
Greenberg, Samuel.....	Arts 2	23 E. 108th St.
Greenfield, Philip.....	Arts 3	78 Sheriff St.
Greenstein, Meyer.....	Sc. 3	58 Monroe St.
Greenstein, Nathan.....	Arts 1	1730 Washington Ave., Bronx
Gross, Matthew M. A.....	Arts 1	640 Saratoga Ave., Bklyn.
Haber, Abel V.....	Arts 2	55 Johnson Ave., Bklyn.
Hagglund, Lorenzo F.....	Arts 2	214 W. 135th St.

Halpern, Robert A.....Sc.	3	304 E. 3d St.
Harrigan, George J.....Arts	3	19 Third Place, Bklyn.
Harris, Philip H.....Arts	2	408 W. 150th St.
Hazard, Sprague.....Arts	1	3089 Broadway
Healey, Walter B.....Arts	2	651 Carroll St., Bklyn.
Helfand, Louis.....Sc.	1	594 Grand St., Bklyn.
Heller, Milton J.....Sc.	2	37 Hamilton Terrace
Hershon, Ralph.....Arts	3	Young Men's Hebrew Assn., Bronx
Heyman, Morris.....Sc.	3	1887 Madison Ave.
Hicks, Daniel.....Arts	3	1229 Washington Ave., Bronx
Hirsch, Jerome H.....Arts	2	253 E. 86th St.
Hirshberg, Bernard.....Arts	3	13 E. 98th St.
Hoyt, Gerald F.....Sc.	2	793 Sterling Place, Bklyn.
Hoyt, Thurber A.....Sc.	2	33 Convent Ave.
Huddleston, Tatsy H.....Arts	2	248 W. 53d St.
Hurwitz, Robert L.....Sc.	2	338 E. 15th St.
Hutchinson, Harold W.....Sc.	2	601 E. 170th St., Bronx
Imperato, Pasquale J., Jr....Sc.	2	100 Degraw St., Bklyn.
Jacobs, Julius.....Arts	2	59 W. 8th St.
Jacobs, Nathan M.....Arts	2	1057 Morris Ave., Bronx
Jacobson, Israel.....Sc.	2	Douglaston, L. I.
Jaffe, Bernard.....Sc.	1	1326 Fifth Ave.
Jewell, Ellis W.....Sc.	2	W. 238th St., near Dashe's Lane, Riverdale, Bronx
Jicha, John.....Sc.	2	340 E. 71st St.
Johnson, Clarence A.....Arts	2	1738 Clay Ave., Bronx
Jones, William H.....Sc.	1	381 E. 138th St., Bronx
Kallman, George.....Arts	3	122 W. 115th St.
Kaplan, Morris.....Arts	2	298 Broome St.
Katz, Hyman.....Arts	3	601-03 Metropolitan Ave., Bklyn.
Katz, Philip.....Arts	2	32 W. 112th St.
Keith, Joseph.....Sc.	3	349 Eighth Ave.
Kelly, Albert J.....Arts	2	2478 Elm Place, Bronx
Kennedy, Harold M.....Arts	1	466 63d St., Bklyn.
Kesselovitz, Max.....Sc.	3	312 E. 8th St.
Kirsch, Jacques.....Sc.	2	1840 Belmont Ave., Bronx
Kislik, Louis K.....Sc.	2	215 E. 69th St.
Klaff, Harry.....Sc.	2	979 Myrtle Ave., Bklyn.
Klein, Adolph.....Arts	3	1160 Simpson St., Bronx
Klein, Arthur J.....Arts	3	1115 Second Ave.
Klein, Edward.....Sc.	1	20a Fayette St., Bklyn.
Klein, Harry.....Sc.	3	360 Beekman Ave., Bronx
Klinko, August A.....Sc.	1	1373 Washington Ave., Bronx
Kolar, Ludwig.....Sc.	2	41 Sixth St., Whitestone, L. I.
Koplin, David.....Arts	1	354 E. 53d St.
Kornbluh, Herman.....Sc.	1	353 E. 10th St.
Koslin, Samuel H.....Sc.	2	461 E. 138th St., Bronx
Kranz, Julius.....Arts	2	302 E. 40th St.

Lancto, Edward R.....	Arts 3	102 W. 81st St.
Lawrence, Joseph E., Jr.....	Sc. 2	639 Vanderbilt St., Bklyn.
Lenowitz, Herman.....	Sc. 1	243 Cherry St.
Levenson, Osias.....	Sc. 2	67 Willett St.
Levin, Abraham J.....	Arts 2	247 W. 130th St.
Levin, Benjamin F.....	Arts 3	129 W. 122d St.
Levine, Benjamin.....	Arts 3	327 Ellery St., Bklyn.
Levy, Louis.....	Sc. 1	164 E. 109th St.
Levy, Max.....	Arts 2	193 Second Ave.
Licht, Herbert W.....	Arts 3	1 Madison Ave.
Lifschitz, Robert.....	Arts 2	50 E. 98th St.
Lilienthal, Abraham.....	Arts 2	266 Cherry St.
Lindenbaum, Abraham.....	Sc. 2	266-68 S. 9th St., Bklyn.
Lindenthal, Albert.....	Sc. 3	100 Park Ave., Richmond Hill, L. I.
Liskofsky, Max H.....	Sc. 1	705 Fifth St.
Livingston, Jacob H.....	Arts 3	95 Division St.
Lovely, Thomas J.....	Arts 2	389 Myrtle Ave., Bklyn.
Lublin, Emil.....	Sc. 2	560 Tenth Ave.
Luskin, Harold.....	Sc. 3	1015 E. 156th St., Bronx
Lyss, Jacob P.....	Sc. 1	302 Henry St.
Macdonald, James G.....	Sc. 3	2010 La Fontaine Ave., Bronx
Mannheimer, Albert.....	Arts 3	938 St. Nicholas Ave.
Manson, Harold J.....	Arts 2	612 Tenth St., Bklyn.
Mantinband, Charles X.....	Sc. 2	120 W. 117th St.
Marcus, David.....	Sc. 1	137 Rivington St.
Mates, Isidor.....	Arts 2	149 Norfolk St.
McConnaughy, Donald S.....	Sc. 3	616 W. 137th St.
McGee, James V.....	Sc. 1	2139 86th St., Bklyn.
McHugh, Francis X.....	Sc. 3	740 E. 220th St., Bronx
McMahon, Frank J.....	Sc. 1	22 Jackson Place, Bklyn.
Mehlman, Leonard.....	Arts 3	128 Second Ave.
Melico, Meyer.....	Sc. 2	19 E. 108th St.
Mendels, George D.....	Arts 2	69 E. 101st St.
Mendelsohn, Morris.....	Arts 2	57 E. 105th St.
Méras, Edmond A.....	Arts 3	961 Madison Ave.
Messina, Joseph.....	Arts 1	2525 Amsterdam Ave.
Meyer, Walter.....	Arts 2	70 E. 93d St.
Meyers, Alfred.....	Arts 2	355 E. 8th St.
Miner, Thomas.....	Arts 2	117 E. 101st St.
Mintz, Leo.....	Arts 2	960 Kelly St., Bronx
Mitchell, Harry.....	Sc. 2	623 W. 152d St.
Moonan, James P.....	Arts 3	204 W. 76th St.
Moskovitz, Max.....	Sc. 2	427 E. 121st St.
Moskowitz, Samuel.....	Arts 2	3870 Third Ave., Bronx
Mouser, John W.....	Arts 3	825 W. 179th St.
Nass, Harry.....	Arts 3	734 E. 9th St.
Nebel, Gustav T.....	Arts 3	15 Patchen Ave., Bklyn.

Nemser, Rudolph.....	Arts 2	88 First Ave.
Neuwirth, Benjamin.....	Arts 3	261 Stanhope St., Bklyn.
Newman, David.....	Sc. 2	765 Trinity Ave., Bronx
Nicholas, Apollon J.....	Sc. 1	270 Riverside Drive
Novick, Philip.....	Arts 3	99-105 Canal St.
Nudelman, Moses.....	Arts 3	353 E. 49th St.
Nuese, Robert E., Jr.....	Sc. 2	Hotel Cecil, 118th St. and St. Nicholas Ave.
Ordile, Louis H.....	Arts 1	322 E. 116th St.
Overin, Sturtevant.....	Arts 2	963 Columbus Ave.
Parisi, Vincent G.....	Arts 3	252 E. 117th St.
Pasquarelli, Joseph.....	Arts 2	468 E. 145th St., Bronx
Phillips, Arthur.....	Arts 1	203 W. 113th St.
Phillips, Otto.....	Sc. 1	174 E. 119th St.
Piebes, Henry S.....	Arts 3	307 Cumberland St., Bklyn.
Pike, Morris.....	Sc. 3	76 Suffolk St.
Pollock, Louis J.....	Sc. 2	562 W. 144th St.
Popper, Abraham L.....	Sc. 1	199 Orchard St.
Price, Charles	Arts 3	620 E. 170th St., Bronx
Rabinowitz, Frank.....	Arts 1	76 E. 104th St.
Raskin, Sol.....	Arts 2	978 Union Ave., Bronx
Rayved, Herman.....	Arts 2	733 Prospect Ave., Bronx
Reale, Genio.....	Sc. 3	2049 Second Ave.
Reback, John L.....	Arts 2	998 Myrtle Ave., Bklyn.
Redler, Leo.....	Sc. 3	1975 Second Ave.
Reese, Robert A.....	Arts 3	351 W. 50th St.
Reichert, Irving F.....	Arts 2	462 E. 140th St., Bronx
Rettinger, Frank G.....	Sc. 2	675 Union Ave., Bronx
Rhodebeck, Edmund J.....	Sc. 2	10 Cypress Ave., Flushing, L. I.
Richman, Harry.....	Sc. 2	350 E. 4th St.
Rifkind, Nathan.....	Sc. 3	396 Grand St.
Rimbach, Richard.....	Sc. 3	244 E. 30th St.
Ritter, Louis J.....	Arts 3	1871 Seventh Ave.
Rivlin, Benjamin.....	Sc. 2	60 Rutgers St.
Roeder, Herbert J.....	Arts 3	174 E. 95th St.
Rogin, Isidor.....	Arts 2	149 E. 118th St.
Romme, Percy E.....	Sc. 1	423 E. 169th St., Bronx
Rosenbaum, William.....	Arts 2	2220 Adams Place, Bronx
Rosenbluth, Jacob.....	Arts 3	359-61 E. 8th St.
Rosenkranz, Philip.....	Sc. 3	2-4 Attorney St.
Rosenthal, Alfred H.....	Arts 2	54 Morningside Drive
Rosner, Oscar S.....	Sc. 2	125 W. 137th St.
Roth, Benjamin.....	Arts 3	1324 Fifth Ave.
Rudinsky, Edward.....	Arts 2	153 E. 54th St.
Ruoff, Andrew C.....	Sc. 2	457 77th St., Bklyn.
Ryan, Sylvester.....	Arts 2	541 E. 144th St., Bronx.
Sack, Samuel.....	Sc. 3	968 Fox St., Bronx
Sackowitz, Nathaniel.....	Sc. 3	501 Stone Ave., Bklyn.

Salit, Norman.....	Arts 2	100 Pineapple St., Bklyn.
Santacroce, Charles.....	Sc. 2	307 E. 70th St.
Saxl, Newton.....	Sc. 2	244 E. 72d St.
Schachat, Louis.....	Arts 3	1203 Eighth Ave., Bklyn.
Schachter, Harry.....	Arts 1	126 E. 110th St.
Schattman, Milton E.....	Arts 1	221 W. 135th St.
Scheer, William.....	Sc. 2	26 E. 118th St.
Schiff, Julius.....	Arts 2	28 Rutgers St.
Schimpf, Howard.....	Sc. 3	443 W. 34th St.
Schlesinger, Edward.....	Sc. 2	513 E. 12th St.
Schmitz, Louis.....	Sc. 1	157 Purdy St., Queens
Schneider, Perry.....	Sc. 3	200 Second St.
Schoelt, Abraham H.....	Arts 1	92 Cook St., Bklyn.
Schoffel, Louis.....	Sc. 2	246 E. 51st St.
Schoolman, Albert.....	Sc. 3	952 Kelly St., Bronx
Schreyer, Milton P.....	Arts 1	1199 Boston Road, Bronx
Schroder, Arthur.....	Sc. 2	232 Grant Ave., Bklyn.
Schwanda, William E.....	Sc. 2	138 Grove St., Winfield, L. I.
Schwartz, Herman.....	Arts 2	794 E. 158th St., Bronx
Schwartz, Isidor I.....	Sc. 2	242 Madison St.
Schwartz, Jacob.....	Sc. 1	393 E. 8th St.
Schwartz, Jerome M.....	Arts 2	575 W. 183d St.
Schwartz, Max.....	Arts 3	163 Allen St.
Schwartz, William.....	Arts 3	306 Madison St.
Seligman, Louis.....	Sc. 3	190-92 Chrystie St.
Serling, Carl S.....	Sc. 1	193 St. Nicholas Ave.
Serra, Frank.....	Arts 2	6904 15th Ave., Bklyn.
Shabshelowitz, Theodor.....	Arts 2	430 E. 82d St.
Shafer, William.....	Arts 3	63 Pitt St.
Shapiro, Abraham.....	Sc. 2	230 E. 3d St.
Sher, Nathan.....	Sc. 3	198 Henry St.
Shulman, Frank.....	Arts 3	126 Ludlow St.
Siegel, Alexander.....	Arts 2	313 E. 53d St.
Siegel, Harry.....	Sc. 1	152 Forsyth St.
Sigler, Saul.....	Arts 2	800 Jennings St., Bronx
Silberg, Abraham.....	Sc. 3	210 Livonia Ave., Bklyn.
Silverstein, William H.....	Sc. 2	478 Grand St.
Siminowetche, George P....	Sc. 3	445 Bushwick Ave., Bklyn.
Skeer, Jacob.....	Sc. 2	139 Prospect Ave., Bklyn.
Smith, Jacob.....	Sc. 1	162 E. Houston St.
Sobel, Herman.....	Arts 3	448 Grand St.
Solomon, Gustav.....	Arts 2	815 Fox St., Bronx
Soos, Albert.....	Sc. 3	531 E. 84th St.
Spengler, Joseph J.....	Sc. 3	3015 Concourse, Bronx
Spigel, Harold.....	Arts 2	75 Monroe St.
Spinner, Herman.....	Arts 2	120 E. 2d St.
Sproule, Thomas A.....	Sc. 2	681 Wales Ave., Bronx
Sprung, Leo.....	Sc. 3	126 W. 118th St.

Stadler, Frank.....	Arts 2	403 E. 69th St.
Stahl, Fisher.....	Arts 2	95 Forsyth St.
Staloff, Edward.....	Arts 3	105 E. 11th St.
Starbuck, Leonard M.....	Sc. 3	96 McDonough St., Bklyn.
Starr, Charles.....	Arts 3	1386 Prospect Ave., Bronx.
Steinberg, Jesse S.....	Arts 2	964 E. 180th St., Bronx
Steiner, Marcus.....	Sc. 1	242 Eldridge St.
Steiner, W. Howard.....	Sc. 1	219 E. 71st St.
Stern, Harry.....	Arts 2	46 W. 114th St.
Sternman, Isador.....	Arts 1	1882 Park Ave.
Straley, John A.....	Arts 2	282 Halsey St., Bklyn.
Sullivan, Warren E.....	Sc. 3	601 W. 182d St.
Tannenbaum, Elk.....	Sc. 3	222 Henry St.
Tanz, Jacob.....	Sc. 3	165 Lenox Ave.
Tendler, Alexander.....	Sc. 2	33 Debevoise St.
Thomas, William.....	Arts 3	264-66 Second St.
Thompson, Herbert F.....	Sc. 3	196 Flatbush Ave., Bklyn.
Tierney, Paul.....	Arts 2	972 Edsall Ave., Queens
Toshach, Clarence E.....	Sc. 2	825 Kinsella St., Bronx
Tripperman, Samuel.....	Sc. 1	51 Cannon St.
Vogel, Nathan.....	Arts 2	37 Clinton St.
Walden, William.....	Arts 3	40 Suffolk St.
Weberpals, Fred C.....	Arts 2	411 18th St., Bklyn.
Wecker, Max.....	Sc. 3	12 Pitt St.
Weidenbaum, Morris.....	Arts 2	250 Broome St.
Weil, Stephen S.....	Arts 2	333 E. 84th St.
Weiler, Edward.....	Sc. 2	552 W. 114th St.
Weilerstein, Benedict R.....	Arts 1	59 E. 103d St.
Weinberg, Charles.....	Sc. 2	40 Delancey St.
Weinick, Harry.....	Sc. 2	107 Clinton St.
Weinstein, Jacob.....	Arts 2	1454 45th St., Bklyn.
Weiser, Harry.....	Arts 2	1524 Washington Ave., Bronx
Weishaut, Samuel.....	Arts 3	526 E. 5th St.
Weiss, George.....	Arts 2	387 E. 3d St.
Weiss, Max.....	Sc. 3	236 E. 77th St.
Weitzman, Harris D.....	Arts 2	228 E. 116th St.
Weitzner, Isidor S.....	Arts 3	1687 Bathgate Ave., Bronx
Wender, Harold H.....	Arts 2	300 Osborn St., Bklyn.
Whalen, Herbert.....	Sc. 1	153 Clifton Place, Bklyn.
Wiener, Laurence.....	Sc. 2	184 E. 104th St.
Williamson, Elliott F.....	Sc. 1	2171 Washington Ave., Bronx
Wolf, David.....	Arts 2	109 Broome St.
Wolfner, Benedict.....	Arts 2	207 W. 110th St.
Wyckoff, Wallace H.....	Arts 3	63 W. 127th St.
Yachnowitz, Samuel.....	Sc. 1	78 Rutgers St.
Zentner, Jay M.....	Sc. 2	823 Kelly St., Bronx.
Zetkin, Marcus.....	Sc. 3	26 E. 104th St.
Ziegler, Harry.....	Sc. 2	205 Avenue C.

Zucker, Samuel L.....Arts 2	551 Morris Ave., Bronx
Zuckerman, William A.....Sc. 1	176 Harrison Ave., Bklyn.

Total 381

SPECIAL STUDENTS.

Philip R. Alstat, B.A. (C.C.N.Y.)	66 E. 115th St.
Girindra Banerji	554 W. 114th St.
Julian Barth, B.S. (C.C.N.Y.)	538 W. 124th St.
Harry A. Boger, B.A. (C.C.N.Y.)	808 McDonough St., Bklyn.
William H. Borden, Jr., B.A. (C.C. N.Y.)	234 Bradhurst Ave.
David C. Burd	1741 Lexington Ave.
John N. Clawson	616 W. 135th St.
George F. Clayton	780 Park Ave.
William J. Durkin	1187 Woodycrest Ave., Bronx
William Eisenman	164 Henry St.
Benjamin Elwyn, B.A. (C.C.N.Y.)	23 E. 109th St.
Alexander L. Eolis, B.S. (C.C. N.Y.)	2269 Creston Ave., Bronx
Jacob Feinberg	612 Williams Ave., Bklyn.
H. Clay Foster	500 W. 122d St.
David Fried, B.A. (C.C.N.Y.)	53 E. 104th St.
Herman Gerber, B.S. (C.C.N.Y.)	122 Lewis St.
Orestes S. Ghirardi, Ph. G. (N. Y. School of Pharmacy)	16 Livingston Place
Leo Goldfinger	Hebrew Orphan Asylum
Benedict Gordon, B.S. (C.C.N.Y.)	166 S. 2d St., Bklyn.
Max Greenberg	262 Second St.
Abraham C. Greenhouse	366 St. Ann's Ave., Bronx.
Benjamin Goodman, B.S. (C.C. N.Y.)	1443 St. Mark's Ave., Bklyn.
Jonas Gwirtsman	10 W. Fordham Road, Bronx
Edmonds W. Haaf	148 Cornelia St., Bklyn.
Harry Hershkowitz, B.S. (C.C. N.Y.)	201 Avenue B
Michael Hertz, B.S. (C.C.N.Y.)	1774 Lexington Ave.
Modesto Jacobini	254 W. 12th St.
Israel Jacobson	Douglaston, L. I.
Paul Kaftanian	200 E. 33d St.
Frank Kaufman	72 W. 118th St.
Walter C. Kettling	2112 Crotona Ave., Bronx
Jerome Kohn, B.A. (C.C.N.Y.)	107 W. 120th St.
Harry Kramer	40 E. 3d St.
Jacob S. Kuhne	19 E. 105th St.
Jacob Leff	1807 Clinton Ave., Bronx
Emanuel Levin	137th St. and Amsterdam Ave.

Ludwig Lewin	104 E. 85th St.
Daniel R. Lucas, M.D. (Columbia)	601 W. 168th St.
Meyer A. Mazebowsky	266 S. 9th St., Bklyn.
David McMillan	2125 Amsterdam Ave.
Enrique Molina	500 W. 141st St.
Richard H. Moran	2861 Creston Ave., Bronx
Benjamin B. Mozee, B.A. in Zoology (State College of Washington)	1144 Clay Ave., Bronx
George L. Müntzis	221 E. 113th St.
Minoa J. Nicholas	270 Riverside Drive
Jesse Pasternak, B. S. (C.C.N.Y.)	303 President St., Bklyn.
John Recca	62 Stanton St.
Max Reich	28 Lewis St.
Frank J. Ricca	314 E. 115th St.
George J. Rosenthal	49 St. Nicholas Terrace
Robert L. Rubenstein, B.A. C.C. N.Y.)	67 E. 104th St.
John J. Santry	421 Oakland Ave., West New Brighton, S. I.
Matthew Schon	412 W. 22d St.
Aron D. Shapiro	15 Hester St.
Juanendra N. Sharman	554 W. 114th St.
Henry Shattyn, B.S. (C.C.N.Y.)	339 Crimmins Ave., Bronx
Percy B. Shostac	257 E. 72d St.
Max M. Sindeband	74 E. 93d St.
Purnendu N. Sinha	524 W. 123d St.
Joseph D. Spear	128 E. 105th St.
William G. Steinmetz, B.S. (C.C. N.Y.)	1111 Portland Ave., Chester Park, L. I.
Alexander Tandler	33 Debevoise St., Bklyn.
Edmund Thomaser	1525 Amsterdam Ave.
Fred L. Thompson, B.S. (Amherst)	63 Morningside Ave.
James H. Wallace	537 W. 121st St.
Platt K. Wiggins	80 Washington Square East
Isidor Wohlstetter, B.A. (C.C. N.Y.)	1656 Madison Ave.
Leonidas Yphantis	133 Seventh Ave.
Total—68.	

SUMMARY.

Upper Senior.....	85
Lower Senior.....	60
Upper Junior.....	74
Lower Junior.....	99
Upper Sophomore.....	127
Lower Sophomore.....	150
Upper Freshman.....	265
Lower Freshman.....	381
Special Students.....	68
	<hr/>
Total.....	1,309
Subtract for duplication.....	5
	<hr/>
	1,304

EVENING SESSION.

In 1909, the Board of Trustees of the College established the Evening Session. The purpose was to make it possible for young men of High School education, who were employed during the day, to avail themselves of the advantages of the College at night. For the first year there were offered the Freshman courses in all subjects, and advanced work in a few branches which were in demand. With the progress of the students the regular prescribed courses of the Sophomore and later years were offered, until now nearly every prescribed course necessary for a degree and many electives are given.

All the courses offered are as far as possible identical with those of like designation given in the Day Session. The requirements for admission to, and the administration of these courses also follow the same standards. At least twenty qualified applicants are required before a course will be begun.

The students of the Evening Session are as a body more mature than those who attend college by day. They are doctors, lawyers, engineers and teachers—in fact men from all walks of business and professional life. There are also recent High School graduates working side by side with their more experienced fellow-students. Many men employed by the city come to the College to develop greater efficiency and prepare for promotion to higher positions.

A Student Council is the organ of student self-government. This body consists of a member from each section. It deals with all matters of general student interest; conducts socials, dinners, dances and smokers, and voices student sentiment.

SUBJECTS OFFERED DURING THE YEAR 1912-1913.

ART.

1-2. DESCRIPTIVE GEOMETRY.

This course is designed to familiarize the student with the methods of representing the form of objects and their relation in space, to develop his projective and constructive imagination and to habituate him to accuracy, clearness and neatness in draughtsmanship. It prepares the student for the construction and interpretation of constructive drawings.

The work consists of lectures and practical drawing-board representation of lines, planes, solids; intersections, sections, tangencies and developments; shades, shadows and perspective. Two terms, two hours a week.

4-5. MECHANICAL DRAWING.

A course designed to prepare the students for making diagrammatic and other graphic records of scientific work in other

departments. The principles of current drafting room practice are developed. Working, detail and assembly drawings of machinery are made from measurements. Principles and construction of steam and gas engines, lettering and isometric drawing are also taken up.

Two terms, two hours a week;

Prerequisite: 1-2.

CHEMISTRY.

1-2. DESCRIPTIVE CHEMISTRY.

This course, which continues throughout the year, consists of two lectures, one recitation and one laboratory period of two hours each week. The aim in the lectures is to acquaint the student with the underlying principles of the science and especially to put him in a position to intelligently pursue further study in Chemistry. The periodic classification is followed in studying the elements and their most important compounds. The lectures are fully illustrated with such experiments as are best adapted to exemplify and make clear the principles of the subject. The aim of the work in the laboratory is to acquaint the student with the properties of the substances under consideration, and to give him practice in the handling of chemicals and the manipulation of chemical apparatus. A few lectures at the end of the second semester are devoted to a brief consideration of carbon compounds.

Two terms, five hours a week;

Prerequisite: Physics 1-2.

3. QUALITATIVE ANALYSIS.

A grounding is given in the principles involved in the detection of unknown substances. Text-books: Moody's *Hobart Manuel*, and Baskerville and Curtman's *Qualitative Analysis*. Parallel reading: Morgan's *Qualitative Analysis*.

Fall term, six hours a week;

Prerequisite: 1-2.

4. QUANTITATIVE ANALYSIS.

A training is given in the accurate determination of the quantity of an element or compound present, by both gravimetric and volumetric methods. Text-book: *Notes on Quantitative Analysis* from standard works on the subject.

Spring term, six hours a week;

Prerequisite: 3.

ENGLISH LANGUAGE AND LITERATURE.

1-2. THE HISTORY OF ENGLISH LITERATURE.

A course tracing the development of English literature from its earliest appearance down to the present century. As the aim is to train the student in a knowledge of literary periods and achievements, and to quicken his consciousness of literary values, the method will be to point out the sources and tendencies of each period, and to emphasize their effects upon one another and upon the literature of to-day, in the light of political, economic and social conditions.

The course will be guided by a syllabus. Collateral works in prose and poetry will be studied, critically, in illustration of the characteristics, the message and creative ideas of the principal authors. Reports and essays will be required. The essays will be corrected in personal conference with the instructor.

Two terms, two hours a week.

3-4. ENGLISH COMPOSITION AND RHETORIC.

Theme and plan, kinds of composition, paragraph, sentence and diction. Frequent exercises, briefs and essays are required, some written work being done at least once a week. Personal conferences with the instructor.

The courses also includes a study of grammar and diction, designed to enlarge the vocabulary and give a sense of the fine distinctions between words. Peculiarities of idiom are examined and some attention is given to the history of the language. Home reading is required.

Two terms, two hours a week.

5-6. SHAKESPEARE.

Six plays are carefully studied from the standpoint of dramatic construction, character portrayal and poetic beauty. The linguistic element, while not overlooked, is subordinated to the artistic. The six plays are *A Midsummer Night's Dream*, *Henry V*, *As You Like It*, *Hamlet*, *King Lear*, *The Tempest*. The following dramas are also read and more briefly discussed: Marlow's *Dr. Faustus* and *Edward II*, Kyd's *Spanish Tragedy* and Jonson's *Every Man in his Humour*. The members of the class are required to read at home Shakespeare's *Macbeth* and *Julius Caesar*.

Two terms, two hours a week.

HISTORY.

3. ANCIENT HISTORY.

In this course an attempt is made to give the student a definite conception of what is meant by the term "Western Civilization," in what ways it differs from what we generally term the civil-

ization of the East, and how its elements, although apparently different in external form, are yet in essence quite the same as the life and spirit of the Twentieth Century. There is taken up, first, the Eastern civilization with its characteristics of inaction and repose, the Caste system and the Theocratic and Despotic forms of government; second, the story of the growth and flowering of that wonderful combination of intellectual strength and love of the Beautiful, which we call the political and social life of Greece; and finally passing down through the story of Roman triumphs the period is reached when the Teutons by their invasion seemed to threaten the downfall of all civilization and law and order in the Western world.

Political and dynastic changes will be touched on, but more stress will be laid on the social and economic life of the peoples studied. The following topics amongst others will be discussed: The meaning and study of history, Greece's contribution to our life, the Greek view of the individual in relation to trade, etc., the Greek woman, the daily life of the Greek, an examination of Greek institutions such as the State, religion, the games, etc., problems of government in Rome, the extension of the Roman state, the Principate, economic causes of decadence.

Text-book: Fisher's *Ancient History*.

Fall term, 1912-1913.

4. MEDIAEVAL AND MODERN EUROPE TO 1815.

The aim and method will be much the same as that of History Course 3, of which this Course is a continuation in subject, the idea being insisted on that in History there are no great breaks or changes, but that there is a continuous advance and development in which individuals exercise a powerful influence in directing local or national consciousness.

Political and dynastic changes will be treated, but more stress will be laid on the social and economic life of the peoples studied. The following topics, among others, will be discussed: Classical civilization and the Roman Empire; Christianity as a State religion; the rise of Monasticism and its effects; the rise of Islam; the restoration of the Empire; Charlemagne; the beginning of nationalities; the rise of the vernacular; mediaeval types and institutions; the contest between the Papacy and the Empire; the Renaissance; the Protestant Revolt and the Counter-Reformation; Richelieu and the Treaty of Westphalia; European colonization; the Age of Louis XIV; the work of Frederick the Great; the influence of Voltaire and Rousseau; the causes of the French Revolution, and the rise and fall of Napoleon.

Reports will be made by students on assigned readings.

Text-books: Robinson's *History of Western Europe*.

Spring term, 1912-1913.

5. ENGLISH HISTORY.

This course will trace the chief political, religious and social developments in the history of England. After a brief sketch of the events of the Middle Ages careful consideration will be given to the constitutional and religious struggles of the sixteenth and seventeenth centuries, the economic and social changes, international relations, the beginnings of sea-power and the founding of the British Empire. After this there will be taken up such topics as: The development of modern British institutions, the origin and growth of cabinet and party government, Continental relations, the international struggle for commercial and colonial supremacy, the evolution of imperial politics, the industrial revolution, and Great Britain as a world-power.

The relation of English to American history will be kept in mind and the thought developed.

Lectures and assigned readings.

Text-books: Cheyney, *Short History of England*; Andrews, *History of England*.

Fall term, 1912-1913.

6. AMERICAN COLONIAL HISTORY.

The work of the term will be a survey of the colonial period. Emphasis will be laid on such topics as the conditions in Europe that led to the discovery of America, the European inheritance brought to this land by the colonists, the development of typical colonial institutions in the new environment, the expansion of the population and the consequent struggle with France, the appearance of friction between the colonies and the imperial government, and the growth of the sentiments of union and independence. Considerable attention will be given to the development of American ideas of government and the application of these ideas to the problems of self-government.

Lectures and assigned readings.

Text-books: Thwaites, *The Colonies*; Andrews, *The Colonial Period*.

Spring term, 1912-1913.

MATHEMATICS.

A-2. ADVANCED ALGEBRA.

To cover quadratic equations, ratio, proportion, variation, the progressions, logarithms, permutations, combinations, the binomial theorem, determinants, the theory of equations.

Fall term, three hours a week.

A-1. TRIGONOMETRY.

Plane and spherical, to cover the usual study of the trigonometric functions of angles, the solution of triangles, with simple application to surveying, navigation and astronomy.

Spring term, three hours a week.

1-2. ANALYTIC GEOMETRY.

Plane and solid; to cover the use of the co-ordinates, cartesian and polar, in the study of curves, surfaces and solids as presented in the usual text book.

Two terms, three hours a week.

3-4. DIFFERENTIAL INTEGRAL CALCULUS.

Text-book: Osborne, *Differential and Integral Calculus*.

Two terms, three hours a week.

PHILOSOPHY.

1. LOGIC.

This course aims to acquaint the student with the main principles of valid inference, and with the elements of scientific method. Some attention will be given to the distinctive methods of reasoning employed in the mathematical, historical and statistical sciences. Numerous exercises in logical analysis and in discrimination between valid and fallacious reasoning will be required. Text-book: Jones' *Logic*.

Fall term, two hours a week.

2. ELEMENTARY PSYCHOLOGY.

The object of this course is to present the essential facts and laws of mental activity and to indicate their bearing upon the various practical interests of life. Text-books: Angell's *Psychology*; Witmer's *Analytical Psychology*.

Spring term, three hours a week.

3. PROBLEMS AND HISTORY OF PHILOSOPHY.

In this course the main problems of philosophy are examined for the purpose, first, of understanding their significance as living issues, and second, of attempting their solution. To this end, the leading historic solutions from early Oriental and Greek thought to the present day are passed in review. The course aims primarily to introduce the student to constructive philosophical thinking. Text-books: Weber's *History of Philosophy*; Bakewell's *Source Book in Ancient Philosophy*; Rand's *Modern Classical Philosophers*.

Fall term, three hours a week.

4. ETHICS: THEORETICAL AND PRACTICAL.

A study of the ethical nature and obligations of man. Emphasis is placed upon the social and institutional aspects of human activity in such manner that the student may gain both a theoretical and practical understanding of contemporary ethical problems. Text-books: Dewey and Tufts' *Ethics*; Rand's *Classical Moralists*.

Spring term, three hours a week.

10. THE PHILOSOPHY OF LAW.

A study of the ethical and metaphysical principles at the basis of our judicial procedure and social legislation. The leading features of the Roman and the common law, and such topics as the theory of property, contract, tort, etc., will be studied in the light of the fundamental principles of social philosophy. The aim of this course is to place the student in a position to estimate the resources and limitations of the law as a factor in the ethical transformation of society. Lectures and student reports on selected readings from such works as Sohm's *Institutes of Roman Law*, Bentham's *Theory of Legislation*, Salmond's *Jurisprudence* and Holmes' *Common Law*.

Fall term, three hours a week.

PHYSICS.

1-2. ELEMENTARY PHYSICS.

In this course the student is trained in scientific methods of studying natural occurrences and in reasoning concerning the laws governing physical happenings. Further, the course is intended to give him a general knowledge of what is known concerning mechanics, sound, heat, light and electricity. And in order that he shall gain some idea as to how to apply his knowledge to practical cases which may arise, the actual uses and applications of scientific knowledge in the arts and industries and in the professions of medicine, civil, mechanicals and electrical engineering are strongly emphasized. The course consists of one hour a week lecture, one hour a week recitation, and two hours a week laboratory practice. It serves as a direct introduction to courses 3, 4 and 5.

Two terms, four hours a week.

3-4-5. ADVANCED PHYSICS.

This second course in mechanics, heat, sound, light, electricity and magnetism, is open to students having completed the course in elementary physics described above. It is equivalent of courses 3, 4 and 5, as given in the day College and described in detail in the College catalogue.

The student being now familiar with the phenomena of physics is ready for the exact application of his knowledge to scientific work. Special attention is paid to rapid and shortened methods of calculation, the practical use of logarithms and of the slide rule and other short cuts to computation.

The theory of approximate calculation, as well as the theory of errors, useful in obtaining rough estimates of desired quantities, is taught and applied.

This course is recommended to young men pursuing scientific work of any kind as well as to those desiring a deeper insight into the practical applications of science; it is, in fact, a course in elementary engineering, including the mechanical and electrical branches.

Two terms, six hours a week.

14-15A. SURVEYING, THEORY AND PRACTICE.

This course aims to teach the theory of plane surveying, the adjustment and manipulation of the instruments and their use in the field. A knowledge of geometry, algebra and trigonometry, and some facility in drawing are prerequisite. The course is essentially a practical course and is of college standard. As far as circumstances permit the same practical field surveys will be made in the evening as are made in the day course. The observation on the pole star for the true north will be made by each student.

Two terms, four hours a week.

15B. ADVANCED PRACTICAL SURVEYING.

This is a continuation of 15. It includes the following exercises; a plane table survey, simple curve lay outs (three methods), location of sewer lines and water supply, staking out a city lot and building, asphalt repair work, re-alignment of streets. Text-books: Tracy, *Plane Surveying*; Pence and Ketchum, *Manual of Surveying*.

Four hours a week, fall term.

7. STRENGTH OF MATERIALS AND MUNICIPAL TECHNOLOGY.

Four periods a week.

Spring term, four hours a week.

POLITICAL SCIENCE.

A—ECONOMICS.

1. ELEMENTARY ECONOMICS.

An introductory course in the principles underlying the production, the distribution and the consumption of wealth. Text-book: Seager's *Introduction to Economics*.

Fall term, three hours a week.

2. MONEY AND BANKING.

This is an elementary course in money, banking and foreign exchange. Text-books: Seager's *Introduction to Economics* and White's *Money and Banking*.

Spring term, three hours a week.

3A. APPLIED ECONOMICS.

This course is devoted to a study of two practical economic problems: Trusts and Railroads. The work consists of student report, discussions and lectures.

Prerequisite: 1-2.

Fall term, three hours a week.

3B. APPLIED ECONOMICS.

This course is devoted to a study of two practical economic problems: Immigration and Tariff. The work consists of student reports, discussions and lectures.

Prerequisite: 1-2.

Spring term, three hours a week.

B—GOVERNMENT.

5-6. CONSTITUTIONAL AND INTERNATIONAL LAW.

The first term will consist of a study of the development of the American Constitutional System. The powers of the central government and of the states under the federal constitution will be considered as they affect commerce, taxation, finance, etc. Attention will be paid to leading decisions of the Supreme Court, particularly those affecting inter-state commerce and labor. The second term will be spent in the consideration of the rules and regulations between states, their agreements as shown in treaties, conventions and international tribunals; and historical policies such as the "balance of power" and Monroe Doctrine. Such topics as naturalization, extradition, commercial treaties, rights of neutrals and the rules of war will receive full treatment. Special emphasis will be laid on the principles and aims of internal arbitration and on the problems of international politics at the present time.

Two terms, three hours a week.

7-8. POLITICAL THEORY AND COMPARATIVE GOVERNMENT.

This course will deal, during the first term, with the origin and development of the State in ancient, medieval and modern times, as well as with the origin of the most important of our present social, political and economic institutions. A study will also be made of the theories of the state as seen in the writings of Aristotle, Machiavelli, Bodin, Hobbs, Locke, Rousseau, Montesquieu, Hamilton and Jefferson. The second term will be

devoted to a study of the machinery of government in England, Germany and France; the political parties of these countries; their principles, aims and tendencies. Great emphasis will be laid upon the political and social movements of our day. A study will also be made of English, French and German colonies, their problems and government. The following topics will be discussed: Initiative and Referendum in Switzerland and America; Municipal Government in Europe and America; the Home Rule Question and the Third Party Movement in England; Social Democracy and Militarism in Germany; Proportional Representation in France; Social Legislation in Australia and New Zealand and Parliamentary Government in Italy. General movements like Woman Suffrage and Socialism will be likewise discussed and explained.

Two terms, three hours a week.

PUBLIC SPEAKING.

1-2. ORAL EXPRESSION. (VOICE AND GESTURE.)

The student is taught the proper use of his voice and body in the delivery of standard English composition. Attention is paid to breathing, articulation, pronunciation, modulation and gesture.

Special help is given to foreigners or others who use defective oral English.

Two terms, one hour a week.

3-4. DECLAMATION.

Declamation of dramatic, oratorical and poetical selections. As a preparation for delivery the students are required to make analyses of the intellectual and emotional content of their selections. The aim is to secure an intelligent and sympathetic rendition of the selections.

Instruction by lecture and criticism.

Two terms, one hour a week.

5-6. DEBATE.

Abundant practice in actual debate, involving presentation and refutation, is given in the classroom. A written brief showing research, analysis and arrangement is required of each student when he delivers his oral argument. Lectures on Evidence and the Principles of Argumentation, and criticism of the student's work on the floor.

Two terms, one hour a week.

7-8. EXTEMPORANEOUS SPEAKING.

The various types of public speeches are taken up and their structures analyzed. Each student is required to deliver original

speeches as often as the time allowed permits. None of these speeches is written; all are extemporaneous though not impromptu: Instruction is given by lectures and criticism. Two terms, one hour a week.

ROMANCE LANGUAGES.

A—FRENCH LANGUAGE AND LITERATURE.

ELEMENTARY.

First half year: Downer's *First Book*, Lesson I through Lesson XXXV.

Second half year: Downer's *First Book*, Lessons XXXVI through LVII. In later half of term one hour a week is devoted to François and Giroud's *Simple French*.

Two terms, three hours a week, beginning September, 1912.

INTERMEDIATE.

First half year: Downer's *First Book* completed. Weill's *Historical Reader*.

Second half year: Reviews in Downer's *First Book*. Daudet's *Morceaux Choisis*.

Two terms, three hours a week.

N. B. These two years of preparatory course are offered for the accommodation of students who, for the want of them or of their equivalent, are unable to enter upon the College curriculum, but they are not a part of the said curriculum, and do not therefore carry with them any credits.

1. FRESHMAN FRENCH.

One hour is devoted to further review's in Downer's *First Book* and François *French Prose Composition* is taken up. Two hours are devoted to one or two plays such as *Le Gendre de M. Poirier*, *La Cigale chez les Fourmis*, *Le Bourgeois Gentilhomme*.

Three hours a week; fall term, 1912.

2. FRESHMAN FRENCH.

François *French Prose Composition* is completed. Selections from Demogeot's *Textes Classiques de la littérature française*, Vol. II; Victor Hugo's *Hernani*.

Three hours a week; spring term, 1912.

3. SOPHOMORE FRENCH.

Demogeot's *Textes Classiques de la littérature française*, Vol. I. Corneille's *Le Cid* and Racine's *Athalie* are read entire.

Special lectures on a comparative study of these authors with Shakespeare.

Three hours a week; to be given, 1913.

4. SOPHOMORE FRENCH.

Demogeot's Vol. I. is continued. Moliere's *Les Femmes Savants* and *Le Misanthrope* are read entire.* *Fables* from La Fontaine are committed to memory. French versification is studied.

Three hours a week; to be given, 1913.

5. JUNIOR FRENCH.

Doumic's *Histoire de la littérature française* is studied with special reference to the 18th and 19th centuries. Balzac's *Eugénie Grandet* is read entire. Canfield's *Lyric Poets*.

Three hours a week; fall term, 1912.

6. JUNIOR FRENCH.

Doumic's *Histoire de la littérature française* is continued. Cohn and Woodward's *Voltaire's Prose*, with sight reading in Lanson's *Voltaire*. Various studies in the general history of French Literature, and lectures on the French language.

Three hours a week; spring term, 1912.

N. B. While the offer is general for all the foregoing courses, for the coming year the three following will be given:

THE ELEMENTARY COURSE.

This is designed for beginners and aims to give from the start a vigorous hold on the language. The simpler rules of grammar are set forth, and copious illustrations, with a well graded selection of conversational sentences, are relied upon to lay a solid foundation for the work that is to come.

THE FRESHMAN COURSE.

This, as may be seen, presupposes a certain amount of reading and the completion of the grammar. It reviews the latter, however, and applies its principles in exercises of composition which are intended to impart greater ease in the correct writing of the language. The plays which are read in class are calculated to increase and smoothen the conversational powers of the student.

THE JUNIOR COURSE.

When this course is reached English is not used in the classroom, and all oral work, which is not actually translation, is to

*Special lectures on a Comparative Study of French and English comedy.

be done in French. An effort is made to awaken the student's mind, as far as possible, to the beauties and genius of the French language.

B—SPANISH LANGUAGE AND LITERATURE.

ELEMENTARY SPANISH.

The rudiments of the language are taken up, including grammar, reading, diction and composition. More ground is covered than in elementary courses given to students of high school grade. Especial attention is paid to correct pronunciation from the beginning.

Two terms, three hours a week.

N. B. This course is preparatory and not part of the College course of study. It is designed for students who are not prepared for Freshman Spanish. College credit will be given for this work only when a candidate has met all entrance requirements, including the necessary language work.

1-2. FRESHMAN SPANISH.

Special attention is devoted to reading and composition, commercial Spanish, business forms and letter writing, both familiar and commercial. From time to time the students are required to write synopses and letters about assigned topics and matter which they have been reading. Frequent exercises in Spanish conversation. During the first term the grammar is reviewed and prepared, work is assigned once a week in Valera's *El Pajaro Verde*. During the second term, P. A. Alarcón's *El Capitan Veneno* is used as a text.

Two terms, three hours a week.

3-4. SOPHOMORE SPANISH.

As far as possible, Spanish is the only language used in the class-room. The letter writing of 1-2 is continued and longer essays in Spanish are undertaken. Text-books: Ford's *Spanish Composition*; Perez Galdós' *Marianela*. During the second term one hour a week is devoted to the sight reading of Moratin's *El Sí de las Niñas*.

Two terms, three hours a week.

EVENING SESSION STUDENTS

1912-1913.

Aaronson, Alfred	Becker, Nathaniel
Abelow, Joshua	Beerman, Israel
Abrahams, Henry	Bein, Murray
Abrahams, Max	Bercume, Walter J.
Abramowski, O.	Bergeron, Robert E.
Abrams, Albert	Berkenblit, Samuel
Abrams, William	Berkowitz, Morris J.
Adams, Harry M.	Berman, Israel
Adelman, Aaron A.	Bernfeld, Lupesen M.
Adolph, Seymour	Bernstein, Abraham
Ahern, Maurice	Bernstein, Sol.
Abmuty, William R.	Bertsche, Carl
Alexander, Alexander	Besosa, Alex. C.
Alexander, H. R.	Betts, Clyde
Altman, Murry	Bisgeier, Jacob
Altman, William	Bishop, William
Amster, Solomon	Bjorkman, Fritz
Angrist, Frank	Blair, Harie M.
Ankenner, Roland L.	Blecker, Julius
Apatow, Jacob	Bleil, Clarence V.
Aranow, Geo. D.	Blum, Fred
Arckander, William L. A.	Blumenthal, Louis H.
Arent, Anthony	Blumgarten, Saul
Arnold, Abraham S.	Blunt, Alfred
Aronson, Mortimer	Boaz, Joseph J.
Auerbach, Rachmiel	Bock, Henry, Jr.
Autenrieth, Frederick C.	Boehm, Frank
Bagley, Raymond	Boeshore, Joseph W.
Bacharach, Emile	Bonnick, Christopher R.
Balzac, Raphael P.	Bossy, Henri
Banerji, Givindra K.	Bawie, Letham
Barasch, Nathan	Boyle, Donald
Baring, Edwin L.	Bradley, Joseph F.
Barnewall, Geo. A., Jr.	Bradley, William
Barrett, J. M.	Brady, John C.
Barron, Edward F.	Brand, Benjamin
Basch, Arthur G.	Brayden, Geo. P. A.
Basch, Solomon	Breiner, Louis L.
Bauer, H. P.	Brennan, John G.
Baum, Charles	Brill, Nat. M.
Baumwoll, Joseph	Briggs, Arthur A.
Baxter, Ralph H.	Brittain, William M.
Bayern, Herman A.	Brock, James
Becache, Georges	Broderick, William J.
Becker, Murray	Brody, William S.

Bronstein, Milton M.
Brooks, Louis
Brown, Lester M.
Brown, Savage H.
Bungerz, Karl
Burke, Frank
Bruke, Frank W.
Burkert, Geo. F.
Burtis, John
Burton, George
Busch, Henry
Buxbaum, Sol.
Byrne, John D.
Byrne, Richard
Byrnes, J. Walter
Byron, Leroy
Cahill, Joseph
Cahill, Walter J.
Campbell, Alex.
Campbell, Wm. P.
Cantales, Vincent
Cantor, Louis
Caroe, Edward
Carrier, Lawrence
Carroll, Edward W.
Cashman, Thos. A.
Chaims, Chas. W.
Challman, Chas.
Chalmers, Henry
Chariff, Meyer
Clark, Harvey F.
Check, Harry
Clinton, Charles H.
Cohen, Aaron E.
Cohen, Barrett
Cohen, Emanuel
Cohen, Julius A.
Cohen, Lester
Cohen, Lewis A.
Cohen, Samuel
Cohen, Samuel A.
Cohen, Solomon
Cahn, Harry
Cohn, Max
Cohn, Sidney
Cohn, Siegbert
Collins, Albert
Collisson, Martin F.

Collyer, Joseph
Conley, William
Conover, William K.
Constable, Thomas W.
Constantine, Henry H.
Conway, Maurice A.
Corbett, Edward
Corcoran, Bernard J.
Corcoran, Jos. A.
Coughlin, Jos. T., Jr.
Cramer, Herman
Crawford, James S.
Crowley, J. B.
Cunneen, Terence
Cunningham, Bertram
Cunningham, Richard L.
Curnow, Geo. T.
Cunningham, William
Curtin, Daniel
Cussack, Thomas F.
Cybulsky, William
Czechowski, Anthony B.
Daly, Frank J.
Dembron, Erich
Danziger, Chas.
Darcy, Joseph
Daub, Arthur B.
Davidson, Benj. W.
Davidson, Isidore
Davidson, Joseph
Davidson, Orden
de Gannes, Archibald
Degen, Robert F.
de Girolamo, James
Della Badia, Pascal A.
Den, Maxwell
Denin, Daniel P.
Deutsch, Joseph B.
De Venoge, Harry
Devine, Master J.
Deymek, E. J.
Diamond, Benj. Bernard
Diamond, Emanuel
DiSomma, Gizio F.
Dixon, Robert
Dixon, Robert L.
Dolan, Joseph
Donnelly, Patrick J.

Donnelly, Roswell
Donnelly, Warren
Donovan, James
Donovan, John J.
Donovan, Joseph F.
Doran, Frank
Dore, Claude
Dossick, Harry
Dottenheim, Laurence B.
Doyle, John
Dragotta, Basil
Dreng, Robert F.
Driscoll, Michael J.
Du Bois, Louis
Duff, Daniel V.
Duffy, Timothy
Dupin, Eugene
Durant, J. W.
Durkin, William J.
Duryer, Edward
Dutton, Geo. P.
Eagar, Robert
Eaton, Thomas D.
Ebert, Edward T.
Ebert, Jos. A.
Edelson, Jacob
Ehrenreich, Jacob D.
Ehrlich, Henry H.
Eidelbeig, Chas.
Eisenman, William
Elliott, Michael
Elowsky, Louis
Engel, Frederick
Epstein, Leon
Epstein, Maurice
Estrom, John H.
Essrig, Simon
Etkin, Gabriel
Ettinger, David A.
Fairley, James J.
Falk, Edgar
Farrell, Harry L.
Fee, James H.
Fee, Robert J.
Feehan, John
Feingarten, Bernard M.
Feis, Herbert
Ferguson, Wm. A.

Fertig, Jos.
Field, Allan
Finck, Frederick E.
Finkelstein, Louis J.
Firebaugh, Carl
Fisbeck, Chas. J.
Fisher, Philip
Fitch, Franklyn E.
Fluri, Chas. A.
Flynn, John G.
Flynn, Joseph
Fluri, Chas. A.
Ford, Alfred G.
Fordrungen, William
Fogerty, Arthur
Forer, Samuel M.
Frank, Morris
Frankman, William
Freeman, Maurice J.
Freund, Jos.
Fricke, Otto
Fried, Chas.
Fried, Henry S.
Friedman, Edward
Friedman, Emanuel
Friedman, Harry S.
Fuller, John G.
Fuchs, Benjamin
Gabriel G. Stanley
Gallagher, Frank
Gallagher, Jas. R.
Gannon, Harry
Garland, Arthur R.
Garrecht, Arthur C.
Geiger, Albert F.
Geisler, Carl A.
Gergofsky, Abraham
Germer, Richard
Getzelson, Julius
Gillroy, Bernard
Gilsey, George
Gladstone, Nathan
Gladstone, Nathaniel L.
Godfrey, John A.
Goldberg, Abraham S.
Goldberg, Benjamin S.
Goldberg, Benjamin W.
Goldberg, Samuel

Goldberger, Bernhard
Goldstein, Irving
Goldman, Harry
Goldman, Julius
Goldman, Lewis K.
Goldman, Meyer
Goldsmith, Samuel T.
Goldstein, Joseph
Goldstein, Max
Goldstein, Samuel
Goodfield, Isidore
Goodman, Isidore
Goodman, Sam
Gottschalk, Harry
Govern, Benjamin
Govern, Jacob
Graham, Peter
Grau-Wandmayer, Alexander
Greenberg, Emanuel
Greenberg, Herman J.
Greenberger, David
Greenburg, Ira
Greenfield, Charles
Greenfogel, William H.
Greenspan, Max
Greenwald, Milton
Greif, Louis
Greve, Richard
Grey, Schuyler E.
Grice, George
Griffin, Gerald S.
Griffith, Lee A.
Grisman, Reuben
Grodinsky, Benjamin
Groff, Morris
Gross, Edward
Gross, Jos. Louis
Gross, Rudolph
Grossman, Irving
Grupelle, Hector
Guion, Alexander H.
Gurley, Royal
Gurner, Hewitt
Haag, George
Haberman, Herman
Hacker, John R.
Hagen, Martin
Haggerty, Geo. V.

Haight, William T.
Halabof, Jacob
Halpern, Robert
Hammer, David
Hanbury, Patrick
Hanley, Gordon Henry
Hannigan, Richard J.
Harris, Frank
Harris, Travis E., Jr.
Hart, Max
Hart, Marion T.
Hart, William F.
Hartvigson, F. G.
Hasselbauer, Harry J.
Haugh, Joseph E.
Hawkins, Herbert
Hayden, James R.
Hayward, Laurence B.
Hausman, Harry
Hanson, Robert K.
Hazlitt, Henry
Hecht, Max
Hecht, William C., Jr.
Helck, Henry J.
Henderson, James
Henderson, Robert Wm.
Hennessy, Denis
Hertzoff, Harry
Hessberg, Irving
Hewitt, Walter F.
Heyman, Marcus A.
Higbie, Wilfred H.
Hill, George W.
Hingsberry, Thomas
Hirschhorn, Arthur
Hirschhorn, Jacob
Hiesiger, Chas. M.
Hinerfield, Benj.
Hofer, Rudolph
Hoffmann, Arthur
Holland, Edward T.
Holloway, William
Horn, Harry
Horowitz, Edward
Horowitz, Isidore
Horowitz, Max
Horowitz, Isidore
Hourihan, Daniel B.

Hourwich, Nicholas I.
Houser, Frank
Howard, Royal
Howe, John B.
Hughes, Patrick J.
Hunt, Dominic P.
Hurley, Thomas L.
Hyatt, A. Judson
Hynes, John H.
Inman, L. N. S.
Isenberg, Carl
Isler, Isaac
Isquith, Jacob
Jackson, Harold R.
Jacobius, Milton
Jacobson, Abraham
Jacobson, Louis
Jaffe, Morris
Jaller, Alexander
Jauss, Ludwig A.
Jawetz, Harry
Joffe, Joseph
Johnston, Geo. F.
Jordan, Albert C.
Jordan, Llewellyn
Joseph, Erwin
Joseph, Harmen
Joseph, Irving
Joyce, J. E.
Judge, Joseph
Julius, Maurice
Justice, Jas.
Kadlec, Thomas
Kahn, Arthur
Kahn, David W.
Kantor, Solomon
Kaplan, Samuel
Kappel, Maxwell
Karnof, Henry
Karper, Abraham
Kassel, Morris
Keepnews, Louis
Kehoe, Charles G.
Kelley, William
Kellogg, Dwight
Kelly, Henry
Kennelly, John
Kerns, Arthur

Kesler, Samuel
King, Harry M.
King, Howard L.
Kirley, John Chas.
Kissane, Thomas
Kiwul, Charles
Klapp, William
Klein, Adolph
Klein, Aaron
Klein, Anthony H.
Kleindienst, Theodore H.
Kleinman, Jas. S.
Knoblock, Frank
Knoring, Abraham J.
Kopensky, Jacob
Kosches, Reuben
Kral, Joseph
Kravee, Max
Kretz, Herbert
Kunz, Edward
Kurjian, Solomon
Kuttner, Sigmund
Lachenbruch, Jerome
Laguerdia, Giovanni
Lahiff, M. J.
Lahm, Mortimer
Lancaster, John
Landsman, Joseph
Lane, Fred
Langer, Arthur
Langsner, Adolf
Lazarovitz, Benjamin
Lazarus, Louis
Lebrecht, Frank
Leddy, John A.
Leib, John W.
Levine, Max
Leibowitch, Irving
Levine, Meyer
Leibowitz, Joseph
Lessler, Simon
Levy, Nathan
Levin, Benj.
Levin, Isidor
Levin, Max
Levinsky, Louis P.
Levit, Harry
Levitt, Benjamin

Levner, Joseph A.
 Lewin-Epstein, Rakavio
 Levy, Abraham
 Levy, H. Wilford
 Lewis, Harry C.
 Leyendecker, Philip P.
 Lichterman, Jos. A.
 Lichtman, Isidore
 Liebergall, Max
 Liebman, Louis
 Liff, Joseph
 Liman, Morris
 Lindholm, T. C.
 Linton, George
 Lintner, Albert R.
 Loewy, Alexander
 Lohmann, Chas. W.
 Long, William
 Lorber, Benjamin
 Loria, David P.
 Lourier, Zenon
 Lowe, Wm. K.
 Luebeck, Alfred
 MacAlaster, Vincent
 McCoy, Chas. P.
 McCreedy, Donald
 MacCubbin, Alex.
 McCubbin, James M. B.
 McDonagh, John J.
 McDonald, William J.
 McDonnell, Roger A.
 MacKecknie, Harry W.
 McGarry, Francis J.
 McNally, Chas. F.
 McNally, George
 McPherson, John
 McPherson, Robert B.
 McQuade, Jas. J.
 McSpedon, Frank
 McTeigne, Robert
 MacKay, Kenneth
 Maddox, V. Harold
 Madigan, James C.
 Maerk, Otto G.
 Magnier, David A.
 Mahn, Herbert
 Maier, Irving
 Maigon, Clarence C.
 Malone, Wm. Francis
 Manning, William
 Marik, John A.
 Marion, Samuel
 Marks, S. C.
 Marion, John M.
 Marshall, Chas. E.
 Marx, Bernhardt
 Matlis, David
 Maxmann, Harry
 May, John
 May, Lloyd
 Mayer, Edwin
 Mayer, Jos. Henry
 Meltzer, Samuel S.
 Mendes, Reginald
 Mercado, Julio
 Meuzie, John B.
 Meyrowitz, Henry
 Miller, Edward Imbrie
 Miller, Fred. G.
 Miller, Max
 Miller, Thomas F.
 Minster, Harry
 Mitter, Charles
 Mittler, Benj. B.
 Molloy, George
 Moore, Glenn E.
 Moore, John C.
 Monahan, John T.
 Moriarty, John
 Moran, Frank V.
 Moran, Matthew
 Moran, Wm. S.
 Morse, Louis Joseph
 Morris, Wm. E.
 Morris, Walter
 Moskovitz, Joseph B.
 Moskovitz, Max
 Mueller, Frederick L.
 Müller, Otto
 Muldavin, Albert A.
 Murphy, Joseph F.
 Mumford, Lewis C.
 Munves, Irving
 Murphy, Martin H.
 Murphy, Wilbur
 Mutscheller, Arthur

Muzzio, Lamont
Marofsky, Harry
Neubau, W. Morris
Newman, Henry T.
Newman, Abraham
Newman, Arthur Jos.
Newman, Mortimer
Neville, James J.
Niederhoffer, Martin
Northrup, Lloyd A.
Noska, Elliott,
Novich, Philip
Nurich, H. J.
Nussbaum, Benjamin
Nyman, Charles S.
Oachs, Milford H.
Oakley, Thomas B.
Abata, Nobuo
O'Brien, Hugh A.
O'Connor, Philip U.
O'Dair, William
O'Dea, Joseph C.
O'Donnell, Wm. I.
Oldenbittel, Clarence
O'Leary, Alex. F.
O'Neill, Harry F.
Orthey, George W.
O'Rourke, Francis E.
O'Rourke, Thomas
Oshman, Louis
O'Shea, Daniel J.
O'Shea, J. John
Oshinsky, Morris
Ossberg, Arthur
Ossberg, John W.
Outerbridge, Cyril
Palais, Isidor
Panero, Carmine
Panero, Guy B.
Parton, Joseph
Paul, Nathan
Pearlman, Joseph
Pearlman, L. M.
Peloso, Rocco C.
Perlman, Joseph
Perlmutter, Abraham
Pfeifer, Andrew A.
Pigott, George

Podolsky, Morris
Pollak, Maurice R.
Pollock, L. S.
Posner, Maxwell
Powers, J. A.
Popkin, Louis
Price, Chas.
Propper, Henry
Prosser, Rudolph
Prozora, Emile
Pruzan, Abraham
Puletz, Henry
Pulwers, Leon
Quigley, Peter A.
Quinn, James P.
Quinn, John A.
Quinn, Matthew
Quinn, Peter
Raylesberg, Isidor
Rabinowitz, Benjamin
Rackoff, Irwin
Rathgeber, Emile
Reaske, Gustave E.
Reichelt, Victor Hugo
Reiner, Samuel
Richards, Gragg
Richards, Julius K.
Riedl, Hugo
Ringold, Maurice
Robertson, William J.
Robinson, George William
Roche, James A.
Rockwell, William
Rose, Jos.
Rosenbaum, Jacob
Rosencranz, Isidor
Rosenfeld, Harry
Rosenthal, Bernard
Rosenkranz, Louis
Rosner, M. Milton
Rosner, Nathaniel
Ross, Reuben
Roth, Aaron
Rourke, Chas. F.
Rothbart, Hyman
Rothberg, Meyer
Rountree, Converse
Rubenstein, Robert L.

Rudloff, Fritz
 Ruttgers, Carl
 Rumelsburg, Alfred
 Russell, George P.
 Ryan, John F.
 Ryan, William T.
 Sadow, Arthur
 Sakol, Emanuel
 Salazar, Filadelfo
 Salsman, Charles
 Samuels, Louis
 Saperstein, Harold
 Saperston, Sidney
 Sapiro, David
 Sarris, Christopher
 Scanlon, Thomas A.
 Schader, Joseph E.
 Schalkenstein, Alvin
 Scheve, Joseph C.
 Scheinberg, Jos. R.
 Schlam, Joseph
 Scharf, Jacob
 Scheer, David
 Scheuring, John
 Schleindl, Friedrich
 Schilling, Alexander
 Schloss, Siegfried
 Schneider, Chas. J.
 Schnitt, Louis
 Schnitzer, Isadore
 Schlesinger, Matthew
 Schoenchen, Gustav G.
 Schoning, Friedrich
 Schwartz, Ernest
 Schwartz, Ferdinand
 Schwartz, Philip
 Schwartz, William
 Seitz, Gustave
 Scriven, William H.
 Seclow, Alexander
 Seklir, Aaron W.
 Sentner, Matthew B.
 Serating, Maurice
 Serriades, Constantine
 Seşitzky, Isaac
 Sexton, George F.
 Schapiro, Abraham J.
 Shapiro, Harry
 Shapiro, Jacob M.
 Shapiro, Nathan W.
 Sheftman, Bernard
 Shepherd, William R.
 Shipley, Joseph T.
 Sholl, Walter S.
 Shulman, Nathan
 Siegal, William
 Siegel, David P.
 Siegel, Benjamin
 Siff, Jacob
 Silitzky, Gabriel
 Silver, Max
 Silverman, Nathaniel
 Simmons, John E.
 Simpson, Laurence
 Sinai, Jerome
 Sinclair, George
 Sintowsky, Elias W.
 Siskind, Edward
 Slootskey, Jacob
 Slutsky, Albert
 Smith, Chas. F.
 Smith, Frank V.
 Smith, James L.
 Smith, Morris H.
 Smith, Raymond R.
 Smith, Samuel J.
 Spin, Max
 Snudecker, Louis
 Solomon, Isidor
 Solan, Cyril H.
 Solonsky, Maurice
 Somerville, George H.
 Spears, Edward J.
 Spector, Louis
 Speigel, Charles
 Spence, Peter C.
 Spier, Leslie
 Spigel, Harold
 Stabile, Vincent J.
 Stashin, Israel
 Steigman, Max
 Steigman, Philip
 Steinberg, Joseph
 Steiner, W. Howard
 Steinert, Walter
 Stepp, John F.

Stern, Donald
Stern, Harry
Stock, Jacob
Striem, John
Strom, Frank
Sullivan, Cornelius
Sullivan, John
Sullivan, William A.
Suskyn, Louis L.
Sussman, Alex
Sussman, Isidore
Tabor, Samuel
Talbert, Francis
Tietzel, Albert
Thomas S. Percy
Thompson, Gustave R.
Thone, George A.
Todahl, John O.
Tonyan, Joseph
Tauszig, David
Taylor, Harold
Thomas, Albert C.
Tisne, Gaston
Titus, Richard
Trietler, Paul
Turnbull, Thomas
Tripp, William H. S.
Tripperman, Samuel
Trockel, Joseph, Jr.
Trowmer, Lazarus
Tumarkin, Abraham
Tushnett, Samuel
Umans, Jacob
Vartabedian, Garabed
Vollbracht, John P.
Vogel, Nathan
Von Der Goltz, Eric
Vosatka, Edward J.
Wagner, George F.
Walerstein, Daniel
Wallace, Arthur
Wallace, Herbert

Wanderer, Henry
Warchovsky, Herman
Ward, Albert J.
Ward, H. Stanley
Water, Hyman
Watson, James S.
Wecker, Max
Weckman, Fritz
Weckman, William
Wedemeyer, William J.
Weiller, Carl
Weinberg, Isidore
Weinberg, Isaac
Weiner, Peter
Weisman, Samuel
Weiss, Moses
Welch, Homer G.
Wender, Harold H.
Westphal, Frederick
Whyte, Lincoln D.
Wickes, Edward
Wiener, Carl J.
Williams, Harry
Williams, Herbert L.
Williams, Robert
Willis, Wilfred
Wishengrad, Laurence
Wolfe, Chas.
Wolfe, Max S.
Wooley, George S.
Woods, George
Wright, Robert S.
Wunsch, Joseph W.
Wurzel, Bernhard
Zeigher, M.
Zeisler, Alexander
Zemsky, James
Zimmerman, Benj.
Zimney, Charles
Zuckerman, Joseph
Zuckerman, Solomon
Zussman, Samuel

EXTENSION COURSES FOR TEACHERS.

In order to assist the teachers of the city to extend their culture and to secure the additional knowledge and skill necessary to obtain higher licenses, the Department of Education of the College organized in September, 1908, a complete system of Extension Courses. The courses were submitted to the State Department of Education and were accepted and registered by it. They were then submitted to the Board of Examiners of the City Department of Education and were granted full credit toward partial fulfilment of the requirements for license as assistant teacher in the high schools, teacher of a graduating class in elementary schools, and principal and assistant to principal of elementary schools.

Each course is given in thirty sessions and to obtain credit for any course the matriculant must be present at twenty-six sessions and must be successful at the final examination. No course is given unless twenty-five teachers choose it, and courses may be discontinued at the discretion of the Director. Sessions are held daily after school hours, at 4.15 p. m., and on Saturdays, at 10 a. m. and 11 a. m.

ART.

APPRECIATION OF MODERN ART.

Professor Hunt.

The course will begin with modern painting and its appreciation. The other forms of modern art will follow. Turner and Constable ["Natural Landscape"] will begin the discussions of Nineteenth Century art; starting with these masters, the characteristics, history, schools and peculiarities of European and American painters who have wrought since 1800 will be discussed. These lectures will be followed by a concise course in the history of water-color painting, pastel, etching, engraving, lithography, mezzotint, wood cutting, pen-and-ink and pencil drawing, and of the notable workers therein. Especial attention will be given in the second half of the course to the artistic elements in textile fabrics, wall coverings, furniture, carving, pewter, crystal and other productions of the artist-artisan. The lectures will end with a review of modern sculpture and sculptors.

OBJECT DRAWING.

Mr. Neus.

This course is designed to develop ability to draw from objects, such as type solids, still life and casts. Elementary principles of perspective will be deduced from these type solids. Methods of teaching object drawing will receive due attention. This course will be limited to 35.

DESIGN.

Mr. Weinberg.

The course will cover the theory, practice and appreciation of design. The laws of order and of fitness, the principles of conventionalization, of color and lettering will be studied and applied. There will be class-room practice in the use of charcoal, brush [for ink], colored chalks and water color, both as mediums of expression in the drawing of still life and for purposes of design.

EDUCATION.

HISTORY OF EDUCATION.

Professor Duggan.

The aim of this course is, first, to describe the systems of education by which the principal culture nations of the world have attempted to realize their social ideals; and, second, to criticize educational theories and practices from the standpoint of the educational principles now accepted as sound.

In addition to studying Monroe's *History of Education* as a text-book, those taking this course will be required to read the following educational classics: Rousseau's *Émile*, Pestalozzi's *Leonard and Gertrude*, and Spencer's *Education*.

PRINCIPLES OF EDUCATION.

Dr. Klapper.

The first third of the course has to do with the philosophy of education—a consideration of the basis of educational doctrine. The biological, physiological, psychological and sociological contributions to education are studied in an attempt to determine their practical application in the class room, as well as to discover the trend of modern educational thought. The remainder of the course is designed to serve as a transition from theoretical psychology to methods of teaching. The aim throughout will be to interpret the lessons of psychology in terms of education and class-room teaching and to formulate the scientific principles underlying a sound pedagogy.

In addition to the lectures and discussions and papers on supplementary topics, special assignments will be made in Butler's *Meaning of Education*, O'Shea's *Education as Adjustment*, Horne's *Philosophy of Education*, and *Psychological Principles*, Klapper's *Principles of Educational Practice*.

METHODS OF TEACHING.

Dr. Klapper.

The course will begin with a very brief survey of the problem of general method and of the conduct of the recitation as determined by the basic principles of education. The more important part of the work will be the study of the methods of teaching each of the elementary school subjects. The work will be practical and designed to help the teacher in the teaching problems which arise in the course of class instruction.

EDUCATIONAL PSYCHOLOGY.

Dr. Heckman.

This course is designed to give a knowledge of the nature and activities of the mind from the standpoint of development, and with special reference to the needs of the teacher. In addition to the lectures, collateral readings are assigned to be reported on. The work is supplemented as far as possible with experimental demonstrations.

PSYCHOLOGY AND EDUCATION OF EXCEPTIONAL CHILDREN.

Dr. Heckman.

This course aims to furnish teachers and students of education an understanding of the theories of retardation and mental deficiency, and of the methods of diagnosis and training. The course includes (a) lectures on the nature and treatment of backward and mentally deficient children, and (b) the examination and diagnosis of children before the class for the purpose of determining their deficiency and their subsequent treatment, and enabling the student to make for himself the necessary preliminary tests and measurements of backward pupils as he may meet them in regular school work.

SCHOOL MANAGEMENT AND ADMINISTRATION.

Dr. White.

This course will deal with the problems that naturally arise in the organization and management of a public school. The following are some of the topics that will be discussed: The child, his place in life and in the school; classification; gradation; examination; promotion; course of study; programs; text-books; the principal and his duties; the teacher, his co-operation with principal and parent; teachers' experiences; the school-room; school hygiene; the recitation; the study period; inspection of work; school records and reports; discipline; rewards and punishments; moral training; rhetorical; school material.

Those taking this course will be required to do the assigned reading, to make some investigations and reports, and to prepare at least one paper upon a selected topic.

ENGLISH.

THE ENGLISH DRAMA.

Professor Krowl.

This course will be devoted chiefly to a study of the Elizabethan drama, its inception, growth and decline. The plays of Shakespeare will constitute the basis of the work, especial attention being given to those that are usually studied in the elementary and in the secondary schools. The dramatic works of the seventeenth, eighteenth and nineteenth centuries will also be considered, but more briefly.

Those who attend the course will be required to study the plays considered and read the assignments made by the instructor.

THE NOVEL.

Professor Horne.

This course aims to study the value of the novel as literature, to examine its laws of construction, and to trace the historical development of fiction. A second aim will be to note the progress of civilization and the development of the human mind, as shown in fiction.

Those taking this course will be required to read a selected series of the world's most celebrated works of fiction, ancient as well as modern. The text-book will be Horne's *Technique of the Novel*.

ENGLISH AND AMERICAN POETS.

Professor Coleman.

The aim of this course is primarily appreciative. Beginning with Shakespeare it will pass to the chief poets of the eighteenth and nineteenth centuries studied in the elementary school, with a view to an understanding of the nature of poetic utterance—its subject matter and form.

While the course is not intended as a study in literary history, it will treat of the various poets in their historical order for the aid which this sequence will give in sympathetic judgment. Occasional suggestions will be made as to methods of interpreting poetry to school pupils. Conferences on the methods of teaching the poems considered will follow after the lecture for those who desire to remain.

COMPOSITION AND RHETORIC.

Professor Horne.

This course aims to supply practice in writing and to acquaint the student with the fundamental principles of rhetoric. Weekly themes will be required, three to five pages long; during the first term these will be descriptive and narrative; during the second term, expository and argumentative. The work of the first term is intended to develop as far as practicable, observation and imagination; the second term, which deals with more matter-of-fact kinds of composition, insists upon an orderly and coherent presentation of facts. Throughout, the course furnishes drill in the choice of words, sentence structure and paragraph writing. Incidentally, the lectures suggest methods and devices in the teaching of composition, particularly in the elementary school.

Teachers who elect this course should be prepared to fulfill the requirements as to written work.

ORAL ENGLISH.

Professor Robinson.

There will be two courses of 15 hours each.

I. The first course will treat two branches of the general topic of Oral English.

(a) The Philosophy of Expression. The psychological and physiological bases of expression will be discussed and a theory of elocution applied to all oral work in the schools. Special atten-

tion will be paid to the method of teaching memory selections as prescribed in the Course of Study. The theory will be illustrated by the reading of selections.

(b) Phonetics. While many pupils understand the words they read, they do not produce the sounds properly, because of foreign influences or physical defects. This course will impart in convenient form an understanding of the nature of the sounds of the language, the physiology of their production, and the methods for correcting defects. Some time will be devoted to the consideration of teaching English to foreigners. This part will be of peculiar benefit to teachers of special classes, and those with a large percentage of foreigners.

II. The History of Reading Methods, and Analysis of Modern Methods of Teaching Reading. The general problem of teaching reading will be discussed first; then methods now being used in the schools will be analyzed in order to demonstrate their points of weakness and strength. Class-room devices to be used in connection with the methods will be presented. These lectures are arranged for Heads of Departments, in charge of primary reading, as well as for teachers.

COMPARATIVE LITERATURE OF THE NINETEENTH CENTURY.

Professor Krowl and Professor Delamarre.

This course studies the chief tendencies, the leading schools and the great masters in the development of English, French, Italian, Spanish and Scandinavian literatures. The aim throughout is to afford a comparative view of the important contributions of each of these nations to the main currents of modern literature. The comparative growth and dominant characteristics of the nineteenth century drama, novel, poetry, essay and short story will form the contents of the course.

HISTORY.

ENGLISH HISTORY.

Professor Mead.

The aim of this course will be to trace the political, religious and social development of England. Emphasis will be laid upon constitutional questions and the development of democratic institutions. Attention will be directed to the connection between English and American history. The lecture method will be followed. Opportunity will be given for class discussion of the leading authorities on the subject.

AMERICAN HISTORY AND GOVERNMENT.

Professor Guthrie.

The aim of this course will be to trace the main steps in the growth of American institutions and government. The scope of the course will require that attention be directed to the great movements in American history rather than to a detailed study of

particular events. In general the lecture method will be followed. Opportunity will be given for class discussion of the leading authorities on the subject.

MATHEMATICS.

FUNDAMENTALS OF MATHEMATICS.

Professor Allen.

This course seeks to give the teacher of elementary mathematics a deeper and more scientific insight into the basic principles of arithmetic, algebra and geometry, the growth of the latter two from the first, and the application of these to the solution of practical problems. The course is one of content rather than of method. Minor points in the Course of Study, the subdivision of topics and methods of class management will therefore be subordinated to the major question, "What should the average student gain from his course in elementary mathematics, and how can it best be given him?"

MECHANICAL ARTS.

WOODWORK FOR ELEMENTARY SCHOOLS.

Mr. Holton.

This course seeks to give instruction in the use of the common woodworking tools, the elementary principles of construction and the methods of presenting the elements of this instruction in class-rooms. This instruction will be given during the making of models which the students of the class will suggest, selecting those which are best related to the "Centers of Interest" that will dominate the work in the succeeding month. As far as possible, the class will be divided into groups of varying degrees of ability and work will be assigned to each according to respective difficulty.

MUSIC.

HISTORY AND APPRECIATION OF MUSIC.

Professor Baldwin.

This course will include a comprehensive study of the growth of music as an art, the great composers and their works, and the analysis of musical forms.

The whole subject will be considered from the standpoint of those who listen to music, the purpose of the course being to give to the student an intelligent understanding and appreciation of the masterpieces of musical composition. No knowledge of music is required.

ETHICS AND PHILOSOPHY.

PRINCIPLES AND TEACHING OF ETHICS.

Professor Overstreet.

This course is designed to give to the student a comprehensive view of the growing ethical life of man, individual and

social; of forces that contribute to the formation and development of that life; and of the methods which may best be employed in establishing and strengthening it. The growth of the moral out of the non-moral will be sketched; the development of conscience as a social product; the part played by imitation, suggestion, habit, precept; the organization of individual life in social institutions.

While the course will be concerned with ethical theory, emphasis will be placed upon the practical application of such theory, particularly in the training of young people.

POLITICAL SCIENCE.

ECONOMICS.

Professor Clark.

This course is designed to be a suggestive introduction to the study of Economics. Emphasis will be given to the great practical issues of the economic world. Not only will the general principles underlying the production and the distribution and the consumption of wealth be stated and illustrated, but much time will be devoted to the presentation of concrete problems connected with such topics as Immigration, Trades Unions, Corporations, Trusts, Railroads, Money, Banking, Tariff Taxation, and Socialism.

It will be the aim of the course to develop a theoretic basis of Economics, and so to suggest a number of its leading applications to actual life, that students, following the course with side readings in any good text-book, will become well grounded in this science of wealth.

ACADEMIC DEPARTMENT.

To every New York City boy graduating from an Elementary School there is open a college preparatory course in Townsend Harris Hall, a school maintained by the City for those who wish to prepare for admission to college and especially to the Freshman class of The College of The City of New York, which is also open without fee to residents of the City.

The sum of the work required for the completion of the preparatory course, and so for admission to College, is 14½ units.

The emphasis is placed on the quality of the work and the capacity of the student. The individual schedule is determined by the record of the student from term to term.

This flexible program, administered under close supervision, gives every student opportunity to prepare most economically for his College studies.

The applicant for admission to Townsend Harris Hall must decide whether or not he wishes to take later the degree in Arts. If he does, then he must begin with Latin; but if he does not, then he may begin with either Latin or French. The initial choice of Latin permits the later election of either an Arts or a Science course, but the initial choice of French restricts the applicant to the Science Course. For all students in Townsend Harris Hall an election is offered between second year Drawing and Manual Training.

The total requirements of the Townsend Harris Hall courses are as follows:

ARTS.		SCIENCE.	
Subject.	Units.	Subject.	Units.
Latin	3	French	3
Greek, French or German.....	2	German	2
Mathematics	3	Mathematics	3
English	3	English	3
History	1	History	1
Drawing	½	Drawing	½
Drawing or Manual Training...	½	Drawing or Manual Training...	½
Physics	1	Physics	1
Physiology	½	Physiology	½
Oral English		Oral English	

For the first half-year all students take Latin or French, English, Mathematics and Drawing, each five hours a week. Thereafter the number of subjects assigned depends upon the student's capacity. Advancement throughout the course is by subject, so that the satisfactory completion of each half-year's work in a subject is necessary for its continuation. An added subject may be taken at the beginning of any half-year when the student's record for the preceding half-year indicates that he can satisfactorily pursue the additional subject. The schedule of recitations is purposely arranged to permit the student to

benefit by his proficiency and in consequence thereof he may complete the course in three years.

Admission to the College courses is had upon the presentation of 14½ units for which the courses in Townsend Harris Hall make provision. In the College the prescribed work in both Arts and Science courses covers approximately two years. The work of the remaining two years is elective under certain restrictions as to grouping. By a judicious choice of the electives offered, these groups may be made to fit the needs of the student who purposes to follow teaching, journalism, law, medicine, business, manufacturing or engineering.

ART.

T 1-2. ELEMENTARY FREEHAND DRAWING. *5 hours a week.*

The first term is devoted to freehand drawing from simple geometrical solids, single and in groups, with application of the elementary principles of perspective. Particular stress is laid on construction, but some attention is given to light and shade. The principles of Decorative Design are studied. In the second term casts of simple ornamental forms are introduced, and their light and shade given fuller rendering; next, various articles of pottery, of plant and other forms, involving the rendering in black and white of color values. Exercises in drawing simple solids from memory are also assigned. Decorative Design is continued, with application to familiar forms. Some attention is given to Historic Ornament and Architecture.

Prescribed: Arts and Science, Class C; two terms.

T 3-4. ADVANCED FREEHAND DRAWING AND DESIGN. *4 hours a week*

Color study from nature and as applied to design.

Elective: Arts and Science, Class B; two terms.

Note: To complete the required work in Lower B and in Upper B students must elect either Art T 3 and Art T 4, or else corresponding electives in Manual Training.

ENGLISH.

Prescribed: Six terms in both the Arts and Science Courses.

T1. *5 hours a week.*

Of the five hours available, three are devoted to grammar and composition. Hitchcock's *Enlarged Practice Book in English Composition* is used as a text-book. In addition to numerous short exercises, weekly and fortnightly themes are required. English grammar is systematically reviewed. Two hours each week are given to the study of Irving's *Sketch Book* and Scott's *Ivanhoe*. Selections from both are memorized.

T 2.

5 hours a week.

The time is divided as in T 1, and the same text-book is used for rhetorical drill. The work in composition is concentrated on sentence structure. The practice afforded by the exercises in the text-book is supplemented by fortnightly themes. In poetry a study is made of *The Ancient Mariner*, *The Vision of Sir Launfal*, *The Deserted Village* and Gray's *Elegy*. Some selections in verse are memorized. In prose the students read *Silas Marner* in class and Parkman's *Oregon Trail* at home.

T 3.

4 hours a week.

Of the four hours available, two are devoted to rhetoric and two to literature. Part I. of Brooks and Hubbard's *Composition Rhetoric* is covered, with chief attention to the paragraph. Frequent practice is given in the methods of paragraph development, and fortnightly themes are required. The study of grammar is continued; some time is devoted to synonyms; several extracts are memorized. The study of literature includes *The Sir Roger de Coverley Papers*, *The Tale of Two Cities*, and *The Merchant of Venice*.

T 4.

4 hours a week.

The division of time is the same as in T 3. The principles of Description, Narration, Exposition and Argumentation are presented on the basis of Part II. of Brooks and Hubbard's *Composition Rhetoric*. Weekly and fortnightly themes form a part of the work. The students read three or four *Idylls of the King*, *Julius Caesar* and *A Midsummer Night's Dream*. Extracts from these works are memorized.

T 5-6.

4 hours a week.

In this year a careful critical study is made of Burke's *Speech on Conciliation*, Macaulay's *Johnson*, Milton's *L'Allegro*, *Il Penseroso* and *Comus* and Shakespeare's *Macbeth*. Composition work is frequent. Grammar and rhetoric are reviewed.

FRENCH.

Prescribed six terms in the Science Course.

T 11. ELEMENTARY.

5 hours a week.

Downer's *First Book in French*, through the thirty-fifth lesson.

T 12. ELEMENTARY.

5 hours a week.

Downer's *First Book in French*, through the fifty-seventh lesson. François and Giroud's *Simple French*.

T 13. ELEMENTARY. 5 hours a week.
Downer's *First Book in French*, completed. Weill's *Historical French Reader*.

T 14. ELEMENTARY. 5 hours a week.
Review in grammar. Daudet's *Morceaux Choisis*, Erckmann-Chatrian's *Madame Thérèse*.

T 15. INTERMEDIATE. 4 hours a week.
Review in grammar. Marique and Gilson's *French Composition*. Dumas' *Monte Cristo*.

T 16. INTERMEDIATE. 4 hours a week.
A modern play is read. A piece of narrative prose from a standard author. Marique and Gilson's *French Composition*. Letter writing. Weill's *Newspaper Reader*.

Prescribed four terms in the Arts Course for those taking French as second language.

T 1. ELEMENTARY. 5 hours a week.
Downer's *First Book in French* through the forty-fifth lesson.

T 2. ELEMENTARY. 5 hours a week.
Downer's *First Book in French*, completed.. Sym's *Le Chien de Brisquet*, and other stories.

T 3. ELEMENTARY. 5 hours a week.
Review in grammar. Daudet's *Morceaux Choisis* and Erckmann-Chatrian's *Madame Thérèse*.

T 4. INTERMEDIATE. 5 hours a week.
Review in grammar. Composition, letter writing. Mérimée's *Colomba*. Weill's *Newspaper Reader*.

GERMAN.

Prescribed for those taking German as a second language.

T 1. ELEMENTARY. 5 hours a week.
Collar's *German Lessons* through the seventeenth lesson.

T 2. ELEMENTARY. 5 hours a week.
Collar's *German Lessons* through the twenty-ninth lesson. Joynes's *Reader*.

T 3. ELEMENTARY. (Continued.) 5 hours a week.
Hauff's *Karawane*, Composition, Review of the Grammar.

T 4. ELEMENTARY. (Completed.) 5 hours a week.
Gerstäcker's *Germelshausen*, Seidel's *Leberecht Huehnchen*,
Poems in Whitney's *Reader*, Harris's *Composition*.

GREEK.

Prescribed for those taking Greek as a second language.

T 1-2. ELEMENTARY. 5 hours a week.

Pronunciation, etymology and syntax are studied simultaneously. Text-book: White's *First Book*.

T 3-4. ELEMENTARY. (Continued.) 5 hours a week.

Translation with practice lessons in etymology and syntax. Also instruction and practice in reading at sight. Hellenica texts one hour a week. Eleven exercises each term in Greek prose composition. Text-books: Goodwin's *Anabasis*, one book the first term and three the second; Spencer's *Prose Composition*.

HISTORY.

T 1-2. GREEK AND ROMAN HISTORY. 3 hours a week.

A study of the old European world as far as Charlemagne's time, 800 A. D. The foundation is laid for the understanding of later national history and the influence of successive epochs upon each other. Text-book: Myers' *General History*, with assigned readings and map drawing. Two terms.

T 3-4. AMERICAN HISTORY. 3 hours a week.

A full course in the history of the United States, colonial and national. Preparatory, also, for special periods in the College course. Text-book: Montgomery's *Students' American History* and reference books. Readings and reports. Two terms.

LATIN.

Prescribed six terms in the Arts Course.

T 1-2. ELEMENTARY. 5 hours a week.

Students begin with the Grammar, finishing the entire Etymology and the Syntax, not including the exceptions of the Prosody. Simultaneously a course of English and Latin exercises is pursued. Text-books: Allen and Greenough's *Latin Grammar*, Bennett's *Latin Lessons*, or Burke and Newton's *Latin Lessons*.

T 3-4. CAESAR. 5 hours a week.

The Grammar is reviewed and completed; four books of Caesar are read, and exercises are given in Latin Prose Composition, based on the reading in Caesar. Text-book: Kelsey's *Caesar's De Bello Gallico*.

T 5-6. CICERO.

4 hours a week.

Six orations are read with weekly exercises in Latin Prose Composition based thereon. Syntax is continued. Text-book: D'Ooge's *Cicero's Oration*s.

MANUAL TRAINING.

Note.—*Elective with Art 3-4 in the B year.*

A preparatory course in the use of wood-working tools and in the methods of forging iron is offered to the students of the B classes. This work will be of special importance to the students who intend to take up applied science, but it will be also extremely useful to any one who has to use his hands as well as his brain. It should be remembered that "the chief object of shop-and-tool instruction is mental discipline. The tools are to be intelligently used, and the methods of execution adopted are to be chosen intelligently. The concrete product is of importance only in so far as it bears witness to progress."*

The exercises chosen will introduce the use of all the principal wood-working bench tools and elementary forge work, comprising pointing, turning, flattening, bending, welding and tempering. Opportunity will be given for the development of special skill.

The laboratories are well equipped with the necessary fixed appliances and hand tools.

T 21-22. WOOD AND METAL WORKING.

4 hours a week.

B classes for two terms; one term wood-working, one term forge work and metal-working.

MATHEMATICS.

Prescribed for six terms in both the Arts and Science Courses.

Note.—*The successful completion of every term's work is prerequisite for the following term's work.*

T 1. ELEMENTARY ALGEBRA.

5 hours a week.

The Fundamental Operations. Factors, Fractions, Equations of the First Degree in One or Two Unknown Letters. Text-book: Wells, *Essentials of Algebra*.

T 2. PLANE GEOMETRY.

5 hours a week.

Text-book: Durell, *Plane and Solid Geometry*.

T 3. ELEMENTARY ALGEBRA.

5 hours a week.

Involution, Evolution, Radicals and Fractional Exponents, Equations of the Second Degree in One or Two Unknown Letters. Text-book: Wells, *Essentials of Algebra*.

*Woodward, "Manual Training School," p. 30.

T 4. PLANE AND SOLID GEOMETRY. 5 hours a week.
Text-book: Durell, *Plane and Solid Geometry*.

T 5. TRIGONOMETRY. 4 hours a week.
Text-book: Crawley, *Short Course in Trigonometry*.

T 6. ADVANCED ALGEBRA. 4 hours a week.
The Theory of Quadratic Equations, Ratio, Proportion and Variation, the Progressions, Logarithms, Permutations and Combinations, the Binomial Theorem, Determinants, the Theory of Equations. Text-book: Hawkes, *Advanced Algebra*.

NATURAL HISTORY.

T 1. PHYSIOLOGY. 4 hours a week.
This subject introduces the student to the general natural phenomena pertaining to man. It deals with the structure and functions of the body. It includes discussions on exercise, diet, use of stimulants and narcotics, and the various ways of preserving health and promoting body development.

PHYSICS.

Prescribed for two terms in both the Arts and Science Courses.

The primary facts and laws are taught by means of lectures with full demonstrations, individual laboratory exercises, and recitations and quizzes upon assigned work at home. Particular attention is given to the quantitative as well as to the qualitative relations between physical quantities, and numerous problems illustrative of these relations are solved by the students. Students are held strictly accountable for all the apparatus assigned to their use, and must replace any lost by breakage or waste through carelessness.

1. MECHANICS, HEAT AND MAGNETISM. 4 hours a week.
Text-books: Millikan and Gale, *A First Course in Physics*.
Cheston, Dean, Timmerman, *Laboratory Manual of Physics*.

The laboratory work includes the following: the measurement of mass, volume and density; the study of Hooke's law, of the law of the composition of concurrent forces, of the pendulum, the lever, the inclined plane, pulleys, and of the laws of friction; applications of Archimedes' principle, and the determination of the specific gravity of various solids and liquids; Boyle's law of gases; the fixed points of the mercury thermometer; specific heat of various solids; the heat of fusion of ice and the heat of vaporization of water.

2. SOUND, LIGHT AND ELECTRICITY.

4 hours a week.

The same text-books are used as in 1.

The following exercises are performed in the laboratory; the determination of the vibration frequency of a tuning-fork; of the wave-length of its tone in air; the tones produced by vibrating strings; photometric measurement; the study of plane mirrors, curved mirrors, lenses and prisms; experiments involving the chemical batteries, electrolysis, electroplating, Ohm's law, the use of Wheatstone's bridge, electro-magnetic induction, the dynamo and motor, electric bell and telegraph.

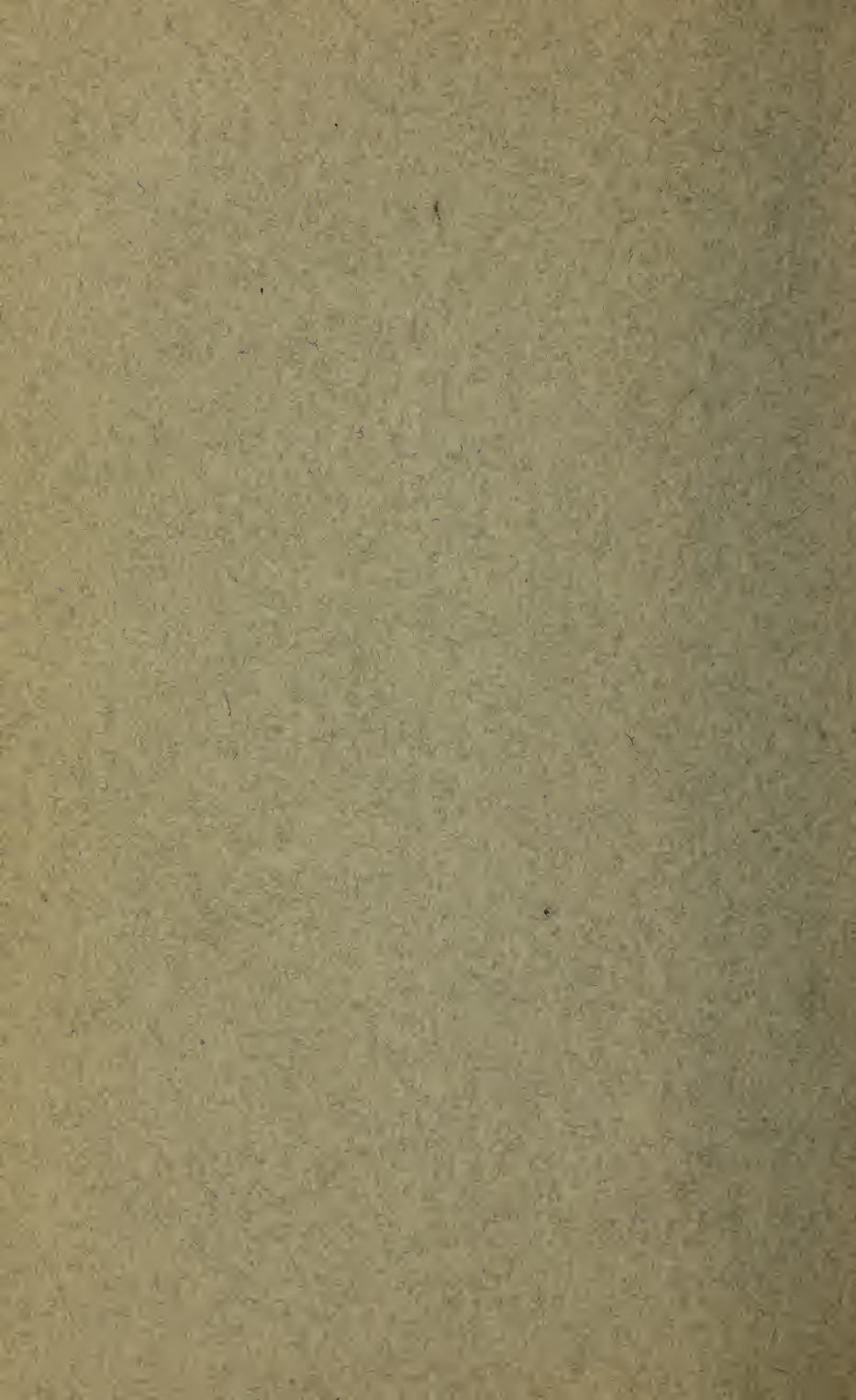
PUBLIC SPEAKING.

A—THE CORRECTION OF SPEECH DEFECTS.

1 hour a week.

All the students entering the Class A of Townsend Harris Hall must present themselves for examination in oral English. Those who are found to have any defect of speech will be assigned to take this course. The work will consist of exercises adapted to the individual difficulties of the student and designed to habituate him to enunciate correctly all the sounds of spoken English and to use them smoothly in continuous, idiomatic discourse.

The successful completion of this course, or relief from it by examination is a necessary entrance prerequisite for all the college courses in Public Speaking.

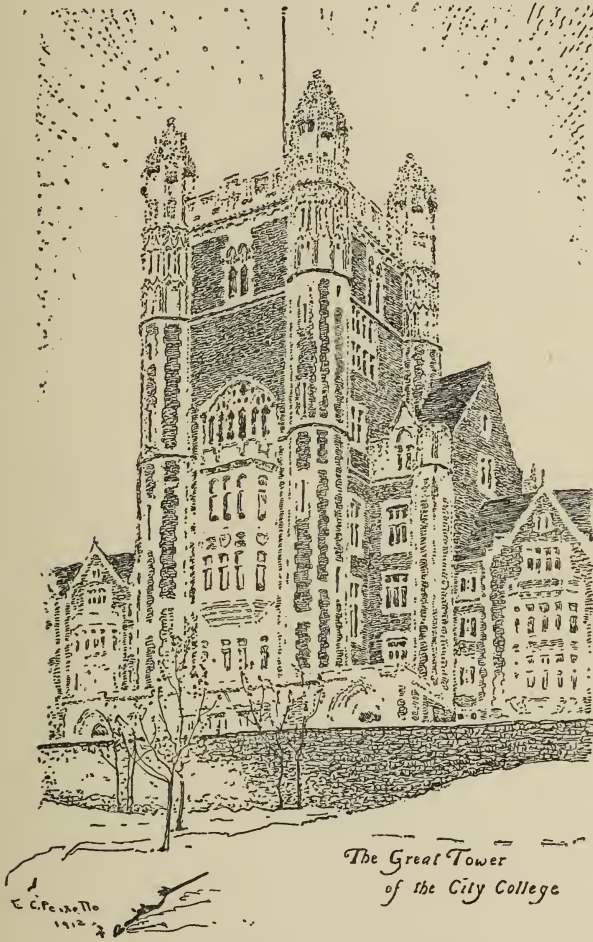




The College
of the
City of New York

REGISTER FOR 1913-1914
BULLETIN FOR 1914-1915

THE COLLEGE
OF
THE CITY OF NEW YORK



*The Great Tower
of the City College*

SIXTY-FIFTH ANNUAL REGISTER
1913-1914

ANNOUNCEMENT OF COURSES FOR 1914-1915

COLLEGIATE CALENDAR.

1914-1915.

1914.

Sept. 15. Tuesday—Registration Day.

Sept. 17. Thursday—Recitations begin.

Oct. 12. Monday—Columbus Day.

Nov. 3. Tuesday—Election Day.

Nov. 13. Friday—Prize Speaking.

Nov. 26. Thursday—Thanksgiving Day.

Dec. 24. Thursday—
1915. } Winter Vacation.
Jan. 1. Friday— }

Jan. 18. Monday—Beginning of Examinations.

Feb. 2. Tuesday—Registration Day.

Feb. 3. Wednesday—Beginning of Second Term.

Feb. 12. Friday—Lincoln's Birthday.

Feb. 22. Monday—Washington's Birthday.

Mar. 26. Friday—
Apr. 5. Monday— } Spring Vacation.

May 14. Friday—Prize Speaking.

June 1. Tuesday—Beginning of Examinations.

June 17. Thursday—Commencement.

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BOARD OF TRUSTEES.

FREDERICK P. BELLAMY, *Acting Chairman.*

JAMES W. HYDE, *Secretary.*

Term
Expires
July 1st.

JAMES W. HYDE, A.B., LL.B.....	1914.
BERNARD M. BARUCH, A.B.....	1915.
WILLIAM HENRY CORBITT, A.B., LL.B.....	1916.
MOSES J. STROOCK B.S., LL.B.....	1917.
WILLIAM F. McCOMBS, A.B., LL.B.....	1918.
LEE KOHNS, B.S.....	1919.
FREDERICK P. BELLAMY, A.M., LL.B.....	1920.
CHARLES H. TUTTLE, A.B., LL.B.....	1921.
CHARLES E. LYDECKER, B.S., LL.B.....	1922.
THOMAS W. CHURCHILL, A.B., LL.B.....	[<i>ex-officio</i>].

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

Arranged in Order of Seniority.

- ADOLPH WERNER, Acting President and Professor of the German
Language and Literature.
B.S., College of the City of New York, 1857; M.S., 1860; Ph.D., Rutgers
Female College, 1880.
- CHARLES GEORGE HERBERMANN, Professor of the Latin Language and
Literature, and Librarian.
A.B., Fordham, 1858; A.M., 1860; Ph.D., St. Francis Xavier, 1865;
LL.D., 1882; Litt.D., Holy Cross, 1906.
- FITZ GERALD TISDALL, Professor of the Greek Language and Literature.
A.B., College of the City of New York, 1859; A.M., 1862; Ph.D., New
York University, 1874.
- HENRY PHELPS JOHNSTON,* Professor of History.
B.A., Yale, 1862; M.A., 1884.
- LEWIS FREEMAN MOTT, Professor of the English Language
and Literature.
B.S., College of the City of New York, 1883; M.S., 1886; Ph.D., Colum-
bia, 1896.
- FREDERICK DIELMAN, Professor of Art.
B.A., Calvert College, 1864; N.A., 1883.
- CHARLES A. DOWNER, Professor of Romance Languages.
A.B., College of the City of New York, 1886; Ph.D., Columbia, 1901;
Officier d'Académie, 1906; Chevalier de la Légion d'Honneur, 1913.
- CHARLES BASKERVILLE, Professor of Chemistry,
and Director of the Chemistry Building.
B.S., University of North Carolina, 1892; Ph.D., 1894; F.C.S., 1898.
- JOHN ROBERT SIM, Professor of Mathematics,
and Director of Townsend Harris Hall.
A.B., College of the City of New York, 1868.
- IVIN SICKELS, Professor of Natural History,
and Chairman of the Executive Council.
B.S., College of the City of New York, 1874; M.S., 1878; M.D., New
York University, 1883.
- WALTER ERNEST CLARK, Professor of Political Science.
A.B., Ohio Wesleyan University, 1896; A.M., 1898; Ph.D., Columbia,
1903.
- THOMAS ANDREW STOREY, Professor of Hygiene,
and Director of the Gymnasium.
A.B., Leland Stanford Jr. University, 1896; A.M., 1900; Ph.D., 1902;
M.D., Harvard, 1905.
- HARRY ALLEN OVERSTREET, Professor of Philosophy.
A.B., University of California, 1899; B.Sc., Oxford, 1901.

* On leave of absence, spring semester, 1914.

- STEPHEN PIERCE DUGGAN, Professor of Education,
and Director of the Extension Courses and the Evening Session.
B.S., College of the City of New York, 1890; M.S., 1897; A.M., Columbia,
1898; Ph.D., 1901.
- WILLIAM GEORGE MCGUCKIN, Associate Professor of History.
A.B., College of the City of New York, 1869; LL.B., Columbia, 1881.
- LEIGH HARRISON HUNT, Associate Professor of Art.
B.S., College of the City of New York, 1877; M.S., 1880; M.D., New
York University, 1880.
- CALVIN RAE SMITH, Associate Professor of Art.
- AUGUST RUPP, Associate Professor of Latin.
A.B., College of the City of New York, 1884.
- WILLIAM FOX, Associate Professor of Physics.
B.S., College of the City of New York, 1884; M.E., Stevens Institute,
1886.
- ERNEST ILGEN, Associate Professor of German.
A.B., College of the City of New York, 1882; A.M., New York Uni-
versity, 1902.
- C. HOWARD PARMLY, Associate Professor of Physics,
and Director of the Mechanic Arts Building.
B.S., College of the City of New York, 1888; M.S., 1893; E.E., Colum-
bia, 1892.
- CARLETON L. BROWNSON, Associate Professor of Greek,
and Dean of the Faculty.
B.A., Yale, 1887; Ph.D., 1897.
- ERASTUS PALMER, Associate Professor of Public Speaking.
A.B., Hamilton, 1882; A.M., 1890.
- PAUL L. SAUREL, Associate Professor of Mathematics.
B.S., College of the City of New York, 1890; D.Sc., Bordeaux, 1900.
- HERBERT R. MOODY, Associate Professor of Chemistry,
and Secretary of the Executive Council.
S.B., Massachusetts Institute of Technology, 1892; A.M., Columbia, 1900;
Ph.D., 1901.
- SAMUEL A. BALDWIN, Associate Professor of Music.
F. A. G. O., 1902.
- VICTOR EMMANUEL FRANÇOIS, Associate Professor of French.
Candidat en philosophie et lettres, University of Brussels, 1888; A.M.,
University of Michigan, 1902; Ph.D., New York University, 1906.
- CHARLES-EDWARD A. WINSLOW, Associate Professor of Biology.
S.B., Massachusetts Institute of Technology, 1898; M.S., 1899.
- L. HENRY FRIEDBURG, Associate Professor of Chemistry.
Ph.D., Göttingen, 1870.
- HARRY C. KROWL, Associate Professor of English.
A.B., College of the City of New York, 1895; Ph.D., New York Uni-
versity, 1900.
- WILLIAM B. GUTHRIE, Associate Professor of Political Science.
B.S., Lenox, 1893; Ph.B., State University of Iowa, 1895; Ph.D., Colum-
bia, 1905.

- FREDERICK G. REYNOLDS, Associate Professor of Mathematics,
and Secretary of the Faculty.
B.S., College of the City of New York, 1891; LL.B., New York Uni-
versity, 1896; M.S., 1899; Sc.D., 1904.
- EDMUND BURKE, Assistant Professor of Latin.
A.B., College of the City of New York, 1890.
- JOSEPH ALLEN, Assistant Professor of Mathematics.
A.B., Harvard, 1892; A.M., 1892.
- HOLLAND THOMPSON, Assistant Professor of History,
and Director of the Townsend Harris Hall Annex.
Ph.B., University of North Carolina, 1895; A.M., Columbia, 1900; Ph.D.,
1906.
- LIVINGSTON ROWE SCHUYLER, Assistant Professor of History.
A.B., College of the City of New York, 1889; S.T.B., General Theologi-
cal Seminary, 1894; Ph.D., New York University, 1904.
- CHARLES F. HORNE, Assistant Professor of English.
B.S., College of the City of New York, 1889; M.S., 1898; Ph.D., New
York University, 1905.
- VENTURA FUENTES, Assistant Professor of Spanish.
A.B., College of the City of New York, 1889; M.D., Columbia, 1892.
- NELSON P. MEAD, Assistant Professor of History.
B.S., College of the City of New York, 1899; A.M., Columbia, 1903;
Ph.D., 1906.
- HENRY S. CARR, Assistant Professor of Mathematics.
A.B., College of the City of New York, 1866; A.M., 1869.
- SAMUEL HANAWAY, Assistant Professor of Mathematics.
B.S., College of the City of New York, 1883.
- FREDERICK MALLING PEDERSEN, Assistant Professor of Mathematics.
B.S., College of the City of New York, 1889; M.S., 1893; E.E., Columbia,
1893; Sc.D., New York University, 1905.
- ARTHUR BRUCKNER, Assistant Professor of Physics.
B.S., College of the City of New York, 1892; M.E., Cornell, 1898.
- ALLAN P. BALL, Assistant Professor of Latin.
B.A., Amherst, 1892; M.A., 1895; Ph.D., Columbia, 1903.
- LOUIS DELAMARRE, Assistant Professor of French.
B-ès-L., Paris, 1881; L-ès-L., 1894; Ph.D., New York University, 1905.
- HOWARD WOOLSTON,* Assistant Professor of Political Science.
B.A., Yale, 1898; S.T.B., Chicago, 1901; A.M., Harvard, 1902; Ph.D.,
Columbia, 1909.
- JOSEPH G. COFFIN, Assistant Professor of Physics.
B.S., Massachusetts Institute of Technology, 1898; Ph.D., Clark Univer-
sity, 1903.
- ALEXIS I. DU PONT COLEMAN, Assistant Professor of English.
B.A., Oxford, 1887; M.A., 1906.
- ARTHUR B. TURNER, Assistant Professor of Mathematics.
A.B., Johns Hopkins, 1892; Ph.D., University of Pennsylvania, 1902.

* On leave of absence.

- CARROLL N. BROWN, Assistant Professor of Greek.
A.B., Harvard, 1891; A.M., 1891; Ph.D., 1900.
- MORRIS RAPHAEL COHEN, Assistant Professor of Philosophy.
B.S., College of the City of New York, 1900; Ph.D., Harvard, 1906.
- FREDERICK B. ROBINSON, Assistant Professor of Public Speaking
and Assistant to the Director of the Evening Session.
A.B., College of the City of New York, 1904; M.A., New York University, 1906; Ph.D., 1907.
- GASTON A. LAFFARGUE, Assistant Professor of French.
B-ès-L. [1ère Partie], University of Rennes, 1882; Officier d'Académie, 1906.
- MAURICE PARMELEE, Assistant Professor of Political Science.
B.A., Yale, 1904; M.A., 1908; Ph.D., Columbia, 1909.
- FELIX WEILL, Assistant Professor of French.
B-ès-L., Paris, 1888; L-ès-L., 1892; Officier d'Académie, 1904; Officier de l'Instruction Publique, 1910.
- EARLE FENTON PALMER, Assistant Professor of English.
B.S., College of the City of New York, 1888; A.M., New York University, 1903; Ph.D., 1906.
- MARIO EMILIO COSENZA, Assistant Professor of Latin.
A.B., College of the City of New York, 1901; Ph.D., Columbia, 1906.
- THOMAS R. MOORE, Assistant Professor of History.
A.B., Wesleyan, 1897; M.A., New York University, 1905; Ph.D., 1906.
- RESTON STEVENSON, Assistant Professor of Chemistry.
A.B., University of North Carolina, 1902; A.M., 1903; Ph.D., Columbia, 1908.
- MAXIMILIAN PHILIP, Assistant Professor of Mathematics.
B.S., College of the City of New York, 1898; M.S., New York University, 1903; Sc.D., 1906.
- GEORGE G. SCOTT, Assistant Professor of Natural History.
A.B., Williams, 1898; A.M., 1899; Ph.D., Columbia, 1913.
- ABRAHAM J. GOLDFARB, Assistant Professor of Natural History.
B.S., College of the City of New York, 1900; Ph.D., Columbia, 1909.
- JOHN PICKETT TURNER, Assistant Professor of Philosophy.
A.B., Vanderbilt University, 1900; A.M., 1901; Ph.D., Columbia, 1910.
- PAUL KLAPPER, Assistant Professor of Education,
and Secretary of the Extension Courses.
A.B., College of the City of New York, 1904; M.A., New York University, 1907; Ph.D., 1909.
- HENRY G. KOST, Assistant Professor of German.
B.S., College of the City of New York, 1880.
- ROBERT F. SMITH, Instructor in Mathematics.
B.S., College of the City of New York, 1887; M.S., New York University, 1903.
- MOSES STUART LEVUSSOVE, Instructor in Descriptive Geometry.
B.S., College of the City of New York, 1893; LL.B., New York Law School, 1900.
- EMORY B. LEASE, Instructor in Latin.
A.B., Ohio Wesleyan University, 1885; A.M., 1888; Ph.D., Johns Hopkins, 1894.

- ENGELBERT NEUS, Instructor in Descriptive Geometry
and Architectural Drawing.
B.S., College of the City of New York, 1893; A.M., Columbia, 1904.
- ALFRED D. COMPTON, Instructor in English.
B.S., College of the City of New York, 1897.
- DONALD G. WHITESIDE, Instructor in English.
B.S., College of the City of New York, 1897; M.A., New York Uni-
versity, 1900.
- CARL W. KINKELDEY, Instructor in German.
A.B., College of the City of New York, 1893; M.A., New York Uni-
versity, 1898; Ph.D., 1906.
- LIVINGSTON BURRILL MORSE, Instructor in History.
B.S., College of the City of New York, 1889.
- HOMER C. NEWTON, Instructor in Latin.
B.A., University of Colorado, 1899; M.A., 1900; Ph.D., Cornell, 1902.
- STANLEY SIMONDS, Instructor in Latin.
A.B., Harvard, 1884; Ph.D., Johns Hopkins, 1896.
- JOSEPH VINCENT CROWNE, Instructor in English.
A.B., St. Joseph's College, Philadelphia, 1896; A.M., University of
Pennsylvania, 1898; Ph.D., 1899.
- BARCLAY W. BRADLEY, Instructor in Latin.
A.B., University of Pennsylvania, 1897; Ph.D., 1900.
- DANIEL W. REDMOND, Instructor in Public Speaking.
Ph.B., Hamilton, 1901; Ph.D., Columbia, 1913.
- HUGH S. LOWTHER, Instructor in Romance Languages.
A.B., Syracuse, 1899; Ph.D., University of Pennsylvania, 1904.
- THOMAS GAFFNEY TAAFFE, Instructor in English.
A.B., Fordham, 1890; A.M., 1891; Ph.D., 1901.
- JAMES H. DE GROODT, Instructor in Mechanic Arts.
- ROBERT H. HATCH, Instructor in Public Speaking.
- EMILE SCHOEN, Special Instructor in Music, Dept. of Education.
- GEORGE V. EDWARDS, Instructor in Latin.
A.B., Hamilton, 1891; A.M., 1894; Ph.D., Johns Hopkins, 1899.
- TITUS BERTHEAU VOELKEL, Instructor in German.
Ph.D., Halle, 1875.
- ALEXIS EUGENE SENFTNER, Instructor in Latin.
A.B., Columbia, 1899; B.D., Union Theological Seminary, 1902; M.A.,
New York University, 1902; Ph.D., 1904.
- NORRIS A. BRISCO, Instructor in Political Science.
A.B., Queen's University, 1898; A.M., 1900; Ph.D., Columbia, 1907.
- GUY EDWARD SNIDER, Instructor in History.
B.L., University of Wisconsin, 1901; M.A., University of Missouri, 1902;
Ph.D., Columbia, 1907.
- HERBERT MILES HOLTON, Instructor in Mechanic Arts.
B.S., College of the City of New York, 1899.

- J. REDDING KELLY, Instructor in Free-Hand Drawing and Design.
- GEORGE C. AUTENRIETH, Instructor in Descriptive Geometry
and Mechanical Drawing.
B.S., College of the City of New York, 1902; A.M., Columbia, 1906.
- KURT E. RICHTER, Instructor in German.
Dipl. Addison Teachers College, 1894; B.S., New York University, 1905;
Pd.D., 1908.
- WILLIAM L. PRAGER, Instructor in Chemistry.
B.S., College of the City of New York, 1900; M.S., New York University,
1904; Ph.D., Clark University, 1908.
- WILLIAM BRADLEY OTIS, Instructor in English.
A.B., Iowa College, 1901; A.M., Columbia, 1904; Ph.D., New York Uni-
versity, 1908.
- FREDERICK W. HUTCHISON, Instructor in Free Hand Drawing and Design.
- CHARLES JASTROW MENDELSON, Instructor in Greek.
A.B., University of Pennsylvania, 1900, Ph.D., 1904.
- SAMUEL B. HECKMAN, Instructor in Education.
Ph.B., Earlham, 1893; A.B., Harvard, 1894; A.M., University of Penn-
sylvania, 1905; Ph.D., 1906.
- JUSTIN HARTLEY MOORE, Instructor in French.
A.B., College of the City of New York, 1903; A.M., Columbia, 1904;
Ph.D., 1908; LL.M., New York University, 1913; J.D., 1913.
- WILLIAM WALLACE WHITELOCK, Instructor in French.
A.B., Johns Hopkins, 1890; Ph.D., Munich, 1893.
- HOWARD D. MARSH, Instructor in Philosophy.
A.B., Ohio Wesleyan University, 1901; A.M., 1902; Ph.D., Columbia,
1905.
- ROBERT W. CURTIS, Instructor in Chemistry.
B.S., Trinity, 1896; Ph.D., Yale, 1904.
- FELIX GRENDON, Instructor in English.
B.S., College of the City of New York, 1900; A.M., Columbia, 1902;
Ph.D., 1909.
- FREDERICK E. BREITHUT, Instructor in Chemistry.
B.S., College of the City of New York, 1900; Sc.D., New York Uni-
versity, 1909.
- FRANCESCO ETTARI, Instructor in Italian.
Licenza Liceale, University of Naples, 1881; Baccelliere in Lettere, 1883;
Dottore in Lettere, 1885; Professore di Letteratura Italiana, 1886.
- JOSEPH CUMMINGS CHASE, Instructor in Free-Hand Drawing and Design.
- JACOB SALWYN SCHAPIRO, Instructor in History.
A.B., College of the City of New York, 1904; Ph.D., Columbia, 1909.
- LOUIS J. CURTMAN, Instructor in Chemistry.
B.S., College of the City of New York, 1899; M.S., New York Uni-
versity, 1902; Ph.D., Columbia, 1907.
- WILLIAM L. ESTABROOKE, Instructor in Chemistry.
A.B., Harvard, 1901; A.M., University of New Brunswick, 1902; Ph.D.,
1905.
- LYNN MATEER SAXTON, Instructor in Mathematics.
B.S., Lafayette, 1897; M.S., 1900; Pd.M., New York University, 1908;
Pd.D., 1909.

- JOHN SCHULER, Instructor in German.
B.A., German Wallace College, 1891; Ph.D., Columbia, 1909.
- FAUST CHARLES DE WALSH, Instructor in German.
A.B., University of Rochester, 1903; Ph.D., Columbia, 1910.
- DAVID KLEIN, Instructor in English.
A.B., College of the City of New York, 1902; A.M., Columbia, 1904;
Ph.D., New York University, 1909.
- HENRY W. PECKWELL, Instructor in Free-Hand Drawing.
- JAMES ROBERT WHITE, Instructor in Education.
Pd.B., Normal College, Albany, N. Y., 1893; A.M., Illinois Wesleyan
University, 1896; Ph.D., 1910.
- PIERRE J. MARIQUE, Instructor in French.
Professor agrégé de l'enseignement moyen, State Board, Brussels, 1902;
Pd.D., New York University, 1910; Ph.D., 1912.
- WILLIAM E. KNICKERBOCKER, Instructor in French.
A.B., College of the City of New York, 1904; Ph.D., Columbia, 1911.
- GEORGES L. M. LAMOURET,* Instructor in French.
B-ès-L., Paris, 1899; Ph.D., New York University, 1911.
- FRANCIS L. ROUGIER, Instructor in French.
B-ès-Sc., Paris, 1894; A.B., Fordham, 1905, M.A., New York Univer-
sity, 1907; Ph.D., 1911.
- JACOB WITTMER HARTMANN, Instructor in German.
B.S., College of the City of New York, 1901; Ph.D., Columbia, 1912.
- GEORGE C. O. HAAS, Instructor in German.
A.B., Columbia, 1902; A.M., 1903; Ph.D., 1909.
- JOSEPH A. MOSHER, Instructor in Public Speaking.
Ph.B., Syracuse, 1905; Ph.M., 1906; A.M., Columbia, 1907; Ph.D., 1911.
- AUSTIN BAXTER KEEP, Instructor in History.
B.A., Amherst, 1897; M.A., 1901; Ph.D., Columbia, 1911.
- LIONEL B. MCKENZIE, Special Instructor in Hygiene.
- ALFRED N. GOLDSMITH, Instructor in Physics.
B.S., College of the City of New York, 1907; Ph.D., Columbia, 1911.
- EDWARD E. WHITFORD, Instructor in Mathematics.
A.B., Colgate, 1886; A.M., 1890; Ph.D., Columbia, 1912.
- ALFRED G. PANARONI, Instructor in Romance Languages.
B.S., College of the City of New York, 1902.
- GEORGE PAYN QUACKENBOS, Instructor in Latin.
A.B., Columbia, 1900; A. M., 1901.
- JARVIS KEILEY, Instructor in English
A.B., Harvard, 1899; A.M., 1900.
- PAUL H. LINEHAN, Instructor in Mathematics
A.B., Harvard, 1902.
- SAMUEL CARLETON HAIGHT, Instructor in History.
B.S., College of the City of New York, 1892.

* On leave of absence.

- AMERICO ULYSSES N. CAMERA, Instructor in Romance Languages.
Ph.B., New York University, 1900; A.M., Columbia, 1901; Ph.D., New
York University, 1912.
- GEORGE MONROE BRETT, Instructor in Mathematics.
A.B., Bowdoin, 1897.
- ALFONSO ARBIB-COSTA, Instructor in Romance Languages.
Dipl., Royal Technical Institute, Rome, 1888.
- BIRD W. STAIR, Instructor in English.
B.S., Purdue, 1899; M.S., 1901.
- FREDERIC A. WOLL, Instructor in Hygiene.
B.S., Teachers College, Columbia, 1910; A.M., 1911.
- JOSEPH SOHN, Instructor in German.
A.B., Neue Akademie, Berlin, 1887.
- ABRAM G. SCHULMAN, Instructor in Free Hand Drawing and Design.
A.B., College of the City of New York, 1902.
- ROBERT J. DAMEN, Tutor in French.
Agrée de l'Académie de Paris, 1899.
- EMIL A. C. KEPPLER, Tutor in German.
Ph.B., Columbia, 1895; A.M., 1897.
- RICHARD O. HEYNICH, Tutor in German.
Dipl., Lehrer-Seminar, Osterode, Germany, 1892.
- EDMOND ERNEST ADRIEN LE MAIRE, Tutor in French.
B-ès-L., Paris, 1870; Officer d'Académie, 1908.
- MAXIME L. BERGERON, Tutor in French.
A.B., College of the City of New York, 1903; M.A., Yale, 1904.
- H. WHEELER POWELL,* Tutor in Mathematics.
B.S., College of the City of New York, 1883.
- JOSEPH L. TYNAN, Tutor in English.
A.B., College of the City of New York, 1901; A.M., Columbia, 1907.
- EDGAR HALLIDAY, Tutor in Latin.
A.B., Princeton, 1898; A.M., Columbia, 1902.
- WILLIAM F. X. GEOGHAN, Tutor in English.
A.B., St. Joseph's College, Philadelphia, 1903; A.M., 1905; LL.B., George-
town, 1906.
- HOWARD C. GREEN, Tutor in History.
A.B., College of the City of New York, 1902.
- SAMUEL J. MAGARGE, Tutor in Mathematics.
A.B., St. Joseph's College, Philadelphia, 1896; B.S., University of Penn-
sylvania, 1900.
- WALDO BROMLEY TRUESDELL, Tutor in Physics.
A.B., Harvard, 1897; A.M., Columbia, 1912.
- GEORGE M. HAYES, Tutor in Mathematics.
A.B., Fordham, 1906; A.M., 1913.
- LEONARD L. PALMER, Tutor in Hygiene.
Dipl. in Physical Education, Teachers College, Columbia, 1910.

* On leave of absence, spring semester, 1914.

- RICHARD J. O'NEIL, Tutor in Hygiene.
- JOSEPH FRANCIS WICKHAM, Tutor in English.
A.B., Holy Cross, 1904; A.M., Columbia, 1908.
- JOSEPH EDWARD FITZPATRICK, Tutor in English.
A.B., Fordham, 1906.
- CHARLES A. CORCORAN, Tutor in Physics.
B.S., College of the City of New York, 1904; A.M., Columbia, 1906.
- CAMILLE A. TOUSSAINT, Tutor in Mathematics.
A.B., Columbia, 1903; A.M., 1904.
- EDMUND C. COOK, Tutor in Mathematics.
A.B., Dartmouth, 1892; Harvard, 1894; A.M., Dartmouth, 1900.
- JOHN ALFRED BREWSTER, Tutor in Mathematics.
A.B., Harvard, 1896.
- R. BRUCE MACDOUGALL, Tutor in Free-Hand Drawing.
- WILLIAM BALLANTINE BOYD, Tutor in Hygiene.
B.S., College of the City of New York, 1897; M.D., Columbia, 1905.
- SAMUEL A. SCHWARZ, Tutor in Mathematics.
A.B., College of the City of New York, 1902; C. E., Columbia, 1905;
A.M., 1905.
- LOUIS SIGMUND FRIEDLAND, Tutor in English.
A.B., College of the City of New York, 1905; M.A., New York Univer-
sity, 1910; Ph.D., 1912.
- LOUIS WEINBERG, Tutor in Free-hand Drawing.
A.B., College of the City of New York, 1905.
- WILLIAM ALEXANDER WHYTE, Tutor in Mathematics.
B.S., New York University, 1911.
- JEAN DES GARENNES, Tutor in French.
A.M., Georgetown, 1906.
- RALPH TILMONT, Tutor in French.
Candidat en philosophie et lettres, University of Brussels, 1889; Doctor
Juris, 1893.
- HASWELL C. JEFFERY, Tutor in Physics.
- DAYTON JAMES EDWARDS, Tutor in Natural History.
B.S., University of Maine, 1906; Ph.D., Columbia, 1914.
- MICHAEL J. KELEHER, Tutor in English.
A.B., Georgetown, 1904; A.M., St. Francis Xavier, 1906.
- ALFREDO ELIAS, Tutor in Spanish.
Bachiller en Artes, Instituto de Barcelona, 1888; Licenciado en Derecho,
University of Barcelona, 1894.
- BERTRAM T. BUTLER, Tutor in Natural History.
Ph.B., Hamline, 1901; A.M., Columbia, 1908.
- JOSEPH PEARL, Tutor in Latin.
A.B., College of the City of New York, 1906; Ph.D., New York Uni-
versity, 1913.
- ROBERT H. ALLES, Tutor in English.
B.S., College of the City of New York, 1906; A.M., Columbia, 1908.

- BENJAMIN G. FEINBERG, Tutor in Chemistry.
B.S., College of the City of New York, 1906; A.M., Columbia, 1910;
Ph.D., 1913.
- WALTER WILLIAMSON, Tutor in Hygiene.
A.B., New York University, 1906.
- CANUTE H. HANSEN, Tutor in Hygiene.
- JAMES I. CONWAY, Tutor in Mathematics.
A.B., Loyola College, 1896.
- LEON H. CANFIELD, Tutor in History.
A.B., Syracuse, 1908; Ph.D., Columbia, 1913.
- WILLIAM H. HASKELL, Tutor in Free-Hand Drawing.
- KENNETH GROESBECK, Tutor in English.
A.B., College of the City of New York, 1905.
- REINHARD A. WETZEL, Tutor in Physics.
B.S., University of Minnesota, 1901.
- ARTHUR J. KLEIN, Tutor in History.
B.A., Wabash, 1906; B.D., Union Theological Seminary, 1909; A.M.,
Columbia, 1909.
- GUSTAV F. SCHULZ, Tutor in English.
B.S., College of the City of New York, 1907; A.M., Columbia, 1909.
- RADFORD J. MCCORMICK, Tutor in Hygiene.
- PAUL T. KAMMERER, JR., Tutor in History.
B.S., College of the City of New York, 1906; LL.B., Fordham, 1909.
- EDWARD CHRISTOPHER BRENNER, Tutor in Hygiene.
A.B., College of the City of New York, 1904; M.D., Columbia University,
1908.
- DAVID LE ROY WILLIAMS, Tutor in Chemistry.
B.S., Hobart, 1906.
- HOMER ADOLPH STEBBINS, Tutor in History.
Ph.B., Syracuse, 1906; Ph.M., 1907; LL.B., 1908; Ph.D., Columbia,
1913.
- ROBERT THOMAS STOKES, Tutor in Chemistry.
B.S., Dartmouth, 1907.
- FREDERIC O. X. MCLOUGHLIN, Tutor in Physics.
B.S., College of the City of New York, 1909; C.E., Columbia, 1913;
A.M., 1914.
- ARTHUR DICKSON, Tutor.
B.S., College of the City of New York, 1909; A.M., Columbia, 1911.
- HARRY KURZ, Tutor in French.
A.B., College of the City of New York, 1909; A.M., Columbia, 1911.
- PAUL H. REICHARDT, Tutor in Hygiene.
Dipl., International Y. M. C. A. College, Springfield, Mass., 1907.
- WALTER SCOTT HEARD, Tutor in Hygiene.

- WILLIAM WARD BROWNE, Tutor in Natural History.
A.B., Brown, 1908; A.M., 1909; Ph.D., 1912.
- WARREN G. HUBERT, Tutor in Mathematics.
B.S., College of the City of New York, 1907; M.S., New York University, 1909.
- LEWIS MAYERS, Tutor in Mathematics.
A.B., College of the City of New York, 1910; A.M., University of Wisconsin, 1912; Ph.D., Columbia, 1914.
- JOHN T. LANG, Tutor in Free-Hand Drawing.
- JOHN JAMES DAILEY, Tutor in Hygiene.
- OTTO H. LEBER, Tutor in Natural History.
A.B., Columbia, 1904; M.D., 1908.
- BERTON LATTIN, Tutor in Hygiene.
A.B., Cornell, 1907; M.D., 1910.
- HERBERT STETSON WARREN, Tutor in Natural History.
B.S., College of the City of New York, 1911.
- LORENZ REICH, JR., Tutor in Mathematics.
A.B., College of the City of New York, 1911.
- ARTHUR WILSON COURTNEY, Tutor in Public Speaking.
A.B., College of the City of New York, 1910; A.M., Columbia, 1911.
- EUGENE F. SIMONDS, Tutor in Mathematics.
A.B., University of Sydney, 1910; B.Sc., 1911; A.M., Columbia, 1913.
- EDWARD J. STORK, Tutor in Free-Hand Drawing.
B.S., Columbia, 1907.
- ROBERT DRESSLER, Assistant Tutor in Physics.
- HENRY EUGENE HANSEN, Assistant Tutor in Hygiene.
- RAYMOND FORREST PURCELL, Assistant Tutor in Hygiene.
- FRANCIS PARKER JORALEMON, Assistant Tutor in Chemistry.
- JOSEPH X. HEALY, Assistant Tutor.
A.B., College of the City of New York, 1912.
- PHILIP R. V. CUROE, Assistant Tutor.
B.S., College of the City of New York, 1913.
- THOMAS A. SIMMONS, Assistant Tutor in Hygiene.
- MORTON GOTTSCHALL, Assistant Tutor.
A.B., College of the City of New York, 1913.
- CARROLL M. ROBERTS, Assistant Tutor in Hygiene.
A.B., Oberlin, 1913.
- GABRIEL GREEN, Assistant Tutor in Mathematics.
B.S., College of the City of New York, 1911; A.M., Columbia, 1912;
Ph.D., 1913.

GEORGE W. EDWARDS, A.B., College of the City of New York, 1911; A.M., Columbia, 1913.	Assistant Tutor in History.
ALEXANDER MARCUS, B.S., College of the City of New York, 1910.	Assistant Tutor in Physics.

ROBERT V. DAVIS,	Curator.
ARVID D. ANDERSON,	Registrar.
HARRIET L. MCCARTIE,	Secretary to the President.
HENRY E. BLISS,	Deputy Librarian.
THOMAS GEORGE SCHWARTZ, A.B., College of the City of New York, 1912.	Assistant in the Library.

Arranged by Departments.

ART.

FREDERICK DIELMAN, B.A., N.A.,	<i>Professor.</i>
LEIGH HARRISON HUNT, M.S., M.D.,	<i>Associate Professor.</i>
CALVIN RAE SMITH,	<i>Associate Professor.</i>
MOSES STUART LEVUSSOVE, B.S., LL.B.,	<i>Instructor.</i>
ENGELBERT NEUS, A.M.,	<i>Instructor.</i>
J. REDDING KELLY,	<i>Instructor.</i>
GEORGE C. AUTENRIETH, A.M.,	<i>Instructor.</i>
FREDERICK W. HUTCHISON,	<i>Instructor.</i>
JOSEPH CUMMINGS CHASE,	<i>Instructor.</i>
HENRY W. PECKWELL,	<i>Instructor.</i>
ABRAM G. SCHULMAN, A.B.,	<i>Instructor.</i>
R. BRUCE MAC DOUGALL,	<i>Tutor.</i>
LOUIS WEINBERG, A.B.,	<i>Tutor.</i>
WILLIAM H. HASKELL,	<i>Tutor.</i>
JOHN T. LANG,	<i>Tutor.</i>
EDWARD J. STORK, B.S.,	<i>Tutor.</i>

CHEMISTRY.

CHARLES BASKERVILLE, Ph.D., F.C.S.,	<i>Professor.</i>
HERBERT R. MOODY, Ph.D.,	<i>Associate Professor.</i>
L. HENRY FRIEDBURG, Ph.D.,	<i>Associate Professor.</i>
RESTON STEVENSON, Ph.D.,	<i>Assistant Professor.</i>
WILLIAM L. PRAGER, Ph.D.,	<i>Instructor.</i>
ROBERT W. CURTIS, Ph.D.,	<i>Instructor.</i>
FREDERICK E. BREITHUT, Sc.D.,	<i>Instructor.</i>
LOUIS J. CURTMAN, Ph.D.,	<i>Instructor.</i>
WILLIAM L. ESTABROOKE, Ph.D.,	<i>Instructor.</i>
BENJAMIN G. FEINBERG, Ph.D.,	<i>Tutor.</i>
DAVID LE ROY WILLIAMS, B.S.,	<i>Tutor.</i>
ROBERT THOMAS STOKES, B.S.,	<i>Tutor.</i>
FRANCIS PARKER JORALEMON,	<i>Assistant Tutor.</i>

EDUCATION.

STEPHEN PIERCE DUGGAN, Ph.D.,	<i>Professor.</i>
PAUL KLAPPER, Ph.D.,	<i>Assistant Professor.</i>
EMILE SCHOEN,	<i>Special Instructor.</i>
SAMUEL B. HECKMAN, Ph.D.,	<i>Instructor.</i>
JAMES ROBERT WHITE, Ph.D.,	<i>Instructor.</i>

ENGLISH.

LEWIS FREEMAN MOTT, Ph.D.,	<i>Professor.</i>
HARRY C. KROWL, Ph.D.,	<i>Associate Professor.</i>
CHARLES F. HORNE, Ph.D.,	<i>Assistant Professor.</i>
ALEXIS I. DU PONT COLEMAN, A.M.,	<i>Assistant Professor.</i>
EARLE FENTON PALMER, Ph.D.,	<i>Assistant Professor.</i>
ALFRED D. COMPTON, B.S.,	<i>Instructor.</i>
DONALD G. WHITESIDE, A.M.,	<i>Instructor.</i>
JOSEPH VINCENT CROWNE, Ph.D.,	<i>Instructor.</i>
THOMAS GAFFNEY TAAFFE, Ph.D.,	<i>Instructor.</i>
WILLIAM BRADLEY OTIS, Ph.D.,	<i>Instructor.</i>
FELIX GRENDON, Ph.D.,	<i>Instructor.</i>
DAVID KLEIN, Ph.D.,	<i>Instructor.</i>
JARVIS KEILEY, A.M.,	<i>Instructor.</i>
BIRD W. STAIR, M.S.,	<i>Instructor.</i>
JOSEPH L. TYNAN, A.M.,	<i>Tutor.</i>
WILLIAM F. X. GEOGHAN, A.M., LL.B.,	<i>Tutor.</i>
JOSEPH FRANCIS WICKHAM, A.M.,	<i>Tutor.</i>
JOSEPH EDWARD FITZPATRICK, A.B.,	<i>Tutor.</i>
LOUIS SIGMUND FRIEDLAND, Ph.D.,	<i>Tutor.</i>
MICHAEL J. KELEHER, A.M.,	<i>Tutor.</i>
ROBERT H. ALLES, A.M.,	<i>Tutor.</i>
KENNETH GROESBECK, A.B.,	<i>Tutor.</i>
GUSTAV F. SCHULZ, A. M.,	<i>Tutor.</i>

GERMAN.

ADOLPH WERNER, Ph.D.,	<i>Professor.</i>
ERNEST ILGEN, A.M.,	<i>Associate Professor.</i>
HENRY G. KOST, B.S.,	<i>Assistant Professor.</i>
CARL W. KINKELDEY, Ph.D.,	<i>Instructor.</i>
TITUS BERTHEAU VOELKEL, Ph.D.,	<i>Instructor.</i>
KURT E. RICHTER, Ph.D.,	<i>Instructor.</i>
JOHN SCHULER, Ph.D.,	<i>Instructor.</i>
FAUST CHARLES DE WALSH, Ph.D.,	<i>Instructor.</i>
JACOB WITTMER HARTMANN, Ph.D.,	<i>Instructor.</i>
GEORGE C. O. HAAS, Ph.D.,	<i>Instructor.</i>
JOSEPH SOHN, A.B.,	<i>Instructor.</i>
EMIL A. C. KEPPLER, A.M.,	<i>Tutor.</i>
RICHARD O. HEYNICH, Dipl. Lehrer-Seminar,	<i>Tutor.</i>

GREEK.

FITZ GERALD TISDALL, Ph.D.,	<i>Professor.</i>
CARLETON L. BROWNSON, Ph.D.,	<i>Associate Professor.</i>
CARROLL N. BROWN, Ph.D.,	<i>Assistant Professor.</i>
CHARLES JASTROW MENDELSON, Ph.D.,	<i>Instructor.</i>

HISTORY.

HENRY PHELPS JOHNSTON, A.M.,	<i>Professor.</i>
WILLIAM GEORGE MCGUCKIN, A.B., LL.B.,	<i>Associate Professor.</i>
HOLLAND THOMPSON, Ph.D.,	<i>Assistant Professor.</i>
LIVINGSTON ROWE SCHUYLER, S.T.B., Ph.D.,	<i>Assistant Professor.</i>
NELSON P. MEAD, Ph.D.,	<i>Assistant Professor.</i>
THOMAS R. MOORE, Ph.D.,	<i>Assistant Professor.</i>
LIVINGSTON BURRILL MORSE, B.S.,	<i>Instructor.</i>
GUY EDWARD SNIDER, Ph.D.,	<i>Instructor.</i>
JACOB SALWYN SCHAPIRO, Ph.D.,	<i>Instructor.</i>
AUSTIN BAXTER KEEP, Ph.D.,	<i>Instructor.</i>
SAMUEL CARLETON HAIGHT, B.S.,	<i>Instructor.</i>
HOWARD C. GREEN, A.B.,	<i>Tutor.</i>
LEON H. CANFIELD, Ph.D.,	<i>Tutor.</i>
ARTHUR J. KLEIN, B.D., A.M.,	<i>Tutor.</i>
PAUL T. KAMMERER, JR., B.S., LL.B.,	<i>Tutor.</i>
HOMER ADOLPH STEBBINS, Ph.D., LL.B.,	<i>Tutor.</i>
GEORGE W. EDWARDS, A.M.,	<i>Assistant Tutor.</i>

HYGIENE.

THOMAS ANDREW STOREY, Ph.D., M.D.,	<i>Professor.</i>
LIONEL B. MCKENZIE	<i>Special Instructor.</i>
FREDERIC A. WOLL, A.M.,	<i>Instructor.</i>
LEONARD L. PALMER, Dipl. Phys. Ed.,	<i>Tutor.</i>
RICHARD J. O'NEIL,	<i>Tutor.</i>
WILLIAM BALLANTINE BOYD, B.S., M.D.,	<i>Tutor.</i>
WALTER WILLIAMSON, A.B.,	<i>Tutor.</i>
CANUTE H. HANSEN,	<i>Tutor.</i>
RADFORD J. MCCORMICK,	<i>Tutor.</i>
EDWARD CHRISTOPHER BRENNER, A.B., M.D.,	<i>Tutor.</i>
PAUL H. REICHARDT,	<i>Tutor.</i>
WALTER SCOTT HEARD,	<i>Tutor.</i>
JOHN JAMES DAILEY,	<i>Tutor.</i>
BERTON LATTIN, A.B., M.D.,	<i>Tutor.</i>
HENRY EUGENE HANSEN,	<i>Assistant Tutor.</i>
RAYMOND FORREST PURCELL,	<i>Assistant Tutor.</i>
THOMAS A. SIMMONS,	<i>Assistant Tutor.</i>
CARROLL M. ROBERTS, A.B.,	<i>Assistant Tutor.</i>

LATIN.

CHARLES GEORGE HERBERMANN, Ph.D., LL.D., Litt.D.,	<i>Professor.</i>
AUGUST RUPP, A.B.,	<i>Associate Professor.</i>
EDMUND BURKE, A.B.,	<i>Assistant Professor.</i>
ALLAN P. BALL, Ph.D.,	<i>Assistant Professor.</i>
MARIO EMILIO COSENZA, Ph.D.,	<i>Assistant Professor.</i>
EMORY B. LEASE, Ph.D.,	<i>Instructor.</i>
HOMER C. NEWTON, Ph.D.,	<i>Instructor.</i>
STANLEY SIMONDS, Ph.D.,	<i>Instructor.</i>
BARCLAY W. BRADLEY, Ph.D.,	<i>Instructor.</i>
GEORGE V. EDWARDS, Ph.D.,	<i>Instructor.</i>
ALEXIS EUGENE SENFTNER, B.D., Ph.D.,	<i>Instructor.</i>
GEORGE PAYN QUACKENBOS, A.M.,	<i>Instructor.</i>
EDGAR HALLIDAY, A.M.,	<i>Tutor.</i>
JOSEPH PEARL, Ph.D.,	<i>Tutor.</i>

MATHEMATICS.

JOHN ROBERT SIM, A.B.,	<i>Professor.</i>
PAUL L. SAUREL, D.Sc.,	<i>Associate Professor.</i>
FREDERICK G. REYNOLDS, LL.B., D.Sc.,	<i>Associate Professor.</i>
JOSEPH ALLEN, A.M.,	<i>Assistant Professor.</i>
HENRY S. CARR, A.M.,	<i>Assistant Professor.</i>
SAMUEL HANAWAY, B.S.,	<i>Assistant Professor.</i>
FREDERICK MALLING PEDERSEN, E.E., D.Sc.,	<i>Assistant Professor.</i>
ARTHUR B. TURNER, Ph.D.,	<i>Assistant Professor.</i>
MAXIMILIAN PHILIP, D.Sc.,	<i>Assistant Professor.</i>
ROBERT F. SMITH, M.S.,	<i>Instructor.</i>
LYNN MATEER SAXTON, Pd.D.,	<i>Instructor.</i>
EDWARD E. WHITFORD, Ph.D.,	<i>Instructor.</i>
PAUL H. LINEHAN, A.B.,	<i>Instructor.</i>
GEORGE MONROE BRETT, A.B.,	<i>Instructor.</i>
H. WHEELER POWELL, B.S.,	<i>Tutor.</i>
SAMUEL J. MAGARGE, B.S.,	<i>Tutor.</i>
GEORGE M. HAYES, A.M.,	<i>Tutor.</i>
CAMILLE A. TOUSSAINT, A.M.,	<i>Tutor.</i>
EDMUND C. COOK, A.M.,	<i>Tutor.</i>
JOHN ALFRED BREWSTER, A.B.,	<i>Tutor.</i>
SAMUEL A. SCHWARZ, A.M., C.E.,	<i>Tutor.</i>
WILLIAM ALEXANDER WHYTE, B.S.,	<i>Tutor.</i>
JAMES I. CONWAY, A.B.,	<i>Tutor.</i>
WARREN G. HUBERT, M.S.,	<i>Tutor.</i>
LEWIS MAYERS, Ph.D.,	<i>Tutor.</i>
LORENZ REICH, JR., A.B.,	<i>Tutor.</i>
EUGENE F. SIMONDS, A. M.,	<i>Tutor.</i>
GABRIEL GREEN, Ph.D.,	<i>Assistant Tutor.</i>

MUSIC.

SAMUEL A. BALDWIN, F.A.G.O.,	<i>Associate Professor.</i>
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NATURAL HISTORY.

IVIN SICKELS, M.S., M.D.,	<i>Professor.</i>
CHARLES-EDWARD A. WINSLOW, M.S.,	<i>Associate Professor.</i>
GEORGE G. SCOTT, Ph.D.,	<i>Assistant Professor.</i>
ABRAHAM J. GOLDFARB, Ph.D.,	<i>Assistant Professor.</i>
DAYTON JAMES EDWARDS, Ph.D.,	<i>Tutor.</i>
BERTRAM T. BUTLER, A.M.,	<i>Tutor.</i>
WILLIAM WARD BROWNE, Ph.D.,	<i>Tutor.</i>
OTTO H. LEBER, A.B., M.D.,	<i>Tutor.</i>
HERBERT STETSON WARREN, B.S.,	<i>Tutor.</i>

PHILOSOPHY.

HARRY ALLEN OVERSTREET, B.Sc.,	<i>Professor.</i>
MORRIS RAPHAEL COHEN, Ph.D.,	<i>Assistant Professor.</i>
JOHN PICKETT TURNER, Ph.D.,	<i>Assistant Professor.</i>
HOWARD D. MARSH, Ph.D.,	<i>Instructor.</i>

PHYSICS.

WILLIAM FOX, B.S., M.E.,	<i>Associate Professor.</i>
C. HOWARD PARMLY, M.S., E.E.,	<i>Associate Professor.</i>
ARTHUR BRUCKNER, B.S., M.E.,	<i>Assistant Professor.</i>
JOSEPH G. COFFIN, Ph.D.,	<i>Assistant Professor.</i>
JAMES H. DE GROOT, D.,	<i>Instructor.</i>
HERBERT MILES HOLTON, B.S.,	<i>Instructor.</i>
ALFRED N. GOLDSMITH, Ph.D.,	<i>Instructor.</i>
WALDO BROMLEY TRUESDELL, A.M.,	<i>Tutor.</i>
CHARLES A. CORCORAN, A.M.,	<i>Tutor.</i>
HASWELL C. JEFFERY,	<i>Tutor.</i>
REINHARD A. WETZEL, B.S.,	<i>Tutor.</i>
FREDERIC O. X. MCLOUGHLIN, A.M., C.E.,	<i>Tutor.</i>
ROBERT DRESSLER,	<i>Assistant Tutor.</i>
ALEXANDER MARCUS, B.S.,	<i>Assistant Tutor.</i>

POLITICAL SCIENCE.

WALTER ERNEST CLARKE, Ph.D.,	<i>Professor.</i>
WILLIAM B. GUTHRIE, Ph.D.,	<i>Associate Professor.</i>
HOWARD WOOLSTON, Ph.D.,	<i>Assistant Professor.</i>
MAURICE PARMELEE, Ph.D.,	<i>Assistant Professor.</i>
NORRIS A. BRISCO, Ph.D.,	<i>Instructor.</i>

PUBLIC SPEAKING.

ERASTUS PALMER, A.M.,	<i>Associate Professor.</i>
FREDERICK B. ROBINSON, Ph.D.,	<i>Assistant Professor.</i>
DANIEL W. REDMOND, Ph.D.,	<i>Instructor.</i>
ROBERT H. HATCH,	<i>Instructor.</i>
JOSEPH A. MOSHER, Ph.D.,	<i>Instructor.</i>
ARTHUR WILSON COURTNEY, A.M.,	<i>Tutor.</i>

ROMANCE LANGUAGES.

CHARLES A. DOWNER, Ph.D.,	<i>Professor.</i>
VICTOR EMMANUEL FRANCOIS, Ph.D.,	<i>Associate Professor.</i>
VENTURA FUENTES, A.B., M.D.,	<i>Assistant Professor.</i>
LOUIS DELAMARRE, Ph.D.,	<i>Assistant Professor.</i>
GASTON A. LAFFARGUE, B-ès-L.,	<i>Assistant Professor.</i>
FELIX WEILL, L-ès-L.,	<i>Assistant Professor.</i>
HUGH S. LOWTHER, Ph.D.,	<i>Instructor.</i>
JUSTIN HARTLEY MOORE, Ph.D., J.D.,	<i>Instructor.</i>
WILLIAM WALLACE WHITELOCK, Ph.D.,	<i>Instructor.</i>
FRANCESCO ETTARI, Prof. di Lett. Ital.,	<i>Instructor.</i>
PIERRE J. MARIQUE, Ph.D.,	<i>Instructor.</i>
WILLIAM E. KNICKERBOCKER, Ph.D.,	<i>Instructor.</i>
GEORGES L. M. LAMOURET, Ph.D.,	<i>Instructor.</i>
FRANCIS L. ROUGIER, Ph.D.,	<i>Instructor.</i>
ALFRED G. PANARONI, B.S.,	<i>Instructor.</i>
AMERICO ULYSSES N. CAMERA, Ph.D.,	<i>Instructor.</i>
ALFONSO ARBID-COSTA, Dipl.,	<i>Instructor.</i>
ROBERT J. DAMEN, Agrée.,	<i>Tutor.</i>
EDMOND ERNEST ADRIEN LE MAIRE, B-ès-L.,	<i>Tutor.</i>
MAXIME L. BERGERON, A.M.,	<i>Tutor.</i>
JEAN DES GARENNES, A.M.,	<i>Tutor.</i>
RALPH TILMONT, J.D.,	<i>Tutor.</i>
ALFREDO ELIAS, A.B.,	<i>Tutor.</i>
HARRY KURZ, A.M.,	<i>Tutor.</i>

STANDING COMMITTEES.

- ON COURSE AND STANDING: Professors Mott, Downer, Overstreet, Dean Brownson, Professor Winslow.
- EXECUTIVE COUNCIL: Professors Sickels, Baskerville, Sim, Storey, Duggan, Parmly, Brownson, Moody, Thompson, and Mr. Davis.
- ON ADMISSION: Professors Saurel, Allen, and Fuentes; Professor Cosenza, Secretary.
- ON ATHLETICS: Professors Storey, Clark, Rupp, Palmer, and Moody.
- ON ATHLETICS OF TOWNSEND HARRIS HALL: Professor Cosenza, Dr. Newton, Mr. Quackenbos, Mr. Linehan, and Mr. Whyte.
- ON COURSE AND STANDING IN THE EVENING SESSION: Professors Duggan, Reynolds, Krowl, Schuyler, and Coffin.
- ON EMPLOYMENT: Professors Ilgen, McGuckin, and Ball.
- ON HIGH SCHOOLS: Professors Winslow, Clark, Fox, Guthrie, Schuyler, Horne, Mead, Robinson, E. F. Palmer, Cosenza, Dr. Taaffe, Mr. Holton and Dr. Estabrooke.
- ON HYGIENE AND SANITATION: Professors Storey, Winslow, Guthrie, Thompson, Hanaway, and Dr. Breithut.
- ON THE LIBRARY: The President, and Professors Herbermann, Mott, Sickels, and Saurel.
- ON THE REGISTER: Professors Parmly, Pederson, and Ball.
- ON UNIVERSITIES AND PROFESSIONAL SCHOOLS: Professors Baskerville, Sickels, Clark, Duggan, and Fox.
- MARSHALS: Professors Erastus Palmer, Moody, Reynolds, Fuentes, and Moore.
- ADVISERS OF THE FRESHMAN CLASS: Professors Burke, Fuentes, Pedersen, Ball, Woolston, Brown, E. F. Palmer, T. R. Moore, and Dr. Redmond and Dr. Estabrooke.

The College of the City of New York.

The College of the City of New York, originally called the Free Academy, was established in 1848 by the Board of Education of the City of New York, in pursuance of an Act of the Legislature of the State passed May 7, 1847, and ratified by a vote of the people of the city, June 9, 1847. The first class entered in January, 1849, and completed its course in July, 1853. In the year 1854 the Legislature passed a law endowing the institution with collegiate powers and privileges, so far as pertained to conferring upon its graduates the usual collegiate degrees and diplomas in the Arts and Sciences. In the year 1866, on the recommendation of the Board of Education, the Legislature of the State changed the name to that of "*The College of the City of New York,*" and conferred on the institution the powers and privileges of a college, pursuant to the Revised Statutes of the State, rendering it subject to the provisions of the said statutes relative to colleges and to visitation of the Regents of the University, in like manner with other colleges of the State, and making the members of the Board of Education, *ex officio*, the Trustees of the College. In the year 1882 the Legislature repealed so much of the statutes relating to the College as had made attendance at the public schools of the city a requisite for admission, thus opening the College to all young men of the city of proper age and sufficient preparation.

In May, 1900, the Legislature created a separate Board of Trustees, composed of nine members, to be appointed by the Mayor, charged with the sole care and control of the College. Of this Board, the President of the Board of Education of the City of New York is *ex officio*, an additional member. The appointive members serve for nine years each.

In September, 1907, the College removed from the buildings which from its foundation it had occupied at the corner of Twenty-third Street and Lexington Avenue, to the new buildings which the City has erected for it on Washington Heights, between One Hundred and Thirty-eight and One Hundred and Fortieth Streets, Amsterdam Avenue and St. Nicholas Terrace. These buildings stand upon an elevation a short distance from the Hudson River, and rise immediately above St. Nicholas Park, which lies about them to the north and east and south, and affords a permanently unobstructed view over a large part of the city.

Their location insures not only an attractive environment and space for recreation, but also freedom from most of the noises of the city streets. Some of the advantages of a rural campus are thus within reach of the homes of every borough of the City of New York.

The new group includes the following buildings:

1. The Main Building, containing rooms for most of the departments of study, besides the Great Hall, the Library and the Executive Offices.
2. The Chemistry Building.
3. Compton Hall (The Mechanic Arts Building).
4. Townsend Harris Hall, occupied by the Academic Department.
5. The Gymnasium.

All the buildings are in the English Gothic style, and are constructed of the native grey stone with white terra cotta ornament. Built around a central plaza they form one of the city's most attractive architectural groups. The equipment is exceptionally complete.

The College of the City of New York is a free college maintained by the city for those of her sons who have the ambition and ability to go beyond the high school curriculum and to prepare themselves for service in the higher grades of intellectual and professional life. Since 1900 the old course of study has been steadily expanded, strengthened and enriched so that it now includes a preparatory course extending over a period of from three to four years and a college course of four years which, in the scope and character of the work offered, is comparable with the best.

The College has no graduate department, although many college graduates, as special students, avail themselves of its facilities for higher work. It has never lost sight, however, of the two aims which were clearly set forth in the report of the first Executive Committee for the government of the Academy. This Committee meant to establish an institution which, on the one hand, "in the character, kind and value of the education imparted, should be inferior to none of our colleges," and on the other hand, "should be so organized that the course of studies to be pursued would tend to educate the pupils practically." These two ideas have recently borne fruit in a revision of the curriculum of the college which, while it prescribes the disciplines of the first two years as a basis for sound general culture, makes it possible for the student to do very serious work in a few subjects in the upper years and to go, if he desires, in the direction of his life work.

For the student who contemplates professional study in schools of medicine, law, theology or applied sciences and arts, the

College furnishes the general training required by the best professional schools, as prerequisites and also allows opportunity for specialization which may be used materially to shorten the period of professional work. Graduates of the College are admitted to all higher institutions requiring the A.B. or B.S. degree for entrance; and at the principal schools of applied science and engineering, graduates of the College who have chosen their electives wisely, have no difficulty in completing their professional course in two years instead of four.

ADMISSION REQUIREMENTS.

For admission to the Freshman Class a candidate must offer a total of $14\frac{1}{2}$ units.

A unit shall be acquired by satisfactory completion of the assigned work in any subject in the Academic Department of the College or at a Preparatory School, requiring both preparation for and attendance at recitations for at least four or five periods each week for one school year, or by doing at such school equivalent work in any subject not requiring preparation.

Required Subjects.

Every candidate must offer:*

ENGLISH..... $\left\{ \begin{array}{l} a \text{ Reading and Practice} \\ b \text{ Study and Practice} \end{array} \right\}$ 3 Units

HISTORY..... $\left\{ \begin{array}{l} a \text{ Ancient} \\ b \text{ Medieval and Modern} \\ c \text{ English} \\ d \text{ American and Civics} \end{array} \right\}$ 1 Unit
 Any two

LANGUAGES..... $\left\{ \begin{array}{l} \text{French} \\ \text{German} \\ \text{Greek} \\ \text{Latin} \\ \text{Spanish} \end{array} \right\}$ Three years of any one..... 3 Units
 and
 Two years of any other.... 2 Units

MATHEMATICS... $\left\{ \begin{array}{l} \textit{For Arts} \\ \textit{For Science} \end{array} \right\}$ $\left\{ \begin{array}{l} a1 \text{ Algebra to Quad-} \\ \text{ratics} \\ a2 \text{ Quadratics and} \\ \text{beyond} \\ c \text{ Plane Geometry} \end{array} \right\}$.. 2 Units
 $\left\{ \begin{array}{l} a1 \text{ Algebra to Quad-} \\ \text{ratics} \\ a2 \text{ Quadratics and} \\ \text{beyond} \\ c \text{ Plane Geometry} \\ d \text{ Solid Geometry} \end{array} \right\}$ $2\frac{1}{2}$ Units

Elective Subjects.

The *remainder* of the $14\frac{1}{2}$ units required for entrance may be chosen from the following list of Electives:

ADDITIONAL LANGUAGE, one or two years..... 1 or 2 Units
 MATHEMATICS $\left\{ \begin{array}{l} b \text{ Advanced Algebra} \\ c \text{ Trigonometry} \end{array} \right\}$ $\frac{1}{2}$ Unit
 $\frac{1}{2}$ Unit

* The letters in italics preceding the titles of the courses refer to the definitions of the College Entrance Examination Board.

HISTORY, one or two courses.....	$\frac{1}{2}$ or 1 Unit
DRAWING (according to the number of hours)....	$\frac{1}{2}$ or 1 Unit
ELEMENTARY PHYSICS	1 Unit
ELEMENTARY CHEMISTRY	1 Unit
ELEMENTARY BIOLOGY	1 Unit
HYGIENE	$\frac{1}{2}$ Unit

Additional Explanation of the Admission Requirements.

The candidate for admission should thoroughly understand the following explanations :

ENGLISH.

The three (3) unit requirement in English represents four (4) years of work in that subject completed in a recognized preparatory school.

MATHEMATICS AND PHYSICS.

Candidates for entrance to the Science Course (see below) must offer **Solid Geometry**, otherwise they will be conditioned one-half ($\frac{1}{2}$) a unit in Mathematics. **Trigonometry, Advanced Algebra and Physics** also are required for the degree of B.S. (see below). *It is advised, therefore, that prospective candidates for the Science Course elect not only Solid Geometry, but also Trigonometry, Advanced Algebra and Physics while at the preparatory school.*

LANGUAGES.

In the Language requirement three years of any one of the specified languages and two years of any other are necessary for admission; but to conform to the curriculum in arts three years of Latin should be presented, and in Science at least one modern language.

Additional Language Preparation. If the candidate for admission has more than a total of five (5) years of languages, he may offer such work under the first of the **Elective Subjects** described above as ADDITIONAL LANGUAGE. This additional language preparation is limited to a maximum of two (2) years, thus bringing the number of years of language work for which a candidate may receive credit for entrance to a grand total of seven (7). Furthermore, this additional year, or these additional two years, may have been spent upon the language or the languages already presented, or upon a third language, or upon a third and a fourth language, such as Italian. Finally it must be noted that the candidate will receive College credit for any additional language which he may present, after he has met the minimum requirement for entrance of three years in a first language and of two years in a second language, provided

said additional language be of a grade equivalent to that of the work done in the classes of the College. It is understood, however, that any given course offered by the candidate cannot receive double credit—that is to say, it cannot be given College credit and be counted towards graduation from the College if it has already been counted as credit for entrance among the 14½ units required for admission to the Freshman class.

Credentials that may be presented for entrance.

The units for entrance may be presented in any of the following ways:

1. By presenting certificates from the New York City High Schools or from other accepted High Schools.
2. By presenting a College Entrance Diploma issued by the New York State Education Department.
3. By presenting certificates of the College Entrance Examination Board.

Note. Certificates such as are described in 1, 2 and 3 are accepted only in so far as they cover specifically and by name subjects or lettered parts of those subjects which are accepted for admission to the Freshman class as given above in the list of Admission Requirements.

Candidates must place all credentials in the hands of the Committee on Admission in due time for consideration thereon by the Committee.

4. By passing the entrance examinations of The College of the City of New York, or the graduating examinations of the Academic Department of the College.

Note. Entrance Examinations are held at the College in January, in June and in September. Application for permission to take Entrance Examinations should be made at least two weeks before the beginning thereof. The dates may be ascertained by addressing the Committee on Admission.

A candidate may take examinations in some subjects at one time, in other subjects at other times; but he may not present himself for said entrance examinations more than four (4) successive times, except by special consent of the Committee on Admission. The results of these entrance examinations may stand to the credit of the candidate for the period of one and one-half (1½) years, but no longer.

Conditions.

A candidate may, in the discretion of the Committee on Admission, be admitted to the Freshman class carrying conditions equal to two (2) units, but these conditions must be removed before the student can be registered as a member of the Sophomore class.

A candidate admitted to the Freshman class and lacking the

preparation in Languages, Mathematics or Physics, which is necessary to the work of the course that he wishes to pursue, will be obliged to take such work as a part of his course, and he will receive College credit for it. It is clearly understood, however, that work done to remove an entrance condition shall not receive College credit.

Credit will be given for advanced standing in any subject, except that all credits of the Senior year must be acquired by work at the College.

Special Students.

The Board of Trustees of The College of the City of New York authorizes, from term to term, the enrollment of Special Students. Men who are not regularly enrolled in the College may, in accordance with said resolutions, be admitted to any particular course or courses which they may choose. The following restrictions, however, should be clearly understood:

1. The privileges of special students are extended only to male students, twenty-one years or over, who are actual residents of the City of New York. In all cases the Committee on Admission reserves the right of requesting official confirmation of the candidate's age.
2. All candidates who desire to enroll as special students must meet in full the regular requirements for admission to the Freshman class of the College. (For the Admission Requirements see above.)
3. All candidates must give satisfactory evidence to the Head of the Department to whose course or courses they seek admission, that they are fully equipped to pursue the work of the course or courses chosen.
4. The number of hours for which special students may enroll shall be not less than five (5) hours a week.

COURSES OF STUDY.

The College offers two general courses of study, one leading to the Degree of Bachelor of Arts (A.B.), the other leading to the Degree of Bachelor of Science (B.S.).

These general courses are designed to give a thorough college training on broad and liberal lines; to give the student in the upper classes an opportunity to follow a well-defined group of subjects leading toward a definitely chosen life work; to qualify him for entering with advanced standing a professional or technical school upon graduation from the College, and to furnish him with a thorough training in those technological branches for which the science departments are well equipped.

To attain these results, the four (4) year course has been divided into two nearly equal parts—an earlier portion consisting mainly of Prescribed Work, and a later portion consisting mainly of Elective Work.

The total number of credits required for graduation is 128. A little more than one-half of these credits is Prescribed Work, and a little less than one-half is Elective Work.

It is expected that the candidate for a degree should complete all of the prescribed work before taking up elective courses, except four credits in Public Speaking which it is contemplated will be taken in the last two years.

PRESCRIBED WORK.

For Candidates for the Degree of BACHELOR OF ARTS.

	No. of Terms.	Total Credits.
FIRST LANGUAGE (LATIN).....	4	14
SECOND LANGUAGE (GREEK, FRENCH OR GERMAN)	4	13
THIRD LANGUAGE OR COMPARATIVE LITERATURE AND ART.....	2	6
ENGLISH	2	6
CHEMISTRY	2	6
HISTORY	2	7
*MATHEMATICS—		
TRIGONOMETRY	1	3
ADVANCED ALGEBRA	1	3

* If not presented for admission.

	No. of Terms.	Total Credits.
NATURAL HISTORY	1	4
PHILOSOPHY	1	3
HYGIENE	4	2
*PHYSICS	2	6
POLITICAL SCIENCE	1	3
PUBLIC SPEAKING	8	8

* If not presented for admission.

Additional Explanation of the Prescribed Work.

FIRST LANGUAGE (LATIN).

Candidates for the degree of A.B. must take Latin. The total of prescribed work in Latin is therefore five years—three (3) years completed at the preparatory school, plus two (2) years completed at College.

SECOND LANGUAGE (GREEK, FRENCH OR GERMAN).

The total of prescribed work in a *Second Language* is four years—two (2) years completed at the preparatory school, plus two (2) years completed at College.

It should be clearly understood that the language grouping for the degree of A.B. may vary as follows: Latin and Greek, Latin and French, Latin and German.

ENGLISH.

When a student who has completed the prescribed courses in English is found by any Department, at any time, to be inaccurate or slovenly in his written English, one-half ($\frac{1}{2}$) credit of his English requirement may be *recalled*, and he may be required to regain it by work in composition to be prescribed by the Department of English; and he is not eligible for graduation until such work has been successfully completed and the half credit regained.

MATHEMATICS AND PHYSICS.

The courses in Trigonometry, Advanced Algebra and Physics will not be prescribed for the candidates who have already presented said courses for entrance.

The Table of Prescribed Work as outlined above therefore applies to those students who present at entrance only the *minimum* entrance requirement in the various subjects. Students who present more than the minimum entrance requirements will

receive College credits, in consequence of which they will diminish the number of credits necessary for graduation.

PRESCRIBED WORK.
For Candidates for the Degree of
BACHELOR OF SCIENCE.

	No. of Terms.	Total Credits.
A MODERN LANGUAGE (FRENCH, GERMAN OR SPANISH)	2	7
DESCRIPTIVE GEOMETRY AND MECHANICAL DRAWING	2	4
ENGLISH	2	6
CHEMISTRY	3	9
HISTORY	2	7
MATHEMATICS—		
*TRIGONOMETRY	1	3
*ADVANCED ALGEBRA	1	3
ANALYTICAL GEOMETRY	1	4
CALCULUS	3	9
NATURAL HISTORY	1	4
PHILOSOPHY	1	3
HYGIENE	4	2
PHYSICS	2	6
POLITICAL SCIENCE	1	3
PUBLIC SPEAKING	8	8

* If not presented for admission.

Additional Explanation of the Prescribed Work.

A MODERN LANGUAGE.

Candidates for the degree of B.S. must present at least one modern language; either French, German or Spanish. If, upon entrance, a student offers three (3) years of Latin and two (2) of French, this requirement means that he will be required to take a third year of French, making the language requirement necessary for the B.S. degree a total of six (6) years. Again if, upon entrance, a student offers three (3) years of French and two (2) of German or Spanish he may elect to make the additional year of required modern language either fourth year French or third year German or Spanish in either way bringing up his total of language requirement to six (6) years. Other

combinations are possible, of course, but this will suffice to make clear the meaning of this requirement.

ENGLISH.

See note on English, under the Prescribed Work for the degree of A.B.

MATHEMATICS.

This requirement is meant for those candidates who have not already offered at entrance either Trigonometry or Advanced Algebra. Candidates who have offered said subjects at entrance have correspondingly less to do in College.

PHYSICS.

This requirement represents a year of College Physics, based upon a year of High School preparation.

The Table of Prescribed Work as outlined above, therefore, applies to those students who present at entrance only the *minimum* entrance requirement in the various subjects. Students who present more than the minimum entrance requirements will receive College credits, in consequence of which they will diminish the number of credits necessary for graduation.

ELECTIVE WORK.

The Curriculum for the Junior and the Senior Years.

The remaining credits required for a degree are elective under restrictions which oblige a certain concentration, but which permit beyond that wide distribution or further specialization, as the student may, upon advice, choose. At the end of the Sophomore year, therefore, the student is asked to decide in which of the *Divisions* named below he desires to pursue his major work.

I. *Language and Literature.*

ENGLISH.
GERMAN.
GREEK.
LATIN.
ROMANCE LANGUAGES.

II. *Social Science.*

HISTORY.
PHILOSOPHY.
POLITICAL SCIENCE.

III. *Natural Science.*

CHEMISTRY.
MATHEMATICS.
NATURAL HISTORY.
PHYSICS.

In the Division so elected he will be required to take at least *one-half* of his elective credits, and at least twelve (12) credits of this number in one Department of the Division so elected.

The other half of the elective credits may be acquired in any Department or Departments of the College, including with

those named in the above Divisions, the Departments of ART, EDUCATION, MUSIC, HYGIENE, and PUBLIC SPEAKING.

Students are recommended to consult with the Chairmen of the Divisions and with the Heads of Departments when about to make their elections. It cannot be too strongly emphasized that when, at the end of the Sophomore year, the student begins to make his elections, he should plan, not merely for the Lower Junior term, but also for all the terms before him until graduation. The student who, as the result of his High School and College preparation in Prescribed Work, comes to the choice of his Elective Work with a full consciousness of his capacities and limitations, should be able to decide as to the general direction of his future study. Some of the elective groups which may be formed, having for their purpose the achievement of some definite end, are presented in order to show the possibilities of the elective freedom. A judicious choice of elective courses, covering the period of the last two years, may be made to assist the student in preparing himself for a specific life work, as, for example, City, State, or Federal service, commercial and industrial positions of responsibility, and teaching. It may also be directed to the shortening of the period of residence in professional and post-graduate schools—whether the graduate desires to proceed with special work in biology, chemistry, engineering, languages, law, history, medicine, philosophy or political science. This enumeration is not meant to be exhaustive. Such pursuits have been selected merely as suggestions to the student of the many possibilities presented to him by the course of study at The College of the City of New York.

ILLUSTRATIVE ELECTIVE GROUPS.

DIVISION I. LANGUAGE AND LITERATURE.

The possibilities of grouping in this Division are many, as all the Departments of Language and Literature are included within it. Every student who contemplates teaching a language or literature will elect a major here, as will those students who are looking forward to life work in journalism, the ministry, the law or letters. And those who elect majors in the other Divisions are strongly urged to take at least one course each semester within the scope of this Division.

DIVISION II. HISTORY, PHILOSOPHY, AND POLITICAL SCIENCE.

The electives offered by the Departments within this Division afford an opportunity for the student to extend his knowledge of those subjects which deal primarily with social man—his achievements, his thoughts, his organizations. The study of these subjects leads to a greater comprehension and to a fuller appreciation of the complex phenomena of organized society. Those students who contemplate studying Law or Journalism, entering Business, or devoting themselves to Public or to Social Service, will find among the subjects offered many which will assist them in preparing for their chosen work. For such students the following groups of courses from this Division are suggested.

For those preparing for LAW.

HISTORY.	3	POLITICAL SCIENCE.	3
5. Eng. Constitutional..	3	3. Immigra. & Taxa'n.	} 3
7. Am. Const. & Polit..	3	or	
8. Civil War & Recon..	3	4. Trusts & Trade Uns.	
PHILOSOPHY.	3	11. Constitutional Law..	3
2. Logic & Sci. Method.	3	12. International Law...	3
5. Philosophy of Law..	3	23. Criminology	3
6. Social & Polit. Phil..	3	ADDITIONAL ELECTIVES....	23
21. General Psychology..	3		

For those preparing for JOURNALISM.

HISTORY.	3	POLITICAL SCIENCE.	3
6. Am. Colonial & Rev.	3	2. Money & Banking...	3
7. Am. Const. & Polit..	3	3. Immigra. & Taxation	3
8. Civil War & Recon..	3	4. Trusts & Trade Uns.	3
9. Contemporary Euro.	3	11. Constitutional Law..	3
PHILOSOPHY.	3	21. Elem. of Sociology..	3
2. Logic & Sci. Method.	3	24. Municipal Affairs...	3
21. General Psychology..	3	ADDITIONAL ELECTIVES....	20

For those preparing for BUSINESS.

HISTORY.		POLITICAL SCIENCE.	
7. Am. Const. & Polit..	3	2. Money & Banking...	3
9. Contemporary Euro.	3	3. Immigra. & Taxation	3
PHILOSOPHY.		4. Trusts & Trade Uns.	3
2. Logic & Sci. Method.	3	5. Economy of Business	3
5. Philosophy of Law..	3	6. Business Methods...	3
21. General Psychology..	3	25. Statistics	3
24. Psych. of Efficiency.	3	ADDITIONAL ELECTIVES....	20

For those preparing for PUBLIC SERVICE.

HISTORY.		POLITICAL SCIENCE.	
7. Am. Const. & Polit..	3	3. Immigra. & Taxa'n.	} 3
8. Civil War & Recon..	3	or	
PHILOSOPHY.		4. Trusts & Trade Uns.	} 3
2. Logic & Sci. Method.	3	11. Constitutional Law..	
5. Philosophy of Law..	3	21. Elem. of Sociology..	
6. Social & Pol. Phil...	3	25. Statistics	
21. General Psychology..	3	ADDITIONAL ELECTIVES....	26

For those preparing for SOCIAL SERVICE.

HISTORY.		POLITICAL SCIENCE.	
7. Am. Const. & Polit..	3	3. Immigra. & Taxa'n.	} 3
8. Civil War & Recon..	3	or	
PHILOSOPHY.		4. Trusts & Trade Uns.	} 3
2. Logic & Sci. Method.	3	21. Elem. of Sociology..	
5. Philosophy of Law..	3	22. Philanthropy	
6. Social & Pol. Phil...	3	25. Statistics	
21. General Psychology..	3	ADDITIONAL ELECTIVES....	23
24. Psych. of Efficiency.	3		

These courses are considered to be particularly helpful to students intending to pursue the professions or activities suggested by these groups. Other courses within this Division are available from which the student can make such a selection as will best fit his individual needs.

The student is strongly urged to distribute a part of his free elective time among departments other than those in this Division. He is advised to consult the heads of those departments that he may choose courses best suited to his particular line of work.

DIVISION III. CHEMISTRY, MATHEMATICS, NATURAL HISTORY,
AND PHYSICS.

This Division contains the Departments dealing with the Natural Sciences and Mathematics. Not only is a broad training obtainable in this Division, but opportunity is provided for preparation along professional lines as well. While in some cases the courses advised for specific preparation for a life work approach a technical character, still there is opportunity for the student to choose approximately a quarter of his elective subjects within the other two Divisions. However, provided the student has a reading knowledge of French and German, he may make further elections looking toward a specific profession. The subjects named in the groups herewith presented are essential to more advanced work, provision for which is made in part by the several Departments of the College in other electives offered, some of which are required in Technical Schools or Universities. The student may avail himself of the privilege of pursuing the more technical subjects offered by remaining as a special student for one or two terms after graduation in accordance with a resolution of the Board of Trustees, or he may, by advice, elect them as partial requirements for the bachelor's degree. The groups suggested are summarized below and their content is shown under separate headings in the pages which follow. Students should, however, consult the Chairman of the Division:

GENERAL SCIENCE	{	CHEMISTRY	9	} Teaching Business Science Training
		NATURAL HISTORY..	9	
		PHILOSOPHY	6	
		PHYSICS	5	
		ADDITIONAL ELECTIVES	27	
CHEMISTRY	{	CHEMISTRY	30	} Analytical Chemist Chemical Engineering Chemical Industries
		PHILOSOPHY	3	
		PHYSICS	3	
		ADDITIONAL ELECTIVES	20	
MATHEMATICS, PHYSICS	{	CHEMISTRY	6	} University Courses Physical Research
		MATHEMATICS	18	
		PHILOSOPHY	3	
		PHYSICS	9	
		ADDITIONAL ELECTIVES	20	
NATURAL HISTORY	{	CHEMISTRY	12	} Medicine Public Health Sanitary Engineering
		NATURAL HISTORY..	21	
		PHILOSOPHY	3	
		ADDITIONAL ELECTIVES	20	
ENGINEERING ...	{	CHEMISTRY	6	} Civil Electrical Mechanical
		DRAWING	2	
		PHYSICS	25	
		POLITICAL SCIENCE..	3	
		ADDITIONAL ELECTIVES	20	

GENERAL SCIENCE.

For students who contemplate becoming Teachers of Science, or who expect to enter General Business, or who wish a broad Scientific Training without specialization. By a judicious choice of additional electives this group may be extended to meet a great variety of individual aims. A reading knowledge of French and German is necessary:

<p>CHEMISTRY.</p> <p>4. Quantitative 3</p> <p>5. Organic 3</p> <p>7. Physical 3</p> <p>NATURAL HISTORY.</p> <p>3. Elementary Botany.. 3</p> <p>4. Invertebrate Zoology. 3</p> <p>12. Geology 3</p>	<p>PHILOSOPHY.</p> <p>2. Logic & Sci. Method. 3</p> <p>21. General Psychology.. 3</p> <p>PHYSICS.</p> <p>12. Descriptive Astron.. 3</p> <p>21. Joinery 2</p> <p>ADDITIONAL ELECTIVES.... 27</p>
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CHEMISTRY.

For students who wish to specialize in Chemistry with the view of becoming Analytical Chemists, of preparing for the profession of Chemical Engineering, of engaging in Chemical Industries, or of pursuing Graduate Work in Chemistry. A reading knowledge of French and German is necessary:

<p>CHEMISTRY.</p> <p>4. Quantitative 3</p> <p>5-6. Organic 6</p> <p>7. Physical 3</p> <p>8. Electro 3</p> <p>9. Applied Inorganic... 3</p> <p>10. Applied Organic... 3</p> <p>13. Advanced Qualitative 3</p>	<p>CHEMISTRY.</p> <p>14. Advanced Quantitative 3</p> <p>15. Advanced Inorganic. 3</p> <p>PHILOSOPHY.</p> <p>2. Logic & Sci. Method. 3</p> <p>PHYSICS.</p> <p>5. Advanced Electricity 3</p> <p>ADDITIONAL ELECTIVES.... 20</p>
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MATHEMATICS—PHYSICS.

For students who wish to specialize in Mathematics and in Mathematical Physics with the view of pursuing University Courses in these subjects, or of entering the field of Physical Research. A reading knowledge of French and German is necessary:

<p>CHEMISTRY.</p> <p>7. Physical 3</p> <p>MATHEMATICS.</p> <p>7. Advanced Dif. Cal.. 3</p> <p>8. Advanced Int. Cal... 3</p> <p>9. Ordinary Dif. Equa. 3</p> <p>10. Vector Analysis..... 3</p> <p>11. Differential Geometry 3</p> <p>12. Partial Dif. Equa... 3</p>	<p>PHILOSOPHY.</p> <p>2. Logic & Sci. Method. 3</p> <p>4. Phil. of Science..... 3</p> <p>PHYSICS.</p> <p>5. Advanced Electricity 3</p> <p>6. Advanced Mechanics 3</p> <p>16. Advanced Heat..... 3</p> <p>ADDITIONAL ELECTIVES.... 20</p>
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MEDICINE AND PUBLIC HEALTH.

For students who wish to specialize in Natural History with the view of studying Medicine, or of following a career in Public Health, or of preparing to become Sanitary Engineers. A reading knowledge of French and German is necessary. All the subjects named are essential to both Medicine and Public Health. Additional subjects are offered which enable the student to specialize in either of them:

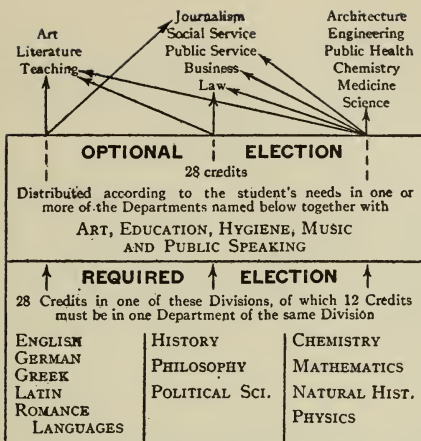
<p>NATURAL HISTORY.</p> <p>3. Botany 3</p> <p>4. Zoology 3</p> <p>6. Embryology & Hist.. 3</p> <p>7. Theoretical Biology.. 3</p> <p>10. Anthropology 3</p> <p>13. Bacteriology 3</p> <p>15. Municipal Sanitation. 3</p>	<p>CHEMISTRY.</p> <p>4. Quantitative 3</p> <p>5-6. Organic 6</p> <p>7. Physical 3</p> <p>PHILOSOPHY.</p> <p>2. Logic & Sci. Method. 3</p> <p>ADDITIONAL ELECTIVES.... 20</p>
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ENGINEERING.

For students who wish to prepare for Civil, Electrical, or Mechanical Engineering. All the subjects named are common to all three professions. Additional subjects are offered which enable the student to specialize toward any one of them. He should seek advice in planning the sequence of his work in order that he may most advantageously distribute it:

<p>PHYSICS.</p> <p>5. Advanced Electricity 3</p> <p>6. Mechanics 3</p> <p>7. Materials 3</p> <p>8. Hydraulics 4</p> <p>9. Heat Engines..... 4</p> <p>14. Surveying 3</p> <p>16. Advanced Heat..... 3</p> <p>22. Forge & Foundry... 2</p>	<p>CHEMISTRY.</p> <p>4. Quantitative 3</p> <p>7. Physical 3</p> <p>DRAWING.</p> <p>6. Mechanical 2</p> <p>POLITICAL SCIENCE.</p> <p>10. Municipal Affairs... 3</p> <p>ADDITIONAL ELECTIVES.... 17</p>
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Years
4



2

PRESCRIBED COLLEGE COURSE		
ARTS	72 credits	SCIENCE
LATIN	14	MOD. LANGUAGE 7
GREEK	13	MATHEMATICS 13
FRENCH, OR GERMAN		PHYSICS 6
3 ^o LANGUAGE OR COMP. LIT. & ART. }	6	DRAWING 4
CHEMISTRY	6	CHEMISTRY 9
	ENGLISH	6
	HISTORY	7
	HYGIENE	2
	NATURAL HISTORY	4
	PHILOSOPHY	3
	POLITICAL SCIENCE	3
	PUBLIC SPEAKING	8

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ENGLISH	3	TOWNSEND HARRIS HALL	DRAWING	1/2
1 ^o LANGUAGE	3		DRAWING OR	
2 ^o LANGUAGE	2	PREPARATION	MANUAL TRAINING	1/2
MATHEMATICS	3	14 1/2 units	PHYSICS	1
HISTORY	1		PHYSIOLOGY	1/2

ELEMENTARY SCHOOL FOUNDATION

DEPARTMENTS.'

ART.

The work in this department embraces courses in the following subjects: Freehand Drawing, Mechanical Drawing, Descriptive Geometry, and Aesthetics.

The course in Freehand Drawing aims to give the student the knowledge and skill required for the truthful reproduction of geometrical forms, and of artificial and natural objects, and by this training to develop his perceptive faculties in the just appreciation of lines, forms, proportion, light and shade, color values, etc. In the advanced course attention is given to the further development of taste, to the elements of Design, and to the teaching of Drawing.

The course in Mechanical Drawing begins with instruction and practice in the use of instruments, the making of working drawings for constructions of various kinds; always with regard to the practical requirements of the modern workshop.

The more advanced work offers the students in Science a completely rounded course in the subjects usually comprised under this head. To students intending to pursue one of the engineering professions, or architecture, training is given bearing directly on their future work without, however, transgressing the limits of the regular college curriculum.

The course in Descriptive Geometry aims to familiarize the student with the means afforded by this applied science and art for complete graphic expression of forms and their relation in space; further, to develop his projective imagination, as well as to habituate him to accuracy, clearness and neatness in execution.

The course in Aesthetics embraces a brief consideration of the philosophy and psychology of Art, its bearing upon human life and the development of civilization. The history of the evolution of the various forms of historic art, in architecture, sculpture, painting, and the minor arts, together with their relation to general history, is given in a series of fully illustrated lectures.

1-2. DESCRIPTIVE GEOMETRY AND MECHANICAL DRAWING.

Messrs. Levussove, Neus, Autenreith, Kelly and Schulman.

This course consists of lectures, recitations, and practice on problems in Descriptive Geometry involving lines, planes, surfaces, solids; their relations, tangencies, intersections, and development. The 1st and 3d angle methods of Mechanical Draw-

ing are derived from the principles of Descriptive Geometry, and are illustrated by working drawings of simple constructions.

Prescribed: Science, two terms, four hours a week, counts 4.
Elective for Arts students.

3. FREEHAND DRAWING. *Professors Dielman and Hunt.*

Freehand Drawing with special application to scientific work, such as the making of graphic notes or records in connection with Chemistry, Physics, or Natural History.

One term, four hours a week, counts 2.

4. TOPOGRAPHICAL DRAWING. *Mr. Autenrieth.*

Study of signs employed in making topographical maps fully rendered. Plotting; particular attention being given to contour maps and the solution of problems relating thereto. The student is also required to plot the surveys made in the field during his course in practical surveying.

Prerequisite: Art 1-2, and Physics 14. One term, six hours a week, counts 2.

5. SHADES, SHADOWS AND PERSPECTIVE. *Professor Hunt.*

Theory of Shades and Shadows. Shadows of mechanical and geometrical objects on planes; of solids on solids with special reference to rendering of mechanical and architectural drawings.

Theory of Perspective. Its basis on Descriptive Geometry. Discussion of and practice in the vanishing and division point method, and in the so-called ground-plane and "office" methods. All of Art 5 is given with reference to work pursued later by those electing Art 11.

Prerequisite: Art 1-2. One term, six hours a week, counts 2.

6. MECHANICAL DRAWING. *Mr. Autenrieth.*

The work of this course embraces drawing of mechanical details, such as bolts and nuts, screws, springs, keys, pipe fittings, etc.; methods of dimensioning, tracing, etc.; making of scale drawings from sketches of parts of machines; also the drawing of details from "assembly" drawings as a drill in the reading of drawings.

Prerequisite: Art 1-2. One term, six hours a week, counts 2.

7-8. AESTHETICS. *Professor Dielman.*

Lectures on the history of architecture, sculpture, painting, and the minor arts; the place of the fine arts in the history of civilization; the appreciation of art; historic ornament; the great art of the world illustrated by means of casts, photographs, slides, etc. Notes of lectures are written up and submitted by the students. The course aims to give the general

student such comprehension of the subject as is essential to a liberal education; it has special value for those who may devote themselves to teaching, to writing or criticism in connection with art, or to other pursuits requiring knowledge and training in matters of taste.

Two terms, two hours a week, each term, counts 3.

9. ADVANCED FREEHAND DRAWING.

Professors Dielman and Hunt, and Mr. Kelly.

Drawing from casts, natural objects, articles of glass, pottery, etc., involving the rendering in black and white of color values; from casts of the human figure in part or entire; practical application of perspective; the elements of Decorative Design; the use of color, and instruction in the teaching of art. The course has been planned with a view to the requirements that must be met by applicants for teachers' License No. 1, and in connection with 7-8, Aesthetics, it enables the student to prepare for the intelligent and effective teaching of art.

One term, four hours a week, counts 2.

10. ADVANCED MECHANICAL AND ELEMENTARY MACHINE DESIGN.

Professor Hunt.

Construction of mechanical curves, cycloids, epicycloids, volute, involute, cams, and their application to gears. Warped surfaces. Topographical Drawing in black and white and tinted. Working drawings of steam engine drawn in detail, and finished drawings from these. Sections of engineers' transit and V level. Practice in flat washing, applied to Machine, Architectural and Topographical Drawing. Construction of hydrants, valves, steam engines, finishing with Corliss and gas engines. Advanced work in lettering.

One term, six hours a week, counts 2.

11. ARCHITECTURAL DRAWING.

Mr. Neus.

The classic orders and brush rendering. The proportions of the orders are studied from Ware's *American Vignola*; they are rendered in India ink outline as well as an India ink and color wash. Shadows are constructed by the student.

Prerequisite: Art 5. One term, six hours a week, counts. 2.

The casts belonging to the department are very fine, most of them having been taken from early molds. The collection contains many beautiful examples of the Phidian era, the most notable being a large number from the Frieze of the Parthenon, and a few of the best preserved Metopes; the heroic statues of Theseus and Cephisus; a Caryatid from the Erechtheum. These copies of the Elgin Marbles were given by Charles M.

Leupp, Esq. There are, furthermore, the busts of Jupiter from Otricoli, the Venus of Milo, the Venus of Arles, Juno, the Hermes, the Apollo Belvedere, the Belvedere Torso and examples of the work of Michael Angelo, Cellini and Thorwaldsen.

This department also makes use of a collection of about 275 photographs, the gift of the Class of '75, illustrating the architecture and sculpture of the Greeks and Romans, early Christians and Renaissance painting in Italy and a number of the most noted buildings of all European countries. Each print is marked with the name, the date of production and the present location of the subject represented. East Indian, Egyptian, Romanesque and Gothic Architecture are likewise illustrated by a number of photographs purchased by the College; and a collection of over 500 lantern slides is used in the lectures on the history of the Fine Arts.

COMPARATIVE LITERATURE AND ART.

This course offers a general view of ancient, mediaeval and modern literature and art. There will be two lectures and one recitation each week; note-books will be examined and reports will be required on assigned reading and on objects of art. The general director of the course will be Professor Mott; Professor Dielman will have charge of the work in art, and the lectures on literature will be delivered by members of the different language departments.

Prerequisite: English 1 and one year of college work in a foreign language.

Prescribed: Either this course or a third language for Arts students only; two terms, three hours a week, counts 6.

CHEMISTRY.

Note.—*Physics 1 and 2 are prerequisite for all work in Chemistry.*

1-2. DESCRIPTIVE CHEMISTRY.

Professor Baskerville and Drs. Curtis, Estabrooke and Feinberg and Mr. Stokes.

For the student's general culture, acquainting him with the principles of chemical philosophy. Twenty-six weeks are given to the study of Inorganic Chemistry, essentially based upon the natural system, but involving the most modern conceptions of Physical Chemistry; the last six weeks are devoted to the Chemistry of the Carbon Compounds. During the second term, when the student has gained sufficient knowledge to appreciate it, parallel reading is assigned in the History of Chemistry. The lectures are accompanied throughout the session by weekly examinations and laboratory work to test the facts and principles upon which the science is founded. Text-books: Baskerville's *Inorganic Chemistry*, Baskerville and Curtis' *Laboratory Exercises*, Baskerville and Estabrooke's *Progressive Problems in Chemistry*, Remsen's *Organic Chemistry*, and Venable's *Short History of Chemistry*.

Prescribed: { Arts and } two terms, one recitation, two lectures and
{ Science. } two laboratory hours a week; counts 6.

The privilege of a limited amount of extra laboratory work is extended to those who wish to avail themselves of the opportunity.

3. QUALITATIVE ANALYSIS. *Drs. Curtman and Breithut.*

A grounding is given in the principles involved in the detection of unknown substances. Text-books: Moody's *Hobart Manual*, and Baskerville and Curtman's *Qualitative Analysis*. Parallel reading: Morgan's *Qualitative Analysis*.

Prerequisite: Chemistry 1-2.

Prescribed: Science, Sophomore, one term; laboratory work with a lecture or recitation every week; seven hours a week; counts 3.
Elective in Arts.

Students wishing electives should consult the head of the Department.

4. QUANTITATIVE ANALYSIS. *Dr. Prager.*

A training is given in the accurate determination of the quantity of an element or compound present, by both gravimetric and volumetric methods. Text-book: Moody's *Quantitative Analysis*.

Prerequisite: Chemistry 3. Laboratory work with a lecture or recitation every fortnight; eight hours a week; counts 3.

Further elective subjects may be taken only by those students who have acquired a grade of 70 per cent. in Chemistry 3 and 4.

5. ORGANIC CHEMISTRY.

Professor Friedburg.

The fundamental principles involving carbon compounds are studied. The lectures deal mainly with the aliphatic series and their derivatives, but at the end a few lectures are devoted to the cyclic series to indicate the lines followed in Chemistry 6. The laboratory practice is given over to the qualitative examination of carbon compounds and the making of some of the simpler preparations. Text-books: Holleman's *Organic Chemistry and Laboratory Manual*, Gatterman's *Practical Methods of Organic Chemistry* (English Edition), and Lassar-Cohn's *Arbeitsmethoden*.

Prerequisite: Chemistry 4. One term, Fall and Spring; lecture and recitation two hours and laboratory four hours a week; counts 3.

6. ADVANCED ORGANIC CHEMISTRY.

Professor Friedburg and Dr. Prager.

The lectures deal with the cyclic and more complex carbon compounds, showing their relations in living processes. Many of them are isolated, prepared, and analyzed quantitatively in the laboratory. Text-books: Same as in Chemistry 5, and Fischer's *Anleitung zur Darstellung organischer Präparate*.

Prerequisite: Chemistry 5. One term, Fall and Spring; lecture and recitation two hours and four laboratory hours a week; counts 3.

7. PHYSICAL CHEMISTRY.

Professor Stevenson.

The lectures cover the entire field of physical chemistry except electro-chemistry, and are supplemented by problems and parallel reading. The laboratory practice includes such topics as standardization of apparatus, molecular weights, viscosity, thermostats, index of refraction, vapor pressure, velocity of reaction, etc. Special experiments are also laid out for students who indicate a desire to prepare for some particular line of work. Text-books: Walker's *Introduction to Physical Chemistry* and Findlay's *Practical Physical Chemistry*.

Prerequisites: Chemistry 4. Mathematics 2 and 3 are desirable. One term, Fall and Spring. Lectures two hours, and five laboratory hours a week; counts 3.

8. ELECTRO-CHEMISTRY.

Professor Stevenson.

The lectures are upon theoretical and industrial electro-chemistry, and are supplemented by problems and parallel reading. The laboratory practice includes such topics as conductivity, electrolysis, electro-plating, electro-analysis, decomposition voltage, electrolytic reactions and electric furnace syntheses. Text-books: Le Blanc's *Electro-Chemistry* and Findlay's *Practical Physical Chemistry*.

Prerequisites: Chemistry 4. Mathematics 2 and 3 are desirable. One term, Fall and Spring. Lectures two hours, and five laboratory hours a week; counts 3.

9. APPLIED INORGANIC CHEMISTRY.

Professor Moody.

Lectures and laboratory practice, with parallel reading, are given on such subjects as air, use of fuels and generation of power, refractories and abrasives, water and its safeguarding, technical evaporation and filtration and crystallization, the most important acids and alkalis, the soil, fertilizers, fireproofing and explosives, nitrogen industries, refrigeration, etc. Text-books: Mason's *Examination of Water*, Richards and Woodman's *Air, Water and Food*, Bailey's *Sanitary and Applied Chemistry*. Parallel reading is assigned in such standard works of reference as Lunge's *Sulphuric Acid*, Mason's *Water Supply*, Snyder's *Soil*, Toch's *Chemistry of Mixed Paints*, and in current technical journals. Excursions.

Prerequisite: Chemistry 4. One term, Fall. Lectures and recitations two hours, and five laboratory hours a week; counts 3.

10. APPLIED ORGANIC CHEMISTRY.

Professor Moody.

Lectures and laboratory practice, with parallel reading are given on such subjects as fibres and textile industries, cellulose products, animal industries, bleaching, dyeing, oils, gums, soaps, etc. Text-books: Sadtler's *Industrial Organic Chemistry*, Rogers' *Laboratory Guide of Industrial Chemistry*, and Bailey's *Sanitary and Applied Chemistry*. Parallel reading is assigned in Nagel's *Mechanical Appliances of Chemical Industries and Lay-out, Design and Construction of Chemical Plants*. Excursions form an essential part of this course and are taken on most of the Saturday mornings of the term.

Prerequisites: Chemistry 4 and 5. One term, Spring; lectures and recitations two hours and five laboratory hours a week; counts 3.

11. CHEMISTRY OF METALS (FERRIFEROUS). *Professor Moody.*

Such topics as fuels, cement, concrete, furnace building materials and the construction of typical furnaces, cast and wrought iron, and steel are considered. The several subjects are studied practically in the laboratory. Text-books: The professor's notes with assigned work in standard books of reference. Excursions.

Prerequisite: Chemistry 4. Natural History 11 and 12 should be taken in advance or pursued at the same time. One term, Fall; seminar and recitations two hours and five laboratory hours a week; counts 3.

12. CHEMISTRY OF METALS (NON-FERRIFEROUS).

Professor Moody.

The treatment of ores for the winning of metals, their subsequent working for various uses, as in coinage, alloys, electroplating, etc. The several steps are accompanied by practical

verification in the laboratory. Text-books: The professor's notes with assigned work in standard books of reference. Excursions.

Prerequisites: Chemistry 4, 11. Natural History 11 and 12 should be taken in advance or pursued at the same time. One term, Spring; seminar and recitations two hours and five laboratory hours a week; counts 3.

13. ADVANCED QUALITATIVE ANALYSIS. *Dr. Curtman.*

An extension of Chemistry 3. The instruction follows the preceptorial plan and is laid out so as to allow the student to acquire advanced standing in a professional school. Text-books: Baskerville and Curtman's *Qualitative Analysis*, Treadwell's *Analytical Chemistry*.

Prerequisite: Chemistry 4, or may be taken at the same time. The subject may be taken concurrently with any other elective in the Department, except 15. Fall and Spring terms; laboratory practice eight hours a week, counts 3.

14. ADVANCED QUANTITATIVE ANALYSIS.
Professor Moody and Mr. Williams.

An extension of Chemistry 4. The instruction follows the preceptorial plan and is so laid out as to allow the students to acquire advanced standing in a professional school. Text-books: Standard works of reference.

Prerequisite: Chemistry 4. The subject may be taken concurrently with any other elective in the Department, except 15. Fall and Spring terms; laboratory practice eight hours a week, counts 3.

15. ADVANCED INORGANIC CHEMISTRY.
Professors Baskerville and Stevenson.

This course is essentially all laboratory practice, involving the more refined methods of gas analysis, use of the spectroscope, mineral analysis, etc., or research work may be undertaken. Instruction in this subject follows the preceptorial plan.

Prerequisite: Chemistry 14 or its equivalent. Fall and Spring terms; laboratory practice and work in the chemical library nine hours a week; counts 3.

Note.—A special department certificate may be acquired by completing Courses 1-8 inclusive, and 13-15, inclusive, with an average of at least 80 per cent. or B grade.

16. PHYSICAL CHEMISTRY. *Professor Stevenson.*

An extension course in Physical Chemistry consisting of thirty lectures and fifteen laboratory periods of three hours, throughout the college year, is offered to properly qualified persons. It is essentially a course in laboratory technique. Applicants must guarantee the cost of chemicals used and breakage. Applications should be made to the Director of the Laboratory. This course will not be given in 1914-15 unless there is a sufficient demand for it.

17. MUNICIPAL CHEMISTRY.

Dr. Breithut.

Special practice in the analysis of products purchased by the City (as coal, soap, paint, and oils, lubricating oils and greases, asphalt, cement and paper). This course is given in co-operation with the Standard Testing Laboratory of the Board of Estimate and Apportionment. Text-books: Baskerville's *Municipal Chemistry*, standard works of reference, current journals and the instructor's notes.

Prerequisites: Chemistry 4 and 10, or the latter may be taken at the same time. One term, Spring and Fall, six laboratory hours a week; counts 2.

18. MUNICIPAL SANITARY INSPECTION.

Professor Winslow and Dr. Breithut.

This course is given in conjunction with Natural History 15, the seminar work being done in the College and the field work in company with and under the direct supervision of an Inspector of the Department of Health of the City. The course is limited to six students each semester, and is intended for those planning to go into this branch of the City's service. The qualifications will be based upon individuality, personality playing a prominent part.

One term, Fall and Spring, two seminar hours and one recitation, with one inspection tour a week; counts 3.

19. FOOD INSPECTION AND ANALYSIS.

Dr. Breithut.

Special practice in the analysis of products whose sale is controlled by the City, as milk, butter, cereals, beverages, drugs, etc. Occasional lectures and excursions. This course is given in co-operation with the Food and Drug Inspection Laboratory of the Department of Health.

Text-books: Standard works on food and the instructor's notes.

Prerequisites: Chemistry 4 and 10, or the latter may be taken at the same time. One term, Spring and Fall; six laboratory hours a week; counts 2.

The *Museum* has been equipped with many specimens for the illustration of the lectures and observation by the students. Many more valuable exhibits have recently been presented to the College by chemical manufacturers in this country and abroad.

The *Wolcott Gibbs Library of Chemistry*, containing about 6,000 volumes and 7,000 pamphlets, is open from 10 to 3, five days in the week, a member of the staff always being present for conference. The library is being added to constantly. Mr. James R. Steers, '53, presented the library with 4,000 volumes and endowed it so that it is kept abreast of the times with current journals and by purchase of the most modern authoritative works on chemistry.

A *City College Chemical Society*, organized and directed by the Junior and Senior students, meets regularly, the programmes of the meetings being posted on the bulletin board of the Department. Members of the staff attend the meetings, and from time to time arrange excursions to works where chemistry as applied to commerce is seen and studied in operation. Papers and digests of the current journals in English, German, French and Italian are presented and discussed. Graduates are welcomed at these meetings.

Special Students. All the courses in the various departments of the College are open to men twenty-one years of age who are able to satisfy the entrance requirements to the College and who are also qualified to pursue the course desired. Under this provision, choice may be made of a limited number of subjects without pursuing the regular College course for a degree. A minimum attendance of five hours a week is required.

EDUCATION.

All the work in this department is elective. The aims are:

(1) to contribute to a truly liberal culture by a study of the educational history of the race and the underlying forces that make for a higher civilization—Course 1;

(2) to provide the future citizen with a knowledge of sound principles of school administration and management—Courses 2 and 3;

(3) to provide those who intend to make teaching their profession with adequate training in the principles and methods of teaching—Courses 4 and 5.

To become eligible for the College Graduate Professional Certificate of the New York State Education Department, it is necessary to complete the courses numbered 1, 2 and 4.

To become eligible for the City Superintendent's examination for license to teach in the elementary school, it is necessary to complete the courses numbered 1, 2 and 4.

To become eligible for the examination for license to teach in the High School it is necessary to complete Course 5 and in addition other courses amounting to 90 hours of work.

1. THE HISTORY OF CULTURE AND EDUCATION.

Professor Duggan.

The aim is, first, to describe the systems of education by which the principal culture nations of the world have attempted to realize their social ideals; and, second, to criticise educational theories and practices from the standpoint of the educational principles now accepted as sound. The work is conducted by means of recitations, assigned readings and the writing of themes. Text-book: Monroe, *A Brief Course in the History of Education*.

One term, three hours a week, counts 3.

2. PHILOSOPHY AND PRINCIPLES OF EDUCATION. *Dr. Heckman.*

This subject is devoted, first, to a consideration of the general basis of educational doctrine. The important principles contributed to education by biology, physiology, psychology and sociology are considered in determining their practical application and the modern trend of educational thought. This is followed by work designed to serve as a transition from theoretical psychology to the methods of teaching. The aim is to interpret the lessons of psychology in terms of education and to formulate the scientific principles for a sound pedagogy. These principles are derived from a detailed study of the emotional, intellectual and volitional activities of the child in class teaching. The work is conducted as in Education 1. Text-books: Horne, *Philosophy of Education*; Horne, *Psychological Principles of Education*.

One term, three hours a week, counts 3.

3. SCHOOL MANAGEMENT AND ADMINISTRATION. *Dr. White.*

This subject treats of the organization, administration, and supervision of schools and the school system. It considers the methods and processes by which school authority is expressed in national, in state, and in local administrative divisions. The emphasis is upon the administration of city school systems and the management of their schools. The work is conducted as in Education 1. In addition, students must visit schools for purposes of observation and report.

Prerequisites: Education 1 and 2. One term, three hours a week, counts 3.

4. METHODS OF TEACHING AND CLASS MANAGEMENT.

Professor Klapper.

A survey of the problems of general method, of the conduct of the recitation and the principles of class management. Special emphasis is laid upon methods of teaching each of the elementary school subjects. In addition, time is devoted to practice work by the students under the supervision and criticism of the instructor. The work is conducted as in Education 1. Text-books: Fitch, *Lectures on Teaching*; Garlick, *Manual of Method*; McMurphy, *Method of Recitation*; Klapper, *Principles of Educational Practice*.

A special part of the course in Methods, known as Education 7, treating of the Teaching of Music, is offered by Dr. Schoen. The object is to prepare the student in the theoretical, practical, and pedagogical phases of the work and thus qualify him to teach music in the elementary schools. This part of the course is optional and is given for two hours a term without credit.

Prerequisites: Education 1 and 2. One term, five hours a week, counts 3.

5. SECONDARY TEACHING.

Dr. White.

The course is designed to prepare those students who desire to teach in the High Schools. It will be limited to about twenty students in the Senior class, each of whom must present a certificate from the Department Head of the subject he wishes to teach, testifying to his personality and scholarship. The student studies the psychology of the adolescent, and the principles and methods applicable to teaching in the secondary schools. He then applies these principles and methods in Practice Teaching in Townsend Harris Hall. The work in the classroom is conducted by lectures, quizzes and discussions on assigned reading in Hall's *Adolescence*; DeGarmo, *Principles of Secondary Education*; *Report of the Committee of Ten*, etc. In addition, students must visit other High Schools for the purpose of observation.

Co-requisite: Education 4. One term, three hours a week, counts 3.

In addition to the work of the classroom, the City Superintendent requires that every student devote twenty hours in the Senior year to observation work in the public schools. A course of lectures is also given at regular intervals by school superintendents, school principals, and other experts in educational work, on the various problems of school management and administration and instruction.

6. EDUCATION OF BACKWARD AND DEFECTIVE CHILDREN.

Dr. Heckman.

The purpose of the course is to acquaint the student with the methods and tests used in making physical and mental examinations of backward and mentally deficient children, and with the significance of these defectives to the school and to society; to acquaint him with the causes of defectiveness, *e. g.*, heredity, natal influences, childhood diseases and injuries; to acquaint him with the methods of treatment and training of children in special classes and institutions.

Students will be given not only opportunity to observe diagnoses and examinations made in the laboratory, but they will be given practice in making tests and diagnoses for themselves so that they will be prepared to apply the results of their work to pupils in the school-room.

In conjunction with the practical demonstration work, lectures with assigned readings will be given dealing with the theoretic phases of the problem including the history, classification, treatment and training of backward and feeble-minded children.

Students will be required to visit classes for defective children in the public schools or in institutions for the purpose of observing methods of teaching and treatment.

Text-books to be used in connection with the course are: Whipple, *Manual of Mental and Physical Tests*; Lapage, *Feeble-mindedness in Children of School-Age*; Tredgold, *Mental Deficiency*; Cornell, *Health and Medical Inspection of School Children*; Walter, *Genetics*.

Prerequisite: Education 2. Three hours a week, counts 3.

ENGLISH LANGUAGE AND LITERATURE.

1. THE HISTORY OF ENGLISH LITERATURE.

Collateral reading required. Essays are also written and corrected in personal conference with the instructors. Text-books: Moody and Lovett's *First View of English Literature*, Pancoast's *Standard English Poems* and *Standard English Prose*.

Prescribed: One term, four hours a week, counts 4.

2. RHETORIC.

Theme and plan, kinds of composition—particularly argumentation—paragraph, sentence and diction. Frequent exercises, briefs and essays are required, some written work being done at least once a fortnight. Personal conferences. Text-books: Lamont's *English Composition* and Genung's *Hand-book*.

Prescribed: One term, two hours a week, counts 2.

3. GRAMMAR AND DICTION.

The aim is to enlarge the student's vocabulary and give him a sense of the fine distinctions between words. Peculiarities of idiom are examined and some attention is given to the history of the language. Home reading is required. Composition as in English 2. Text-book: West's *English Grammar*.

Prerequisite: English 2. Cannot be taken at the same time as English 13.

One term, two hours a week, counts 2.

4. SHAKESPEARE'S HISTORIES.

Professor Mott.

All the histories will be read, together with Marlowe's *Edward II*; *Richard II*, *Henry IV*, both parts, and *Henry V* will be more carefully studied.

Prerequisite: English 1 and 2.

Fall term in alternate years (to be given 1914), three hours a week, counts 3.

5. SHAKESPEARE'S COMEDIES.

Professor Mott.

All the comedies will be read: *Much Ado About Nothing*, *As You Like It*, *Twelfth Night*, and *Winter's Tale* will be more carefully studied.

Prerequisite: English 1 and 2.

Fall term in alternate years (will not be given 1914), three hours a week, counts 3.

6. SHAKESPEARE'S TRAGEDIES.

Professor Mott.

All the tragedies will be read, together with Marlowe's *Faustus* and Kyd's *Spanish Tragedy*; *Hamlet*, *King Lear*, *Othello* and *Coriolanus* will be more carefully studied.

Prerequisite: English 1 and 2.

Spring term, three hours a week, counts 3.

7. ENGLISH POETRY. *Professor Mott.*

The Renaissance and the Classic Influences; a study of the Pastoral, Epic Romance, Epic, Classic Drama, Satire and Epistle. Text-books: Selections from the words of Spenser, Milton and Pope.

Prerequisite: English 1 and 2.
Fall term, two hours a week, counts 2.

8. ENGLISH POETRY OF THE XIXTH CENTURY. *Professor Mott.*

Text-book: Ward's *English Poets*, Vol. IV.

Prerequisite: English 1 and 2.
Spring term, two hours a week, counts 2.

9. ENGLISH PROSE TO THE END OF THE XVIIITH CENTURY. *Professor Krowl.*

The work of this subject is divided into three parts: (1) lectures, recitations and reports, intended to familiarize the student with the history of prose and its relation to contemporary social and political movements; (2) private reading of a considerable amount of prose literature; (3) occasional themes, designed to give the student practice in composition. Text-book: Clark's *A Study of English Prose Writers*.

Prerequisite: English 1 and 2.
Fall term, two hours a week, counts 2.

10. ENGLISH AND AMERICAN PROSE OF THE XIXTH CENTURY. *Professor Krowl.*

The work is divided as in 9, and the same text-book is used.

Prerequisite: English 1 and 2.
One term, two hours a week, counts 2.

11. THE DEVELOPMENT OF FICTION. *Professor Horne.*

The progress of fiction and man's development as shown in fiction are traced from antiquity to the evolution of modern society and the modern novel. Text-books: Horne's *Technique of the Novel*, and a selected series of works, covering the masterpieces of early fiction.

Prerequisite: English 1 and 2.
Fall term, two hours a week, counts 2.

12. THE NOVEL OF THE XIXTH CENTURY. *Professor Horne.*

Text-books: Horne's *Technique of the Novel*, and a selected series of great novels both English and foreign.

Prerequisite: English 1 and 2.
Spring term, two hours a week, counts 2.
Applicants for this course who have not taken English 11, must consult Professor Horne and do some preparatory work.

13. SYNTAX AND STYLE.

Professor Mott.

A study of present English usage. Text-books: Onion's *Advanced English Syntax* and Barnett and Dale's *Anthology of Modern English Prose*.

Prerequisites: English 1 and 2. Cannot be taken at the same time as English 3.

One term, two hours a week, counts 2.

GERMAN.

I. SECOND LANGUAGE IN ARTS.

For students in Arts who present as a second language two years of German for admission, the following course covering four semesters is prescribed.

During each semester the subject is taken four hours a week and counts thirteen credits for the two years.

1. INTERMEDIATE.

Schiller's *Wilhelm Tell*, Harris's *Composition*, and Hauff's *Lichtenstein* (at sight).

2. INTERMEDIATE. (Continued.)

Prose texts, history and oratory; Harris's *Composition*, Hauff's *Lichtenstein* (at sight).

3. ADVANCED.

Schiller's *Wallenstein* and composition.

4. ADVANCED. (Continued.)

Goethe's *Iphigenie and Tasso*, and composition.

II. THIRD LANGUAGE IN ARTS.

For students in Arts who elect as a third language one year of German, the following course of two semesters is prescribed. During each semester the subject is taken three hours a week and counts 3.

5. ELEMENTARY.

Pronunciation, essentials of grammar, elementary phraseology, reading and translation. Collar's *German Lessons*, Joynes's *Reader*.

6. ELEMENTARY. (Continued.)

Seidel's *Leberecht Huehnchen*, Harris's *Composition*, Collar's *German Lessons*.

III. SECOND LANGUAGE IN SCIENCE.

For students in Science who present as a second language two years of German for admission the following course of two semesters is prescribed unless German 1 and 2 be chosen instead.

During each semester the subject is taken four hours a week and counts seven credits for the two semesters.

7-8. INTERMEDIATE.

Scientific German and Composition. *Lichtenstein* (at sight).

IV. ELECTIVE.

9. COMEDY. *Professor Werner.*
Lessing's *Minna von Barnhelm*, and Fulda's *Talisman*.
Prerequisite: German 4. Fall term; three hours a week, counts 3.
10. MODERN NOVEL AND POETRY. *Professor Werner.*
Prerequisite: German 4. Three hours a week, counts 3.
11. HISTORY OF THE LITERATURE. *Professor Werner.*
Thomas' *German Literature*, and Thomas' *German Anthology*,
with sight reading of the works discussed.
Prerequisite: German 4. Spring term; three hours a week, counts 3.
12. ADVANCED COMPOSITION. *Professor Kost.*
Prerequisite: German 2 or 8. Two hours a week, counts 2.

GREEK.

The study of Greek in the College is continued after two years of preparation in Townsend Harris Hall or an equivalent elsewhere. At present White's *First Greek Book* complete and four books of Xenophon's *Anabasis*, and lessons in Greek prose composition are required from those presenting Greek for admission to College. The study is continued for two years in College, four hours a week, counting thirteen credits in all. As the continuation of the study is no longer required in the Junior year, some changes will gradually be made in the content of the subject in the Freshman and Sophomore classes. For the year 1914-1915 the content will be the same, or very nearly the same, as heretofore.

Four terms of Greek prescribed for those students in the Arts Course who choose Greek as their second language.

1. HOMER (ILIAD OR ODYSSEY).

Arnold's *Greek Prose*, and sight reading.

2. HOMER. (Continued.)

3. DEMOSTHENES FOR CTESIPHON.

Sight reading. Aeschines against Ctesiphon.

4. PLATO, APOLOGY. ARISTOPHANES, CLOUDS.

Sight reading. Xenophon, *Memorabilia*.

5. } For qualified registered students of the Junior and
6. } Senior classes one, two, or three authors in groups
7. } may be chosen from the following list, and the study
8. } of Greek continued for one, two, three, or four
 } terms, three hours a week, counting three credits each
 } term.

Hesiod's works.

Aeschylus' *Prometheus Bound*.

Sophocles' *King Oedipus*.

Euripides' *Alcestis*.

Herodotus' *History*.

Thucydides' *History*.

Aristophanes' *Knights and Buds*

Xenophon's *Memorabilia*.

Lucian's *Dialogs*, etc.

Pausanias.

Cebes' *Tablet*.

Lyric Poets.

9. PHILOLOGY (Introduction to).

For students registered in the Junior and Senior classes.

One term, one hour a week, counts 1.

10. GREEK WORDS IN ENGLISH.

One term, one hour a week, counts 1.

11-12. ELEMENTARY.

For qualified registered students of the Junior and Senior classes who have not studied Greek.

Two terms, five hours a week, counts 10.

HISTORY.

1. MEDIEVAL AND MODERN, TO 1648.

Professors McGuckin and Schuyler.

Important features of medieval history from Charlemagne's time are dwelt on. An intelligent view of that formative European period is sought for, without introducing masses of detail. Origins, formations, changes—political, social and material—will be traced.

Text-books: Robinson's *History of Western Europe, Readings in Modern European History*. References, such as Seignobos, Adams, Duruy, etc. Recitations and note books.

Prescribed: One term, four hours a week, counts 4.

2. POLITICAL HISTORY SINCE 1648.

Professor Moore and Dr. Snider.

Modern European history is treated as a basis. The aim is to build up and explain the Europe of today to the American student before he takes up elective courses in this department. Emphasis is laid on the political and institutional side, and comparisons are made between the old and the new and between present nations which claim to have made the greatest advance in principles and methods of government and in the promotion of the best civilization.

Text-book: Robinson and Beard, *Outline of European History*. Reference works, recitations and essays.

Prescribed: One term, three hours a week, counts 3.

3. ANCIENT CIVILIZATIONS.

Professor Schuyler.

A general review of Greek and Roman political and civic life. What it was and the survival of its influence to modern times. Forms of government, laws, religions, morals, literature, art, architecture, etc., are considered as factors of different values in the make-up of the old civilizations. By way of comparison the changed or distinctively new factors in the national types of today are considered. Lectures, reference works, essays by students.

Prerequisite: History 1.

One term; three hours a week, counts 3.

Will not be given during 1914-1915.

5. ENGLISH CONSTITUTIONAL AND POLITICAL HISTORY.

Professor Moore.

The important periods are taken up, the Stuart and later periods especially, both with the view of showing how England has evolved her own political principles and methods, and to what extent these have been followed by other nations. The narrative portion includes the leading facts of English history

and the work and influence of leading Englishmen. Lectures, reference works, essays.

One term; three hours a week, counts 3.

6. AMERICAN COLONIAL AND REVOLUTIONARY HISTORY.

Professor Mead.

The aim here is to trace the development of the American nation in its earlier periods rather than to deal with details of the history of the individual colonies. Emphasis is laid upon the growth of our governmental forms and special characteristics indicating the influence of European institutions upon those of America. The system of English Colonial administration and the conflict of imperial and colonial interests are considered in order to understand the underlying causes of the Revolution and the growth of the spirit of independence and union. Lectures, reference books, reports, recitations.

One term; three hours a week, counts 3.

7. AMERICAN CONSTITUTIONAL AND POLITICAL HISTORY.

Professors Johnston and Mead.

A study of our national period from Washington to Lincoln. Our experiences as a new people dealing with many new situations and problems—constitutional interpretation, political parties, territorial growth, critical issues—are treated according to their importance. The strength of the Republic and the spreading and deepening of the popular belief in its principles and promise are traced in the succession of events. Lectures, seminar work, essays.

One term; three hours a week, counts 3.

8. CIVIL WAR AND RECONSTRUCTION PERIOD.

Professor Johnston.

The main events of this critical epoch are reviewed in the light of accumulating new material and the calmer temper of the day. The grand results of the conflict, with the various treatment of the subject generally by historical writers, are discussed in the class-room. Lectures, seminar work, essays.

One term; three hours a week, counts 3.

9. MAIN CURRENTS OF CONTEMPORARY EUROPEAN HISTORY.

Professor McGuckin and Dr. Schapiro.

This course deals mainly with the tendency of European civilization during the Nineteenth and Twentieth Centuries. Its aim is to acquaint the students with the larger aspects of the subject; hence the treatment will be topical and not narrative. Among subjects to be discussed will be: Heritage of the French Revolution, Industrial Revolution, Growth of the National Spirit,

Expansion of Democratic Ideals and Systems, Social Legislation, International Problems, Cultural and Scientific Progress. The influence of great personalities like Gladstone, Bismarck, Gambetta and Cavour will receive special attention. Lectures, seminar work, student essays.

One term; three hours a week, counts 3.

10. THE DEVELOPMENT OF THE SOUTH AMERICAN STATE.

Professor Schuyler.

Beginning with a careful survey of conditions both political and economic in Spain during the period from Ferdinand and Isabella to the death of Philip II, the general course of exploration and colony building in South America will be taken up, stress being laid upon the essential differences between the Spanish and the English conception of the colony and its relations to the mother country. The most important events in the history of the colonies up to the close of the Revolutions of 1810-1826 will be briefly noted, after which a careful study of the development of the more important States will be made, bringing the subject down to the present time. In all the work regard will be had to the needs of those who expect to enter into business or professional relations with the South American States.

Prerequisite: History 1.

One term; three hours a week, counts 3.

HYGIENE.

The organization in this department has been planned primarily to give the student such supervision, instruction and experience as will enable him to understand his own peculiar health possibilities and therefore to formulate intelligently his own policy of personal health control. In addition instruction is offered in a variety of those motor activities that are known to have a desirable influence on the development of neuro-muscular strength, endurance and co-ordination, and which are also known to develop certain valuable traits of character.

It is calculated that these educational influences may, on the one hand, teach the young man how to secure and conserve his own health, and, on the other hand, lead him in his graduate years to become an important factor in the advancement of the public health and character.

In addition, this Department is concerned with all those influences within the College which affect the health of the student. Every reasonable effort is exercised to make the institution safe and attractive to the clean, healthy student.

The following phases of departmental work are combined for the purpose of securing these results:

I. INDIVIDUAL INSTRUCTION IN HYGIENE.

This instruction is of a personal character, and is given in the form of advice based upon medical history supplied by the individual, and upon medical and hygienic examinations and inspections of the individual.

(a) Medical and hygienic history and examinations.

In this relationship with the student the Department attempts to secure such information concerning environmental and habit influences in the life of the student as may be used as a basis for supplying him with helpful advice concerning the organization of his policy of personal health control. The medical examinations are utilized for the purpose of finding remediable physical defects whose proper treatment may add to the health possibilities and physiological efficiency of the student.

Prescribed: Arts and Science; Classes "C," "B," "A," Freshman, Sophomore and Junior. Once each term. No credit.

(b) Hygienic inspections.

These inspections are applied in the mutual interest of personal, departmental and institutional hygiene.

Prescribed: Arts and Science; Classes, Freshman and Sophomore.

(c) Conferences.

All students who have been given personal hygienic or medical advice are required to report in conference by appointment in order that the advice may be followed up.

All individuals found with communicable diseases are debarred from all classes until it is shown in conference that they are receiving proper medical treatment, and that they may return to class attendance with safety to their comrades.

All individuals found with remediable physical or hygienic defects are required to report in conference with evidence that the abnormal condition has been brought to the serious attention of the parent, guardian or family medical or hygienic adviser. Students failing to report as directed may be debarred from all classes.

II. MEDICAL AND SANITARY SUPERVISION.

(a) Sanitary supervision.

An "Advisory Committee on Hygiene and Sanitation" with the Professor of Hygiene as Chairman, has been appointed by the President. This committee has been instructed to "inquire from time to time into all our institutional influences which are likely to affect the health of the student and instructor, and to make such reports and recommendations to the President as may seem wise and expedient.

(b) Board of Health Regulations. Reports of contagious cases in all the Boroughs of Greater New York are daily received from the Board of Health, and under section 145 of the Sanitary Code, all students exposed to contagious disease are debarred from further attendance until properly certified by the Board of Health.

(c) Medical consultation.

Open to all students.

(d) Medical examination of Athletes.

(See "c" under VI.)

(e) Treatment.

Emergency treatment is the only treatment attempted by the Department. Such treatment will be applied only for the purpose of protecting the individual until he can secure the service he selects for that purpose.

(f) Conferences.

(See "c" under I.)

(g) Laboratory: The Department Laboratory is equipped for efficient bacteriological and chemical analyses. The water in the swimming pool is examined daily. The laboratory service will be utilized to identify typhoid and diphtheria carriers, and in every other reasonable way to assist in the protection of student health.

III. LECTURES IN HYGIENE.

Four terms, sixteen lectures each term.

- (a) Some of the common causes of disease.
- (b) The carriers of disease.
- (c) Defenses against disease.
- (d) The nature of some common diseases.

IV. INSTRUCTION IN PHYSICAL EXERCISE.

- (a) Drills. Graded through four terms.
- (b) Apparatus. Graded through four terms.
- (c) Swimming. Graded through four terms.
- (d) Indoor and outdoor games and play graded throughout four terms.

V. WRITTEN AND PRACTICAL EXAMINATIONS.

- (a) Daily examinations in personal hygiene (inspections).
- (b) Monthly examinations, both written and practical.
- (c) Term examinations. Final written examination.

VI. ATHLETIC CONTROL.

- (a) Under the direction of the Faculty Athletic Committee.
- (b) The Professor of Hygiene is Chairman of the Faculty Athletic Committee.

(c) The Professor of Hygiene as medical examiner passes on all candidates for teams. No candidate may begin training until approved.

(d) Members of the Faculty Athletic Committee are members of the Executive Board of the Athletic Association.

(e) No money is paid out by the Athletic Association without the approval of the Chairman of the Faculty Athletic Committee.

(f) Regulations of the Intercollegiate Athletic Association are enforced.

1. COURSE ONE.

(a) Lectures. "Some of the common causes of disease." These lectures deal with bacteria, protozoa, filtrate viruses, higher animal parasites, the unknown causes of disease, and the contributory causes of disease. The general nature, distribution, transmission and modes of pathogenic action of these agents are discussed simply and without technicality. Sixteen lectures.

(b) Physical Exercise.

1. Graded mass drills.

(a) Elementary drills are used in order to develop obedience and ready response to command, accurate execution, good form and carriage and facility of control.

(b) More advanced drills are given in which movements are made in response to commands. Strength, endurance and co-

ordination are brought into play. Only fundamental and larger accessory movements are utilized. These exercises affect chiefly the larger muscle groups and the organs of circulation and respiration.

2. Apparatus work. Elementary graded exercises for squads of five students each on the track, horizontal ladder, chest weights, rings, horse, buck, mat, horizontal bar, vaulting bar and parallel bar. These movements develop speed, strength, endurance and co-ordination; exercise the organs of circulation and respiration; and develop self-control, self-reliance and courage.
3. Selected, graded, recreative indoor and outdoor games and play.
4. Swimming. Each student is required to learn to swim with more than one variety of stroke.

Prescribed: Freshman; first term, two hours a week, counts $\frac{1}{2}$.

2. COURSE TWO.

(a) Lectures. "The carriers of disease." A discussion of the human being as a carrier of disease and his relation to the dissemination of the organisms of disease by means of such secondary carriers as food, water, dust, air, flies, mosquitoes and other insects and animals.

(b) Physical Exercise.

1. Graded mass drills. Two-count movements for the further development of strength, endurance and co-ordination, and for the further exercise of the organs of circulation and respiration. These drills are continuations of, but more advanced than those given in the preceding term.
2. Apparatus work. Continuation of graded exercises for squads of five. (See Course 1.)
3. Selected, graded, recreative indoor and outdoor games and play.
4. Swimming. Each student is required to develop endurance in swimming.

Prerequisite: 1.

Prescribed: Freshman; second term, two hours a week, counts $\frac{1}{2}$.

3. COURSE THREE.

(a) Lectures. "Defenses against disease." These lectures deal with certain natural defenses against the organisms that cause and carry disease, such as the biological requirements of micro-organisms, and the physiological defenses of the human being. They further deal with measures that may be utilized by the individual and the community for protection against disease.

(b) Physical Exercise.

1. Graded mass drills. Four-count movements. More advanced work making greater demands on speed, strength, endurance

and co-ordination, and on the circulation and respiration, and further developing good carriage and form.

2. Apparatus work. Continuation of graded exercises for squads of five. (See Course 1.)
3. Selected, graded, recreative indoor and outdoor games and play.
4. Swimming. Diving, rescue and resuscitation of the drowning.
Prerequisite: 2.
Prescribed: Sophomore; first term, two hours a week, counts $\frac{1}{2}$.

4. COURSE FOUR.

(a) Lectures. "The nature of some common diseases." These lectures deal with the economic importance, the cause, symptoms, and prophylaxis of such diseases as tuberculosis, pneumonia, malaria, syphilis and gonorrhoea. Sixteen lectures.

(b) Physical Exercise.

1. Advanced graded mass drills. Eight-count movements.
2. Advanced graded apparatus work. For squads of five.
3. Selected, graded, recreative indoor and outdoor games and play.
4. Swimming. Advanced continuation of requirements outlined for Courses 2 and 3.

The instruction in physical exercise in this term is planned to secure a further development of self-control, self-reliance, self-respect, courage, team work (the appreciation of the value of a unity of effort), loyalty, and the courtesy of sport, in addition to those anatomical, physiological, and practical hygienic objects that are in view throughout all the instruction.

Prerequisite: 3.

Prescribed: Sophomore; second term, two hours a week, counts $\frac{1}{2}$.

Note: In each of the above compulsory courses provision is made for those students whose organic condition may permanently disqualify them for the regular scheduled work.

Voluntary Classes. These are organized at such times of the day as do not conflict with the required work. They are open to all collegiate students without credit. Opportunity is given in these classes for advanced work and for experience in certain phases of normal work.

5. INTERMEDIATE PHYSICAL TRAINING.

This course is planned to supply the student with such organic development and efficiency as will enable him to demonstrate successfully as a teacher various type exercises for classes in elementary and intermediate indoor and outdoor gymnastics, aquatics, games, play and athletics.

Prerequisite: Course 4. Prerequisite or Corequisite, Elements of Human Physiology, Natural History 2. One term, two hours a week, counts $\frac{1}{2}$.

6. ADVANCED PHYSICAL TRAINING.

This course is a continuation of Course 5, and is designed for the physical equipment of teachers of more advanced physical work.

Prerequisite: Course 5. One term, two hours a week, counts $\frac{1}{2}$.

7. CLASS MANAGEMENT.

This course supplies the practical instruction and experience needed for the training of prospective teachers in the management of elementary and intermediate classes in various forms of physical exercise.

Prerequisite: Course 6. One term, three hours a week, counts 1.

8. CLASS MANAGEMENT.

This course is a continuation of Course 7. It is planned to give a training in the management of more advanced classes.

Prerequisite: Course 7. One term, three hours a week, counts 1.

9. CONTROL OF EMERGENCIES AND FIRST AID TO THE INJURED.

This course supplies instruction concerning the management and protective care of common emergencies. The instruction is practical and rational. It covers such emergencies as: sprains, fractures, dislocations, wounds, bruises, sudden pain, fainting, epileptic attacks, unconsciousness, drowning, electric shock, and so on.

Prerequisite: Natural History 2, Elements of Human Physiology; and Natural History 13, General Bacteriology. One term, two hours a week, counts 1.

10. THEORY AND PRACTICE OF INDIVIDUAL INSTRUCTION IN HYGIENE AND IN DEPARTMENTAL SANITATION.

Prerequisites or Corequisites: Natural History 2, Elements of Human Physiology; Natural History 13, General Bacteriology; Natural History 15, Municipal Sanitation. One term, six hours a week in two periods of three hours each, counts 2.

LATIN LANGUAGE AND LITERATURE.

Note.—Every prescribed subject is prerequisite for the subjects following. The four prescribed terms count fourteen credits.

1-2. VERGIL.

Five books of the *Aeneid*, with study of Latin prosody; prose composition, with suitable grammatical lessons. Text-books: Frieze's *Vergil's Aeneid*; Ritchie's *Latin Prose Composition*.

Prescribed: Arts, Fresh.; two terms, four hours a week.

3. HORACE'S ODES.

About 1,500 lines, with metrical, historical and aesthetic commentary; prose composition. Text-books: C. L. Smith's *Horace's Odes*; Ritchie's *Easy Continuous Latin Prose*.

Prescribed: Arts, Soph.; first term, four hours a week.

4. HORACE'S SATIRES AND EPISTLES.

With historical and metrical commentary, and lectures on etymology; prose composition. Text-books: Greenough's *Horace's Satires*; Ritchie's *Easy Continuous Latin Prose*.

Prescribed: Arts, Soph.; second term, four hours a week.

5 AND 6. THE LATIN DRAMA. PLAUTUS OR TERENCE.

For students of general literature and the drama, for students intending to become teachers of Latin or English. Selected comedies of Terence or Plautus.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

7. LATIN LYRIC AND SATIRIC POETRY.

For the same class of students as Latin 5. Selections from Crowell's *Latin Lyric Poets* and *Juvenal's Satires*.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

8. THE LATIN HISTORIANS.

For students of history, Latin grammar and the Latin language. The Latin historians, *Sallust*, *Livy*, *Tacitus*.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

9. CICERO'S PHILOSOPHICAL WORKS.

For students interested in the history of ancient philosophy. Some of Cicero's philosophical works.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

10. LATIN LINGUISTICS.

For students of Language, especially the Latin, Romance and English languages.

Prerequisite: Latin 4. One term, one hour a week, counts 1.

11. LATIN PROSE COMPOSITION.

For students intending to become teachers of language, especially Latin.

Prerequisite: Latin 4. One term, one hour a week, counts 1.

13-14. ELEMENTARY LATIN.

Prescribed for students of the Arts Course who matriculated before May, 1913, and have not had Latin.

Two terms, three hours a week, counts 6.

15-16. ELEMENTARY LATIN.

Elective for students of the Junior and Senior classes who have not had Latin, especially such as mean to study Medicine or Law.

Two terms, five hours a week, counts 10.

MATHEMATICS.

1a. TRIGONOMETRY.

Text-book: Crawley, *Short Course in Trigonometry*.

One term, three hours a week, counts 3.

2a. ADVANCED ALGEBRA.

Text-book: Hawkes, *Advanced Algebra*.

Prescribed for:

{	Science students who do not present Advanced Algebra for entrance.
	Arts students who do not present Advanced Algebra for entrance, unless Mathematics 3a is elected.

One term, three hours a week, counts 3.

3a. ANALYTIC GEOMETRY (Outline).

Text-book: Wentworth, *Analytic Geometry*.

Prerequisite: Entrance Trigonometry or Mathematics 1a.

Elective for students in Arts.

One term, three hours a week, counts 3.

4a. DIFFERENTIAL AND INTEGRAL CALCULUS (Outline).

Text-books: Fisher, *Infinitesimal Calculus*, Osborne, *Differential and Integral Calculus*.

Prerequisite: Mathematics 3a. Elective for students in Arts.

One term, three hours a week, counts 3.

1. PLANE AND SOLID ANALYTIC GEOMETRY.

Text-book: Wentworth, *Analytic Geometry*.

Prerequisites: Entrance Trigonometry or Mathematics 1a, and Entrance Advanced Algebra or Mathematics 2a.

Prescribed for students in Science.

One term, four hours a week, counts 4.

2-3-4. CALCULUS.

Text-book: Osgood, *A first Course in the Differential and Integral Calculus*, or Osborne, *Differential and Integral Calculus*.

Prerequisites: For Mathematics 2, Mathematics 1 or 3a; for Mathematics 3, Mathematics 2; for Mathematics 4, Mathematics 3.

Prescribed for students in Science, elective for students in Arts.

Three terms, three hours a week, counts 9.

5. ARITHMETIC.

Professor Saurel.

Text-books: Tannery, *Leçons d'Arithmétique*; Fine, *College Algebra*.

Prerequisites: Mathematics 4 or 4a, and a good reading knowledge of French.

Fall term, two hours a week, counts 2.

6. HISTORY OF MATHEMATICS.

Professor Allen.

Prerequisite: Mathematics 4 or 4a.

Spring term, two hours a week, counts 2.

7. ADVANCED DIFFERENTIAL CALCULUS. *Professor Reynolds.*
 Text-book: Williamson, *Differential Calculus.*
 Prerequisite: Mathematics 4.
 Fall term, three hours a week, counts 3.
8. ADVANCED INTEGRAL CALCULUS. *Professor Reynolds.*
 Text-book: Williamson, *Integral Calculus.*
 Prerequisite: Mathematics 4.
 Spring term, three hours a week, counts 3.
9. ORDINARY DIFFERENTIAL } Fall term, *Professor Saurel.*
 EQUATIONS. } Spring term, *Professor Reynolds.*
 Text-book: Murray, *Differential Equations.*
 Prerequisite: Mathematics 4.
 One term, three hours a week, counts 3.
10. VECTOR ANALYSIS. } Fall term, *Professor Reynolds.*
 } Spring term, *Professor Saurel.*
 Text-book: Gibbs, *Vector Analysis.*
 Prerequisite: Mathematics 4.
 One term, three hours a week, counts 3.
11. DIFFERENTIAL GEOMETRY. *Professor Saurel.*
 Text-book: Kommerell and Kommerell, *Theorie der Raumkurven und Flächen.*
 Prerequisites: Mathematics 9 and a reading knowledge of German.
 Fall term, three hours a week, counts 3.
12. PARTIAL DIFFERENTIAL EQUATIONS. *Professor Saurel.*
 Text-books: Johnson, *Differential Equations*; Byerly, *Fourier's Series and Spherical Harmonics.*
 Prerequisites: Mathematics 9 and 11.
 Spring term, three hours a week, counts 3.

MUSIC.

1. HISTORY AND APPRECIATION OF MUSIC. *Professor Baldwin.*

A comprehensive study of the growth of music as an Art, the development and analysis of Musical Forms, and the Great Composers from the standpoint of an intelligent appreciation. No practical knowledge of music is required. The work is conducted by means of lectures with ample musical illustrations, recitations, text-book study and prepared papers. Text-book: Pratt, *The History of Music.*

Fall term, two hours a week, counts 2.

2. A STUDY OF MODERN MUSIC. *Professor Baldwin.*

This subject is intended to supplement the preceding, and is devoted to a detailed study of composers of the nineteenth and twentieth centuries, including the various phases of instrumental music since Beethoven, and the development of the modern Music-Drama. Lectures are given with musical illustrations; and recitations, readings and a thesis from each student upon some assigned phase of the subject are required.

Prerequisite 1. One term, two hours a week, counts 2.
Both terms, 1914-15. Thereafter Spring term only.

This Department also conducts the following:

WEEKLY PUBLIC LECTURES IN APPRECIATION OF MUSIC.
Tuesday afternoons at 4.15, October to May, inclusive.

GLEE CLUB. The object is to develop choral singing in the College, and includes instruction in the rudiments of voice production.

ORCHESTRA. A course in orchestral training is open to all students of the College, who are properly qualified, and to students of music outside of the College, in order that instruments which cannot be supplied by the College students may be secured.

ORGAN RECITALS given by Professor Baldwin twice each week throughout the College year.

NATURAL HISTORY.

The Department of Natural History aims to secure in all subjects taught that all-round culture which may be obtained only through the study of nature, and also to train in the methods and technique of science with a view toward preparation for investigation or for teaching.

Students who have decided upon a particular line of post-graduate study or work will find the following subjects of advantage in obtaining credits or employment:

a. To those who have had botany, an advanced botany is offered in preparation for the study of agriculture, forestry or medicine.

b. For teachers of biology and for the study of medicine the complete course in biology is recommended, including:

Invertebrate zoology and comparative anatomy, embryology and histology, theoretic biology, advanced physiology and anthropology.

c. Bacteriology and municipal sanitation prepare students for service in departments of health.

d. For those professional pursuits which pertain to agriculture, forestry and engineering, mineralogy and geology with their economic applications will be found valuable.

1. GENERAL BIOLOGY. *Professors Winslow and Goldfarb.*

A lecture and laboratory course in the fundamental laws and principles which underlie all the biologic sciences. The structure and functions, the behavior, the development and the history of living things will be discussed and studied in the laboratory by the use of specially selected types. This course furnishes the necessary basis for more advanced work in biology, and it gives to students in other departments a viewpoint essential to a proper comprehension of the laws of hygiene and sanitation and helpful in a consideration of the broader problems of organization and development as they are manifested in the life of human societies.

Text-book: Sedgwick and Wilson's *General Biology*.

Prescribed: Two lectures and four laboratory hours a week, counts 4.

2. ELEMENTS OF HUMAN PHYSIOLOGY. *Mr. Edwards.*

An introductory course designed to instruct the student in the general principles of human physiology. The subject matter deals with the functions of the organs of the body accompanied by laboratory work illustrating their activities, the general principles of the chemistry of foods and nutrition, with especial reference to the food requirements of man, and such physiologic facts as are of practical worth in enabling the student to better understand the laws of health and apply them to daily living.

One lecture, one recitation and three laboratory hours a week, counts 3.

3. ELEMENTARY BOTANY.

Mr. Butler.

A course on the nature and development of plant life, including lectures on morphology, physiology and ecology. Laboratory work will consist of the study of types of the four great groups of plants, with demonstrations of the more common physiologic processes. Field excursions will be made for ecologic study, to obtain familiarity with the more common plants and for the collection of leaves, flowers and fruits. Text-book: Bergen and Caldwell.

One lecture and five laboratory hours a week, counts 3.

4. INVERTEBRATE ZOOLOGY.

Professor Goldfarb.

This course is intended to give the student a general idea of the invertebrate animals, based upon a comparative study of the chief types, their structure and functions and adaptations to their environment. Special emphasis will be placed upon the history of the present forms and the nature of the evidence upon which the theory of evolution is founded.

One lecture and five laboratory hours a week, counts 3.

5. COMPARATIVE ANATOMY.

Professor Scott.

This course consists of lectures on the relationships of the various groups of vertebrates, the comparative anatomy of the various systems of organs, and questions relating to the origin and evolution of the vertebrates. In the laboratory the student will dissect the dog-fish, perch, mud-puppy, frog, turtle, pigeon and cat or equivalent forms. The department museum furnishes abundant material for illustration. Original and independent work will be encouraged. Intended not only for the general student but especially recommended for those who expect to study medicine or any other biologic science.

Spring term only; one lecture and six laboratory hours a week, counts 3.

6. EMBRYOLOGY AND HISTOLOGY.

Professor Scott.

This course consists of lectures and laboratory work on the embryology and histology of representative vertebrates. As far as possible studies will be made from preparations made by the student. The course includes the embryology of the frog, chick and pig, and the histology of the frog and cat. A training is given in the various processes of microscopic technique. The laboratory is completely equipped with all necessary apparatus including the latest model microtomes. This course is not only of general interest but is recommended for all students intending to go into medicine, public health work or other biologic fields.

Fall term only; one lecture and six laboratory hours a week, counts 3.

7. THEORETIC BIOLOGY.

Professor Goldfarb.

In this course it is proposed to study somewhat critically the larger problems of biology, such as evolution, heredity, growth, regeneration and sex determination, to give the requisite historic background, and to examine the problems in the light of recent experimental researches.

Prerequisite: N. 3 and 4. Fall term only; two lectures, one seminar and reading conference, counts 3.

8. ADVANCED PHYSIOLOGY.

Mr. Edwards.

A study of the fundamental facts of physiology, its principles, modes of reasoning and methods of investigation. The aim is to give a more exhaustive study to special subjects, comprising the phenomena of contraction, conduction, sense perception and the various mechanisms of general metabolism. The subjects treated in the laboratory are designed to show the methods of physiologic experimentation and to emphasize the necessity of using care and accuracy in their application.

Prerequisite: N. 2. Spring term only; two lectures and three laboratory hours a week, counts 3.

9. APPLIED BOTANY.

Mr. Butler.

This course is designed as a foundation for practical economic botany. Lectures and laboratory work will deal with the more important plants used in the arts and industries, with foods, textiles, building materials and other plant products, considering their characteristics, comparative utility and commercial value. Field work and visits to mills and factories will be included.

Prerequisite: N. 3. Fall term; one lecture and five laboratory hours a week, counts 3.

10. ANTHROPOLOGY.

Professor Sickels and Dr. Scott.

This subject deals with the natural history of man; his comparison with the lower animals, apes and primitive man, his relations to fellow men, his structure, racial variations, such as stature, cranial measures, color of skin and hair; his origin, development and distribution.

A portion of the time will be given to the study of the human brain and special senses. References: Gray, Quain, Edinger, Howell, Duckworth and Brinton.

Two lectures and three laboratory hours a week, counts 3.

11. MINERALOGY.

Professor Sickels.

This subject includes a short course in crystallography, blow-pipe analysis, and economic mineralogy. Students are required to recognize the commoner minerals and rocks by their physical and chemical properties. Reference: Dana.

Two lectures and two laboratory hours a week, counts 3.

12. GEOLOGY.

Professor Sickels.

In this course the student is given a general knowledge of the origin, structure and history of the earth and of the forces which have brought about its present condition. The course includes Palaeontology, the study of fossil plants and animals from the point of view of evolution. Text-books: Norton, Dana. References: Scott, Zittel, etc.

Juniors and Seniors who have had mineralogy. Also Seniors, second term; one term, two recitations and three laboratory hours a week, counts 3.

13. GENERAL BACTERIOLOGY.

Professor Winslow and Dr. Browne.

Lectures, recitations and laboratory work, introducing the student to the technique of bacteriology and to the more important facts about the structure and functions of the bacteria. Particular attention will be paid to the general biology of these micro-organisms, and to the part they play in the world at large. Special applications of bacteriology to agriculture and the industries will be discussed and brief references made to the activities of allied microbes, the yeasts and molds. No laboratory work will be done by the student with disease bacteria; but the general relations of bacteria to disease and the principles of immunity and its control will be discussed. Training in the elements of the bacteriologic examination of water and milk for sanitary purposes will be included in the laboratory. Text-book: Fischer's *Structure and Functions of Bacteria*.

One lecture, one recitation and three laboratory hours a week, counts 3.

14. ADVANCED BACTERIOLOGY.

Dr. Browne.

This course is devoted to the laboratory methods of biology as applied in the work of state and municipal boards of health. Practice will be given in the methods used for the diagnosis of diphtheria, tuberculosis, malaria and typhoid fever, and in the sanitary examination of water supplies and milk supplies. The higher microscopic forms, Algae and Protozoa, which are the cause of tastes and odors in reservoirs, will also be studied, with the technique used for their recognition and enumeration.

Prerequisite: N. 13. Spring term; one lecture and six laboratory hours a week, counts 3.

15. MUNICIPAL SANITATION.

Professor Winslow.

Lectures, discussions, and visits to public works of special importance. The problems of the municipality are among the most important of modern life, and some of the most difficult are those which concern the public health. In this course the city is considered as an organism, having its income and its outgo, and

its internal conditions which make either for health or disease. The principles which underly a pure water supply will be discussed and the means by which the wastes of the city, its sewage and garbage may be successfully disposed of. The problems of pure milk and pure food supplies will be considered. The housing question with its special phase of ventilation, plumbing, etc., will be discussed and the method by which a municipal Board of Health is organized to fight tuberculosis and other specific diseases will be studied as fully as time allows.

Two lectures and two hours for recitation or field work, counts 3.

16. RESEARCH WORK.

Seniors who have completed satisfactorily a sufficient amount of work in the department may be assigned some topic to serve as a basis for a thesis which will be submitted as credit for the work at its completion. The student will receive the advice of the instructor in the subject in which the research falls, but as much independent work as possible will be insisted upon. The purpose is to introduce the student into research methods and also to foster independence. Class work will consist of instruction in the preparation and proper presentation of scientific results. Counts 3.

PHILOSOPHY.

1. ETHICS. *Professors Overstreet, Cohen, and Turner.*

A study of the principles of individual and social conduct, particularly as these have application in the moral conflicts of modern life.

Prescribed: one term, three hours a week, counts 3.

2. LOGIC AND SCIENTIFIC METHOD.

Professors Cohen and Turner.

This course aims to acquaint the student with the main principles of deductive and inductive inference and with the more specific methods of scientific thinking and research. By the use of practical examples the student is taught to recognize true and to detect false reasoning and is trained in the habit of correct judgment.

One term, three hours a week, counts 3.

3. PROBLEMS AND HISTORY OF PHILOSOPHY. *Professor Turner.*

In this course the main problems of philosophy are examined for the purpose, first, of understanding their significance as living issues, and second, of attempting their solution. To this end the leading historical solutions from early Oriental and Greek thought to the present day are passed in review. The course aims primarily to introduce the student to constructive philosophical thinking.

Fall term, three hours a week, counts 3.

4. THE PHILOSOPHY OF SCIENCE.

Professor Cohen.

A study of the logical and metaphysical problems presented by the mathematical, natural and social sciences. The aim of the course is to deepen the student's insight into the nature of scientific method and to help him to construct a rational world view. The work will be carried on mainly through reports on memoirs which have had an important influence in the history of science.

Prerequisite: Completion of all the prescribed science work.

Fall term, three hours a week, counts 3.

5. THE PHILOSOPHY OF LAW.

Professor Cohen.

A study of the ethical and metaphysical principles at the basis of our judicial procedure and social legislation. The leading features of the Roman and the common law, and such topics as the theory of property, contract, tort, etc., will be studied. The aim of this course is to place the student in a position to estimate the resources and limitations of the law as a factor in the ethical transformation of society. Lectures and student reports on selected readings from such works as Sohm's *Institutes of Roman Law*, Bentham's *Theory of Legislation* and Salmond's *Jurisprudence*.

Spring term, three hours a week, counts 3.

6. SOCIAL AND POLITICAL PHILOSOPHY. *Professor Overstreet.*

In this course the various social activities, relations and institutions are studied in such manner as to lead to an understanding of the fundamental ends involved in social life. The course aims to be synthetic in relation to the several social sciences and so to give to the student a comprehensive grasp of the significance of the social structure and processes.

One term, three hours a week, counts 3.

PSYCHOLOGY.

21. GENERAL PSYCHOLOGY. *Professor Turner and Dr. Marsh.*

This course is introductory to all the following courses in Psychology. Its object is to present the essential facts and laws of behavior and to indicate their bearing upon the various practical interests of life, such as education, law, medicine, politics, business, etc. Recitations, demonstrations, and experimental work.

One term, three hours a week, counts 3.

22. EXPERIMENTAL PSYCHOLOGY. *Dr. Marsh.*

This course is designed to give the student a general introductory knowledge of the methods and results of experimental psychology. Tests and measurements will be made of sensory, perceptual and retentive capacities, and of the emotional and volitional phases of conscious life. This course is particularly valuable for students who desire to pursue the study of psychology beyond its elementary stages. Class demonstrations and individual experimental work.

Prerequisite: Philosophy 21.

One term, one lecture and four laboratory hours a week, counts 3.

23. ABNORMAL PSYCHOLOGY. *Professor Turner.*

This course is offered with particular reference to the needs of students who plan to enter the medical profession; but it is designed also for students whose interest in psychology is more general. The special field traversed is suggested by the topics treated: hysteria, multi-personality, dreams, suggestions, etc. Lectures, recitations and clinical visits.

Prerequisite: Philosophy 21.

Spring term, three hours a week, counts 3.

24. THE PSYCHOLOGY OF EFFICIENCY. *Dr. Marsh.*

This course deals, in the main, with the psychology pertaining to occupational life. Emphasis is placed upon the study of personal resources and initiative, likeness and unlikeness of individuals, measurement of psychic traits and differences, the mutual adaptation of worker and work.

Prerequisite: Philosophy 21.

Fall term, two lectures and two laboratory hours a week, counts 3.

PHYSICS.

I. ELEMENTARY.

In the elementary work of the first year the primary facts and laws are taught by means of lectures with full demonstrations, individual laboratory exercises, and recitations and quizzes upon assigned work at home. Particular attention is given to the quantitative as well as to the qualitative relations between physical quantities, and numerous problems illustrative of these relations are solved by the students. Students are held strictly accountable for all the apparatus assigned to their use, and must replace any lost by breakage or waste through carelessness.

1. MECHANICS, HEAT AND MAGNETISM.

Text-books: Millikan and Gale, *A First Course in Physics*. Cheston, Dean, Timmerman, *Laboratory Manual of Physics*.

The laboratory work includes the following: the measurement of mass, volume and density; the study of Hooke's law, of the law of the composition of concurrent forces, of the pendulum, the lever, the inclined plane, pulleys, and of the laws of friction; application of Archimedes' principle, and the determination of the specific gravity of various solids and liquids; Boyle's law of gases; the fixed points of the mercury thermometer; specific heat of various solids; the heat of fusion of ice and the heat of vaporization of water.

Prescribed for all students who do not offer Physics for entrance; one lecture, one laboratory and two recitation hours a week.

2. SOUND, LIGHT AND ELECTRICITY.

The same text-books are used as in Physics 1.

The following exercises are performed in the laboratory; the determination of the vibration frequency of a tuning-fork; of the wave-length of its tone in air; the tones produced by vibrating strings; photometric measurement; the study of plane mirrors, curved mirrors, lenses and prisms; experiments involving the chemical batteries, electrolysis, electroplating, Ohm's law, the use of Wheatstone's bridge, electro-magnetic induction, the dynamo and motor, electric bell and telegraph.

Prerequisite: Physics 1. Prescribed as in Physics 1.

II. COLLEGE PHYSICS.

These courses are intended more especially for students of science. The aim is to secure a thorough knowledge of the physical facts and of their quantitative relations both for the purpose of understanding the unity of natural phenomena, and also for the application of these facts and relations to practical problems. In all of the experimental work attention is especially given to the

setting-up and to the use of the apparatus for the purpose of securing the best conditions of manipulation and the most accurate results of which the apparatus is capable. All observed data are carefully tabulated and reports upon every experiment are required to contain a description of the method of manipulation, complete calculations and conclusions based upon the observations, and appropriate diagrams and plots. Special attention is given to practical methods of computation.

3. MECHANICS, WAVE MOTION AND HEAT.

Text-book: Watson, *General Physics*.

The experiments are: the construction and use of a model vernier caliper, the composition of vectors by graphical methods and verification by numerous calculations, the use of micrometers, the optical micrometer, the finding of the relation between the metric and English units of length, the use and theory of the balance, the determination of "g" from the simple pendulum and the reversible pendulum, the study of torque, angular velocity and angular acceleration and their relations to rotational mass, several uses of the Joly balance, the laws of torsion, the determination of the moment of inertia of a body by means of the torsion and the compound pendulum, the verification of the laws of capillarity, Boyle's law of gases at pressures both higher and lower than atmospheric, the calibration of thermometers, the constant of radiation, specific heat and latent heat of substances by accurate methods, determination of the mechanical equivalent of heat.

Prerequisite: Elementary Physics.

Prescribed: Science } one term, one lecture, two recitations and two
Elective: Arts } laboratory hours a week, counts 3.

4. LIGHT AND ELECTRICITY.

Text-book: Watson, *General Physics*.

The following experimental determinations are made: the radius of curvature of a lens by means of the spherometer; the relations between real conjugate foci of a converging lens; the index of refraction of light passing from water to air; power, spherical aberration, and astigmatism of a converging lens; the study and construction of simple optical instruments; the refracting angle of a glass prism and the index of refraction measured with the spectrometer; the use of the spectroscope; the wave length of sodium light with spectrometer and diffraction grating; distribution of magnetism in a bar magnet; measurement of resistances by both the slide-wire and coil form of Wheatstone bridge; verification of the laws of resistance; determination of the specific resistance and of the temperature co-efficient of a metal; measurement of a current by both a copper and a gas

voltmeter ; determination of the mechanical equivalent of heat by means of a current.

Prerequisite: Physics 3.

Prescribed: Science } one lecture, two recitations and two laboratory

Elective: Arts } hours a week, counts 3.

III. ELECTIVE.

These courses are offered with two objects in view: to enable a student to complete his training in theoretical physics by the choice of a subject in which the mathematical treatment of physical problems serves to show the adaptability of mathematics to the investigation of natural phenomena; or to begin his preparation for engineering and technical work by choosing subjects involving the application of physics and mathematics to practical problems.

5. ADVANCED ELECTRICITY.

Professor Parmly.

The purpose of this course is to prepare the student for the study of electrical engineering by presenting to him the principles of electricity and magnetism which form the foundation of the art. The term's work is nearly equally divided between the exposition of those principles which apply equally to both direct and to alternating currents, and to those which belong particularly to varying currents. Precise measurements are made of all the quantities which appear in practical work. A few experiments will familiarize the student with the operation of generators and motors.

Text-book: Pender, *Principles of Electrical Engineering.*

Prerequisite: Physics 4 and Mathematics 4.

One term; one lecture, two recitations, and two laboratory hours a week, counts 3.

6. ADVANCED MECHANICS.

Professor Fox.

This is principally an application of mathematics to the principles of the mechanics of rigid bodies. It includes a theoretical study of Statics, Kinetics and Kinematics and also the solution of practical problems.

Text-books: Dadourian, *Analytical Mechanics*; Martin, *Text-Book of Mechanics.*

Prerequisites: Physics 3 and Mathematics 4.

One term: two lectures and two recitations a week, counts 3.

7. STRENGTH OF MATERIALS.

Professor Fox and Mr. McLoughlin.

In this course there are developed the special rules of design and formulae applicable to the structural forms in common use, such as beams, columns, and struts, shafts, springs, spheres and cylinders under pressure, flat plates, hooks and links, and foun-

dations. The physical properties of materials are studied and tests are made with the Riehle machine, cement tester, and other devices, determining the elastic constants used in the formulae.

Text-book: Slocum and Hancock, *Strength of Materials*.

Prerequisites: Physics 6 and Mathematics 4.

One term; one lecture, two recitation and two laboratory hours a week, counts 3.

8-9. THE THEORY OF PRIME MOVERS.

Professor Fox and Mr. Corcoran.

Lectures are given on the mechanics of fluids, with applications to hydraulics and pneumatics, and on the principles of thermodynamics, with an introduction to the theory of heat engines. Air pressure, water pressure, wind power and water power are studied, and the mechanical principles involved in navigation, aeronautics, pumps, water wheels, water turbines and pressure engines. Hot-air engines, internal combustion engines, steam engines and turbines, boilers and furnaces are studied in a similar manner. Methods for calculating the theoretical efficiency of all these machines are taught, and the conditions for obtaining the highest efficiency are determined.

The laboratory work is done in the well-equipped mechanical laboratory of the Mechanic Arts Building. It consists in the practical study of the devices used in testing power plants, *e. g.*, gauges, scales, weirs, meters, indicators, calorimeters. Full tests are made of a hydraulic ram, a Pelton wheel, a water turbine, a boiler and furnace, different types of steam engines, a steam turbine, a gas engine, a gasolene engine, a hot-air engine and pumps. Complete calculations and reports of the tests are required of every student. The power plants of the College and of other institutions in the city are also inspected and studied. Text-books: Rankine's *Manual of Prime Movers*; Church, *Hydraulic Motors*; Reeve, *Thermodynamics of Heat Engines*; Allen and Bursley, *Heat Engines*; Smart, *Engineering Laboratory Practice*; Carpenter and Diedrichs, *Experimental Engineering*.

Prerequisites: Physics 3 and Mathematics 4, and after June, 1914, Physics 6 and 16.

Beginning in the Fall, two terms, one lecture, two recitation and four laboratory hours a week, counts 4 each term.

10. ELECTRODYNAMICS OF DIRECT CURRENTS. *Professor Parnly.*

Lectures and quizzes are given upon the theory and calculation of the magnetic circuit; derivation of the fundamental equation of the dynamo, purpose and design of the essential parts of a dynamo; theory of the shunt, series and compound generators; methods of distribution; theory of the shunt, series and compound motors; conditions of operation and methods of speed variation; numerous problems embodying the various principles.

The theoretical work is supplemented in the Electrical Labora-

tory of the Mechanic Arts Building by practical work with both generators and motors. The following tests are made: measurement of the resistance of the field and of the armature of a dynamo; critical examination of the construction and operation of various types of ammeters and voltmeters; study of the magnetic circuit to determine the influence of length, cross-section, and air-gap upon the reluctance; determination of the magnetic distribution in the air-gap of a D. C. machine; determination of the permeability curve of a sample of iron by the ballistic galvanometer; measurement of the candle-power and efficiency of an incandescent lamp at various voltages; operation and control of an arc lamp; determination of the influence of load, distance, and cross-section upon the voltage drop of transmission and distribution lines; setting-up and operating both generators and motors, including all the measuring and controlling apparatus; no-load, voltage and excitation characteristics of a shunt-wound and of a compound-wound generator; operation of two shunt-wound generators in parallel; direct-current armature windings.

Prerequisite: Physics 5. Spring term, two lectures or recitations, one afternoon in the laboratory a week, counts 3.

11. ELECTRODYNAMICS OF ALTERNATING CURRENTS.

Professor Parmly.

In the theoretical work the following topics are studied from Rhoades's *Alternating Currents*: energy equations, inductance, capacity, power, graphical representations, vector algebra, vector solutions, harmonics, choke coils, theory and design of transformers, synchronous motors, polyphase currents, induction motors, rotary converter, transmission lines, power measurement. Numerous examples and problems illustrative of the text are solved, and in the laboratory work the verification of the theory is made prominent as well as the practical operation of alternating currents. The tests performed in the Electrical Laboratory of the Mechanic Arts Building include the calibration of ammeters and voltmeters, study and calibration of indicating wattmeters, test of an integrating wattmeter, determination of the factors which influence reactance, measurement of impedance, power relations with impedances in series and in parallel, measurement of capacities, effect of power-factor upon voltage drop in a transmission line, loading and testing transformers, determination of the electrical relations in polyphase systems, characteristics of single phase alternators, parallel operation of alternators, operation and test of two and of three phase induction motors, armature windings.

Prerequisites: Physics 5 and 10. Fall term, two recitations and one afternoon in the laboratory a week, counts 3.

12. DESCRIPTIVE ASTRONOMY. *Dr. Turner.*

An elementary treatment of the facts concerning the heavenly bodies. Lectures and recitations are supplemented by observation.

Text-book: Young, *General Astronomy*.

Fall term; three hours a week and an occasional evening for observation; counts 3.

13. DESCRIPTIVE AND PRACTICAL ASTRONOMY. *Dr. Turner.*

A more advanced course than 12, including the study of the problems of time, latitude, longitude and azimuth. The student will make and reduce his own observations. The two small towers on the main building are fitted up with instruments and conveniences for this purpose. The Newcomb Library, donated by Mr. John Claffin, '69, is available for reference.

Text-books: Young, *General Astronomy*; Campbell, *Practical Astronomy*.

Prerequisite: Physics 12.

Spring term; three hours a week and eight evenings for observation; counts 3.

14. THEORY OF SURVEYING. *Mr. McLoughlin.*

In this course are taken up the fundamental principles of surveying, the construction, adjustment and use of the tape, the transit, the level, the plane table and the sextant. Methods of surveying for area, profile and topography are studied, and the stadia method of measuring distances is fully treated. The work is supplemented by lectures and practice. Two hours a week are devoted to the field practice, in which the manipulation of the various instruments is taught and a traverse is run, with compass, transit, tape and hand level, of a small area of rough ground. Problems in the reduction of actual field notes are solved by the students every week.

Text-book: Breed and Hosmer, *Principles and Practice of Surveying*, and instructor's notes.

Elective: Fall term, two recitations and two field work hours a week, counts 3.

15a. PRACTICAL SURVEYING. *Mr. McLoughlin.*

This course consists of fifteen days' continuous field work during the summer months, with weekly conferences during the term.

The transit and level are adjusted by each student and five preliminary traverses are run: 1° B. M. Leveling and Profile, 2° Open Azimuth for Distance, 3° Azimuth and Stadia for area, 4° Hand Level for Contours, and 5° Repetition for Distance and Angles. A complete survey is then made for a proposed road two miles long. Stakes are set, volumes computed, and maps prepared as in actual practice.

Text-books: Tracy, *Plane Surveying*, instructor's notes. References: Tracy, *Exercises in Surveying*, Crandall, *Earthwork*, Searles, *Field Engineering*.

Prerequisite: Physics 14.

Spring term, one conference hour a week and at least twelve clear days during June and July.

15b. PRACTICAL SURVEYING. (Continued.)

The work consists of five surveys: 1° The estimation of cubic yards of cut and fill to bring a city lot to grade for building purposes. 2° The location of a city street through a piece of property and the staking out of two city lots thereon. 3° The location of a simple railroad curve with inaccessible P. T. or P. C. The location of a curve with transitions. 4° Plane Table traverse of a portion of Van Cortlandt Park. 5° Observations on Polaris for Meridian and Latitude. Sextant observations for latitude, longitude, time and true meridian.

Text-books and References: Tracy, *Plane Surveying*; Breed and Hosmer, *Plane Surveying*, vol. II.; Searles, *Field Engineering*; Crandall, *Transition Curve*; Wilson, *Topographic Surveying*; Mitchell, *Notes on Astronomy and Geodesy*.

Prerequisite: Physics 15a.

Fall term, one hour conference weekly and at least twelve clear days in September, counts 3.

16. MATHEMATICAL PHYSICS.

Professor Coffin.

During the coming year hydraulics and thermodynamics will be studied from the mathematical point of view. Stress will, however, be laid upon the possible application of the results obtained and the students will be prepared to take up the subject of Engines in a thorough and intelligent manner. The treatment will be chiefly by lecture, with numerous references to standard works.

Prerequisite: Physics 3 and Mathematics 4. After June, 1914, Physics 16 is a prerequisite for Physics 9.

Two lectures and two recitations a week, counts 3.

17. ADVANCED EXPERIMENTAL PHYSICS.

Dr. Goldsmith.

During the coming year this will be a course in

RADIO-COMMUNICATION.

There will be studied the theory of high tension apparatus, *e. g.*, high voltage transformers, and of high frequency apparatus, *e. g.*, sparks, arcs and special alternation, together with the design, construction and maintenance of radio-telegraph and radio-telephone apparatus.

Partly through the generosity of Mr. Gano Dunn, '89, the laboratory is well equipped with all the modern appliances in these fields. In the laboratory the students will be made familiar

with the use of these appliances and will determine their electrical constants and operating characteristics. Special encouragement and opportunity for original work will be given. Visits to typical stations and factories are included in the course.

Prerequisite: Physics 5 and Mathematics 4. Physics 10 and 11 are desirable.

Six hours a week, counts 3.

THE MECHANIC ARTS LABORATORIES.

The instruction in these laboratories is given with a view to its cultural value, and not with the purpose of training the student in a handicraft. The student is taught to consider the relation between the physical peculiarities of the materials used and the shape and manipulation of the tools to work them; habits of neatness and orderliness are inculcated; precision of method is insisted upon; in short, manual training is taken to be a training *through* the hands, as well as *of* the hands.

Students using the laboratories are required to provide themselves with a suit of overalls, are held strictly accountable for the tools assigned to their use, and are charged for all material wasted.

The following electives are open to all students :

21. GENERAL ELEMENTARY WOODWORKING.

This includes the elements of joinery and wood-turning. The student is instructed in the use of the principal wood-working bench tools and in the typical operations of wood-turning. The structure and properties of wood are studied with the purpose of demonstrating the bearing of these on tool design and manipulation, and of developing notions of sound wood construction. The use of the speed lathe is taught by graded exercises and the student is made familiar with the parts of the machine tool used. This course is intended to be followed by 23 or 24 or both.

One term; six laboratory hours a week, counts 2.

22. FORGE AND FOUNDRY LABORATORY.

This laboratory is equipped with thirteen down draft forges and twenty-six anvils, with six molding benches, a core oven, a furnace for melting cast iron, three vise benches, a steam hammer, a drill press and the necessary hand tools to accommodate sections of twenty-six.

The greater part of the term is devoted to forge work, which comprises exercises in pointing, turning, flattening and bending, in the making of various kinds of welds, in steel working, hardening, annealing and tempering.

Enough work in chipping, filing, molding and casting is done to familiarize the students with these operations.

Frequent talks are given on the manufacture of the different varieties of iron, their properties, defects and suitability for various purposes.

One term; six laboratory hours a week, counts 2.

23. CABINET-MAKING.

This course includes instruction in the use of the wood-working machines and in shop management. This is especially valuable for those who wish to qualify to teach shopwork in the schools.

The equipment is for sections of twenty-six, and consists of twenty-six speed lathes, a pattern-maker's lathe, a band saw, a universal saw-bench, a drum and disk sander, a jointer or planing machine and a wood trimmer. Students use these machines only under the direct supervision of their instructor.

Prerequisite: Physics 21.

One term; six laboratory hours a week, counts 2.

24. PATTERN MAKING AND BRASS TURNING.

The principles of joinery and of turning are applied to the making of patterns in sufficient variety to exemplify typical patterns for small and medium-sized castings. Brass-turning will be exemplified by the making of small electrical connections and fittings.

The equipment is the same as in Physics 23.

This course is intended especially for students who expect to follow engineering.

Prerequisites: Physics 21 and 22.

One term; six laboratory hours a week, counts 2.

25. MACHINE TOOL LABORATORY.

This laboratory is equipped with seventeen lathes, two planers, two shapers, two milling machines, a universal grinder, a centering machine, a sensitive drill, a radial drill, a power hack saw, a hardening and annealing oven, and a double emery grinder. Over one-half the machines are provided with individual motor drive. The exercises on the lathe are graded and cover all the typical lathe operations. After the student has completed these lathe exercises, he takes up the work on the other machines and advanced lathe work. The student is required to make a careful study of each machine before being allowed to operate it.

Prerequisite: Physics 24.

One term, six hours a week, counts 2.

POLITICAL SCIENCE.

ECONOMICS.

1. ELEMENTS OF ECONOMICS.

An introductory course in the principles underlying the production, the distribution and the consumption of wealth. One lecture is given each week. The other two hours are devoted to recitation and discussion. Text, recitations and discussions.

Prescribed: one term, three hours a week, counts 3.

2. MONEY AND BANKING. *Professor Clark and Dr. Brisco.*

This course develops the origin and uses of money, the laws of money, the history of coin and paper money, the problems of rising prices, bimetallism and gold exchange, the history and the principles of banking and the problems of banking reform. Especial attention is given throughout to money and banking conditions in the United States. Lectures, required readings, text.

Prerequisite: Pol. Sci. 1. One term, three hours a week, counts 3.

3. IMMIGRATION AND TAXATION. *Professor Clark.*

This course is devoted to a study of two practical economic problems: Immigration and Taxation. Reports upon assigned phases of these problems are required from each student. Lectures, required readings, student reports, and discussions.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week, counts 3.

4. TRUSTS AND TRADE UNIONS. *Professor Clark.*

This course is devoted to a study of two practical economic problems: Trusts and Trade Unions. Reports upon assigned phases of these problems are required from each student. Lectures, required readings, student reports, and discussions.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

5. ECONOMICS OF BUSINESS. *Dr. Brisco.*

This course treats leading economic phases of the business world, such as corporate organization, markets, buying, selling, advertising, credit and credit agencies, store and factory safety and sanitation, wage systems, efficiency and scientific management. Required readings, reports, discussions and lectures.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week, counts 3.

6. BUSINESS METHODS IN FOREIGN TRADE. *Dr. Snider.*

This course includes a study of the resources of the principal commercial nations, of their struggle for the markets, of their operant tariff systems and of world trade routes and a description of the financial, commercial and governmental institutions

employed in promoting commerce. Particular attention throughout is given to the resources and commerce of the United States. Reports, lectures, required readings in selected reference books, trade journals, etc.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

GOVERNMENT.

11. AMERICAN CONSTITUTIONAL LAW. *Professor Guthrie.*

An interpretative study of the Constitution of the United States in the light of the actual workings of the governmental system. Text, lectures, discussions and case reports.

Fall term, three hours a week, counts 3.

12. INTERNATIONAL LAW. *Professor Guthrie.*

A study of the rules controlling the relations between nations. Text, recitations, discussions and case reports.

Spring term, three hours a week, counts 3.

14. POLITICAL THEORY. *Professor Guthrie.*

This course outlines the evolution of the State and presents historic and present political theories. American political theory is emphasized. Texts, lectures, recitations and student reports.

Fall term, three hours a week, counts 3.

15. COMPARATIVE GOVERNMENT. *Professor Guthrie.*

This course outlines five foreign governmental systems and presents systems of governing colonies and dependencies. Lectures, text, recitations and reports by the students. Text-book.

Spring term, three hours a week, counts 3.

SOCIOLOGY.

21. ELEMENTS OF SOCIOLOGY. *Professor Woolston.*

This course offers an introduction to the study of society. It treats of the origin and development of human institutions, of the principles of organization and the motives of group action. The laws of association, progress and social control are considered; the problems of adjustment, co-operation and uplift are indicated. Text, lectures and discussions.

One term, three hours a week, counts 3.

22. APPLIED SOCIOLOGY—PHILANTHROPY. *Professor Woolston.*

This course presents the facts and causes of poverty, describes methods of public and private relief, discusses the care of defectives, and indicates lines of constructive philanthropy. Special attention is given to the organization and work of local charitable

institutions. Required readings, visits, student reports, lectures and discussions.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week, counts 3.

23. APPLIED SOCIOLOGY—CRIMINOLOGY. *Professor Woolston.*

This course deals with the character, causes and treatment of crime. It describes the criminal, his trial and punishment. Especial study is made of local courts, reformatories and preventative agencies. Required readings, student reports, lectures and discussions.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

24. MUNICIPAL AFFAIRS. *Professor Woolston.*

This course presents the problems arising from the growth of cities, describes the agencies developed to meet urban conditions, and analyzes the organization of municipal government. The social and political economy of the City of New York is the special theme for study. Required readings, student reports, lectures and discussions.

One term, three hours a week, counts 3.

25. STATISTICS. *Professor Woolston.*

The quantitative analysis of social groups. Introductory study of averages, variation and probability. Use of short methods and mechanical devices for calculation. Criticism of data, tabulation and graphic methods. Investigation of problems in demography, vital, administrative, moral and educational statistics. Text, laboratory, reports and discussions.

Prerequisite: Pol. Sci. 1. One term, two hours recitations and two hours laboratory, counts 3.

PUBLIC SPEAKING.

The purpose of the prescribed work of this department is the development of the art of public speaking. The students are first trained in the Principles of Expression and their elocutionary application, during the Freshman and Sophomore years; and then in Public Speaking proper, during the Junior and Senior years. The first, which treats the manner of delivery, is a necessary preparation for the second, in which, all the speeches being original, the emphasis is placed on the matter. All the prescribed courses (1 to 8) must be taken in sequence.

Classes are formed to give special help to those who, because of foreign birth or foreign influences, do not pronounce the English language well, and for those who have some impediment of speech, as lispng or stuttering.

I. EXPRESSION.

1-2. PRINCIPLES OF EXPRESSION.

Dr. Redmond, Dr. Mosher and Mr. Courtney.

(a) *Vocal Means of Expression.*

The appeal to the ear. Breathing, Articulation, Orthoepy, Modulation (including the application of vocal inflection to the various grammatical forms of discourse) and Emphasis. The aim of this work is to secure good articulation and pronunciation, and to enlarge the powers of expression through an appreciative study and delivery of English composition.

(b) *Visible Means of Expression or Gesture.*

The physical means that appeal to the eye. Oratorical and Dramatic gesture are treated, and a complete system of oratorical gestures is taken up in detail. The class-room work consists of lectures, pantomimes, and the delivery of selections with appropriate action.

Text-books: Palmer and Sammis, *Principles of Oral English*, and Bacon, *Manual of Gestures*.

Prescribed: two terms, one hour a week, counts 2.

3-4. PRACTICE IN EXPRESSION.

Mr. Hatch.

(a) *Prose Declamation.*

Dramatic and oratorical selections are declaimed, as much time as possible being given to actual practice in speech. As a preparation for delivery the students are required to make analyses of the intellectual and emotional content of their selections. The aim is to secure an intelligent and sympathetic rendition of the selections.

(b) *Poetry Declamation.*

The analytic method of preparation employed in (a) is continued, but especial attention is paid to the elements of composition

more clearly demonstrable in poetry than in prose, such as alliteration, assonance, onomatopoeia, rhyme, rhythm, cadence and melody. The aim is to secure a just vocal expression of the music and suggestiveness of poetry. Instruction is given by lectures and criticism.

Prescribed: two terms, one hour a week, counts 2.

II. PUBLIC SPEAKING.

A knowledge of the means of expression is presupposed, and a training in the delivery of original thought is given. All the work in courses 5, 6, 7, 8 is extemporaneous; memorizing is not allowed.

5. DEBATE. (First Term.)

Professor Robinson and Dr. Redmond.

Lectures are given on Evidence, the Principles of Argumentation and Brief Construction. This is followed by debates by the students. One debate, involving presentation and refutation, is given each period and is followed by a criticism of the students' floor work and by further instruction in presentation. A written brief showing research, analysis and arrangement must be presented by each student before he delivers his oral argument.

Prescribed: one term, one hour a week, counts 1.

6. DEBATE. (Second Term.)

Professor Robinson.

Less time is given to formal instruction and more is devoted to actual debating by the students. Briefs are required as in Course 5, but two debates are heard each period. The order of speaking is arranged so as to emphasize the practice in rebuttal, and the criticism seeks particularly to strengthen the student in his analysis of an opponent's argument and in his refutation.

Prescribed: one term, one hour a week, counts 1.

7. EXTEMPORANEOUS SPEAKING. (First Term.)

Professor Palmer and Dr. Mosher.

The aim of this term's work is to acquaint the student with the various types of speeches and to give him abundant practice in delivering them. Instruction is given by lectures and criticism. The students' speeches are limited to seven minutes in length and five or six are heard each period. This enables each student to deliver many short, extemporaneous (though not impromptu) speeches during the term.

Prescribed: one term, one hour a week, counts 1.

8. EXTEMPORANEOUS SPEAKING. (Second Term.)

Professor Palmer.

The aim of the second term's work is to train the student in sustained power for the delivery of long speeches and in readiness

for participation in discussion from the floor. The work is conducted in convention form. One student is assigned to deliver, each period, a speech not less than twenty minutes in length. The others are then called upon to discuss it in shorter addresses of from four to five minutes. Thus each man is given one or two opportunities to speak at length during the term, and many opportunities for shorter discussion from the floor.

Prescribed: one term, one hour a week, counts 1.

III. ELECTIVES.

The electives 9 and 10 are more strictly cultural and scientific than the prescribed, practical work of the department. They deal with the theory and history of public speaking rather than with the practical development of the art of public speech.

9. SCIENCE OF DEBATE. *Professor Robinson.*

The regular Junior work in the Art of Debate is supplemented by a careful consideration of the science that underlies the art. Specimens of argumentation illustrating the different forms of reasoning are studied, until the student is able immediately to classify any argument presented to him and point out its vulnerable points. The several classes of fallacies are examined with the two-fold purpose in view (1st) of enabling the student to detect fallacies, and (2d) of enabling him to make clear to an audience the fact of fallacy and the reason for it. As much as possible of the student's class-room work is in the regular speech form.

One term, two hours a week, counts 2.

10. HISTORY OF ORATORY. *Professor Robinson.*

The lives of the world's greatest orators are studied and examples of their eloquence are presented for appreciation and analysis. The rhetorical theories of the Greek writers, of Quintilian, Cicero and other Latins, as well as modern views on eloquence, are explained and tested by the actual speeches of great orators. An attempt is made to give a sympathetic grasp of the crises which stirred the orators and led to their speeches. The times and the individual lives of the orators serve as a background for their works. The students receive special topics to look up and are given essay assignments.

One term, two hours a week, counts 2.

ROMANCE LANGUAGES.

FRENCH.

I. AS FIRST LANGUAGE.

7-8. Optional course of two semesters for Science students who have completed six terms of Academic French. Same as French 2 and 3 respectively.

II. AS SECOND LANGUAGE.

Course of four semesters prescribed for students who have chosen French as a second language. Each semester, four hours a week, counting thirteen credits in all.

1. INTRODUCTION TO FRENCH LITERATURE.

Biays' *Histoire de la littérature française*. A standard work is studied. François, *Introductory French Prose Composition*. Review in grammar. Sight-reading in a modern writer.

2. NINETEENTH CENTURY LITERATURE.

Biays' *Histoire de la littérature française*. Extracts in Demogeot's *Textes classiques de la littérature française*, vol. II. Sight-reading in a modern writer. François' *Introductory French Prose Composition*.

3. THE CLASSICAL DRAMA.

Studies in Seventeenth Century Literature, Corneille, Racine, Boileau. Sight-reading in Delpit's *L'Age d'or de la littérature française*.

4. STUDIES IN SEVENTEENTH CENTURY LITERATURE.

Molière, La Fontaine, Bossuet. A play of Victor Hugo is read at sight.

III. AS THIRD LANGUAGE.

5-6. Course of two semesters for Arts students who choose French as a third language. Each semester, three hours a week, three credits. Elementary grammar, reading, translation and composition.

IV. ELECTIVE.

9-10. ELEMENTARY.

A course in elementary grammar, reading of simple texts, translation into French, readings in standard authors, outline of the history of French literature.

Elective for Juniors and Seniors who have not had French. Must be taken two consecutive semesters; five hours a week, counts 10.

11. EIGHTEENTH OR NINETEENTH CENTURY PROSE.

Elective for those who have had French 4, or who have completed French 3, with grade B, or French 6 with grade A.

Fall term; three hours a week, counts 3.

12. POETRY.

Some poems in former centuries are read, but the work deals mainly with the Nineteenth and Twentieth Centuries.

Prerequisites as for French 11. Spring term; three hours a week counts 3.

13. MODERN DRAMA. A.

History of French Drama; special study of the Nineteenth century plays.

Prerequisites as for French 11. Fall term; two hours a week, counts 2.

14. MODERN DRAMA. B.

Methods as in 13, but differing in content.

Prerequisites as for French 11. Spring term; two hours a week, counts 2.

15-16. COMPOSITION.

Prerequisites as for French 11. Two terms; two hours a week, each term counts 2.

17-18. ADVANCED STUDY.

Work in Grammar, Diction, History of French literature, History of France.

Prerequisites: French 4 with Grade B, or for Science students French 3 with Grade A. Must be taken two consecutive semesters; two hours a week, counts 4.

19. SCIENCE READINGS. A.

Prerequisites: For Arts students 2 or 6, for Science students 3. Fall term; two hours a week, counts 2.

20. SCIENCE READINGS. B.

Prerequisites as for 19. Spring term; two hours a week, counts 2.

ITALIAN.

1-2. ELEMENTARY.

A course in elementary grammar, reading of simple modern texts, exercises in translation into Italian, portions of the great classical authors, and an outline of the History of Italian literature. Texts: Arbib-Costa's *Italian Lessons*, Bowen's *First Italian Readings*, Martini's *Antologia della Prosa Moderna*, Grandgent's *Italian Composition*.

Elective for Juniors and Seniors who have not had Italian. Must be taken two consecutive semesters; five hours a week, counts 10.

SPANISH.

1-2. ELEMENTARY.

Course of two semesters for Arts students who choose Spanish as a third language. Each semester three hours a week, counts 3. Elementary grammar, reading, translation and composition.

3. INTERMEDIATE.

Galdos' *Marianela*, and composition.

Prerequisite: two years of elementary Spanish. One term; four hours a week, counts 4.

4. INTERMEDIATE.

Moratin's *El Sí de las Niñas*. Composition and sight reading.

Prerequisite 3: one term; four hours a week, counts 3.

5. DON QUIJOTE.

Prerequisite 4: one term; two hours a week, counts 2.

6. LITERATURE.

Lectures giving briefly an outline of the History of Spanish literature. Reading of extracts from the works of some of the classical authors and the writing of short essays by the students.

Prerequisite 4: one term; two hours a week, counts 2.

7-8. THE CLASSICAL DRAMA.

Lectures, and the reading of extracts from the works of Lope de Vega, Calderón, Juan Ruiz de Alarcón, Tirso de Molina and others.

Prerequisite 4: two terms; three hours a week, counts 6.

9-10. ELEMENTARY.

Open to Juniors and Seniors who have never studied Spanish. The work and texts are the same as in Course 1-2, and in addition, readings in standard modern writers.

Two terms, five hours a week, counts 10.

EXAMINATION AND ADVANCEMENT.

The result of a student's work in every subject of study, whether prescribed or elective, shall be marked and expressed by a single final grade indicated by one of the six letters, A, B, C, D, E, or F, corresponding, respectively, to percentages in the nineties, eighties, seventies, sixties, fifties, and those below fifty. A, B, C, and D are *passing* grades for which students are credited with the number of counts belonging to the particular subject. A signifies *exceptional excellence*; B *very good* work; C *fairly good* work of the ordinary type; D merely a *passing* mark; E a *condition*; and F a *failure*.

In estimating the counts for registration and graduation, a student receiving four (4) credits with grade A shall, for every such four (4) credits, have an *extra* credit point. Similarly for every eight (8) credits received with grade B. For every eight (8) credits received with grade D, one (1) credit shall be *deducted*.

Whenever a student has obtained eighty (80) original credits with grade D, no further credits shall be allowed him for work done with a grade less than C.

A student receiving the grade F in a prescribed course shall repeat that course.

A student receiving the grade E in any course is conditioned in that course; but is not thereby precluded from continuing his work in the department, except under the following provisions:

(a) No student is allowed more than two conditions in the work of any one term; and each additional grade E shall be rated as an F.

(b) Any student who has received the grade F in more than one course at the end of a term, shall not be allowed more than one condition; and if he has received F in more than two courses, he shall not be allowed any condition. In such cases the additional courses reported E shall be rated F.

Examinations for the removal of conditions received in January or June shall be held on a day during the spring or fall term, respectively, to be fixed by the President.

A condition is to be removed by satisfactory work or by re-examinations, as follows:

(a) If the course in which the condition is incurred be announced as prerequisite to a subsequent course in the same department, the student shall be allowed to pursue the subsequent course; and, if his work in the latter be satisfactory, the department may, at the time set for the re-examination, assign him the grade D in the prerequisite course, without requiring him to pass the re-examination.

(b) Otherwise a student may remove his condition or

conditions at the re-examinations. Conditions so removed shall receive a grade not higher than C.

(c) A student who fails to pass the re-examination set for the removal of a particular condition shall have no further opportunity to remove it and shall receive the grade F for the course.

No student in the College shall be permitted to take more than $17\frac{1}{2}$ credits during any term unless he has had during the preceding term an average grade B and has not fallen below C in any subject; and such a student shall not be allowed to take more than $17\frac{1}{2}$ credits except by permission of the Committee on Course and Standing.

The requirement for enrollment in a class is as follows:

For Upper Freshman	12 credits.
“ Lower Sophomore	28 “
“ Upper Sophomore	45 “
“ Lower Junior	61 “
“ Upper Junior	78 “
“ Lower Senior	94 “
“ Upper Senior	111 “
“ Graduation	128 “

Provided, however, that no student shall be enrolled as a Sophomore until he has removed all entrance conditions, and that any student who is at any time carrying a sufficient number of credits to complete the total required for graduation shall be registered as an Upper Senior.

A student who is required to repeat any work may, with the consent of the Committee on Course and Standing, take with a higher class other subjects, to which such work is not a prerequisite, sufficient to make up the prescribed number of credits, provided the hours do not conflict with the subjects he is pursuing with the lower class; and such student may be allowed by the Committee to take such subjects in a higher class in addition to the regular number of credits as may in its judgment be taken without injury to his other work. All extra work done by such student in the attempt to regain standing must be by regular attendance in class room.

Work in a higher class than that in which a student is enrolled may be done only with the consent both of the head of the department and of the Committee.

A student shall not be graduated until he has received all the credits prescribed, and until all his indebtedness to the college has been discharged.

The case of any student apparently guilty of communicating, copying or other like offense during examination, shall be referred to the Faculty for consideration.

HONORS.

DEPARTMENT.—There shall be published annually in the Register an “Honorable Mention List” of each of the three higher (Sophomore, Junior, Senior) college classes, the names being printed alphabetically. Honorable mention is given for excellent work in a department and the standard shall be the grade B or higher in subjects counting at least 16 credits, continued for two college years.

SECOND YEAR.—At the close of the second year there shall be three grades of honor:

Highest second year honors shall be given for the grade A in prescribed courses counting at least 50 credits, with the remaining grades B.

High second year honors shall be given for the grade A in prescribed courses counting at least 30 credits, with the remaining grades B.

Honors shall be given for the grades A and B in prescribed courses counting at least 55 credits.

COMMENCEMENT.—At commencement there shall be three grades of honors:

The *summa cum laude* shall be granted to those students who have received the grade A in courses counting at least 115 credits, with the remaining grades all B.

The *magna cum laude* shall be granted to those students who have received the grade A in courses counting at least 64 credits, with the remaining grades all B.

The *cum laude* shall be granted to those students who have received the grades A and B in courses counting at least 120 credits.

TRUST FUNDS.

THE PELL MEDALS.

In 1849, Duncan C. Pell, by a gift of \$500, established a fund the interest on which is to be devoted to the purchase of a gold medal, to be awarded annually to the student who shall rank highest in all the studies of the year taken together; and in 1856 the donor authorized the trustees of the fund to devote a portion of the income to the provision of a silver medal to be given to the student who shall rank second.

Trustees: The President of the Board of Education, the President of the College.

THE CROMWELL MEDALS.

In 1850, Charles T. Cromwell, by a gift of \$500, established a fund the interest on which is to be devoted to the purchase of a gold medal, to be awarded annually to the best scholar in History and Belles-Lettres; in 1856 the donor authorized the provision of a silver medal for the second scholar.

Trustees: The President of the College, the Professor of History (Treas.), Mr. Henry P. Davison.

THE HOLBROOK LIBRARY FUND.

In 1852, a clause of the will of Ephraim Holbrook bequeathed to the Board of Education of the City of New York the sum of \$5,000, the interest on which is to be applied to the purchase of books for the library of the Free Academy.

Trustees: The Board of Education.

THE WARD MEDALS.

In 1853, Augustus H. Ward, by a gift of \$1,000, established a fund the interest on which is to provide for the award of twenty bronze medals, one for each of the studies named, to be awarded annually to the student of most proficiency therein, provided he shall have regularly pursued each study for not less than two months of the collegiate year then closing; a student gaining one medal not to be precluded from gaining others at the same time or subsequently.

The subjects are: Chemistry, Natural History, Natural Philosophy, Moral Philosophy, Political Science, English, Greek, Latin, French, Spanish, German, Oratory, Composition, Logic, Astronomy, History, Drawing, Algebra and Geometry, Descriptive Geometry, Botany.

Trustees: The Board of Education, the President of the College, and their successors.

THE GROSVENOR LIBRARY FUND.

In 1856, a clause of the will of Seth Grosvenor bequeathed to the Board of Education in New York the sum of \$30,000, and provided that the income thereof should be expended in purchasing books to form a library for the Free Academy. The fund now amounts to \$32,000.

Trustees: The Board of Education.

THE STUDENTS' AID FUND.

In 1857 the Associate Alumni established a fund for the purpose of granting pecuniary aid to such students as might otherwise find difficulty in completing their College course. This fund is maintained by contributions from the alumni. In 1865 the Students' Aid Association was incorporated under the laws of the State of New York. The management of the fund is committed to five trustees, who loan, without interest, such sums as they think proper to deserving students. Neither the names of those to whom the loans are made, nor the amounts of the loans, are known to any but the trustees and the auditors of the fund. Further information may be obtained by consulting any one of the trustees.

The following are the present trustees:

John R. Sim, '68, President.....	Office T. H. Hall.
Edmund Burke, '90, Treasurer.....	Room 224, College.
Alfred D. Compton, '97, Secretary.....	Room 116, College.
Sigmund Pollitzer, '79.....	51 East 60th Street.
Wm. Houston Kenyon, '76.....	49 Wall Street.

THE RIGGS MEDAL.

In 1864, Elisha Riggs, by a gift of \$1,000, established a fund the interest on which is to provide a gold medal to be annually awarded to the author of the best English prose composition in the Senior or Junior class. The subject is announced early in the term, and the essays must be handed in on the last day of recitations in May, each signed with pseudonym and accompanied by the student's real name in a sealed envelope.

Trustees: The President of the College, the Professor of History, and the Professor of the English Language and Literature (Treas.).

THE KELLY PRIZES.

In 1869, James Kelly, by a gift of \$1,000, established a fund the interest on which is to provide two prizes for debate and literary criticism. One prize is given to the best debater in the Literary Societies, three contestants being chosen by the Clonian Society, and three by the Phrenocosmian. The Chairman of the

Board of Trustees selects the subject and submits it to the Faculty for approval.

The other prize is given to the member of either Society who shall write the best critique on some work of English literature. The subject is announced before the Christmas vacation, and the essays must be handed in on the last day of recitations in May.

The judges of the debate are selected by the Chairman of the Board of Trustees; the judges of the essays are the President of the College, the Professor of History and the Professor of the English Language and Literature.

Trustees: The Board of Trustees of the College.

THE CLAFLIN MEDALS.

In 1871, John Clafin, by a gift of \$1,250, established a fund the interest on which is to provide two gold and two silver medals, which are awarded as follows:

A gold medal to the student of the Senior Class electing Greek who shall pass the best competitive examination in that and a gold medal to the student of the Senior Class electing Latin who shall pass the best competitive examination in that subject, it being provided, however, that in either subject the medal may be offered to the Junior instead of to the Senior Class, at the discretion of the Head of the Department; a silver medal to the student of the Freshman Class most proficient in Greek; and a silver medal to the student of the Freshman Class most proficient in Latin.

Trustees: The President of the College, and Mr. George C. Lay (Treas.).

THE BELDEN PRIZES.

In 1883, William Belden, by a gift of \$1,000, established a fund the interest on which is to provide prizes for excellence in Pure Mathematics, the nature of the prizes and the terms of their award to be determined from time to time by the President of the College and the Professor of Pure Mathematics.

At present the prizes are awarded annually on Commencement Day, in the Junior and Sophomore classes, as follows:

1. A gold medal to the student in each class of greatest proficiency in the studies of the department during the year. This greatest proficiency is to be determined either by the marks from recitations and examinations, or by a special competitive examination, as may in each case seem best to the Trustees of the Prize.

2. A silver medal to any other student, in either class, whose aggregate marks for recitations and examinations shall reach ninety-five per cent. of the maximum.

Trustees: The President of the College, and the Professor of Pure Mathematics (Treas.).

THE KETCHUM PRIZES.

In 1891, Col. Alexander P. Ketchum, of the Class of 1858, by a gift of \$1,000, established a fund the interest on which is to provide two prizes in the History of Philosophy and two prizes in Political Economy, the awards to be made by the professors, on the papers presented in the regular final examination.

Trustees: The President of the College, Professor Adolph Werner (Treas.), and Mr. W. Rogers Westerfield.

THE ROEMER PRIZE.

In 1892, upon the death of Professor Roemer it was found that for thirty-eight years he had provided anonymously a prize for the best declamation of poetry. In recognition of this fact and in honor of his memory and name, the Roemer Prize Fund was established by a gift of \$300 from a group of officers and graduates of the College. The speakers are selected from the Sophomore class by competition. The declamations are delivered on the same occasion as the prose orations, and judged by the same judges.

Trustees: The Chairman of the Board of Trustees of the College, the President of the Associate Alumni, and Professor Adolph Werner (Treas.).

THE BENNETT PRIZE IN POLITICAL SCIENCE.

In 1893, James Gordon Bennett, by the gift of \$1,000, established a fund the interest on which is to provide a prize to be given annually upon Commencement Day to the "member of the Senior Class who shall have taken the prescribed course of the institution in Political Science and English Literature, and who shall have prepared the best essay in English prose upon some subject of American governmental domestic or foreign policy of contemporaneous interest." The subjects are selected and the rules of competition announced and the decision rendered by the Faculty of the College.

Trustees: The Board of Trustees of the College.

THE RALPH WEINBERG MEMORIAL PRIZE.

In 1898, Miriam Richter, by a gift of \$500, established a fund the interest on which is to provide an annual prize to be awarded to that student of the College who shall present the best poem upon a topic selected by the Professor of the English Language and Literature. This prize is to be known as the Ralph Weinberg Memorial Prize.

Trustees: The President of the College, the Professor of History, and the Professor of the English Language and Literature (Treas.).

THE PRAGER MEMORIAL PRIZE.

In 1903, Mr. William Prager, by a gift of \$1,000, established a fund the interest on which is to provide a prize in memory of his son, David Prager, of the Class of 1903, which is awarded to that member of the Senior Class who receives the highest aggregate mark in his studies for the Senior year.

Trustees: The Chairman and the Secretary of the Board of Trustees, and the President of the College.

THE KENYON PRIZE.

In 1904, Messrs. Wm. Houston Kenyon, Alan D. Kenyon, and Robert N. Kenyon, all graduates of the College, by the gift of \$1,000, established a fund the interest on which is to provide a gold and bronze medal, to be awarded annually at Commencement to those students who, in the course of the year, attain the highest distinction in Pure and Applied Mathematics. The Trustees of the Fund each year determine the award.

Trustees: The President of the College, the Professor of Mathematics, and Mr. Wm. Houston Kenyon.

THE STEERS BOOK FUND.

In 1907, Mr. James R. Steers, of the Class of 1853, gave a fund of \$10,000, the interest on which is to be applied to the purchase of such scientific books as the President of the College may direct, for the use of members of the instructional staff and the students and such other persons as the President may designate. The books are at present purchased from this fund for the departments of Chemistry, Natural History and Physics.

Trustees: The Board of Trustees of the College.

THE GENERAL TREMAIN PRIZE.

In 1909, General Henry Edwin Tremain, of the Class of 1860, established a trust of \$5,000, to be invested in Savings Banks in New York, the income to be used for two prizes; the first prize of one hundred and fifty dollars (\$150.00), and the second prize of fifty dollars (\$50.00); such prizes to be awarded annually, under rules and regulations to be made by the Faculty of the College, for the best essays on the theme "Causes, Conduct and Conclusions of the Great Civil War in the United States." The competitors are to be members of the Senior and Junior classes, and the prizes are to be awarded by two judges who shall be annually selected, one by the Faculty and one by the Commander for that year of the New York Commandery of the "Military Order of the Loyal Legion of the United

States"; the two judges thus selected, in case they disagree as to the award, to appoint a third judge. For this year the judges are Hon. Hugh Hastings and Mr. George C. Lay of the Class of 1869.

Trustees: The President of the College (Treas.), the Professor of History, and the Professor of the English Language and Literature.

THE GIBBS-STEERS FUND.

In 1911, Mr. James R. Steers, of the Class of 1853, established a fund of \$5,000, the interest on which is to be applied to the purchase of books for the Wolcott Gibbs Library of Chemistry.

Trustees: The President of the College, the Professor of Chemistry, and the Chairman of the Board of Trustees.

THE CLASS OF 1885 FUND.

In 1911, the Class of 1885, by a gift of \$2,000, provided a fund the income from which is to be used for the purchase of books for the Department of Romance Languages.

Trustees: Dr. George B. McAuliffe, Dr. Samuel M. Landesman, and Mr. Louis P. Bach.

THE WARBURG FUND.

In 1912, Mr. Felix M. Warburg, by a gift of \$2,500, provided a fund the income from which is to be used for the purchase of periodicals for the Department of Natural History.

Trustees: The Board of Trustees of the College.

THE JAMES R. STEERS PRIZE.

In 1912, Mr. James R. Steers, of the Class of 1853, established a fund of \$1,000, the interest on which is devoted to the payment of an annual prize, or semi-annual prizes, for excellence in the Department of Art, the basis for such award, and the character of such award or awards, to be determined from time to time by the Trustees of this Fund.

Trustees: The President of the College, the Professor of Art, and the Chairman of the Board of Trustees.

THE CLASS OF 1872 FUND.

In 1914, the Class of 1872, in commemoration of the fortieth anniversary of their graduation, gave to the Trustees of the College the sum of Twelve Thousand (\$12,000) Dollars, face value, in the three and one-half ($3\frac{1}{2}\%$) per cent. Bonds of the City of New York. The income from this Fund is to be devoted annually to secure a course of lectures by lecturers on subjects to be selected by the Board of Trustees.

PRIZES ANNUALLY DONATED.

THE PRIZE OF THE BOARD OF TRUSTEES AND THE DRUMMOND PRIZE FOR PUBLIC SPEAKING.

In 1852, the President of the Board of Education provided a prize for excellence in public speaking. It is continued by the present Board of Trustees.

Members of the Junior and Senior classes present original orations to compete for the privilege of entering the contest. Six are selected to be delivered in public for the prize.

In 1901, Mr. Lewis F. Drummond, of the Class of 1888, offered a prize for excellence in public speaking, in memory of Mrs. Jane M. Drummond, of the Normal College class of 1890, to be awarded to the student who stands second in the competition for the Prize of the Board of Trustees. The award, of the value of twenty dollars, is granted annually by the donor.

THE F. W. DEVOE AND COMPANY PRIZES.

In 1885, F. W. Devoe & Co. offered two annual prizes, each to consist of a set of drawing instruments of the value of twenty-five dollars for proficiency in the Mechanic Arts. They are to be awarded by a committee, consisting of the President of the College, the Chairman of the Board of Trustees and the Professor of Physics, to the student of greatest merit, in the first and second years respectively, of the work in Mechanic Arts. The merits of the competitors are to be judged by the excellence and quickness of their work, and by the improvement made by them during the year. In 1909 the donors modified their gift by making provision for the award at each semi-annual commencement.

THE DRUMMOND HISTORY PRIZE.

In 1903, Mr. Lewis F. Drummond, of the Class of 1888, offered a prize consisting of a gold medal, to be awarded to that student of the Junior Class who submits the best essay on local self-government in America, or a given phase of it, treated mainly with reference to its historical development. The topic is given out by the Professor of History. A committee of three, including the Professor and two other instructors of the department, awards the prize.

THE LIBRARY.

The Library of the College contains 61,467 volumes, 16,269 of these being distributed in twelve departmental libraries and 45,198 being classified in the general library as follows:

Reading-room Collection.....	2,886	English Language and Literature	4,722
Bibliography	230	Germanic and Slavonic Philology	1,228
Periodicals and Societies' Publications	2,318	Romance Philology.....	1,528
Science, General and Miscellaneous	2,075	Latin Philology.....	981
Physics	950	Greek Philology.....	788
Chemistry	447	Sanskrit, Semitic and other non-Aryan Philology.....	185
Astronomy	296	Philosophy	492
Geology and Natural History.	416	Theology	935
Biological Sciences.....	726	United States Documents....	5,764
Anthropology	284	Unclassified and Miscellaneous	2,101
Psychology	230	Antiquated, Duplicates, etc..	1,639
Ethnology	340		
History, Social-political.....	10,659	General Library	47,589
Social Sciences.....	2,244	Departmental Libraries..	16,565
Useful Arts.....	431		
Fine Arts.....	1,304	Total	64,154
Philology, General and Mis.	511		

Besides these there are about 20,000 pamphlets. Several of the departments of instruction have small departmental libraries.

Books may be borrowed from the library by the instructors, by the students, by the alumni upon a deposit of \$10, and by the teachers in the public schools of the city.

Purchases are made with the income of the Grosvenor, Holbrook, Steers, and Warburg funds which are specifically described under the heading Trust Funds. Many volumes have been presented by authors, publishers and others. The Board of Trustees annually appropriates funds for library purposes.

In 1909, by the generous donation of Mr. John Clafin, of the Class of 1869, the library of the late Professor Simon Newcomb, of Washington, D. C., was purchased for the library. Mr. Clafin has also supplied a catalogue for this library. The Newcomb Library contains about 4,000 volumes and 2,000 pamphlets.

In 1910, and again in 1913, Mr. Adolph Lewisohn made a donation of \$1,000 for the purchase of books for the library of the Department of German.

In 1910, Mr. Jacob H. Schiff, by a gift of \$2,000, provided for the purchase of books for a History Department Library.

The Class of 1885, on the occasion of the twenty-fifth year of graduation in 1910, resolved upon a gift to the College, and the

following year gave the Department of Romance Languages a library of about one thousand French volumes and established a permanent fund which would enable the department to purchase forty or fifty volumes a year. This library was inaugurated on the 11th of May, 1911, in the presence of M. Jules Jusserand, Ambassador from France, and accepted for the College by President Finley.

In 1912 Mr. Bernard M. Baruch, of the Class of 1889, gave \$500 for the library of the Department of English, which had previously possessed a small collection of books, chiefly the gift of Mr. Ernest N. Perrin of the Class of 1879.

STUDENT GOVERNMENT.

Supervision of student activities and control of interclass functions are in the hands of a Student Council which is composed of representatives chosen by the students. Regular meetings are held at which questions concerning the welfare of the students and of the college are discussed. The results have been helpful both to the student body and to the Faculty.

COLLEGE PERIODICALS.

Every periodical or paper published by the students, and sold or distributed by them within the College, shall have printed upon it the name of the managing editor, who shall be a student.

No such periodical or paper shall be sold or distributed in the College until the President shall be satisfied that the foregoing regulation has been complied with.

It shall be the duty of the managing editor to exclude from the columns of the College publication controlled by him all discourteous remarks on the officers or management of the College.

For any infraction of the preceding rules the managing editor shall be held responsible.

No periodical or paper, whose managing editor has violated the preceding rules, shall be sold or distributed in the College while he remains the editor.

COLLEGE ATHLETICS.

The Athletic Organizations of the College are under the supervision of the Faculty Athletic Committee. This committee has adopted and published rules for the purpose of maintaining a proper academic standing among the athletes of the institution, and of securing a clean amateur policy in the various student athletic enterprises. No student is permitted to go into training whose organic condition makes such a procedure unsafe.

The executive work connected with the management of the teams and the general administrative details are conducted by an

Athletic Association through a board of officers elected by the students.

This Association offers a number of opportunities to those students who desire to secure business and managerial experience in connection with athletic enterprises. The College supervision of these enterprises restricts student initiative as little as possible although a careful and persistent effort is made to secure reliable and effective business methods in all of the transactions of the Association. This supervision of business details is secured through the authority of the Faculty Athletic Committee and through the services of various of the instructors in the Department of Hygiene. The services of instructors from other departments are frequently utilized for this purpose.

During the last year the City of New York turned over to the College two entire city blocks immediately south of the Gymnasium building. These blocks are to be transformed into an athletic field for the use of the Department of Hygiene and for the benefit of the entire student body. Plans are now being laid for the construction of an adequate Stadium which, it is hoped, will be equipped with such conveniences as to make it available for indoor and out-of-door work throughout the entire College season.

COMMITTEE ON EMPLOYMENT.

In view of the large number of students of the College compelled to contribute toward their own support, a Committee on Employment has been appointed from the Faculty to aid in bringing together those wishing work and those who want extra or part time work done.

The work sought for students is mainly afternoon and evening work, and on Saturdays, holidays and during vacations in summer and winter. For this purpose the Committee maintains a bureau in the Main Building of the College in Room 16A. All the expenses of the bureau, such as clerk hire, circularizing places of business, stationery, etc., are defrayed by Alumni and other friends of the College. No fee is demanded from the students, but simply the faithful performance of whatever work is secured for them. The success of the bureau depends largely upon the conscientious fulfillment of the tasks assigned to the students by their employers.

LITERARY SOCIETIES.

Two literary societies, the Clonian and the Phrenocosmian, have for many years been maintained by the students of the College. Membership in these is confined to the students of the Junior and Senior classes. A third society, the Adelphian, is supported from the Freshman and Sophomore classes. They are

devoted to the cultivation of the arts of composition, oratory and debate, and the promotion of friendly intercourse between students. Weekly meetings are held during the Collegiate year. The first two societies annually choose the contestants for the Kelly Prize Debate.

TERMS AND VACATIONS.

There are three vacations in each Collegiate year: the summer, the winter and the spring vacations being at such times as the Board of Trustees may from time to time designate.

There are no College exercises on Lincoln's birthday, on Washington's birthday, on Good Friday, on Decoration Day, on Labor Day, on Columbus Day, on Election Day, on Thanksgiving Day, or on any Friday immediately following a legal holiday, a College holiday, or a regular vacation. The College year ends on the fortieth Thursday after the opening in September, on which day the June Commencement is held. The College year is divided into two terms.

COMMENCEMENT.

FEBRUARY 12, 1913.

GRADUATION HONORS.

Cum Laude.

For having received from 85 per cent. to 90 per cent. of the total aggregate of maxima from the beginning of the Freshman to the end of the Senior year.

Philip R. V. Curoe.

Benjamin Elwyn.

Selig Hecht.

SENIOR ADDRESSES.

The Passing of the Family.....SAMUEL DAVIS
The Broader View.....MAX LIEBERMAN
HopePHILIP R. V. CUROE

AWARD OF PRIZES.

The Pell Medals.

To the student who shall rank highest in all the studies of the year.

GoldPhilip R. V. Curoe.....Senior
SilverHarry EisnerSophomore

The Cromwell Medal.

For proficiency in History:

GoldJoseph J. Zweifel.....Sophomore

The Ward Medals.

For the greatest proficiency in:

ChemistrySelig HechtSenior
Natural HistorySelig HechtSenior
Natural Philosophy.....Edward E. Bloodgood.....Senior
Moral PhilosophyPhilip R. V. Curoe.....Senior
 Honorable Mention.....Selig HechtSenior
 Honorable Mention.....Harry R. Fox.....Senior
Political Science.....Joseph B. Strauss.....Junior
EnglishDavid W. Park.....Sophomore
GreekSidney AbramsJunior
 Honorable Mention.....David Schneidman.....Junior
LatinSidney AbramsJunior
FrenchDaniel TenrosenJunior
Descriptive Geometry.....Robert J. McAusland.....Freshman
OratoryPhilip R. V. Curoe.....Senior
CompositionNathaniel Rosenzweig.....Junior
LogicMax A. Slavin.....Sophomore
HistoryJacob M. Richman.....Senior
 Honorable Mention Edward E. Bloodgood.....Senior
 Honorable MentionWilliam G. Steinmetz.....Senior

The Ward Medals—Continued.

For the greatest proficiency in:

Botany.....	Jacob Greenberg	Freshman
Spanish	Jesse Raphael	Senior
Algebra and Geometry....	Carl Thumin	Upper B.

The Prager Memorial Prize.

Medal	Philip R. V. Curoe.....	Senior
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The Ketchum Prizes.

For proficiency in Political Science:

First	Emanuel Obstfeld	Junior
Second	Sidney Abrams	Junior

For proficiency in Philosophy:

First	Selig Hecht	Senior
Second	Philip R. V. Curoe.....	Senior

The Ralph Weinberg Memorial Prize.

For proficiency in English:

Medal	Meyer Cohn	Junior
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The F. W. Devoe & Company Prizes.

For proficiency in Mechanical Arts:

Metal Working.....	Donald McConnoughy	Freshman
Wood Working.....	John Boschen	Freshman

The Clafin Medals.

For proficiency in Greek:

Gold	Morton Gottschall	Senior
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For proficiency in Latin:

Silver	Morton Abrahams	Freshman
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The Prize of the Board of Trustees.

For best Oration.....	David E. Grant.....	Junior
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The Drummond Prize.

For second best Oration....	Samuel Davis	Senior
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The Roemer Prize.

For best Poetry Declama- tion	James W. Donohue.....	Sophomore
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HONORABLE MENTION.

In Natural History.

Selig Hecht
Moses A. Orange

In Philosophy.

Benjamin Elwyn
Selig Hecht
Charles Schwartz
Bertram Sommer

In Physics.

Jacob Umans

In Political Science.

Arthur Huebsch
Samuel Keepnews
Daniel Nessler
Henry J. Newman
Jacob M. Richman
William G. Steinmetz

In Romance Languages.

Philip Abramovitz
Arthur Huebsch
Herman Lax
Bertram Sommer
Benjamin Wallack

In Chemistry.

Abraham M. Aronson
Philip R. V. Curoe
Selig Hecht
Louis Kornfeld
Jacob Lattman
Jacob Umans

In Education.

Philip R. V. Curoe

In English.

Samuel Charles Cohen
Philip R. V. Curoe
James Englander

In Greek.

Benjamin Elwyn
Mervin Isaacs

In History.

Philip Abramovitz
Jacob M. Richman
Abraham Schapiro

In Mathematics.

Louis A. Goldman
Henry Shattyn

DEGREES CONFERRED.

Bachelor of Arts.

Abramovitz, Philip	Lax, Herman
Aronson, Abraham M.	Levy, Harold
Auerbach, Joseph	Lieberman, Max
Berkowitz, Nathan	Lissauer, Herman
Bradner, Palmer	Nessler, Daniel
Cohen, Morris	Netter, Joseph
Cohen, Samuel Charles	Newman, Henry J.
Davis, Samuel	Pape, Charles, Jr.
Donnelly, Albert E., Jr.	Prashker, Louis
Elwyn, Benjamin	Rothstein, Herman Z.
Englander, James	Savitzky, Nathaniel
Fox, Harry R.	Schapiro, Abraham
Fromm, Louis	Schwartz, Charles
Gewirtz, Max	Siegel, Louis
Goldberg, Jacob A.	Slutzker, Joseph
Goldman, Louis A.	Sommer, Bertram
Gordon, Harry F.	Sporn, Harry
Greenky, Abraham	Steinhoff, Charles
Hellman, Philip	Stern, Max
Huebsch, Arthur	Steuer, Bernard
Isaacs, Mervin	Stollmack, Martin
Isaacson, Samuel	Wallack, Benjamin
Keepnews, Samuel	Weissberger, Joseph
Kohn, Jerome	

Bachelor of Science.

Abelson, Joseph	Lattman, Jacob
Bloodgood, Edward E.	Lindholm, Thor C.
Bloom, Jesse R.	Lockwood, Walter
Bose, Henry P.	Miller, Samuel
Cohan, Herbert	Nagelberg, J. Leo
Curoe, Philip R. V.	Novotny, Robert
Dircks, Curt	Orange, Moses A.
Eisenberg, Louis	Rabinoff, George
Gerber, Herman	Richman, Jacob M.
Glassenberg, Abraham L.	Rovitch, John Charles
Greenberg, David	Safren, Louis
Hecht, Selig	Schwartzbarth, Max
Jurans, Robert	Shattyn, Henry
Kautsky, George C.	Steinmetz, William G.
Kornfeld, Louis	Umans, Jacob

COMMENCEMENT.

JUNE 19, 1913.

GRADUATION HONORS.

Summa Cum Laude.

For having received 90 per cent. or over of the total aggregate maxima from the beginning of the Freshman to the end of the Senior year.

Morton Gottschall

Louis J. Mutterperl

Cum Laude.

For having received from 85 per cent. to 90 per cent. of the total aggregate of maxima from the beginning of the Freshman year to the end of Senior year.

Francis Raymond Dieuaide

Lester L. Israel

William Hasenfratz

Maxwell James

SENIOR ADDRESSES.

The Next Step.....	MAXWELL JAMES
The Finer Things of Life.....	WILLIAM HASENFRATZ
Gratitude and Service.....	LOUIS J. MUTTERPERL
Idealism	MORTON GOTTSCHALL

AWARD OF PRIZES.

The Pell Medals.

To the student who shall rank highest in all the studies of the year.

Gold	Morton Gottschall	Senior
Silver	Isaac Kaplan	Freshman

The Cromwell Medal.

For proficiency in History:

Gold	Leo Pasvolsky	Sophomore
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The Ward Medals.

For greatest proficiency in:

Chemistry	Julius Weinberger	Senior
Natural History	Joseph Herzstein	Senior
Natural Philosophy	Lester L. Israel	Senior
Moral Philosophy	Morton Gottschall	Senior
Honorable Mention	Israel Weinstein	Senior
Political Science	Bernard Meyer	Senior
English	Leon Mones	Junior
Latin	Solomon Bluhm	Senior
French	August Lodato, Jr.	Senior
German	Bertram D. Wolfe	Sophomore
Spanish	Michael Lieb	Sophomore

The Ward Medals—Continued.

For greatest proficiency in:

Greek	Solomon Bluhm	Senior
Oratory	Hyman Schwartz	Senior
Composition	Meyer Cohn	Senior
History	Morton Gottschall	Senior
Botany	Thomas P. Clendenin.....	Freshman
Freehand Drawing	Thomas Spector	Senior
Logic	Alexander Kadison	Sophomore

The Drummond History Prize.

Medal	Hyman Feldman	Junior
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The Prager Memorial Prize.

Medal	Morton Gottschall	Senior
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The Ketchum Prizes.

For proficiency in Philosophy:

First	Morton Gottschall	Senior
Second	William Hasenfratz	Senior
Honorable Mention	Israel Weinstein	Senior

For proficiency in Political Science:

First	Jerome Malino	Junior
Second	Isidore Cohen	Junior

The Ralph Weinberg Memorial Prize.

For proficiency in English:

Medal	James W. Donoghue.....	Junior
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The F. W. Devoe & Co. Prizes.

For proficiency in Mechanic Arts:

For Metal-working.....	Samuel Silver	Freshman
For Wood-working.....	George P. Siminowetche.....	Freshman

The Belden Prize.

Gold	Joseph Weiss	Sophomore
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The General Tremain Prize.

For the best essays on theme "Causes, Conduct and Conclusions of the Great Civil War in the United States":

First	Morton Gottschall	Senior
Second	Meyer Cohn	Senior
Honorable Mention	David W. Park.....	Junior

The James Gordon Bennett Prize.

For the best essay in Political Science:

Morton Gottschall..... Senior

The Steers Prize.

For the best work in the Department of Art:

Morton Gottschall..... Senior

The Prize of the Board of Trustees.

For best Oration.....Harry RotkowitzJunior

The Drummond Prize.

For second best Oration...Charles G. Cristiano.....Junior

The Roemer Prize.

For best Poetry Declama-

tionDavid KarowskyJunior

The Churchill Prize.

Hyman Schwartz Senior

HONORABLE MENTION.

In Chemistry.

Isaac Drogin
Abraham Gair
Morton Gottschall
William Hasenfratz
Henry F. Herrmann
Joseph Herzstein
Murray P. Horowitz
Lester L. Israel
Maxwell James
Hyman Kaplan
Alfred S. Kuhn
Emanuel M. Meyer
Julius Weinberger
Clarence Lehr Weirich
Leonard Zoole

In Education.

Isidore Julius Lurie
Harry Schechter
Max Weitzen

In English.

Morton Gottschall
Felix Sper
Edward Walmsley Stitt, Jr.

In German.

Alfred A. D. Hartwig
Joseph Noethen
Hyman L. Roth
Louis Roth
Harry Schechter
Hyman Schwartz
George J. Weinstock

In Greek.

Francis Raymond Dieuaide
Morton Gottschall

In History.

Sydney W. Caulfield
Morton Gottschall
Hyman Schwartz

In Latin.

Ephraim Cross
Morton Gottschall
Louis J. Mutterperl

In Mathematics.

Lester L. Israel
Maxwell James
Alfred S. Kuhn

In Mechanic Arts.

Lester L. Israel

In Natural History.

Francis Raymond Dieuaide
William Hasenfratz
Joseph Herzstein
Murray P. Horowitz
Thomas J. Murray
Leonard Zoole

In Philosophy.

Anthony J. Bové
William Hasenfratz
Maxwell James
Isidore Julius Lurie
Louis J. Mutterperl
Hyman L. Roth
Thomas I. Schiff
Felix Spèr

In Physics.

Morton Gottschall
William Hasenfratz
Lester L. Israel
Maxwell James
Alfred S. Kuhn
Julius Weinberger

In Political Science.

Reuben Broadwin
Morton Gottschall
Louis J. Mutterperl
Hyman L. Roth
Louis Roth
Thomas I. Schiff
Hyman Schwartz

In Romance Languages.

Anthony J. Bové
Ephraim Cross
Francis Raymond Dieuaide
Isidore Julius Lurie
Louis J. Mutterperl
Jesse Raphael
Harry Schechter

DEGREEES CONFERRED.

Bachelor of Arts.

Abrahams, Thomas J.	Magui, Meyer
Bach, Lesem	Meltsner, Henry H.
Bankoff, Jacob	Metz, Morris
Bové, Anthony J.	Meyer, Bernard
Burchell, Arthur V.	Mutterperl, Louis J.
Cahn, Mitchell	Nathanson, Pincus
Cattell, James E.	Noethen, Joseph C.
Caulfield, Sydney W.	Raphael, Jesse
Cross, Ephraim	Roth, Hyman L.
Dann, Oscar	Roth, Louis
Dieuaide, Francis Raymond	Schechter, Harry
Drogin, Isaac	Schiff, Thomas I.
Ginsberg, Joseph	Schwadron, Samuel
Glicksman, Joseph	Schwartz, Hyman
Goldberg, George	Shapiro, William
Gollomb, Louis C.	Shavit, Samuel
Gottschall, Morton	Soons, Sydney G.
Grant, David E.	Sorrin, Leo M.
Greenberg, Isadore A.	Spèr, Felix
Greiner, Louis	Steinkamp, Christopher
Gross, Emanuel	Stitt, Edward Walmsley, Jr.
Hendelman, Sydney	Weinstein, Israel
Isler, Isaac	Weinstock, George J.
Kesler, Samuel	Weitzen, Max
Lurie, Isidore Julius	

Bachelor of Science.

Apisdorf, Alexander	Israel, Lester L.
Aronow, David	James, Maxwell
Baruch, Bernard	Johnston, Herman W.
Bogen, David	Kaplan, Hyman
Broadwin, Reuben	Kear, John A., Jr.
Corn, Joseph J.	Kuhn, Alfred S.
Eleston, Joseph	Lichtenstein, Harry R.
Falk, Harry C.	Meyer, Emanuel M.
Falk, Max	Murray, Thomas J.
Fischer, George William	Reinhardt, Charles
Freedman, Samuel	Schnitzer, Isadore
Gair, Abraham	Schwartz, Isidore A.
Hartwig, Alfred A. D.	Suer, Arthur
Hasenfratz, William	Weinberger, Julius
Herrmann, Henry F.	Weinrich, Clarence Lehr
Herzstein, Joseph	Wilens, Ira
Horowitz, Murray P.	Zoole, Leonard
Isler, Samuel	

HONORABLE MENTION LIST.

Grade A includes those who have received 90 per cent. or more of the total aggregate of marks for the term.

Grade B includes those who have received from 85 to 90 per cent.

Grade C includes those who have received from 80 to 85 per cent.

Grade D includes those who have received from 75 to 80 per cent.

TERM ENDING JUNE, 1913.

Class of June, 1913.

A	Drogin, Isaac
Gottschall, Morton	Grant, David E.
Mutterperl, Louis J.	Greiner, Louis
B	Herrmann, Henry F.
Dieuaide, Francis Raymond	Horowitz, Murray P.
Hasenfratz, William	Kuhn, Alfred S.
Herzstein, Joseph	Lurie, Isidore J.
Israel, Lester L.	Meyer, Bernard
James, Maxwell	Murray, Thomas J.
Roth, Hyman L.	Raphael, Jesse
Spèr, Felix	Schiff, Thomas I.
Weinstein, Israel	Schwartz, Hyman
C	Weinberger, Julius
Bové, Anthony J.	Zoole, Leonard
Corn, Joseph J.	

Class of February, 1914.

B	Gussow, Nathan
Bluhm, Solomon	Klein, Henry J.
Kraus, David	Mosher, Max
Lodato, August, Jr.	Nussey, Herbert V.
Rosenzweig, Nathaniel	Obstfeld, Emanuel A.
Shapiro, Lazarus D.	Perlman, Milton B.
Strauss, Joseph B.	Rosen, Meyer S.
C	Spector, Thomas
Caldwell, Arthur P., Jr.	Wolff, Harry W.
Cohn, Meyer	

Class of June, 1914.

B	Hammond, Robert J.
Deutsch, Abraham	Harris, Meyer
Park, David W.	Kramer, Sidney D.
Tenrosen, Daniel	La Chapelle, Jacques H.
C	Malino, Jerome Ernest
Astrofsky, Philip	Troper, Morris
Carr, Stephen C.	Weinberg, Aaron O.

Class of February, 1915.

B

Cohen, Isidore
Eisner, Harry
Johnson, Ellis A.
Ringer, Michael
Schneider, Herbert W.
Zweifel, Joseph J.

C

Biloon, Solomon
Buchter, Morris
Freilich, Aaron
Hirschberg, Samuel
Lieberman, Jacob
Waring, J. Ferris
Youngwitz, Gabriel S.
Zimmerman, Joseph

Class of June, 1915.

B

Davidson, Arthur W.
Markowitz, Alexander
Meyerson, Oscar

C

Eichner, Benjamin
Fried, Sydney W.
Inkeles, Abraham
Jaffe, Solomon
Krauskopf, Joseph
Lieb, Michael
Mintzer, Joseph
Shircas, Hyman
Smith, Karl
Weiss, Joseph

D

Amend, Charles E.
Berkowitz, Harry
Bristol, Edward Sherman
Cohen, Mortimer
Frank, David H.
Hammer, Louis
Hauser, Edwin T.
Kadison, Alexander
Karowsky, David
Karshan, Max
Katz, Herbert S.
Kilpatrick, Martin, Jr.
Koster, Frederick William
Langh, Philip A.
Port, Benjamin
Rosenblum, Joseph
Shapiro, David

Class of February, 1916.

B

Rotgard, Isidore
Zimmerman, Julius

C

Abrahams, Morton
Adler, Howard
Epstein, David
Greenberg, Jacob
Gross, Paul
Gutowitz, Solomon
Marcus, Siegbert
Muldotsky, Samuel
Schwartz, Otto
Shauer, Melville A.

Weiss, Charles
Wolfe, Bertram D.

D

Dounn, David K.
Graham, Jacob
Grossman, Max
Halpern, Isaac B.
Hood, Everett D.
Kosloff, Meyer L.
Schneider, Abraham
Shulman, Gilbert
Smith, Alexander
Wallach, Max
Wikoff, Alan G.

Class of June, 1916.

A

Clendenin, Thomas P.
Waldheim, Franklin

B

Austin, Harold W.
Daschavsky, Peter
Douglas, Jesse
Goldfarb, Isidor
Kaplan, Isaac

C

Babor, Joseph A.
Barash, Louis
Cohen, Abraham
Delman, Zachary M.
Fielder, Wilbur
Geer, Hobart S.
Greenberg, Max E.
Lamm, Lucian
Magee, Meyer
Marder, Frank
Meister, Morris
Neuhausen, Benjamin
Randolph, Wendell
Viscardi, John

D

Ackman, Benjamin
Bushnell, Charles William
Ciaccio, Paul
Cohen, Harry
Drake, Joseph W.
Fuchs, Joseph
Funk, Samuel
Futterman, Harry
Grablowsky, Herman A.
Kaback, Abraham
Kaufman, Samuel
Kimmelman, Max
Levy, Max
MacDonald, William R.
Magna, Clamor Henry
Manne, Alexander
Mardfin, Emile
Marrs, Aubrey R.
McNeill, John Francis
Montero, Harry Ernest
O'Connell, Raymond T.
Pasachoff, Harry D.
Rabinowitz, Joshua
Samuels, Louis Henry
Schneider, Max
Trigger, Raymond
Weeks, Frederick T.

Class of February, 1917.

B

Fidler, Peter Z.
Schachter, Harry

C

Austein, William E.
Greenstein, Meyer
Jaffe, Bernard
Katz, Hyman
Wolfner, Benedict

D

Boschen, John H., Jr.
Brotherton, John
Cohen, William
Eichler, Isidore

Fineman, Abraham
Gitelson, Moses H.
Goldstein, Abraham
Granich, Alfred M.
Hazard, Sprague
Levin, Abraham J.
Levy, Louis
Lindenbaum, Abraham
Mantinband, Charles Xavier
Marcus, David
Meyer, Walter
Nebel, Gustav T.
Overin, Sturtevant
Raskin, Sol
Starbuck, Leonard M.

TERM ENDING FEBRUARY, 1914.

Class of February, 1914.

A

Kraus, David
Lodato, August, Jr.

B

Caldwell, Arthur P., Jr.
Mosher, Max
Nussey, Herbert V.
Park, David W.
Rosenzweig, Nathaniel
Soletsky, David
Strauss, Joseph B.

C

Bluhm, Solomon
Drogin, David
Gussow, Nathan
Katz, Jacob
Klein, Henry J.
Perlman, Milton B.
Schoenbrun, Irving
Solomon, Benjamin
Weber, Emanuel
Wolff, Harry W.

Class of June, 1914.

B

Cristiano, Charles G.
Deutsch, Abraham
Gutowitz, Benjamin
Johnson, Ellis A.
Klenke, Francis M.
Ritter, Irving
Southwick, Everett
Tenrosen, Daniel
Weinberg, Aaron O.

C

Astrofsky, Philip
Batt, Ralph
Cohen, Isidore
Feinstein, Abraham
Goldberg, Jacob
Goldstein, Harry

Goodstein, Jacob
Hahn, Paul M.
Hammond, Robert J.
Harris, Meyer
Hohenstein, Jack
Ivler, Samuel
Kraft, James
Kramer, Rudolph
Kramer, Sidney D.
La Chapelle, Jacques H.
Malino, Jerome Ernest
Matthews, Jerome
Rotkowitz, Harry
Shircas, Hyman
Ziegler, Jerome M.

Class of February, 1915.

A

Zweifel, Joseph J.

B

Buchter, Morris
Eisner, Harry
Freilich, Aaron
Goodman, Theodore
Langh, Philip A.
Ringer, Michael
Youngwitz, Gabriel S.

C

Biloon, Solomon
Boskowitz, Morris

Denslow, Roy R.
Donoghue, James
Flanagan, John
Hartman, John J.
Hirschberg, Samuel
Knapp, Ernest
Lieberman, Jacob
Pitler, Morris
Planick, Charles
Suchman, Harry
Waring, J. Ferris
Zimmerman, Joseph

Class of June, 1915.

B
Kupec, William J.
Meyerson, Oscar
Smith, Karl

C
Berkowitz, Harry
Brenner, Isadore Philip
Bristol, Edward Sherman
Cohen, Mortimer
Fried, Sydney W.
Furman, Martin A.
Hammer, Louis
Jaffe, Solomon

Karowsky, David
Karshan, Max
Katz, Herbert S.
Kurtz, Louis
Lieb, Michael
Markowitz, Alexander
Mintzer, Joseph
Olsson, Nils William
Pasvolsky, Leo
Regard, Leon
Shapiro, David
Wallach, Max
Weiss, Charles

Class of February, 1916.

A
McAusland, Robert J., Jr.

B
Adler, Howard
Goold, James

C
Abrahams, Morton
Cohen, Jacob E.
Greenberg, Jacob
Gutowitz, Solomon
Horowitz, George J.
Levine, Samuel Z.
Maclaure, Aaron S.
Marcus, Siegbert
McGill, James V.
Muldotsky, Sam
Popkin, Maxwell
Rosenstein, David
Schneider, Abraham
Schwartz, Otto
Shanholt, Henry Harris

Sindeband, Max M.
Wolfe, Bertram D.
Zimmerman, Julius

D
Arnovitz, Henry
Dounn, David K.
Epstein, David
Goodman, Hyman
Graham, Jacob
Halpern, Isaac B.
Hoffman, Samuel
Hood, Everett D.
Isaacson, Isidor
Jaffe, Benjamin
Klein, Nelson
Landy, Abraham
Levy, Abraham A.
Moerchen, Helmuth A.
Weiss, Charles
Wolk, Irving

Class of June, 1916.

A
Kaplan, Isaac

B
Douglas, Jesse
Goldfarb, Isidor

Grablowsky, Herman A.
Kraft, William
Lamm, Lucian
Meister, Morris
Neuhausen, Benjamin
Waldheim, Franklin

C

Ackman, Benjamin
 Babor, Joseph A.
 Clendenin, Thomas P.
 Daschavsky, Peter
 Delman, Zachary M.
 Futterman, Harry
 Harber, Abraham
 Kaufman, Samuel
 Kleiner, Benjamin
 Levy, Max
 Marrs, Aubrey R.
 McNeill, John Francis
 Pasachoff, Harry D.
 Schevitz, Julius
 Silver, Samuel
 Viscardi, John

D

Barash, Louis
 Bronner, Frank

Bushnell, Charles William
 Cohen, Abraham
 Cohen, Harry
 Colin, David
 Eichel, David
 Fiedler, John Le Roy
 Fielder, Wilbur
 Funk, Samuel
 Hagan, Edward
 Hayes, Thomas
 Iger, Morris
 Kimmelman, Max
 Magna, Clamor Henry
 Rabinowitz, Joshua
 Samuels, Louis Henry
 Schwalje, Walter
 Sobel, Nathan
 Trigger, Raymond
 Weeks, Frederick T.

Class of February, 1917.

A

Greenstein, Meyer

B

Austein, William E.
 Fidler, Peter Z.
 Gitelson, Moses H.
 Jaffe, Bernard

C

Austin, Harold W.
 Cohen, Harry
 Cohen, William
 Cohn, David
 Filfuss, Julian
 Fineman, Abraham
 Foster, Walter L.
 Goldstein, Abraham
 Licht, Herbert W.
 Linder, Edward
 Mannheimer, Albert
 Marcus, David
 Meyer, Walter
 Schachter, Harry
 Schwartz, Max
 Steiner, W. Howard
 Wechsler, David
 Wolfner, Benedict

Yachnowitz, Samuel

D

Barach, Alvan L.
 Berg, Benjamin N.
 Bronowitz, Benjamin
 Cunningham, Harold
 Eichler, Isidore
 Gabrilove, Benjamin
 Garlock, John
 Glicksberg, Louis
 Goodman, Edward
 Katz, Hyman
 Levy, Louis
 Lightcap, Joseph L.
 Lindenbaum, Abraham
 Liskofsky, Max H.
 Lyss, Jacob P.
 Mantinband, Charles Xavier
 Méras, Edmond A.
 Nebel, Gustav T.
 Overin, Sturtevant
 Raskin, Sol
 Schwartz, Herman
 Smith, Jacob
 Stahl, Fisher
 Zuckerman, William A.

Class of June, 1917.

B

Jacobs, Louis

C

Barwick, Arthur Richardson

Bikoff, Harry S.

Friedman, Maurice

Gill, Bennington P.

Goldberg, David Sidney

Harris, Ben R.

Kugelmass, Isidore

Mannix, Henry M. J.

Marks, Mark

Marmorstein, Jacob M.

Orbach, Harry

Pisik, David

Rapp, William

Robin, Bernard

Silberberg, Jacob George

Simons, Harold L.

Zucker, Samuel Louis

D

Cohen, Edward E.

Cohen, Israel

Cohen, Jacob

Crasson, Samuel L.

Fried, Harry

Gotterer, Abraham

Grindlinger, Paul

Jacklowitz, Joseph

Kassner, Philip

Kleinfeld, Louis

Knobloch, George Harold

O'Brien, William

Rutstein, Saul

Samuelson, Norman H.

Schawelson, Nathan A.

Schuler, George H.

Schuster, Isador

Silberman, Maurice

DIRECTORY.

BOARD OF TRUSTEES.

Name.	Place of Business.
BARUCH, BERNARD M.....	111 Broadway.
BELLAMY, FREDERICK P.....	204 Montague Street, Brooklyn.
CHURCHILL, THOMAS W.....	63 Wall Street.
CORBITT, WILLIAM HENRY.....	60 Wall Street.
HYDE, JAMES W.....	10 Wall Street.
KOHNS, LEE	42 Warren Street.
LYDECKER, CHARLES E.....	2 Rector Street.
MCCOMBS, WILLIAM F.....	96 Broadway.
STROOCK, MOSES J.....	30 Broad Street.
TUTTLE, CHARLES H.....	34 Nassau Street.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

ABBREVIATIONS.

Main. = Main Building.
 C. H. = Compton Hall (Mechanic Arts Building).
 Chem. = Chemistry Building.
 Gym. = Gymnasium.
 T. H. H. = Townsend Harris Hall.

Allen, Joseph,	Main	9 Myrtle St., White Plains, N.Y.
Alles, Robert H.,	T. H. H.	205 S. Van Dien Ave., Ridgewood, N. J.
Anderson, Arvid D.,	Main	Forest Hills, L. I.
Arbib-Costa, Alfonso,	T. H. H.	500 W. 144th St.
Autenrieth, George C.,	Main	1628 St. Peters Ave., Westchester, New York City.
Baldwin, Samuel A.,	Main	611 W. 137th St.
Ball, Allan P.,	Main	313 Convent Ave.
Baskerville, Charles,	Chem.	611 W. 110th St.
Bergeron, Maxime L.,	T. H. H.	511 W. 146th St.
Bliss, Henry Evelyn,	Main	Belden Ave., Dobbs Ferry, N. Y.
Boyd, William B.,	Gym.	25 Claremont Ave.
Bradley, Barclay W.,	T. H. H.	Hastings-upon-Hudson, N. Y.
Breithut, Frederick E.,	Chem.	569 W. 171st St.
Brenner, Edward C.,	Gym.	840 West End Ave.
Brett, George M.,	T. H. H.	1120 Amsterdam Ave.
Brewster, John A.,	T. H. H.	419 W. 119th St.
Brisco, Norris A.,	Main	527 W. 124th St.
Brown, Carroll N.,	Main	6035 Tyndall Ave., Bronx.
Browne, William Ward,	Main	616 W. 113th St.
Brownson, Carleton L.,	Main	164 W. 74th St.
Bruckner, Arthur,	C. H.	Hastings-on-Hudson, N. Y.
Burke, Edmund,	Main	135 Hamilton Place.
Butler, Bertram T.,	Main	Leonia, N. J.
Camera, A. U. N.,	Main	575 West Ave., Kensington, Brook- lyn.
Canfield, Leon H.,	T. H. H.	106 Northern Ave.
Carr, Henry S.,	Main	133 Manhattan Ave.
Chase, Jos. Cummings,	T. H. H.	222 W. 23d St.
Clark, Walter Ernest,	Main	West Nyack, N. Y.
Coffin, Joseph G.,	Main	115 Hamilton Place.
Cohen, Morris R.,	Main	581 W. 161st St.
Coleman, A. I. du P.,	Main	39 W. 24th St.
Compton, Alfred D.,	Main	2 St. Nicholas Terrace.

Conway, James I.,	T. H. H.	1680 Clay Ave., Bronx.
Cook, Edmund C.,	T. H. H.	560 W. 113th St.
Corcoran, Chas. A.,	Main	2408 Morris Ave., Bronx.
Cosenza, Mario E.,	Main	746 St. Nicholas Ave.
Courtney, Arthur W.,	Main	292 W. 4th St.
Crowne, Jos. Vincent,	Main	607 W. 138th St.
Curoe, Philip R. V.,	Main	467 W. 166th St.
Curtis, Robert W.,	Chem.	515 W. 143d St.
Curtman, Louis J.,	Chem.	600 W. 150th St.
Dailey, John J.,	Gym.	227 E. 43d St.
Damen, Robert J.,	T. H. H.	370 Convent Ave.
Davis, Robert V.,	Main	222 W. 23d St.
DeGrootd, Jas. Hervey,	C. H.	73 Prescott Pl., Jersey City, N. J.
Delamarre, Louis,	Main	237 Tecumseh Ave., Mt. Vernon, N. Y.
De Walsh, Faust C.,	Main	664 W. 179th St.
Dickson, Arthur,	Main	52 W. 129th St.
Dielman, Frederick,	Main	Convent Ave. and 139th St.
Downer, Charles A.,	Main	802 W. 181st St.
Dressler, Robert,	Main	518 E. 85th St.
Duggan, Stephen P.,	Main	11 Myrtle St., White Plains, N.Y.
Edwards, Dayton J.,	Main	505 W. 124th St.
Edwards, George V.,	T. H. H.	2413 Lorillard Pl., Bronx.
Edwards, George W.,	T. H. H.	Hartsdale, N. Y.
Elias, Alfredo,	T. H. H.	544 W. 157th St.
Estabrooke, Wm. L.,	Chem.	12 Prospect Drive, Yonkers, N. Y.
Ettari, Francesco,	T. H. H.	43 Mayflower Ave., New Rochelle, N. Y.
Feinberg, Benj. G.,	Chem.	530 W. 123d St.
Fitzpatrick, Jos. E.,	T. H. H.	315 W. 51st St.
Fox, William,	Main	575 W. 183d St.
François, Victor E.,	Main	260 Convent Ave.
Friedburg, L. Henry,	Chem.	601 W. 148th St.
Friedland, Louis S.,	T. H. H.	364 W. 121st St.
Fuentes, Ventura,	Main	518 W. 143d St.
Garences, Jean des,	T. H. H.	134 Madison Ave., Flushing, L. I.
Geoghan, Wm. F. X.,	T. H. H.	1748 46th St., Brooklyn.
Goldfarb, A. J.,	Main	251 W. 112th St.
Goldsmith, Alfred N.,	Main	100 Hamilton Place.
Gottschall, Morton,	Main	947 Avenue St. John, Bronx.
Green, Gabriel M.,	T. H. H.	2031 Seventh Ave.
Green, Howard C.,	T. H. H.	2940 Broadway.
Grendon, Felix,	Main	262 W. 99th St.
Groesbeck, Kenneth,	T. H. H.	447 Fort Washington Ave.
Guthrie, William B.,	Main	515 W. 111th St.
Haas, George C. O.,	T. H. H.	254 W. 136th St.
Haight, Samuel C.,	T. H. H.	1426 Clinton Ave.
Halliday, Edgar,	T. H. H.	221 Eighth Ave., Brooklyn.

Hanaway, Samuel,	Main	220 Audubon Ave.
Hansen, Canute H.,	Gym.	124 Convent Ave.
Hansen, Henry E.,	Gym.	505 W. 177th St.
Hartmann, Jacob W.,	T. H. H.	468 W. 153d St.
Haskell, William H.,	T. H. H.	Scarsdale, N. Y.
Hatch, Robert H.,	Main	166 W. 74th St.
Hayes, George M.,	T. H. H.	3091 Decatur Ave., Bronx.
Healy, Joseph X.,	Main	2582 Eighth Ave.
Heard, Walter S.,	Gym.	610 W. 115th St.
Heckman, Samuel B.,	Main	390 Wadsworth Ave.
Herbermann, Chas. Geo.,	Main	346 Convent Ave.
Heynich, Richard O.,	T. H. H.	500 W. 144th St.
Holton, Herbert M.,	C. H.	3872 Boston Road, Bronx.
Horne, Chas. F.,	Main	616 W. 148th St.
Hubert, Warren G.,	T. H. H.	269 McLean Ave., Yonkers.
Hunt, Leigh Harrison,	Main	45 W. 11th St.
Hutchison, Frederick W.,	T. H. H.	45 E. 59th St.
Ilgen, Ernest,	Main	689 St. John's Place, Brooklyn.
Jeffery, Haswell C.,	C. H.	558 W. 164th St.
Johnston, Henry P.,	Main	221 W. 49th St.
Joralemon, F. Parker,	Chem.	609 Washington St., Boonton, N. J.
Kammerer, Paul T., Jr.,	T. H. H.	157 E. 46th St.
Keep, Austin B.,	T. H. H.	Livingston Hall, Columbia University.
Keiley, Jarvis,	T. H. H.	Grantwood, N. J.
Keleher, Michael J.,	T. H. H.	1027 Southern Boulevard.
Kelly, J. Redding,	T. H. H.	55 W. 95th St.
Kepler, Emil A. C.,	T. H. H.	210 Drake Ave., New Rochelle, N. Y.
Kinkeldey, Carl W.,	Main	1041 Faile St., Bronx.
Klapper, Paul,	Main	1157 Longfellow Ave., Bronx.
Klein, Arthur J.,	T. H. H.	421 W. 118th St.
Klein, David,	T. H. H.	1214 Boston Road, Bronx.
Knickerbocker, Wm. E.,	Main	23 W. 129th St.
Kost, Henry G.,	Main	472 E. 134th St.
Krowl, Harry C.,	Main	335 W. 14th St.
Kurz, Harry,	T. H. H.	507 W. 113th St.
Laffargue, Gaston A.,	Main	1944 Madison Ave.
Lang, John T.,	T. H. H.	51 Charlton St.
Lattin, Berton,	Gym.	131 E. 69th St.
Lease, Emory B.,	Main	St. Regis Court, 3675 Broadway.
Leber, Otto H.,	Main	269 W. 73d St.
Le Maire, Edmond E. A.,	T. H. H.	3057 Webster Ave., Bedford Park.
Levussove, M. Stuart,	Main	118 E. 92d St.
Linehan, Paul H.,	Main	607 W. 138th St.
Lowther, Hugh S.,	T. H. H.	610 Riverside Drive.
McCarty, Harriet L.,	Main	23 Hamilton Terrace.
McCormick, Radford J.,	Gym.	323 Edgecombe Ave.

MacDougall, Robert B.,	T. H. H.	600 W. 136th St.
McGuckin, William G.,	Main	176 W. 105th St.
McKenzie, Lionel B.,	Gym.	474 W. 152d St.
McLoughlin, F. O. X.,	Main	260 Convent Ave.
Magarge, Samuel J.,	T. H. H.	510 W. 140th St.
Marcus, Alexander,	Main	166 W. 83d St.
Marique, Pierre J.,	T. H. H.	3270 Perry Ave.
Marsh, Howard D.,	Main	734 St. Nicholas ave.
Mayers, Lewis,	T. H. H.	601 W. 190th St.
Mead, Nelson P.,	Main	1601 Jerome Ave.
Mendelsohn, Chas. J.,	T. H. H.	18 Hamilton Terrace.
Moody, Herbert R.,	Chem.	330 Convent Ave.
Moore, Justin H.,	Main	13 W. 129th St.
Moore, Thomas R.,	Main	14 W. 128th St.
Morse, Livingston B.,	T. H. H.	Spring Valley, N. Y.
Mosher, Joseph A.,	Main	Furnald Hall, 2940 Broadway.
Mott, Lewis F.,	Main	172 W. 79th St.
Neus, Engelbert,	Main	703 W. 171st St.
Newton, Homer C.,	Main	Hastings-on-Hudson, N. Y.
O'Neil, Richard J.,	Gym.	3605 Broadway.
Otis, Wm. Bradley,	Main	504 W. 112th St.
Overstreet, Harry A.,	Main	High St., White Plains, N. Y.
Palmer, Earle Fenton,	Main	828 St. Nicholas Ave.
Palmer, Erastus,	Main	260 Convent Ave.
Palmer, Leonard L.,	Gym.	408 W. 150th St.
Panaroni, Alfred G.,	T. H. H.	21 W. 129th St.
Parmelee, Maurice,	Main	519 W. 123d St.
Parmly, C. Howard,	Main	524 W. 114th St.
Pearl, Joseph,	T. H. H.	1375 Franklin Ave.
Peckwell, Henry W.,	T. H. H.	2338 University Ave.
Pedersen, Frederick M.,	Main	452 W. 144th St.
Philip, Maximilian,	Main	450 W. 149th St.
Powell, H. Wheeler,	T. H. H.	The Aphorp, B'way and 79th St.
Prager, William L.,	Chem.	414 W. 120th St.
Purcell, Raymond F.,	Gym.	551 W. 161st St.
Quackenbos, G. Payn,	T. H. H.	331 W. 28th St.
Redmond, Daniel W.,	Main	1743 Montgomery Ave., Bronx.
Reich, Lorenz, Jr.,	T. H. H.	23 E. 44th St.
Reichardt, Paul H.,	Gym.	318 W. 57th St.
Reynolds, Frederick G.,	Main	437 W. 147th St.
Richter, Kurt E.,	Main	2730 Creston Ave., Bronx.
Roberts, Carroll M.,	Gym.	Livingston Hall, Columbia.
Robinson, Frederick B.,	Main	537 W. 149th St.
Rougier, Francis L.,	T. H. H.	4006 Pratt Ave.
Rupp, August,	Main	14 Hamilton Terrace.
Saurel, Paul L.,	Main	524 W. 150th St.
Saxton, Lynn Mateer,	T. H. H.	843 W. 179th St.
Schapiro, Jacob S.,	T. H. H.	515 W. 139th St.

Schoen, Emile,	Main	65 E. 93d St.
Schuler, John,	T. H. H.	3924 Avenue K, Brooklyn.
Schulman, Abram G.,	T. H. H.	346 E. 173d St.
Schulz, Gustav F.,	T. H. H.	506 W. 143d St.
Schuyler, Livingston R.,	Main	567 W. 139th St.
Schwartz, Thomas G.,	Main	27 E. 7th St.
Schwarz, Samuel A.,	T. H. H.	558 W. 164th St.
Scott, George G.,	Main	899 Valley Road, Upper Montclair, N. J.
Senftner, Alexis E.,	T. H. H.	428 W. 154th St.
Sickels, Ivin,	Main	West Nyack, N. Y.
Sim, John Robert,	T. H. H.	536 W. 156th St.
Simmons, Thomas A.,	Gym.	235 E. 28th St.
Simonds, Eugene F.,	T. H. H.	501 W. 123d St.
Simonds, Stanley,	Main	516 W. 142d St.
Smith, Calvin Rae,	T. H. H.	104 Decatur St., Brooklyn.
Smith, Robert F.,	T. H. H.	614 W. 146th St.
Snider, Guy Edward,	Main	511 W. 112th St.
Sohn, Joseph,	T. H. H.	152 W. 93d St.
Stair, Bird W.,	Main	2336 Loring Place.
Stebbins, Homer A.,	T. H. H.	431 W. 121st St.
Stevenson, Reston,	Chem.	510 W. 140th St.
Stokes, Robert T.,	Chem.	800 Argyle Rd., Brooklyn.
Storey, Thomas Andrew,	Gym.	660 Riverside Drive.
Stork, Edward J.,	T. H. H.	212 Hancock Ave., Jersey City.
Taaffe, Thos. Gaffney,	Main	332 Manor Road, Castleton Corners, S. I.
Thompson, Holland,	T. H. H.	102 Waverley Place.
Tilmont, Ralph,	T. H. H.	603 W. 140th St.
Tisdall, FitzGerald,	Main	146 Central Park West.
Toussaint, Camille A.,	T. H. H.	3688 Boulevard, Jersey City, N. J.
Truesdell, Waldo B.,	Main	515 W. 143d St.
Turner, Arthur B.,	Main	245 N. Mountain Ave., Montclair, N. J.
Turner, John P.,	Main	504 W. 122d St.
Tynan, Joseph L.,	Main	911 Ogden Ave., Bronx.
Voelkel, Titus,	Main	502 W. 139th St.
Warren, Herbert S.,	Main	468 E. 134th St.
Weill, Felix,	Main	50 Morningside Ave.
Weinberg, Louis,	T. H. H.	539 W. 162d St.
Werner, Adolph,	Main	401 West End Ave.
Wetzel, Reinhard A.,	Main	505 W. 142d St.
White, James R.,	Main	382 Wadsworth Ave.
Whitelock, Wm. Wallace	T. H. H.	758 West End Ave.
Whiteside, Donald,	Main	522 W. 157th St.
Whitford, Edward E.,	T. H. H.	180 Claremont Ave.
Whyte, W. Alexander,	T. H. H.	530 W. 136th St.
Wickham, Joseph F.,	T. H. H.	513 W. 144th St.

Williams, David L.,
Williamson, Walter,
Winslow, C-E. A.,
Woll, Frederic A.,

Chem. 38 W. 75th St.
Gym. 962 Anderson Ave.
Main 411 W. 114th St.
Gym. 1013 Home St., Bronx.

ENROLLMENT.

For the Year Ending June, 1914.

UPPER SENIOR CLASS.

Astrofsky, Philip	Sc.	3	200 Madison St.
Banks, Louis	Sc.	1	47 Morton St.
Batt, Ralph	Sc.	2	1733 Anthony Ave., Bronx
Bennett, Alfred C.	Arts	2	602 W. 137th St.
Berman, Gustave	Arts	3	3675 Broadway
Brandstadter, Simon	Sc.	3	1462 Fifth Ave.
Buchter, Morris	Arts	1	553 Ninth Ave.
Caicedo, Hernando	Arts	3	102 Bay 31st St., Bklyn.
Carr, Stephen C.	Sc.	3	18 W. 96th St.
Chapman, Isaac	Sc.	2	422 W. 119th St.
Cohen, Isidore	Sc.	3	846 Kelly St., Bronx
Cohen, Louis	Arts	2	408 W. 42d St.
Costello, Harold L.	Arts	1	467 W. 143d St.
Cristiano, Charles G.	Arts	2	788 Forest Ave., Bronx
Crowley, Henry L.	Sc.	3	71 E. 87th St.
Deutsch, Abraham	Arts	2	1319 Clay Ave., Bronx
Deutsch, Jacob	Arts	3	57 E. 105th St.
Drapkin, Jacob	Sc.	3	77 Market St.
Feinstein, Abraham	Arts	2	270 New Lots Road, Bklyn.
Goldberg, Jacob	Arts	2	1729 Anthony Ave., Bronx
Goldklang, Samuel	Sc.	3	57 E. 117th St.
Goldstein, Harry	Sc.	3	1449 Minford Place, Bronx
Goldstein, Herman	Arts	2	131 W. 137th St.
Goodstein, Jacob	Arts	2	38 Harrison St.
Greenberg, Joseph	Sc.	3	945 70th St., Bklyn.
Gutowitz, Benjamin	Arts	3	2153 Seventh Ave.
Hahn, Paul M.	Arts	2	385 Fort Washington Ave.
Hammond, Robert J.	Arts	3	657 46th St., Bklyn.
Harris, Meyer	Sc.	3	10 Eldridge St.
Havender, Joseph	Sc.	2	236 Tremont Ave., Bronx
Hohenstein, Jack	Sc.	1	422 E. 79th St.
Ivler, Samuel	Arts	3	148 Union Ave., Bklyn.
Jacobson, Joseph	Sc.	3	240 E. 21st St.
Johnson, Ellis A.	Sc.	1	247 Hopkins St., Bklyn.
Katz, Henry	Arts	2	154 Ridge St.
Kawanov, Jacob	Sc.	1	871 Tiffany St., Bronx
Klenke, Francis M.	Sc.	3	1165 Park Ave.
Kohn, Max	Arts	3	212 E. 2d St.
Kraft, James	Arts	3	343 S. 1st St., Bklyn.

Kramer, Rudolph.....	Sc.	1	1871 Seventh Ave.
Kramer, Sidney D.....	Sc.	3	1653 St. Mark's Ave., Bklyn.
Kümmerle, Harrison M.....	Sc.	3	538 E. 142d St., Bronx
La Chapelle, Jacques de.....	Sc.	3	33 S. William St.
Levy, Joseph.....	Sc.	3	984 Simpson St., Bronx
Liftman, Emanuel.....	Sc.	2	948 Fox St., Bronx
Malino, Jerome E.....	Arts	2	1363 Stebbins Ave., Bronx
Matthews, Jerome.....	Arts	3	625 W. 156th St.
McGrath, Harold.....	Sc.	3	561 W. 180th St.
Miller, Samuel C.....	Arts	3	111 Essex St.
Moore, George P.....	Arts	1	235 W. 137th St.
O'Connor, Edward P.....	Sc.	2	515 Clinton St., Bklyn.
Priess, William H.....	Sc.	3	523 W. 123d St.
Raskin, Irving.....	Arts	3	12 E. 106th St.
Ritter, Irving.....	Arts	2	548a Willoughby Ave., Bklyn.
Rotkowitz, Harry.....	Arts	2	12 E. 85th St.
Schiff, Hyman.....	Arts	2	232 Division St.
Shircas, Hyman.....	Arts	2	124 Boerum St., Bklyn.
Southwick, Everett.....	Sc.	3	116 W. 11th St.
Tenrosen, Daniel.....	Arts	2	1464 Fifth Ave.
Troper, Morris.....	Arts	2	1806 Bath Ave., Bklyn.
Vinegrad, George.....	Sc.	1	345 E. 66th St.
Weinberg, Aaron O.....	Arts	3	174 Broome St.
Weiss, Abraham.....	Arts	2	156 N. 5th St., Bklyn.
Wiesenberg, William M.....	Sc.	3	307 E. 83d St.
Willbach, Harry.....	Arts	3	170-72 Second St.
Ziegler, Jerome M.....	Arts	2	155 E. 97th St.

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LOWER SENIOR CLASS.

Balenzweig, Isidor.....	Sc.	1	1201 Simpson St., Bronx
Balkind, Max.....	Sc.	3	35 E. 110th St.
Biloon, Solomon.....	Sc.	2	1222 Boston Road, Bronx
Blodnick, Morris.....	Arts	2	39 Attorney St.
Boskowitz, Morris.....	Arts	3	8 W. 115th St.
Cantor, Jacob A.....	Arts	1	514 W. 134th St.
Denslow, Roy R.....	Sc.	3	201 W. 130th St.
Diamond, Joseph.....	Arts	2	310 E. 27th St.
Donoghue, James W.....	Arts	1	209 E. 205th St., Bronx
Drachman, Julian M.....	Sc.	2	128 W. 121st St.
Eisner, Harry.....	Sc.	1	652 E. 12th St.
Epstein, Moses P.....	Arts	2	748 Beck St., Bronx
Farb, Henry.....	Arts	2	938 Longwood Ave., Bronx
Feinstein, Abraham.....	Arts	2	79 Stanton St.
Feldman, Hyman.....	Arts	3	1505 Charlotte St., Bronx
Flanagan, John.....	Arts	1	272 W. 11th St.

Fleisher, Leon.....	Arts 1	138 Smart Ave., Flushing, L. I.
Freilich, Aaron.....	Sc. 1	280 Stanton St.
Fried, Henry.....	Arts 2	1456 Wilkins Ave., Bronx
Goodman, Herman.....	Arts 2	27 Lewis St.
Goodman, Theodore.....	Arts 1	435 Lenox Ave.
Gordon, Frank E.....	Arts 2	182 Russell St., Bklyn.
Greenberg, Lewis.....	Sc. 3	543 E. 139th St., Bronx
Grossman, Leonard M.....	Arts 2	815 Avenue W, Bklyn.
Hartman, John J.....	Sc. 3	203 W. 122d St.
Harvey, Maitland.....	Sc. 3	300 W. 142d St.
Hickey, Daniel M.....	Sc. 2	463 W. 166th St.
Hirschberg, Samuel.....	Sc. 1	201 Avenue B.
Holmes, Robert D., Jr.....	Arts 1	279 Winthrop St., Bklyn.
King, Bernard H.....	Arts 2	34 W. 128th St.
Knapp, Ernest	Sc. 3	661 Wilson Place, Bronx
Kunicki, Stanley.....	Arts 1	1664 Lexington Ave.
Langh, Philip A.....	Arts 3	637 E. 6th St.
Laufer, Morris.....	Sc. 3	152 E. 106th St.
Licht, Emanuel.....	Arts 3	5 W. 112th St.
Lieberman, Jacob.....	Sc. 3	29 Cannon St.
Linhart, Emanuel.....	Arts 3	424 E. 77th St.
Loew, Allan A.....	Arts 2	473 Madison St., Bklyn.
Malone, John S.....	Arts 2	228 W. 142d St.
Malzberg, Benjamin.....	Sc. 3	1761 Bathgate Ave., Bronx
McPherson, James B.....	Arts 3	211 W. 85th St.
Meyer, E. Pennington.....	Sc. 3	104 W. 94th St.
Mones, Leon.....	Arts 2	1392 Franklin Ave., Bronx
Murphy, Edmund J.....	Sc. 3	612 W. 182d St.
Neuman, Mortimer.....	Arts 2	114 W. 120th St.
Nussbaum, Sydney.....	Sc. 2	2961 W. 23d St., Bklyn.
O'Connell, Richard J.....	Arts 3	354 E. 79th St.
Paucek, George.....	Sc. 3	338 E. 70th St.
Pitler, Morris	Arts 2	485 E. 173d St., Bronx
Planick, Charles.....	Arts 2	623 W. 136th St.
Ricca, Frank J.....	Arts 2	314 E. 115th St.
Riemer, Edwin.....	Arts 3	504 W. 130th St.
Ringer, Michael.....	Sc. 2	625 Jefferson Pl., Bronx
Salkin, Bernard.....	Sc. 1	342 Hopkinson Ave., Bklyn.
Saltman, Joseph.....	Arts 3	814 Hewitt Pl., Bronx
Schamus, Abraham.....	Sc. 3	1057 Hoe Ave., Bronx
Schulberg, Sol.....	Arts 2	2137 Crotona Ave., Bronx
Schurman, Max.....	Sc. 3	656 Crotona Park South, Bronx
Shainmark, Frank J.....	Sc. 3	1779 Fulton Ave., Bronx
Shapiro, Alex.....	Sc. 3	657 Cauldwell Ave., Bronx
Slavin, Max A.....	Arts 2	61 East Broadway
Spiegler, Charles	Sc. 1	365 Sutter Ave., Bklyn.
Stevenson, D. Franklin.....	Arts 2	1730 Garfield St., Bronx
Storch, Hyman.....	Sc. 3	1737 Madison Ave.

Strauss, Joseph	Sc. 3	2 Attorney St.
Strumpf, Benjamin.....	Arts 3	174 Broome St.
Suchman, Harry.....	Arts 3	603 W. 139th St.
Sullivan, William P.....	Arts 2	426 E. 162d St., Bronx
Waring, J. Ferris.....	Sc. 2	654 Southern Boulevard, Bronx
Weiss, Julius.....	Arts 3	309 E. 79th St.
Wenderoff, Abraham	Sc. 3	174 Monroe St.
Youngwitz, Gabriel S.....	Arts 2	507 Concord Ave., Bronx
Zimmerman, Joseph.....	Arts 3	636 E. 5th St.
Zinner, Jacob.....	Sc. 3	62-64 Columbia St.
Zitner, Morris	Arts 1	172-74 McKibben St., Bklyn.
Zucker, Harry.....	Sc. 1	23 E. 109th St.
Zweifel, Joseph J.....	Sc. 1	59 E. 130th St.
Zwickel, Isidor.....	Arts 2	36 Osborn St., Bklyn.
Total		78

UPPER JUNIOR CLASS.

Amend, Charles E.....	Arts 2	459 W. 155th St.
Barnason, Charles F.....	Arts 2	249 55th St., Bklyn.
Battistella, Francesco.....	Sc. 1	506 E. 82d St.
Berger, Joseph.....	Sc. 3	105 E. 123d St.
Berkowitz, Harry.....	Sc. 1	543 E. 171st St., Bronx
Berrigan, John F.....	Arts 2	1743 Beacon St., Bronx
Boston, Henry R.....	Sc. 3	3 Sutton Place
Brenner, Isadore P.....	Arts 2	276 St. Ann's Ave., Bronx
Bristol, Edward S.....	Sc. 3	167 W. 81st St.
Brown, David.....	Sc. 1	320 E. 6th St.
Campbell, Charles	Arts 2	1123 Lind Ave., Bronx
Campiglia, Frank, Jr.....	Arts 2	170 Union Ave., Bklyn.
Cawley, Charles A.....	Sc. 3	1019 Trinity Ave., Bronx
Cohen, Frank.....	Arts 3	279 Hinsdale St., Bklyn.
Cohen, Mortimer J.....	Arts 1	240 W. 143d St.
Coleman, Laurence V.....	Sc. 3	150 Maple St., Bklyn.
Dalton, Hugh F.....	Arts 2	33 Vandam St.
Davidson, Arthur W.....	Sc. 3	238 E. 69th St.
Distefano, Alfredo.....	Arts 3	403 E. 22d St.
Eichner, Benjamin.....	Arts 3	1392 Madison Ave.
Finkelstein, Louis.....	Arts 1	39 Thatford Ave., Bklyn.
Frank, David H.....	Sc. 1	850 E. 156th St., Bronx
Frankel, Leo.....	Arts 3	20 E. 106th St.
Freiberg, Hyman.....	Sc. 3	147 Lenox Ave.
Fried, Samuel.....	Sc. 1	340-42 E. 4th St.
Fried, Sydney W.....	Arts 3	1228 Clay Ave., Bronx
Furman, Martin A.....	Arts 2	83 Second Ave.
Goldberg, Ferdinand.....	Arts 3	968 Kelly St., Bronx
Goldberg, Philip P.....	Sc. 3	926 Southern Boulevard, Bronx

Goldsmith, Max.....	Sc. 3	359 E. 8th St.
Goldstein, Samuel.....	Sc. 3	1067 Prospect Ave., Bronx
Grabson, Emanuel.....	Sc. 3	185 Seventh St.
Greene, Percy E.....	Arts 3	61 Fiftieth St., Corona, L. I.
Hammer, Louis.....	Arts 1	166 Henry St.
Handelman, Jacob S.....	Arts 2	121 St. Mark's Place
Hauser, Edwin T.....	Arts 2	145 E. 82d St.
Held, Nathaniel.....	Arts 2	22 W. 113th St.
Hendelman, Isidor.....	Arts 3	966 St. Nicholas Ave.
Horowitz, Morris.....	Sc. 3	72 Ridge St.
Hyak, Charles.....	Sc. 3	403 E. 73d St.
Icahn, Michael.....	Arts 2	213 Scholes St., Bklyn.
Inkeles, Abraham.....	Sc. 3	90 Chrystie St.
Jaffe, Solomon.....	Sc. 1	1326 Fifth Ave.
Kadison, Alexander.....	Arts 1	1109 Jefferson Ave., Bklyn.
Kanner, Samuel.....	Arts 3	805 E. 5th St.
Karowsky, David.....	Sc. 3	50-54 E. 112th St.
Katz, Herbert S.....	Sc. 2	249 E. 68th St.
Kilpatrick, Martin.....	Arts 2	511 W. 168th St.
Koster, Frederick W.....	Sc. 1	1157 Madison St., Bklyn.
Kramer, Samuel.....	Arts 3	232 Henry St.
Kupec, William J.....	Sc. 3	340 E. 71st St.
Kurtz, Louis.....	Sc. 1	170 Rivington St.
Leichtman, Max.....	Arts 1	605 E. 138th St., Bronx
Lewis, Harold.....	Arts 3	555 W. 149th St.
Lichtenstein, Michael.....	Arts 2	80 Willett St.
Lieb, Michael.....	Arts 3	129 E. 4th St.
Lipschitz, Joseph H.....	Sc. 3	104 E. 107th St.
Manley, Donald R.....	Sc. 1	214 Macon St., Bklyn.
Markowitz, Alexander.....	Sc. 1	237 Hart St., Bklyn.
Martin, Joseph E.....	Arts 1	409 W. 19th St.
Meyerson, Oscar.....	Arts 2	1686 Madison Ave.
Meyrowitz, Julius.....	Arts 2	849 Whitlock Ave., Bronx
Mikol, Louis C.....	Sc. 3	241 E. 87th St.
Mintzer, Joseph.....	Arts 3	66 Stanton St.
Mullen, George J.....	Sc. 3	295 W. 150th St.
Nachsatz, Jesse.....	Sc. 3	318 Madison St., Bklyn.
O'Connell, Augustus A.....	Arts 3	354 E. 79th St.
O'Connell, Nicholas.....	Sc. 3	354 E. 79th St.
Oesterreicher, Osias.....	Sc. 3	1098 Simpson St., Bronx
Olsson, Nils W.....	Arts 2	2233 Story Ave., Bronx
Pels, Herbert.....	Sc. 2	840 Lexington Ave.
Peterson, Martin D. S.....	Arts 2	161 E. 34th St.
Port, Benjamin.....	Arts 3	264 Cherry St.
Rappaport, Gustav S.....	Sc. 3	1519 St. Mark's Ave., Bklyn.
Rauch, Nathan A.....	Sc. 3	1328 Fifth Ave.
Regard, Leon J.....	Sc. 3	707 Amsterdam Ave.
Reiman, Harry.....	Arts 3	946 E. 167th st., Bronx

Rosen, Max.....	Sc. 3	71 E. 109th st.
Rothstein, Morris.....	Arts 2	975 Union Ave., Bronx
Ryba, J. Francis.....	Sc. 3	447 E. 77th St.
Samuelson, Sidney E.....	Sc. 2	736 Home St., Bronx
Schachner, Nathan.....	Sc. 1	2022 Eastchester Rd., Bronx
Schaffer, Harry E.....	Sc. 3	515 E. 134th St., Bronx
Schatzberg, Sigmund.....	Sc. 3	139 W. 143d St.
Schechter, Louis.....	Arts 1	398 S. 1st St., Bklyn.
Scheer, Henry I.....	Sc. 2	472 E. 146th St., Bronx
Schiffman, Frank.....	Sc. 3	663 E. 165th St., Bronx
Schwartz, Joseph.....	Sc. 3	135 Henry St.
Shapiro, David.....	Sc. 3	141 E. 114th St.
Siegel, Martin.....	Arts 2	591 Prospect Ave., Bronx
Siyavitz, Benjamin.....	Arts 1	265 Madison St.
Smith, Karl.....	Arts 2	1525 Charlotte St., Bronx
Stern, Harry R.....	Sc. 3	1183 Third Ave.
Stockel, Samuel.....	Arts 2	429 E. 147th St., Bronx
Train, George F.....	Arts 2	5 Convent Hill, W. 130th St.
Weinstein, Nathan.....	Sc. 1	131-33 Ave. A
Weiss, Charles.....	Sc. 3	359 E. 10th St.
Weiss, Joseph.....	Sc. 3	380 E. 8th St.
Zajac, Harry M.....	Sc. 1	562 Columbus Ave.
Zukin, Isidor.....	Sc. 2	264 East Broadway

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LOWER JUNIOR CLASS.

Aaronson, Henry.....	Sc. 1	230 E. 41st St.
Abrahams, Morton.....	Arts 2	611 W. 141st St.
Abrams, Sol.....	Arts 3	56 E. 117th St.
Adler, Howard.....	Sc. 3	402 W. 148th St.
Albrecht, Arthur E.....	Arts 2	1681 Lexington Ave.
April, Max.....	Sc. 3	1997 Seventh Ave.
Aronovitz, Henry.....	Sc. 3	1581 First Ave.
Auerbach, Solomon.....	Sc. 2	501 W. 135th St.
Brown, J. T. Lindsay.....	Sc. 3	2439 Jerome Ave., Bronx
Burrows, Joseph C.....	Arts 2	82 W. 105th St.
Cohen, Barrett.....	Sc. 3	1344 Boone Ave., Bronx
Cohen, Harry.....	Sc.	96 Bay 17th St., Bklyn.
Cohen, Jacob.....	Sc. 3	289 Wyona St., Bklyn.
Cohen, Jacob E.....	Sc. 3	666 E. 164th St., Bronx
Conlan, Vincent F.....	Sc. 3	2821 Valentine Ave., Bronx
Coulton, Thomas E.....	Arts 3	54 Hamilton Place
Dill, Gilbert T.....	Sc. 3	485 W. 135th St.
Dounn, David K.....	Sc. 3	530 Manhattan Ave.
Epstein, David.....	Arts 1	106 W. 114th St.
Feinberg, Norman.....	Sc. 2	310 E. 79th St.

Frankenstein, Louis.....	Sc. 1	57 E. 117th St.
Fried, Maurice A.....	Arts 3	2 E. 115th St.
Goldsmith, Jacob B.....	Arts 3	351 E. 3d St.
Goodman, Hyman.....	Sc. 2	1518 Madison Ave.
Goold, James.....	Sc. 2	235 Second Ave.
Graham, Jacob.....	Arts 2	122-24 W. 143d St.
Greenberg, Jacob.....	Sc. 2	416-18 Grand St.
Greene, Matthew.....	Arts 2	945 Hoe Ave., Bronx
Gross, Paul.....	Sc. 1	620 W. 179th St.
Grossman, Max.....	Arts 2	234 E. 14th St.
Gutowitz, Solomon.....	Arts 2	2153 Seventh Ave.
Haff, Richard M.....	Arts 2	16-18 E. 40th St.
Halpern, Isaac B.....	Arts 3	761 E. 156th St., Bronx
Hammer, Jacob.....	Sc. 2	194 S. 2d St., Bklyn.
Hankin, Henry.....	Sc. 1	1025 Boston Road, Bronx
Himowich, Harold E.....	Sc. 1	1913 Madison Ave.
Hirschberg, Abraham A.....	Arts 2	311 Wallabout St., Bklyn.
Hoffman, Samuel.....	Arts 2	501 W. 172d St.
Hood, Everett D.....	Arts 1	920 Delamere Place, Bklyn.
Hopkins, Carleton R.....	Arts 2	275 Halsey St., Bklyn.
Horowitz, George J.....	Arts 3	156 E. 94th St.
Isaacs, Hyman.....	Arts 2	545 E. 146th St., Bronx
Isaacson, Isidor.....	Sc. 3	1521 Pitkin Ave., Bklyn.
Jacobson, Jacob A.....	Arts 2	659 Morris Park Ave., Bronx
Jaffe, Benjamin.....	Sc. 3	241 Monroe St.
Kanter, Emanuel.....	Sc. 3	65 Lenox Ave.
Karshan, Max.....	Sc. 2	1863 Park Place, Bklyn.
Kassenbrock, Christopher G.....	Sc. 3	19 Wolcott St., Bklyn.
Klein, Nelson.....	Arts 2	565 W. 139th St.
Kosloff, Alexander H.....	Arts 2	214 Madison St.
Kramer, Felix.....	Sc. 1	654 E. 183d St., Bronx
Krinowsky, Daniel G.....	Sc. 3	253 Madison St.
Kuenstler, Armen.....	Sc. 1	723 E. 161st St., Bronx
Landy, Abraham.....	Sc. 2	2948 Third Ave., Bronx
Leikin, Royal.....	Sc. 2	73 Conselyea St., Bklyn.
Levine, Samuel Z.....	Arts 2	9 E. 101st St.
Levy, Abraham.....	Sc. 3	607 Water St.
Logie, Quentin R.....	Sc. 3	2652 Decatur Ave., Bronx
Maclaire, Aaron S.....	Arts 2	347 E. 87th St.
Marcus, Siegbert.....	Arts 2	933 E. 167th St., Bronx
McAusland, Robert J., Jr.....	Sc. 3	704 Ninth Ave.
McGill, James V.....	Arts 2	846 Lafayette Ave., Bklyn.
Miller, George.....	Sc. 1	724 E. 158th St., Bronx
Moerchen, Helmuth A.....	Arts 2	101 E. 91st St.
Moskowitz, Morris A.....	Arts 2	110 Rivington St.
Muldofsky, Samuel.....	Arts 2	166 Riverdale Ave., Bklyn.
Mulholland, James V.....	Arts 2	447 W. 47th St.
Nelson, George A., Jr.....	Sc. 3	114 Morningside Drive

Palinsky, Max.....	Arts 3	4015 13th Ave., Bklyn.
Pasvolsky, Leo.....	Arts 2	178 Second Ave.
Popkin, Maxwell.....	Sc. 2	3 E. 114th St.
Rabinowitz, Benjamin.....	Arts 2	159 Marcy Ave., Bklyn.
Rosenblum, Joseph.....	Sc. 2	100 Second Ave.
Rosenstein, David.....	Sc. 2	85 Attorney St.
Scarlata, Joseph, Jr.....	Arts 2	1937 Gravesend Ave., Bklyn.
Schneider, Abraham.....	Arts 3	2196 Dean St., Bklyn.
Schwartz, Louis G.....	Arts 3	103 E. 4th St.
Schwartz, Otto.....	Arts 2	378 Keap St., Bklyn.
Shapiro, Philip.....	Arts 3	102 E. 109th St.
Shauer, Melville A.....	Sc. 1	849 St. Nicholas Ave.
Shulman, Gilbert.....	Arts 2	145 E. 111th St.
Siegel, Isaac.....	Arts 2	29 W. 111th St.
Silverstein, Morris.....	Arts 3	1947 Second Ave.
Sindeband, Max M.....	Arts 3	74 E. 93d St.
Singer, Nathan.....	Arts 2	150 Suffolk St.
Smith, Frank.....	Arts 2	1846 E. 177th St., Bronx
Solomon, Joseph E.....	Arts 3	323 E. 79th St.
Stark, Irving W.....	Arts 2	3378 Fort Independence St., Bronx
Stich, Herman J.....	Arts 3	444 Clairmont Parkway, Bronx
Stickney, George J.....	Arts 2	464 E. 186th St., Bronx
Strumpf, David L.....	Sc. 3	946 Kelly St., Bronx
Studley, William H. S.....	Sc. 3	346 W. 42d St.
Summerfield, David W.....	Sc. 1	975 Jefferson Ave., Bklyn.
Van de Vort, Stuart L.....	Arts 3	467 W. 143d St.
Wallach, Max.....	Sc. 3	165 Floyd St., Bklyn.
Weil, Walter L.....	Arts 2	253 Burnside Ave., Bronx
Weiss, Charles.....	Sc. 2	51 Hamilton Place
Welke, Rudolph.....	Sc. 3	25 St. John's Place, Bklyn.
Wikoff, Alan G.....	Sc. 1	661 W. 179th St.
Wilchins, Moe.....	Arts 2	4817 White Plains Ave., Bronx
Wodzazka, Jacob, Jr.....	Arts 3	4713 Richardson Ave., Bronx
Wolfe, Bertram D.....	Arts 3	148 Berriman St., Bklyn.
Wolff, Samuel.....	Sc. 1	1327 Bristow St., Bronx
Wolk, Irving.....	Arts 3	1 E. 111 St.
Wolowitz, Abraham C.....	Sc. 1	605 Sutter Ave., Bklyn.
Wright, Harold.....	Arts 2	161 E. 82d St.
Zimmerman, Julius.....	Sc. 1	627 Saratoga Ave., Bklyn.

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UPPER SOPHOMORE CLASS.

Ackman, Benjamin.....	Sc. 2	970 Union Ave., Bronx
Alport, Max.....	Sc. 2	1355 East New York Ave., Bklyn.
Archer, Benjamin.....	Arts 2	1345 Franklin Ave., Bronx
Aronson, David.....	Arts 2	36 Pike St.
Austin, Harold W.....	Sc. 3	1294 Lexington Ave.

Babor, Joseph F.....	Sc. 1	447 E. 77th St.
Barash, Louis.....	Arts 2	177 Forsyth St.
Becker, Abram.....	Sc. 2	79-81 W. 141st St.
Bondy, Alfred R.....	Sc. 3	1266 Boston Road, Bronx
Bracken, James J.....	Sc. 3	143 Kingsland Ave., Elmhurst, L. I.
Bronner, Frank.....	Arts 1	318 Flushing Ave., Bklyn.
Buckley, John J.....	Arts 2	202 W. 119th St.
Ciaccio, Paul.....	Sc. 1	606 E. 14th St.
Clendenin, Thomas P.....	Sc. 1	53 W. 104th St.
Cohen, Abraham.....	Sc. 1	1702 Prospect Place, Bklyn.
Cohen, Harry.....	Sc. 2	54 E. 117th St.
Cohen, Lewis.....	Sc. 3	75 W. 89th St.
Colin, David W.....	Sc. 2	168½ Delancey St.
Connolly, John M.....	Arts 2	514 Bainbridge St., Bklyn.
Daschavsky, Peter.....	Sc. 1	610 W. 135th St.
Delman, David.....	Arts 3	55 Ave. C
Delman, Zachary M.....	Sc. 1	55 Ave. C
Deutsch, Max.....	Arts 3	48 E. 104th St.
Douglas, Jesse.....	Sc. 1	275 E. Broadway
Drake, Joseph W.....	Arts 1	455 Sanford Ave., Flushing, L. I.
Eichel, David.....	Arts 3	76 E. 3d St.
Eisenman, William.....	Sc. 1	164 Henry St.
Ellenbogen, Henry.....	Sc. 1	125 E. 90th St.
Ennis, Hugh J., Jr.....	Arts 2	574 E. 168th St., Bronx
Feigenbaum, Isidore.....	Arts 3	122 S. 4th St., Bklyn.
Fiedler, J. Le Roy.....	Arts 3	1426 Walnut St., Richmond Hill, L.I.
Fielder, Wilbur.....	Sc. 1	513 W. 145th St.
Friedman, Abraham R.....	Arts 3	123 E. 110th St.
Friedman, Solomon L.....	Sc. 2	301 S. 4th St., Bklyn.
Frutkin, Louis.....	Arts 3	320 Cherry St.
Fuchs, Joseph.....	Sc. 1	275 Stanton St.
Fuchs, Richard.....	Arts 3	6424 18th Ave., Bklyn.
Funk, Samuel.....	Arts 2	865 Fox St., Bronx
Futterman, Harry.....	Sc. 3	1823 Barnes Ave., Bronx
Ginsberg, Benjamin.....	Arts 1	296 Sackman St., Bklyn.
Goebel, Martin.....	Sc. 2	120 Nassau Ave., Bklyn.
Goldfarb, Isidor.....	Arts 3	126 Henry St.
Goldstein, Louis E.....	Sc. 3	134 Cannon St.
Golubock, Henry.....	Sc. 3	749 DeKalb Ave., Bklyn.
Gottlieb, Jacob.....	Arts 2	1388 Clinton Ave., Bronx
Grablowsky, Herman A.....	Arts 3	1226 Boston Road, Bronx
Gramet, Solomon.....	Sc. 1	306 Stockton St., Bklyn.
Greenberg, Max E.....	Arts 2	104 Second Ave.
Gross, Frank S.....	Sc. 3	80-82 Ridge St.
Hagan, Edward R.....	Sc. 3	427 Pleasant Ave.
Harap, Henry.....	Sc. 1	166 Second St.
Harber, Abraham.....	Sc. 2	425 Grand St.
Harrer, John A.....	Arts 2	233 Macon St., Bklyn.

Harris, Emanuel.....	Arts 2	91 Eldridge St.
Hayes, Thomas.....	Sc. 3	503 E. 80th St.
Hebald, Selian.....	Sc. 2	488 E. 74th St.
Henck, Robert.....	Arts 3	201 Seventh Ave.
Herzenberg, Herbert.....	Arts 3	44 Charlton St.
Hirsch, George D.....	Arts 3	305 W. 138th St.
Iger, Morris L.....	Arts 3	248 E. 3d St.
Jaller, Alexander.....	Sc. 2	435 E. 138th St., Bronx
Janover, Isidor.....	Arts 3	1322 Prospect Ave., Bronx
Josephson, Emanuel M.....	Arts 2	1330 Franklin Ave., Bronx
Kaback, Abraham.....	Arts 2	19 Hester St.
Kaplan, Benjamin D.....	Arts 2	481 E. 171st St., Bronx
Kaplan, Isaac.....	Arts 3	625 Jackson Ave., Bronx
Kaufman, Samuel.....	Sc. 1	55 First St.
Kimmelman, Max.....	Sc. 1	221 E. 100 St.
Kleiner, Benjamin.....	Sc. 2	119 Belmont Ave., Bklyn.
Kowarsky, Milton.....	Arts 3	14 Avenue D
Kraft, William.....	Arts 3	3 W. 112th St.
Kurdelski, Henry.....	Sc. 3	427 Bronx Park Ave., Bronx
Lamm, Lucian.....	Arts 1	229 E. 5th St.
Leikin, Samuel	Sc. 2	73 Conselyea St., Bklyn.
Lerner, Julius.....	Sc. 3	91 Eldridge St.
Lerner, Nathan H.....	Arts 2	9 W. 114th st.
Levy, Max.....	Sc. 3	513 Watkins St., Bklyn.
Lyons, John J.....	Sc. 3	936 E. 217th St., Bronx
Magna, Clamor H.....	Sc. 2	186 Lenox Rd., Bklyn.
Manne, Alexander.....	Sc. 2	170 Taylor St., Bklyn.
Manz, Henry A.....	Arts 2	593 Lorimer St., Bklyn.
Marder, Frank.....	Sc. 1	417 Bushwick Ave., Bklyn.
Marrs, Aubrey R.....	Sc. 1	612 W. 135th St.
McNeill, John F.....	Arts 2	112 Java St., Bklyn.
Meister, Morris.....	Sc. 3	161 Madison St.
Merlis, Isidore.....	Sc. 3	507 E. 5th St.
Metz, Solomon.....	Arts 2	394 Grand St.
Mitchell, Max.....	Sc. 2	594 E. 138th St., Bronx
Montero, Harry E.....	Sc. 2	572 W. 173d St.
Moskovitz, Herman.....	Arts 3	244 Seventh St.
Pasachoff, Harry D.....	Sc. 2	1526 Charlotte St., Bronx
Plesser, Benjamin.....	Sc. 2	29-31 Ave. D
Rabinowitz, Joshua.....	Sc. 1	1469 Webster Ave., Bronx
Rosenzweig, Charles L.....	Sc. 2	221 East Broadway
Salzman, Alexander.....	Arts 2	346 Beekman Ave., Bronx
Samuels, Louis H.....	Arts 2	113 Johnson St., Bklyn.
Schachter, Harry.....	Arts 2	178 Rivington St.
Schevitz, Jules.....	Sc. 3	389 Marcy Ave., Bklyn.
Schneider, Max.....	Sc. 2	216 E. Houston St.
Schoeler, Herman R.....	Arts 2	227 E. 124th St.
Schuiman, Jacob.....	Arts 3	1450 49th St., Bklyn.

Schwalje, Walter J.....	Arts 3	163 W. 62d St.
Seikowitz, Louis.....	Sc. 2	25 St. Mark's Place
Shanholt, Henry H.....	Sc. 1	2 E. 107th St.
Shapiro, Isidor.....	Arts 3	187 Henry St.
Silver, Samuel.....	Sc. 3	470 Fifteenth St., Bklyn.
Snyder, Percy.....	Sc. 1	430 St. Nicholas Ave.
Sobel, Nathan.....	Sc. 2	41 Ave. B
Steirman, Jacob.....	Sc. 2	299 Ave. B
Tabor, Otto V.....	Arts 2	526 W. 151st St.
Thurm, Max.....	Sc. 2	705 E. 6th St.
Tinsley, Theodore A.....	Arts 1	159 E. 116th St.
Trigger, Raymond.....	Sc. 3	813 Sixth Ave.
Turner, Egbert M.....	Arts 1	165 Manhattan Ave.
Viscardi, John.....	Arts 2	49 W. 112th St.
Vogel, Nathan.....	Sc. 1	246 E. 4th St.
von Bonin, Albert.....	Sc. 1	574 St. Nicholas Ave.
Waldheim, Franklin.....	Arts 2	228 W. 140th St.
Wechsler, Ralph.....	Sc. 1	285 Throop Ave., Bklyn.
Weeks, Fr�derick T.....	Arts 2	2550 Marion Ave., Bronx
Weinfeld, Benjamin L.....	Sc. 2	52 W. 115th St.
Wolf, Solomon.....	Sc. 3	1699 Fulton Ave., Bronx
Yarmolinsky, Abraham.....	Arts 2	548 Schenck Ave., Bklyn.

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LOWER SOPHOMORE CLASS.

Abelson, L�ouis I.....	Sc. 3	43 Delancey St.
Achatz, Frank J.....	Arts 2	30 Macombs Place
Ackerman, Herbert R.....	Arts 1	454 W. 44th St.
Adlerblum, David.....	Arts 3	1652 Mt. Hope Ave., Bronx
Allyn, Francis L., Jr.....	Sc. 1	Woodhaven Ave. and Allyn Court, Queens
Anopol, George.....	Sc. 2	502 W. 139th St.
Arnold, Frank C.....	Arts 2	22 Montrose Ave., Bklyn.
Aronowitz, Max B.....	Arts 2	12½ E. 119th St.
Austein, William E.....	Sc. 1	1343 Fifth Ave.
Babcock, Edwin M.....	Sc. 3	1867 Bathgate Ave., Bronx
Barach, Alvan.....	Arts 1	954 Prospect Ave., Bronx
Barnett, David.....	Sc. 1	62 W. 114th St.
Benjamin, Herbert B.....	Arts 2	723 Hancock St., Bklyn.
Berg, Benjamin N.....	Arts 2	1263-65 Fifth Ave.
Berger, Louis.....	Sc. 2	147 Bridge St., Bklyn.
Berman, Reuben P.....	Arts 3	390 E. 8th St.
Birnn, Roland.....	Sc. 3	449 W. 124th St.
Blanch, Isidor A.....	Sc. 2	51 Pike St.
Block, Isadore.....	Sc. 3	302 Wyckoff St., Bklyn.
Bloom, Samuel.....	Sc. 2	1470 Gates Ave., Bklyn.
Borchers, Frederick W.....	Sc. 3	918 Forest Ave., Bronx

Bossowick, Isadore.....	Arts 3	59 E. 104th St.
Bramson, Reuben	Sc. 3	80 Montgomery St.
Brand, Jacob A.....	Arts 3	59 E. 104th St.
Brodsky, Frank.....	Sc.	533 Lockwood St., Astoria, L. I.
Bronowitz, Benjamin	Arts 2	472 Neptune Ave., Bklyn.
Brotherton, John	Sc. 3	11½ W. 63d St.
Bushnell, Charles W.....	Arts 2	35 Clermont Ave., Maspeth, L. I.
Caro, Alexander	Arts 3	508 E. 78th St.
Cohen, William	Arts 3	226 Henry St.
Cohn, David	Arts 2	70 Lenox Ave.
Cohn, Nathan	Arts 2	214 E. 89th St.
Colish, Nathan H.....	Arts 3	287 Madison St.
Comon, Charles	Arts 3	82 E. 115th St.
Coombes, Donaldson	Arts 2	308 Alexander Ave., Bronx
Corrigan, Louis... ..	Arts 2	342 E. 176th St., Bronx
Cotellessa, Joseph	Sc. 3	2039 Hughes Axe., Bronx
Cowen, Abraham	Arts 2	85 E. 111th St.
Coyne, Howard L.....	Sc. 3	1366 St. Nicholas Ave.
Cunningham, Harold	Arts 2	217 W. 115th St.
Davis, L. Laird.....	Sc. 3	742 St. Nicholas Ave.
De Groot, Archibald.....	Sc. 3	267 W. 113th St.
Dombrow, Simon	Arts 1	2303 Belmont Ave., Bronx
Durstenfeld, David	Arts 3	1347 44th St., Bklyn.
Edelman, Isidore A.....	Sc. 2	703 E. 175th St., Bronx
Eichler, Isidore	Sc. 2	129 Avenue C
Farber, Samuel	Arts 3	5309 New Utrecht Ave., Bklyn.
Feingold, Philip	Sc. 1	1925 Douglass St., Bklyn.
Feinstein, Simon	Sc. 3	504 W. 135th St.
Fidler, Peter Z.....	Sc. 2	39 Graham Ave., Bklyn.
Filfuss, Julian	Sc. 1	938 E. 163d St., Bronx
Fineman, Abraham H.....	Sc.	56 W. 118th St.
Foster, Walter L.....	Sc.	211 W. 122d St.
Frank, Henry J.....	Sc. 1	211 E. 76th St.
Frey, Edward	Sc. 2	541 Van Nest Ave., Bronx
Friedgen, Harry	Arts 2	921 Trinity Ave., Bronx
Friedman, Benjamin	Arts 3	17-19 Attorney St.
Friedman, Maurice	Arts 3	384 E. 8th St.
Friedman, Samuel H.....	Arts 3	988 Jefferson Ave., Bklyn.
Friedrich, Samuel E.....	Arts 3	1 E. 113th St.
Frost, Max	Arts 2	199 Avenue C
Gamoran, Emanuel	Arts 1	164 E. 112th St.
Garlock, John	Arts 1	348 W. 56th St.
Geer, Hobart S.....	Sc. 2	1276 Clay Ave., Bronx
Gelb, Maurice	Sc. 2	160 Broome St.
Gitelson, Moses H.....	Sc. 2	159 E. 95th St.
Glicksberg, Louis	Sc. 3	36 Gouverneur St.
Glicksberg, Martin J.....	Sc. 3	36 Gouverneur St.
Goldberg, Alexander H.....	Sc. 3	201 Henry St.

Goldberg, Harry	Sc. 2	1-3 E. 107th St.
Goldberg, Jacob	Arts 3	254 Seventh St.
Goldberger, Elias	Arts 3	277 Seventh St.
Goldblatt, David	Sc. 1	231 E. 77th St.
Goldsmith, Julius	Arts 3	565 Hendrix St., Bklyn.
Goldstein, Abraham	Sc. 3	1419 Bryant Ave., Bronx
Goldstein, Charles	Arts 1	163 E. 96th St.
Goldstein, Edward J.....	Arts 2	945 Aldus St., Bronx
Goodfriend, Milton	Arts 2	827 Kelly St., Bronx
Goodman, Edward	Arts 3	19 E. 105th St.
Granat, Edward	Sc.	343 E. 142d St., Bronx
Granich, Alfred M.....	Sc. 3	1320 Prospect Ave., Bronx
Greenbaum, Theodore.....	Arts 3	507 E. 139th St., Bronx
Greenfield, Samuel.....	Arts 3	726 E. 9th St.
Greenstein, Meyer.....	Sc. 3	58 Monroe St.
Guinness, Ralph B.....	Arts 2	1166 E. 18th St., Bklyn.
Halpern, Emanuel.....	Arts 2	433 Vienna Ave., Bklyn.
Halpern, Robert A.....	Sc. 3	791 Dawson St., Bronx
Hannley, Francis M.....	Sc. 3	921 St. Nicholas Ave.
Harvey, Burwell T., Jr.....	Sc. 2	737 E. 218th St., Bronx
Hicks, Daniel A.....	Arts 3	1229 Washington Ave., Bronx
Hirshberg, Bernard	Arts 3	13 E. 98th St.
Hirshfeld, Samuel	Sc. 2	375 West End Ave.
Hummel, Adolph.....	Arts 3	3688 Broadway
Imperato, Pasquale, Jr.....	Sc. 2	100 Degraw St., Bklyn.
Jaffe, Bernard.....	Sc. 1	1326 Fifth Ave.
James, Lord A.....	Sc. 1	604 Franklin Ave., Bklyn.
Jones, William.....	Sc. 2	3003 Clarendon Road, Bklyn.
Kammerer, Austin.....	Arts 3	157 E. 46th St.
Karmiol, William.....	Arts 2	61 E. 103d St.
Katz, Hyman.....	Arts 3	601-03 Metropolitan Ave., Bklyn.
Kennedy, Harold M.....	Arts 1	466 Sixty-third St., Bklyn.
Kessler, Abraham E.....	Arts 2	1037 Herkimer St., Bklyn.
Klein, Edward.....	Sc. 1	764 Park Ave., Bklyn.
Korminsky, Abraham.....	Sc. 3	182 E. 75th St.
Krail, Jesse A.....	Arts 3	1053 Jackson Ave., Bronx
Lasker, Morris.....	Arts 2	71 Amboy St., Bklyn.
Lease, Raymond E.....	Arts 2	3675 Broadway
Lefkowitz, Max.....	Arts 1	15 E. 113th St.
Lenowitz, Herman.....	Sc. 1	243 Cherry St.
Levy, Louis.....	Sc. 1	164 E. 109th St.
Licht, Herbert W.....	Arts 3	1 Madison Ave.
Lieberson, Joseph.....	Sc. 2	1383 Fifth Ave.
Lightcap, Joseph L.....	Arts 2	204 Franklin Ave., Bklyn.
Lindenbaum, Abraham.....	Sc. 2	266 S. 9th St., Bklyn.
Linder, Edward.....	Arts 3	232 E. 114th St.
Liskofsky, Max.....	Sc. 1	705 Fifth St.
Livingston, Jacob H.....	Arts 3	224 E. Broadway

Lusskin, Harold	Sc. 3	1015 E. 156th St., Bronx
Lyss, Jacob P.....	Sc. 1	153 Norfolk St.
Magrath, James W., Jr.....	Arts 1	465 Marion St., Bklyn.
Malmberg, Axel O.....	Arts 3	2477 Devoe Terrace, Bronx
Mannheimer, Albert.....	Arts 3	938 St. Nicholas Ave.
Mantinband, Charles X.....	Sc. 2	67 Lenox Ave.
Manus, Harry J.....	Sc. 1	704 E. 5th St.
Marcus, David.....	Sc. 1	1523 Charlotte St., Bronx
Marcus, Lawrence.....	Sc. 3	32 W. 114th St.
Marx, Aaron.....	Arts 2	907 Third Ave.
McGee, James V.....	Arts 2	2139 86th St., Bklyn.
Melico, Meyer.....	Sc. 2	19 E. 108th St.
Mendelsohn, Morris.....	Arts 2	57 E. 105th St.
Méras, Edmond A.....	Arts 3	961 Madison Ave.
Millman, Aaron M.....	Arts 1	207 Second Ave.
Miner, Thomas.....	Arts 2	115 E. 92d St.
Morris, Adolph.....	Arts 2	418 Fifty-fourth St., Bklyn.
Nebel, Gustav T.....	Arts 3	15 Patchen Ave., Bklyn.
Neuhausen, Benjamin.....	Arts 2	1791 Lexington Ave.
Neuwirth, Benjamin.....	Arts 3	261 Stanhope St., Bklyn.
Norman, Jesse J.....	Sc. 3	61 W. 106th St.
North, Solomon.....	Sc. 2	49 Fairview Ave., Corona, L. I.
O'Connell, Raymond T.....	Sc. 1	130 Penn St., Bklyn.
O'Neil, Alexander J.....	Arts 2	1654 Madison Ave.
Ornstein, Israel G.....	Arts 2	912 Kelly St., Bronx
Overin, Sturtevant.....	Arts 2	963 Columbus Ave.
Peters, Hallam B.....	Sc. 3	2322 Eighth Ave.
Pettit, Edgar A.....	Arts 1	1345 E. 37th St., Bklyn.
Phillips, Arthur N.....	Arts 1	222 W. 122d St.
Pike, Morris.....	Sc. 3	76 Suffolk St.
Posner, Hyman P.....	Sc. 2	685 Cauldwell Ave., Bronx
Quinn, John M.....	Sc. 2	814 Greenwood Ave., Richmond Hill, L. I.
Rabinowitz, Frank.....	Arts 1	76 E. 104th St.
Raskin, Sol M.....	Arts 2	978 Union Ave., Bronx
Rayved, Herman.....	Arts 2	733 Prospect Ave., Bronx
Redler, Leo.....	Sc. 3	171 E. 105th St.
Rifkind, Nathan.....	Sc. 3	396 Grand St.
Rosen, Ambrose.....	Sc. 3	2008 Hughes Ave., Bronx
Roth, Willard E.....	Sc. 3	325 Clifton Place, Bklyn.
Rudinsky, Edward.....	Arts 2	153 E. 54th St.
Rutstein, Myron M.....	Arts 3	21 E. 119th St.
Salit, Norman.....	Arts 2	100 Pineapple St., Bklyn.
Salzman, Hyman T.....	Arts 2	5403 15th Ave., Bklyn.
Saposnekow, Jacob.....	Sc. 1	378 Hooper St., Bklyn.
Schachter, Harry.....	Arts 1	79 E. 115th St.
Schattman, Milton E.....	Arts 1	221 W. 135th St.
Schimpf, William H.....	Sc. 3	443 W. 34th St.

Schlesinger, Edward	Sc. 2	513 E. 12th St.
Schloss, Malcolm B.....	Sc. 2	226 W. 122d St.
Schmitz, Louis	Sc. 1	157 Purdy St., Long Island City
Schneider, Perry	Sc. 3	200 Second St.
Schreyer, Milton P.....	Arts 1	1105 Boston Road, Bronx
Schroder, Arthur	Sc. 2	232 Grant Ave., Bklyn.
Schulich, Reuben	Sc. 2	21 Rapalje Ave., Corona, L. I.
Schultz, Henry	Arts 2	86 Madison St.
Schussheim, Morris	Sc. 3	77 Avenue C
Schwartz, Herman	Arts 2	794 E. 158th St., Bronx
Schwartz, Jacob	Sc. 1	393 E. 8th St.
Schwartz, Max.....	Arts 3	175 Orchard St.
Seligman, Louis	Sc. 3	190-92 Chrystie St.
Seplowin, Samuel	Sc. 1	1056 Second Ave.
Shafer, William	Arts 3	63 Pitt St.
Siegel, Sidney	Arts 2	207 W. 110th St.
Simon, Julian.....	Arts 2	408 W. 130th St.
Smith, Jacob	Sc. 1	239 E. 122d St.
Smith, Victor	Arts 2	207 Second Ave.
Stadler, Frank B.....	Arts 2	403 E. 69th St.
Stahl, Fisher	Arts 2	95 Forsyth St.
Starbuck, Leonard M.....	Sc. 3	5 E. 35th St.
Steiner, Marcus	Sc. 1	242 Eldridge St.
Steiner, W. Howard.....	Sc. 1	219 E. 71st St.
Strauss, Arthur	Arts 1	519 W. 147th St.
Stupel, Harry J.....	Arts 2	2168 Fulton St., Bklyn.
Tanz, Jacob	Sc. 3	165 Lenox Ave.
Tulchin, David	Sc. 3	243 Second St.
Weberpals, Fred C.....	Arts 2	411 18th St., Bklyn.
Wechsler, David	Arts 2	65 Second Ave.
Weinstein, Jacob	Arts 2	1454 45th St., Bklyn.
Weiss, George.....	Arts 3	387 E. 3d St.
Weissman, Harry.....	Sc. 3	1593 Lexington Ave.
Weitzner, Isidor S.....	Arts 3	1687 Bathgate Ave., Bronx
Williamson, Elliott F.....	Sc. 1	2171 Washington Ave., Bronx
Windman, Raphael.....	Arts 3	1473 Madison Ave.
Wolfner, Benedict.....	Arts 2	207 W. 110th St.
Wolfson, Abraham.....	Arts 2	41 Thatford Ave., Bklyn.
Wyckoff, Wallace H.....	Arts 3	63 W. 127th St.
Yachnowitz, Samuel.....	Sc. 1	78 Rutgers St.
Young, Robert H.....	Sc. 1	1767 Topping Ave., Bronx
Zagat, Arthur L.....	Sc. 3	751 Dawson St., Bronx
Zuckerman, William A.....	Sc. 1	176 Harrison Ave., Bklyn.

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UPPER FRESHMAN CLASS.

Abrahams, Henry.....	Sc.	110-12 Forsyth St.
Alexander, Lawrence L.....	Sc. 3	940 Simpson St., Bronx
Almour, Ralph.....	Arts 2	239 E. 7th St.
Alpern, Hymen.....	Arts 1	127 E. 100th St.
Ammer, Philip.....	Arts 2	29 Avenue B
Armure, Anthony J.....	Arts 2	2366 Lorillard Place, Bronx
Auerbach, Nathan.....	Sc. 2	501 W. 135th St.
Barasz, Moses.....	Arts 2	102 E. 4th St.
Barwick, Arthur R.....	Sc.	230 Bradley Ave., Port Rich'd, S. I.
Belsky, Max.....	Sc.	394 Manhattan Ave.
Berman, Leon.....	Arts 2	1829 Trafalgar Pl., Bronx
Berman, Meyer.....	Arts 3	15 Audubon Ave.
Bernstein, Alton.....	Sc.	2095 Mohegan Ave., Bronx
Bernstein, Solon S.....	Arts 2	100 E. 89th St.
Beskind, Louis.....	Sc.	55 E. 115th St.
Beslofsky, Jacob.....	Arts 2	1269 Thirty-ninth St., Bklyn.
Bier, Samuel.....	Sc.	278 Delancey St.
Bierman, Samuel D.....	Sc.	26 Allen St.
Block, Abraham.....	Arts 3	263 Madison St.
Bluestone, Moses A.....	Sc.	215 East Broadway
Blumenthal, Samuel.....	Arts 2	53 Hamilton Terrace
Boschen, John H., Jr.....	Sc. 3	416 W. 154th St.
Bosworth, Clarence M.....	Arts 1	471 W. 145th St.
Brodie, Melvin M.....	Sc. 1	126 W. 112th St.
Brodinsky, Nathan.....	Sc.	190 Floyd St., Bklyn.
Brolles, John, Jr.....	Sc.	911 Avenue St. John, Bronx
Buchbinder, Moses.....	Sc.	862 E. 163d St., Bronx.
Busch, Henry M.....	Arts 2	55 E. 95th St.
Church, Aaron.....	Sc.	226 Henry St.
Cisar, Jaroslav.....	Sc.	386 St. Nicholas Ave.
Cohen, Benjamin.....	Arts 2	262 Second St.
Cohen, Edward E.....	Sc.	78 Ridge St.
Cohen, Israel.....	Arts 2	123 W. 128th St.
Cohen, Jacob.....	Arts 2	47 Hinsdale St., Bklyn.
Cohen, William.....	Sc.	198 Thatford Ave., Bklyn.
Cole, Jacob.....	Sc. 2	426 W. 42d St.
Conover, Allan.....	Arts 2	226 Bradhurst Ave.
Conroy, Edwin.....	Sc. 3	227 Henry St.
Corcoran, Anthony R.....	Arts 2	108 W. 61st St.
Cox, Harold C.....	Sc. 3	467 W. 143d St.
Crasson, Samuel.....	Arts 2	8 Reid Ave., Bklyn.
Deutsch, Sylvan D.....	Arts 2	768 Fairmont Pl., Bronx
Dick, Abraham H.....	Sc. 1	615 Marcy Ave., Bklyn.
Donaldson, J. Howland.....	Arts 2	54 Hamilton Pl., Queens
Drachman, Albert.....	Sc. 2	128 W. 121st St.
Dreher, Carl.....	Sc.	1063 Forest Ave., Bronx
Drescher, Charles.....	Arts 2	27 Orchard St.

Dworetzky, Nathan P.....	Arts 2	559 W. 141st St.
Edelman, David.....	Sc.	16 E. 106th St.
Edman, Irwin.....	Arts 2	416 W. 122d St.
Eisenstein, Lewis.....	Sc.	1058 Blake Ave., Bklyn.
Elsen, George.....	Sc.	1214 Park Pl., Bklyn.
Epstein, Hyman.....	Arts 2	91 Christopher St., Bklyn.
Esnitz, Herman.....	Sc.	630 Concord Ave., Bronx
Farrell, Raymond.....	Arts 1	3253 Hull Ave., Bronx
Feldman, Aaron.....	Sc.	511 E. 148th St., Bronx
Fierman, Harold.....	Arts 2	2421 Lorillard Pl., Bronx
Fischer, Harry S.....	Arts 2	249 Hart St., Bklyn.
Fischer, Meyer B.....	Arts 2	327 Graham Ave., Bklyn.
Fisher, Benjamin.....	Arts 2	522 W. 112th St.
Fishman, Jacob B.....	Sc.	125 E. 113th St.
Fleischmann, Berthold.....	Sc.	3058 Third Ave., Bronx
Fogelman, Raymond.....	Sc.	218 Henry St.
Fried, Harry.....	Sc.	340 E. 4th St.
Friedman, Louis.....	Arts 2	198 Henry St.
Friedman, Robert.....	Arts 1	54 Riverdale Ave., Bklyn.
Friedman, Samuel.....	Sc.	323 Pearl St., Bklyn.
Gabrilove, Benjamin.....	Arts 2	970 Union Ave., Bronx
Gawronsky, Philip P.....	Sc.	825 Broadway, Bklyn.
Gehan, John J., Jr.....	Arts 3	430 E. 143d St., Bronx
Gill, Bennington P.....	Arts 1	971 Trinity Ave., Bronx
Ginsberg, William.....	Arts 2	969 Fox St., Bronx
Gittleson, Mitchell.....	Sc.	101 W. 117th St.
Gladstone, Sidney.....	Arts 2	1815 Crotona Ave., Bronx
Gliboff, Herman.....	Sc.	645 Amsterdam Ave.
Glück, George.....	Sc.	726 Sixth St.
Goldberg, David S.....	Arts 3	70 W. 118th St.
Gollomp, Louis.....	Sc.	310 E. 91st St.
Golub, Jacob S.....	Arts 1	7 E. 106th St.
Goodman, Max.....	Sc. 1	111 Norfolk St.
Gotterer, Abraham.....	Arts 2	870 Longwood Ave., Bronx
Greenfield, Philip.....	Arts 3	165 Avenue C
Greenfield, Solomon.....	Sc.	1152 50th St., Bklyn.
Grindlinger, Paul.....	Arts 2	715 Broadway, Bklyn.
Groff, Benjamin.....	Sc.	244 Madison St.
Gross, Joseph.....	Sc.	358 E. 8th St.
Gutesville, Isadore L.....	Arts 2	720-22 Bedford Ave., Bklyn.
Harrigan, George J.....	Arts 3	19 Third Pl., Bklyn.
Harris, Ben R.....	Sc.	801 Southern Blvd., Bronx
Harris, Philip H.....	Arts 2	408 W. 150th St.
Hatch, Charles L.....	Arts 1	969 Faile St., Bronx
Hoechle, Ivo F., Jr.....	Arts 3	769 Third Ave.
Hoffberg, Israel.....	Sc.	158 E. 113th St.
Hoffman, Hyman.....	Arts 2	175 Stockton St., Bklyn.
Horowitz, Saul.....	Arts 2	100 W. 119th St.

Horwitz, Louis.....	Arts 2	22 W. 113th St.
Hoyt, Gerald F.....	Sc. 2	793 Sterling Pl., Bklyn.
Hutchinson, Harold W.....	Sc. 2	601 E. 170th St., Bronx
Jacklowitz, Joseph	Arts 2	1664 Bathgate Ave., Bronx
Jacobs, Benjamin L.....	Arts 1	151 Diamond St., Bklyn.
Jacobs, Louis	Sc.	828 Jackson Ave., Bronx
Jaffe, John	Arts 2	70 W. 119th St.
Jampel, Herman.....	Arts 3	116 Seventh St.
Joachim, Joseph	Arts 2	161 Tompkins Ave., Bklyn.
Johnson, Clarence A.....	Arts 2	1738 Clay Ave., Bronx
Jones, Theron H.....	Arts 2	138 Powell St., Bklyn.
Jones, William H.....	Sc. 1	381 E. 138th St.
Kaplan, Julius	Sc.	126 Boerum St., Bklyn.
Kaplan, Morris	Arts 2	255 Broome St.
Kasanof, David	Sc.	1111 Westchester Ave., Bronx
Kassner, Philip	Arts 3	200 Madison St.
Kastenbaum, Paul S.....	Arts 2	70 Cannon St.
Katz, Samuel J.....	Sc.	680 Manhattan Ave., Bklyn.
Kaufman, Abraham M.....	Arts 2	352 Marcy Ave., Bklyn.
Kaufman, Joseph B.....	Arts 2	287 Division Ave., Bklyn.
Kaufman, Max	Arts 3	66 E. 109th St.
Kavaler, Samuel	Sc.	87-91 Cook St., Bklyn.
Kayser, Herbert	Sc.	41 Convent Ave.
Kazinsky, Harry	Sc.	57 E. 106th St.
Kear, Francis V.....	Arts 2	1575 E. 28th St., Bklyn.
Kehoe, Raymond F.....	Arts 2	1268 Edison Ave., Bronx
Keith, Joseph	Sc. 3	242 W. 144th St.
Kelly, Albert	Arts 2	2478 Elm Place, Bronx
Kerekes, Frank.....	Sc.	330 E. 77th St.
Kesselovitz, Max	Sc. 3	312 E. 8th St.
Kesser, Julius	Arts 3	421 E. 5th St.
Kirsch, Jacques	Sc. 2	1840 Belmont Ave., Bronx
Kislik, Louis K.....	Sc. 2	215 E. 69th St.
Klaff, Harry A.....	Sc. 2	310a Hart St., Bklyn.
Kleinfeld, Louis	Sc.	24 E. 99th St.
Klinko, August A.....	Sc. 1	1373 Washington Ave., Bronx
Knobloch, George H.....	Sc.	28 Bay 17th St., Bklyn.
Knopf, Max	Arts 2	147 Leonard St., Bklyn.
Konowitz, Isidor	Arts 1	416-18 Grand St.
Koplin, David	Arts 2	1026 Second Ave.
Kraus, Joseph H.....	Arts 2	2158 Second Ave.
Kriegel, Abraham	Sc.	881 E. 170th St., Bronx
Kugelmass, Isidore	Sc.	416 E. 5th St.
Lawrence, Joseph E., Jr.....	Sc. 2	639 Vanderbilt St., Bklyn.
Lear, Carl A. O.....	Sc.	338 E. 14th St.
Leibowitz, Louis.....	Sc.	238 Belmont Ave., Bklyn.
Lessler, Simon.....	Sc.	112 East Broadway
Levenson, Osias	Sc. 2	67 Willett St.

Levy, Lawrence.....Sc.	104 E. 116th St.
Levy, MaxArts 2	193 Second Ave.
Lewis, AlvinSc.	164 St. Nicholas Ave.
Lifschitz, RobertArts 2	589 E. 139th St., Bronx
Lilienthal, AbrahamArts 2	266 Cherry St.
Lindenthal, AlbertSc. 3	100 Park Ave., Richmond Hill, L. I.
Lippman, SamuelSc.	1840 Madison Ave.
Liss, Samuel S.....Sc. 2	1338 Teller Ave., Bronx
Lovely, Thomas J.....Arts 2	389 Myrtle Ave., Bklyn.
Lublin, EmilSc. 2	560 Tenth Ave.
Macdonald, James G.....Sc. 3	2010 La Fontaine Ave., Bronx
Malawista, LawrenceSc.	57 W. 112th St.
Mannix, Henry M. J.....Arts 2	269 Sackett St., Bklyn.
Mapes, William P.....Arts 2	119 Albany Ave., Bklyn.
Margolin, Joseph B.....Arts 2	501 W. 134th St.
Margolis, Benjamin.....Arts 3	51 Hamilton Place
Marks, MarkSc.	159 E. 102d St.
Marmorstein, Jacob.....Sc.	56 Avenue C
Matlaw, UdellArts 2	503 W. 169th St.
McGrath, James W.....Arts 2	210 E. 61st St.
McHugh, Francis X.....Sc. 3	740 E. 220th St., Bronx
Mehlman, LeonardArts 3	128 Second Ave.
Melowsky, IsidoreArts 2	144 Glenmore Ave., Bklyn.
Meyer, WalterArts 2	70 E. 93d St.
Moonan, James P.....Arts 3	186 Claremont Ave.
Mufson, IsidorSc.	1260 Clay Ave., Bronx
Mumford, Lewis C.....Arts 3	100 W. 94th St.
Nemser, RudolphArts 2	88 First Ave.
Neufeld, AbrahamSc.	1725 Anthony Ave., Bronx
Nudelman, MosesArts 3	353 E. 49th St.
O'Brien, WilliamArts 1	417 W. 156th St.
Orbach, HarrySc.	8-10 E. 117th St.
Parisi, Vincent G.....Arts 3	252 E. 117th St.
Pecker, Joseph S.....Arts 2	377 Livonia Ave., Bklyn.
Perretti, Romeo J.....Arts 2	455 E. 116th St.
Pisik, DavidArts 2	1493-95 Madison Ave.
Plager, Sigmund.....Sc.	348 E. 13th St.
Platt, MauriceSc.	175 Stanton St.
Popper, Abraham L.....Sc. 1	210 E. 21st St.
Racioppi, Joseph A.....Arts 1	68 Sullivan St.
Rank, HermanSc.	40 Van Corlear Place
Raphael, ArthurArts 2	283 Rutledge St., Bklyn.
Rapp, WilliamSc.	346 W. 71st St.
Raymond, BernardArts 3	517 W. 113th St.
Reale, GenioSc. 3	119 E. 130th St.
Rimbach, Richard.....Sc. 3	244 E. 30th St.
Rindler, Lawrence.....Sc.	762 German Place, Bronx
Rinkoff, Solomon.....Sc.	29 W. 112th St.

Rivlin, Benjamin A.....	Sc. 2	60 Rutgers St.
Rivlin, Solomon	Arts 2	2101 Dean St., Bklyn.
Robin, Bernard	Sc.	21 Bay 17th St., Bklyn.
Rogin, Isidor	Arts 2	6 E. 117th St.
Rosenbaum, William	Arts 2	2220 Adams Place, Bronx
Rosenberg, Abraham E.....	Arts 2	1810 Prospect Place, Bklyn.
Rosenstrauch, Morris	Sc.	344 E. 4th St.
Rosner, Oscar S.....	Sc. 2	132 W. 117th St.
Rothschild, Philip	Arts 2	1338 Lincoln Place, Bklyn.
Rubino, Anthony P.....	Sc.	91 Jackson St., Bklyn.
Rubino, Peter	Sc.	325 W. 4th St.
Rutstein, Saul	Arts 3	21 E. 119th St.
Sackowitz, Nathaniel	Sc. 3	501 Stone Ave., Bklyn.
Salzman, Louis	Sc.	205 E. 58th St.
Salzman, Nathan	Sc. 2	78 Second Ave.
Samuelson, Norman H.....	Arts 3	736 Home St., Bronx
Savage, Walter	Arts 2	108 E. 127th St.
Saxl, Newton T.....	Sc. 2	244 E. 72d St.
Schattman, Adolph H.....	Arts 2	790 Riverside Drive
Schawelson, Nathan A.....	Arts 2	1837 Dean St., Bklyn.
Schiff, Julius	Arts 2	28 Rutgers St.
Schmidt, Daniel H.....	Sc.	163 Webster Ave., Bklyn.
Schoener, Mortimer.....	Sc.	153 Orchard St.
Schoolman, Albert P.....	Sc. 3	952 Kelly St., Bronx
Schroeder, John C.....	Sc.	842 Kinsella St., Bronx
Schuler, George H.....	Sc.	894 Hancock St., Bklyn.
Schuster, Isador.....	Arts 2	1326 Webster Ave., Bronx
Schwartz, Louis S.....	Arts 2	101 W. 136th St.
Schwartz, William B.....	Arts 3	306 Madison St.
Scott, Russell.....	Arts 2	467 Sixth Ave., Bklyn.
Serling, Carl S.....	Sc. 2	132 W. 142d St.
Shabshelowitz, Theodor....	Arts 2	430 E. 82d St.
Shapiro, Abraham.....	Sc. 2	230 E. 3d St.
Shapiro, Benjamin.....	Sc.	670 Georgia Ave., Bklyn.
Sheridan, Edward A., Jr....	Arts 3	829 E. 213th St., Bronx
Sholk, Barnett.....	Arts 2	1070 DeKalb Ave., Bklyn.
Siegel, Benjamin.....	Sc. 3	107 E. 10th St.
Silberberg, Jacob G.....	Sc.	706 W. 179th St.
Silberman, Maurice.....	Sc.	79 E. 113th St.
Simon, Elias.....	Sc.	144 Manhattan Ave., Bklyn.
Simons, Harold L.....	Arts 2	115 W. 118th St.
Singer, Isidor N.....	Sc.	20 E. 100th St.
Singer, Louis S.....	Arts 2	899 Broadway, Bklyn.
Skelding, Albert.....	Arts 2	4308 Broadway
Skoultchi, Milton.....	Arts 2	963 Prospect Ave., Bronx
Smith, Everett G.....	Sc.	509 W. 140th St.
Smith, Julius S.....	Sc.	9 Rutgers Place
Smook, Charles.....	Sc.	359 E. 8th St.

Sobel, Herman.....	Arts 3	448 Grand St.
Solomon, Louis.....	Sc.	334 Throop Ave., Bklyn.
Soos, Albert.....	Sc. 3	531 E. 84th St.
Speel, Abraham B.....	Arts 2	540 Rockaway Ave., Bklyn.
Spiegel, Bernard L.....	Sc.	188 Vernon Ave., Bklyn.
Spielberg, Joseph.....	Sc.	610 Fifth St.
Spinner, Herman.....	Arts 2	120 E. 2d St.
Starr, Charles.....	Arts 3	1386 Prospect Ave., Bronx
Stern, Harry.....	Arts 2	43 W. 112th St.
Sucoff, Moses.....	Sc.	632 Grand St., Bklyn.
Tabor, Samuel.....	Sc.	202 Broome St.
Tanenbaum, Milton.....	Arts 2	485 E. 140th St., Bronx
Wacker, Arthur A.....	Sc.	1912 Oakley Ave., Bronx
Walden, William.....	Arts 3	40 Suffolk St.
Waters, Opal S.....	Sc.	196 Bradhurst Ave.
Weberman, Benjamin.....	Arts 3	231 Rivington St.
Weidenbaum, Morris H.....	Arts 2	250 Broome St.
Weinberg, Charles.....	Sc. 2	40 Delancey St.
Weinberg, Harold B.....	Arts 2	314 E. 165th St., Bronx
Weinstein, Louis.....	Sc.	403 E. 52d St.
Weishaut, Samuel.....	Arts 3	88-90 Avenue D
Welkowitz, Samuel.....	Sc.	294 E. 3d St.
Welkowitz, Solomon.....	Arts 2	182-184 Broome St.
Weltmann, Victor.....	Sc. 3	251 Avenue A
Whalen, Herbert F.....	Sc. 1	153 Clifton Place, Bklyn.
Williams, Clarence D.....	Arts 3	637 Napier Ave., Queens
Williams, Frank C.....	Arts 2	284 Prospect Place, Bklyn.
Wittenberg, Max.....	Arts 2	1374 Gates Ave., Bklyn.
Wohlens, Edward F.....	Sc.	766 Seneca Ave., Bklyn.
Woolley, Frederick P., Jr....	Arts 1	814 Avenue W, Bklyn.
Youngwitz, Milton.....	Arts 2	507 Concord Ave., Bronx
Zetkin, Marcus.....	Sc. 3	26 E. 104th St.
Ziegler, Harry.....	Sc. 2	205 Avenue C
Zucker, Samuel L.....	Arts 2	553 Morris Ave., Bronx

Total..... 273

LOWER FRESHMAN CLASS.

Abend, Harry.....	Sc.	938 Longwood Ave., Bronx
Abramowitz, Louis.....	Arts 3	210 Madison St.
Abrams, Lawrence.....	Arts 2	108 W. 141st St.
Acker, Aaron.....	Sc.	110 E. 109th St.
Alderman, Morris.....	Sc.	115 Vernon Ave., Queens
Andersle, Joseph.....	Sc.	418 E. 72d St.
Anderson, Albert E.....	Sc.	1233 Hoe Ave., Bronx
Anderson, William B.....	Sc.	988 Morris Ave., Bronx
Appel, Frank.....	Sc.	171 E. 2d St.

Arzt, Max.....Sc.	98 Cannon St.
Ashkenazy, Samuel C.....Sc.	195 Clinton St.
Attias, James.....Sc.	2750 W. 3d St., Bklyn.
Auslander, Bernard.....Sc.	1579 Lincoln Pl., Bklyn.
Babbin, Jacob.....Sc.	336 Ellery St., Bklyn.
Balser, Bernard.....Arts 2	182 Halsey St., Bklyn.
Barban, Charles.....Sc.	242 Delancey St.
Bard, Hyman.....Sc.	149 Grand St., Bklyn.
Barnes, Stanley H.....Arts 3	
Barnett, Samuel.....Arts 2	176 Irving Ave., Bklyn.
Bauer, Benjamin.....Sc.	1639 Lexington Ave.
Baum, Samuel M.....Sc.	7411 Fifth Ave., Bklyn.
Becker, Isidor.....Arts 2	1876 Belmont Ave., Bronx
Bergoffen, Julian I.....Arts 2	3675 Broadway
Berk, David.....Sc.	1223 42d St., Bklyn.
Berkowitz, Sigmund.....Sc.	153 Forsyth St.
Berliner, Alexander L.....Arts 2	319 E. 51st St.
Bernhardt, Isidor H.....Sc.	86 Stockton St., Bklyn.
Bernstein, Harry L.....Arts 2	481 E. 140th St., Bronx
Bernstein, Philip.....Arts 2	31 W. 95th St.
Berson, George J.....Sc.	22 E. 105th St.
Bierman, Isidore L.....Sc.	447 E. 86th St.
Bikoff, Harry S.....Sc.	93 Graham Ave., Bklyn.
Bisgeier, Max.....Sc.	606 E. 9th St.
Blau, Albert.....Arts 2	1580 Crotona Park East, Bronx
Blau, Benjamin L.....Arts 3	712 E. 5th St.
Blum, Max.....Sc.	860 Dawson St., Bronx
Bobilin, Theodore C.....Arts 1	48 St. Mark's Place
Braunstein, Leon.....Sc.	951 Prospect Ave., Bronx
Braver, Philip A.....Arts 2	3811 Twelfth Ave., Bklyn.
Brillstein, Louis.....Sc.	14 W. 118th St.
Briney, Le Roy E.....Sc.	141 E. 26th St.
Bronstein, Julien.....Sc.	155 Thatford Ave., Bklyn.
Brown, Philip.....Arts 1	250 Broome St.
Buda, Mario A.....Arts 1	401 E. 16th St.
Burchell, Samuel C.....Arts 2	563 W. 182d St.
Cahill, Harold M.....Arts 1	1343 76th St., Bklyn.
Cahn, Lester R.....Arts 2	133 W. 113th St.
Carey, William J., Jr.....Sc.	163 E. 83d St.
Carroll, Arthur.....Arts 2	107 Conselyea St., Bklyn.
Castelli, Ignatius.....Arts 2	334-36 E. 78th St.
Coffey, John W.....Sc.	1369 Clay Ave., Bronx
Cohen, Abraham.....Sc.	1469 Webster Ave., Bronx.
Cohen, David.....Sc.	80 Rutgers St.
Cohen, Max.....Arts 2	463 E. 173d St., Bronx
Cohen, Max.....Sc.	244 E. 3d St.
Cohen, Morris.....Sc.	54 E. 117th St.
Cohen, Morris A.....Sc.	385 E. 8th St.

Cohen, Samuel I.....	Arts 2	155 Siegel St., Bklyn.
Cohen, Solomon	Arts 2	188 Henry St.
Cohen, William	Sc.	185 Clinton St.
Costello, Samuel W.....	Sc.	693 E. 2d St., Bklyn.
Courtenay, Arthur D.....	Sc.	739 Crotona Park North, Bronx
Crawford, John	Sc.	442 W. 44th St.
Criswell, William T.....	Arts 2	558 W. 164th St.
Crowley, Robert M.....	Sc.	7i E. 87th St.
Curtis, Adolph	Sc.	318 W. 57th St.
Cusack, James R.....	Sc. 1	611 Putnam Ave., Bklyn.
Davidson, Joseph	Arts 2	53 W. 117th St.
Davis, Herbert	Sc.	36 E. 119th St.
Demichelle, James	Sc.	16-20 Mott St.
Dettloff, Adolph.....	Arts 2	131 W. 112th St.
Dolz, Leopold, Jr.....	Arts 1	46-52 Fort Washington Ave.
Donlin, Philip E.....	Arts 2	118 W. 12th St.
Donovan, Ignatius B.....	Arts 2	Stewart Ave., near Oak St., Rich- mond Hill, L. I.
Doshefsky, Louis	Arts 2	170 Monroe St.
Dossick, Harry	Sc.	697 Dawson St., Bronx
Downing, John J.....	Sc.	1062 Nostrand Ave., Bklyn.
Drucker, Abraham	Sc.	188 Crystal St., Bklyn.
Duhl, Louis.....	Sc.	144 Attorney St.
Duncan, Frederick B.....	Arts 1	475 E. 137th St., Bronx
Dunne, John B.....	Sc.	878 Home St., Bronx
Dvorkin, Meyer	Sc.	1223 Union Ave., Bronx
Eagle, Max	Sc.	125 E. 113th St.
Eggers, Fred C.....	Sc.	440 E. 19th St., Bklyn.
Ehrman, David	Arts 3	132 Eldridge St.
Eidt, Jacob W.....	Sc. 3	873 Second Ave.
Eilert, John	Arts 3	569 W. 184th St.
Eisen, Leo	Arts 2	205 W. 140th St.
Emerson, Harold C.....	Arts 1	189 W. 136th St.
Engel, Morris A.....	Arts 2	119 E. 83d St.
Ephraim, Belmont	Arts 3	350 Sumner Ave., Bklyn.
Esterson, Israel	Arts 2	80 Willett St.
Ettari, Oscar	Sc.	St. Nicholas Terrace & 139th St.
Farola, Leon A.....	Sc.	1633 Melville St., Bronx
Fasolino, Rocco J.....	Arts 2	85 Sullivan St.
Feinsilber, David	Sc.	137 Norfolk St.
Feinsot, Joseph	Arts 2	25-27 Broome St.
Feinstein, Max	Sc.	240 Clinton St.
Feldman, Robert A.....	Arts 2	749 De Kalb Ave., Bklyn.
Felter, G. Herbert.....	Sc.	522 Putnam Ave., Bklyn.
Fine, Joseph H.....	Arts 2	67 E. 97th St.
Fisch, Hyman	Arts 3	55 Bayard St.
Floeting, Charles A.....	Arts 3	934 Putnam Ave., Bklyn.
Fordham, Alfred	Sc.	171 Fordham St., Bronx

Forman, Charles	Arts 2	74 Leonard St., Bklyn.
Fox, Hyman	Sc. 2	80 Hester St.
Frank, Herbert	Sc.	645 West End Ave.
Freedman, Monroe A.....	Arts 2	445 Canal St.
Freeman, Jacob	Arts 2	1035 E. 165th St., Bronx
Freiberg, Isidore	Sc.	147 Lenox Ave.
Frevola, John	Arts 2	208 21st St., Bklyn.
Freyer, Carl	Arts 1	1164 First Ave.
Fried, Jacob	Sc.	21 W. 118th St.
Fried, Joseph D.....	Sc.	434 E. 141st St., Bronx
Friedenthal, Bernard	Arts 2	227 E. 11th St.
Friedlander, Nathan	Sc.	1392 Prospect Ave., Bronx
Friedman, Edward	Arts 3	105 W. 117th St.
Friedman, Herman J.....	Sc. 2	126 Ludlow St.
Friedman, Sol	Sc.	16 W. 117th St.
Frischberg, Samuel B.....	Sc.	129 Henry St.
Fuchs, Samuel H.....	Sc.	726 E. 9th St.
Gallagher, Walter J.....	Sc.	431 E. 135th St., Bronx
Garratt-Phayme, Thomas A..	Arts 2	104 W. 138th St.
Gellin, Harry.....	Sc.	17 Eldridge St.
Gerardi, Simon	Sc. 3	322 E. 77th St.
German, Abraham	Arts 3	974 Union Ave., Bronx
Gershvin, Isidor	Sc.	91 Second Ave.
Gerstenfeld, Emanuel M....	Arts 2	291 Seventh Ave., Bklyn.
Ginsberg, Isadore B.....	Arts 2	320 Fiftieth St., Bklyn.
Glückstein, Isidore	Arts 3	540 Fifth St.
Godnick, Irving	Arts 3	530 W. 122d St.
Goldberg, Hyman	Sc.	1 Ridge St.
Goldfish, Max J.....	Sc.	21 Siegel St., Bklyn.
Goldsand, William V.....	Sc.	255 E. 10th St.
Goldstein, Harold	Arts 2	311 Broome St.
Goldstein, Ira E.....	Sc.	602 W. 157th St.
Goldstein, Jacob	Sc.	70 Hester St.
Goodman, Archie	Sc.	64 Montrose ave., Bklyn.
Gordon, Harry.....	Sc.	2469 Seventh Ave.
Gordon, Isidore	Sc.	222 E. 99th St.
Gottfried, Oscar R.....	Sc.	530 W. 136th St.
Gould, Paul E. A.....	Arts 2	321 St. Nicholas Ave.
Graeb, Charles W.....	Sc.	1114 Forest Ave., Bronx
Green, Jerome	Sc.	217 W. 140th St.
Green, Joseph C.....	Sc.	440 E. 9th St., Bklyn.
Greenbaum, Otto.....	Sc.	507 E. 139th St., Bronx
Gress, Edmund A.....	Sc.	46 Beaver St.
Grier, David	Arts 2	3800 Broadway.
Grossman, Abraham	Arts 2	841 Jennings St., Bronx
Grossman, Bernard	Sc.	815 Avenue W, Bklyn.
Grossman, Joseph	Sc.	208 Pearl St., Bklyn.
Guinane, Joseph E.....	Sc.	404 E. 83d St.

Haar, Morris	Arts 2	141-43 Attorney St.
Haber, Joseph	Sc.	554 Grand St.
Hadad, Isaac A.....	Arts 2	120 W. 89th St.
Hallberg, Harry C.....	Arts 2	1748 Filmore St., Bronx
Hamilton, John F.....	Arts 3	515 W. 173d St.
Hanson, Alfred H.....	Arts 2	710 Nostrand Ave., Bklyn.
Hazard, Edgerton	Arts 1	3089 Broadway
Herschkowitz, Charles J.....	Sc.	205 E. 98th St.
Heshion, Martin F.....	Arts 2	2086 Valentine Ave., Bronx
Heyman, Edward	Arts 3	126 First Ave.
Himber, Isidore	Arts 3	242 E. 112th St.
Hochberg, Isador.....	Sc.	1522 Webster ave., Bronx
Hodkin, Samuel J.....	Sc.	434 Bushwick Ave., Bklyn.
Hoffman, Israel.....	Sc.	200 Hart St., Bklyn.
Holófchiner, Ben.....	Arts 2	106 E. 104th St.
Horowitz, Max.....	Sc.	293 Second St.
Howe, John B.....	Sc.	54 Hamilton Place
Hurwitz, Jacob E.....	Sc.	335 Crimmins Ave., Bronx
Hurwitz, Leon J.....	Arts 2	2023 Hughes Ave., Bronx
Hyman, Benjamin.....	Arts 2	273 Metropolitan Ave., Bklyn.
Iacuzzi, Alfred.....	Arts 2	26 Monroe St.
Isaacs, Jackson S.....	Sc.	106 Morningside Drive
Isaacs, Julius.....	Arts 2	64 E. 93d St.
Israel, Joseph G.....	Arts 2	234 E. 103d St.
Jacobs, Julius.....	Arts 2	217 Broome St.
Jacobstat, Fred M.....	Sc.	166 W. 83d St.
Javitz, Isidore.....	Arts 2	2178 Belmont Ave., Bronx
Jicha, Jaroslav.....	Sc.	1346 First Ave.
Joffe, Louis.....	Sc.	224 W. 122d St.
Joffe, Robert.....	Sc.	203 E. 174th St., Bronx
Johnson, Wesley E.....	Arts 2	529 54th St., Bklyn.
Jones, Loring P.....	Arts 1	99 Berkeley Place, Bklyn.
Josephson, Isidor.....	Sc.	105 Stanton St.
Kallman, Edward.....	Sc.	12 Lee Ave., Bklyn.
Kallman, George.....	Arts 3	122 W. 115th St.
Kalmenoff, Isidor.....	Arts 2	1559 Eastern Parkway, Bklyn.
Kamrass, Benjamin.....	Sc.	121 W. 28th St.
Kantro, Bryan E.....	Arts 2	195 Decatur St., Bklyn.
Kaplan, Abraham.....	Sc.	762 Second Ave.
Kaplan, Max.....	Sc.	164 Delancey St.
Karsten, Edward H.....	Arts 2	537 E. 82d St.
Kasper, Harry W.....	Sc.	112 Henry St.
Katz, Frederick.....	Sc.	501 W. 138th St.
Kaufman, Charles.....	Sc.	200 Floyd St., Bklyn.
Kempner, Alan H.....	Arts 2	252 W. 130th St.
King, Frederick.....	Arts 2	3012 Barnes Ave., Bronx
King, Gordon C.....	Sc.	559 W. 164th St.
Klein, Adolph.....	Arts 3	1699 Fulton Ave., Bronx

Klein, Morris H.....Sc.	281 E. 7th St.
Klein, Samuel A.....Arts 2	500 W. 122d St.
Klemes, Isadore S.....Sc.	1970 Second Ave.
Klingsberg, Samuel.....Sc.	34 Pitt St.
Kowalsky, Louis.....Arts 2	76 E. 105th St.
Krackov, Herman L.....Sc.	1808 Nostrand Ave., Bklyn.
Kraft, Charles J., Jr.....Sc.	1179 Clay Ave., Bronx
Kraft, Herbert.....Arts 2	161 W. 140th St.
Krancer, David.....Sc.	114 Floyd St., Bklyn.
Krauss, Bernard.....Sc.	870 Kelly St., Bronx
Krauss, Samuel.....Sc.	320 E. 4th St.
Krizek, Charles J.....Sc.	361 Thirteenth Ave., Queens
Krumholz, Max.....Sc.	456 Wythe Ave., Bklyn.
Kurhan, Isadore I.....Sc.	176 Riverdale Ave., Bklyn.
Lachowski, Sergius.....Sc.	1458 Washington Ave., Bronx
Laitin, Harry.....Arts 2	1774 Madison Ave.
Landau, Henry M.....Arts 2	2 E. 111th St.
Landau, Hyman.....Arts 2	343 Saratoga Ave., Bklyn.
Landsberg, Solomon W.....Sc.	333 E. 90th St.
Langa, Arthur B.....Arts 2	129 W. 137th St.
Langer, Isaac.....Sc.	114 Lewis St.
Langner, Isidor E.....Sc.	427 Jerome St., Bklyn.
Lapedos, Samuel J.....Arts 3	420 E. 3d St.
Lasko, Ludwig.....Sc.	829 E. 167th St., Bronx
Lasky, Solomon.....Sc.	341 E. 56th St.
Lasner, Samuel.....Sc.	329 Chester St., Bklyn.
Lasser, Samuel.....Sc.	190 Norfolk St.
Lazarovich, Stevan.....Arts 3	423 W. 120th St.
Leffler, Albert.....Arts. 2	77 E. 89th St.
Lefkovic, Armand G.....Arts 3	301 E. 10th St.
Lehman, John J.....Arts 1	90 Seventy-first St., Bklyn.
Lehner, Bernard.....Sc.	1404 Park Ave.
Lehrman, Alexander.....Sc.	130 Bradhurst Ave.
Leibowitz, Isaac.....Sc.	2055 Washington Ave., Bronx
Lerman, Abraham.....Sc.	132 E. 17th St.
Levenson, Edward.....Sc.	2780 Webster Ave., Bronx
Levin, Morris.....Sc.	3044 Third Ave., Bronx
Levine, David.....Arts 2	4710 Third Ave., Bklyn.
Levine, Oscar.....Arts 2	466 Bainbridge St., Bklyn.
Levinson, Simon A.....Arts 2	154 E. 113th St.
Levy, David.....Arts 2	735 E. 147th St., Bronx
Levy, Max.....Arts 3	805 E. 5th St.
Lewin-Epstein, Hyman.....Sc.	1036 Trinity Ave., Bronx
Lichtman, Solomon.....Arts 2	17 E. 112th St.
Lieberman, Samuel H.....Sc.	81-83 Chrystie St.
Lieberman, Simon.....Arts 2	2356 E. 15th St., Bklyn.
Lifschitz, Harry.....Sc.	96 Henry St.
Lipinsky, Alex.....Arts 2	927 Home St., Bronx

Lippman, Herman.....Sc.	235 Madison St.
Littenberg, Moe H.....Sc.	945 E. 163d St., Bronx
Livant, Louis.....Sc.	1535 Minford Place, Bronx
Livingstone, Andrew.....Arts 2	22 Windsor Place, Bklyn.
Loebel, Robert O.....Arts 3	1805 Pitkin Ave., Bklyn.
Lubell, Albert J.....Arts 1	1185 Union Ave., Bronx
Lucenti, Santos B.....Sc.	424-26 E. 13th St.
Mabel, Isidor.....Sc.	223 Vernon Ave., Bklyn.
Mammini, LeonSc.	1721 Taylor Ave., Bronx
Mandelbaum, Harry.....Sc.	45 Cook St., Bklyn.
Marcus, Daniel.....Arts 1	144 Pennsylvania Ave., Bklyn.
Margaretten, David.....Arts 3	292 E. 7th St.
Margules, Joseph J.....Sc.	20 E. 100th St.
Mayer, Harry I.....Arts 2	234 E. 10th St.
Mayer, Richard B.....Sc.	265 W. 129th St.
McFadden, Edmund J.....Arts 2	79 Washington Place
Meltzer, Louis.....Sc.	528 E. 11th St.
Mendelson, James.....Sc.	424 Fifty-seventh St., Bklyn.
Meroila, Harold.....Sc.	305 Ocean Parkway, Bklyn.
Messina, Joseph M.....Arts 2	207 E. 116th St.
Mintz, Benjamin.....Arts 3	419 Grand St.
Morris, Edward M.....Sc.	75 W. 128th St.
Morris, Moses.....Sc.	697 Lafayette Ave., Bklyn.
Nachmanowitz, Joseph.....Sc.	3 E. 105th St.
Nadler, Reuben.....Arts 2	342 E. 13th St.
Nahm, Horace H.....Sc.	628 W. 114th St.
Nemirofsky, Andrew.....Sc.	751 Second Ave.
Nesbitt, J. Francis.....Arts 2	452 E. 139th St., Bronx
Newman, Harry.....Sc.	800 Home St., Bronx
Newman, Morris B.....Sc.	815 Fifth St.
Newmark, Edward H.....Sc.	162 W. 98th St.
Nichols, Frederick D.....Sc.	855 Morris Ave., Bronx
Novoselsky, SamuelArts 2	166 McKibben St., Bklyn.
Opalskar, Louis J.....Sc.	331 Grand St., Bklyn.
Oppenheim, SaulArts 2	520 W. 122d St.
Ornstein, DavidArts 2	313 E. 5th St.
Oscheyack, HenryArts 3	158 E. 107th St.
Paigen, AlexanderSc.	234-36 E. 4th St.
Paley, GeorgeSc.	194 Madison St.
Pelesky, Isidore A.....Sc.	15 E. 116th St.
Pemsler, SamuelSc.	1327 Intervale Ave., Bronx
Pfeffer, Albert M.....Arts 2	502 Wendover Ave., Bronx
Phelps, Roy D.....Sc.	24 W. 133d St.
Phillips, SidneyArts 2	201 E. 30th St.
Pincus, JosephSc.	46 Riverdale Ave., Bklyn.
Pincus, Philip A.....Sc.	85 Montgomery St.
Pizer, Harry S.....Sc.	356 Kosciusko St., Bklyn.
Platzman, Harry N.....Sc.	116 Suffolk St.

Portugaloff, Joseph	Arts 2	203 Corona Ave., Corona, L. I.
Post, Emil L.....	Sc.	211 W. 117th St.
Pressman, Louis	Sc.	62 Essex St.
Price, William G. F., Jr.....	Sc.	408 W. 124th St.
Quigley, Samuel M.....	Arts 2	715 E. 221st St., Bronx
Raab, Abraham	Sc.	257 E. 3d St.
Rabinowitz, Maurice	Arts 3	223 W. 120th St.
Rabinowitz, Paul	Sc.	241 Clinton St.
Randazzo, Thomas	Arts 2	252 Kingston Ave., Bklyn.
Rappaport, Abraham L.....	Sc.	25 Jefferson St.
Rappoport, Morris	Arts 2	176 Middleton St., Bklyn.
Reed, Elias A.....	Arts 2	191 Rogers Ave., Bklyn.
Reich, William F., Jr.....	Arts 1	475 Fourth Ave., Long Island City
Reichel, Morris H.....	Arts 2	73-75 Leonard St., Bklyn.
Reicher, Max	Sc.	126 E. 12th St.
Reichert, Philip	Arts 1	330 E. 77th St.
Rice, Louis	Arts 2	22 E. 102d St.
Richman, Harry	Sc.	350 E. 4th St.
Ritz, Joel	Arts 2	209 Clinton St.
Roberts, Carl F. J.....	Sc.	21 Beekman Place
Robin, David	Sc.	1741 Prospect Place, Bklyn.
Robinson, George	Sc.	28 E. 113th St.
Rosenblum, Benjamin	Arts 2	1543 Hoe Ave., Bronx
Rosenzweig, Isidore	Arts 3	309 Fifth St.
Rosenzweig, Morris	Arts 3	208 Seventh St.
Rosman, Abraham	Sc.	515 E. 156th St., Bronx
Rothstein, Jacob L.....	Arts 3	302 E. 3d St.
Rubin, David	Sc.	249 Broome St.
Rudinsky, Samuel	Arts 2	153 E. 54th St.
Rudnick, Joseph	Arts 2	551 Claremont Parkway, Bronx
Ryan, John E.....	Arts 2	2467 85th St., Bklyn.
Ryan, Sylvester	Arts 2	541 E. 144th St., Bronx
Sack, Samuel	Sc. 3	968 Fox St., Bronx
Sackadorf, Isadore H.....	Sc.	613 Blake Ave., Bklyn.
Saiewitz, Louis S.....	Sc.	201 W. 118th St.
Sanders, Herman	Arts 2	125 E. 101st St.
Sanf, Louis	Sc.	144 Lorimer St., Bklyn.
Santacroce, Charles	Sc.	307 E. 70th St.
Santangelo, Robert V.....	Arts 1	55 Oak St.
Scheinberg, Abram J.....	Sc.	64-66 Montgomery St.
Schermann, Berthold A.....	Sc.	955 Prospect Ave., Bronx
Scheuer, Sidney F.....	Arts 1	610 W. 135th St.
Schick, Joseph	Sc.	157 Hopkins St., Bklyn.
Schifter, Benjamin	Sc.	970 Tinton Ave., Bronx
Schlesinger, Donald	Arts 3	256 W. 97th St.
Schmidt, William F.....	Sc.	84 Clinton St., Corona, L. I.
Schramm, Otto A.....	Arts 3	246 E. 77th St.
Schreiber, Charles	Arts 3	108 Second Ave.

Schubert, Bernard	Arts 2	581 West St., Bklyn.
Schwartz, Abraham	Sc.	402 S. 3d St., Bklyn.
Schwartz, Abraham	Sc.	451 E. 135th St., Bronx
Schwartz, Alexander	Arts 2	314 Jackson Ave., Long Island City
Schwartz, Arthur	Sc.	424 Stratford Road, Bklyn.
Schwartz, Benjamin	Arts 2	468 Christopher Ave., Bklyn.
Schwartz, David D.....	Arts 2	210 Clinton St.
Schwartz, Emil	Sc.	437 E. 73d St.
Schwartz, Irving	Sc.	27 W. 111th St.
Schwartz, Le Roy N.....	Arts 2	123 E. 94th St.
Schwartz, Leslie C.....	Arts 2	123 E. 94th St.
Schwartzman, Harry	Arts 2	1489 Bryant Ave., Bronx
Seinfeld, Isidor	Sc.	167 Harrison Ave., Bklyn.
Selman, Samuel N.....	Arts 2	1119 Clay Ave., Bronx
Shapiro, Frederic E.....	Arts 1	374 Sheffield Ave., Bklyn.
Shapiro, Israel	Sc.	8 E. 110th St.
Shoor, William K.....	Arts 2	2168 Fulton St., Bklyn.
Shopenn, Isadore	Arts 2	330 Halsey St., Bklyn.
Shtulsky, William	Arts 2	208 Floyd St., Bklyn.
Shulman, Samuel B.....	Sc.	11 Lewis St.
Siegel, Alexander	Arts 2	313 E. 53d St.
Sigler, Saul	Arts 2	800 Jennings St., Bronx
Silverstein, Alexander	Sc.	264 Keap St., Bklyn.
Siminowetche, Anthony J....	Sc.	392 Lorimer St., Bklyn.
Siminowetche, George P....	Sc. 3	445 Bushwick Ave., Bklyn.
Slutsky, Albert	Sc.	9 E. 116th St.
Smith, Edward L.....	Arts 2	531 W. 145th St.
Smith, William	Sc.	370 Madison St.
Smolensky, Leon J.....	Sc.	1821 Prospect Place, Bklyn.
Smyth, Thomas J.....	Arts 2	166 40th St., Corona, L. I.
Sobel, Israel	Sc.	554 Grand St.
Solomon, Abraham	Arts 2	1381 Franklin Ave., Bronx
Soloway, Samuel D.....	Sc.	21 E. 110th St.
Sparagon, Abraham	Sc.	70 First Ave.
Specter, Louis	Sc.	1184 Jackson Ave., Bronx
Spector, Herman	Sc.	563 Myrtle Ave., Bklyn.
Starnes, Roger	Arts 2	407 W. 55th St.
Starr, Leo	Sc.	2080 Dean St., Bklyn.
Stember, Solomon	Arts 2	133 Heyward St., Bklyn.
Stemple, Henry	Arts 3	200 Brown Place, Bronx
Sternman, Isador I.....	Sc.	1882 Park Ave.
Stolitzky, Samuel L.....	Sc.	511 16th St., Bklyn.
Stone, Morris	Arts 2	208 W. 140th St.
Straley, John A.....	Arts 2	282 Halsey St., Bklyn.
Strusser, Harry	Arts 2	229 E. 21st St.
Studley, Bennett D.....	Sc.	346 W. 42d St.
Suchman, Abraham	Arts 3	603 W. 139th St.
Suda, Charles	Sc.	336 E. 71st St.

Sultan, Joseph	Arts 2	31-33 Market St.
Sumner, William	Sc.	82 Debevoise St., Bklyn.
Susseles, Morris E.....	Sc.	202 S. 2d St., Bklyn.
Suter, Karl W.....	Arts 2	44 Prospect Place, Bklyn.
Suydam, James L., Jr.....	Arts 2	436 Monroe St., Bklyn.
Swink, David C.....	Arts 1	405 Park Ave.
Syrop, David.....	Arts 3	113 E. 3d St.
Tanzer, Milton.....	Arts 2	123 E. 101st St.
Taretsky, Jacob.....	Arts 2	190 Sutter Ave., Bklyn.
Thomas, Wendell M., Jr.....	Sc.	507 W. 142d St.
Thomas, William A.....	Arts 3	8 E. 17th St.
Thornton, Edwin A.....	Arts 3	58 W. 105th St.
Thumim, Carl.....	Arts 2	511 W. 177th St.
Tintner, Joseph.....	Arts 2	312 W. 140th St.
Trachman, Herman I.....	Arts 1	318 E. 80th St.
Trager, Cornelius.....	Sc.	205 E. 103d St.
Truden, John.....	Sc.	2315 2d Ave.
Tullman, Harold R.....	Arts 2	189 S. 2d St., Bklyn.
Unger, James.....	Sc.	52 E. 118th St.
Uviller, Isidore.....	Arts 2	1 E. 118th St.
Vernick, Samuel W.....	Sc.	532 E. 11th St.
Villa, Sergio.....	Sc.	134 W. 132d St.
Vogel, Joseph	Sc.	351 E. 3d St.
Vriens, Gerard G.....	Arts 1	1018 Walton Ave., Bronx
Wadepuhl, Walter.....	Arts 2	672 Crotona Park South, Bronx
Weber, Frederic L.....	Sc.	1419 Longfellow Ave., Bronx
Weinberg, Benjamin.....	Sc.	1871 Seventh Ave.
Weinerman, Harry W.....	Sc.	490 Howard Ave., Bklyn.
Weingart, Robert.....	Arts 2	236 W. 138th St.
Weinick, Harris.....	Sc.	129 Rivington St.
Weissblatt, Isador.....	Arts 2	20 Rutgers Place
Weitzman, Harris D.....	Arts 2	303 W. 120th St.
Weitzner, Julius H.....	Sc.	730 Prospect Ave., Bronx
Whelan, James.....	Arts 2	124 W. 83d St.
Wiener, Arthur.....	Arts 2	542 W. 112th St.
Wieselthier, Seymour.....	Sc.	233 E. 6th St.
Wiesen, Charles R.....	Sc.	500 Grand St.
Wilkes, Edward.....	Sc.	1379 Teller Ave., Bronx
Willenbrok, John H.....	Sc.	859 Macy Place, Bronx
Willis, John H.....	Arts 2	588 Palmetto St., Bklyn.
Wilson, Robert.....	Arts 3	51 S. 9th St., Bklyn.
Winkopp, Adolph J.....	Sc.	1342 Prospect Ave., Bronx
Wisan, Harold.....	Arts 2	121 W. 114th St.
Wishner, Joseph.....	Arts 2	507 Belmont St., Bronx
Wittner, Sidney M.....	Arts 2	272 E. 4th St.
Wolf, Ruly R.....	Arts 2	226 E. 6th St.
Wolfsohn, Jacob.....	Sc.	17 Monteith St., Bklyn.
Wolfson, George.....	Arts 2	1726 Sterling Place, Bklyn.

Wolfson, Max.....	Arts 2	1528 Brook Ave., Bronx
Wright, Louis R.....	Sc.	70 W. 134th St.
Yormark, Joseph.....	Arts 2	15 Eighth Ave.
Young, Henry L.....	Sc.	1767 Topping Ave., Bronx
Zickerman, Emil M.....	Sc.	154 Flatbush Ave., Bklyn.
Zimmerman, Oscar.....	Arts 2	422 E. 6th St.
Zinberg, George.....	Sc.	85 Delancey St.

Total 447

SPECIAL STUDENTS.

George A. Barnewall, Jr.		2016 Seventh Ave.
Louis Baron		369 Vernon Ave., Bklyn.
Samuel M. Baum		7411 Fifth Ave., Bklyn.
Robert Bersohn, B.S. (C.C.N.Y.)		60 E. 113th St.
Hans Briem, Dr. Jur. (Greifswald)		25 Fort Washington Ave.
Samuel I. Bross		730 Second Ave.
Alfred H. Cassey		155 W. 132d St.
James E. Cattell, A.B. (C.C.N.Y.)		133 E. 35th St.
Paul Cohen, B.S. (C.C.N.Y.)		287 Division Ave., Bklyn.
Wyllys Dixon		241 Franklin Place, Flushing, L. I.
David Drogin, A.B. (C.C.N.Y.)		140 Norfolk St.
Isaac Drogin, A.B. (C.C.N.Y.)		140 Norfolk St.
Joseph Eleston, B.S. (C.C.N.Y.)		631 Jefferson Place, Bronx
Meyer C. Folkoff		759 Jennings St., Bronx
Rev. D. Wilmot Gateson, A.B. (Trinity)		61 E. 86th St.
Robert Goodman		136 E. 127th St.
Benedict Gordon, B.S. (C.C.N.Y.)		166 S. 2d St., Bklyn.
James Graham, Jr.		5 Bonner Place, Bronx
Thomas J. Graham, A.B. (Ford- ham)		175 Perry St.
David Greenberg, B.S. (C.C.N.Y.)		914 Melrose Ave., Bronx
Max Greenberg		262 Second St.
Harry Hershkowitz, B.S. (C.C.N.Y.)		201 Avenue B
John B. Howe		54 Hamilton Place
Benjamin Jablonower, B.S. (C.C. N.Y.)		1390 Clinton Ave., Bronx
Israel Jacobson		Douglaston, L. I.
Edward Kallman		12 Lee Ave., Bklyn.
Walter C. Kettling		2112 Crotona Ave., Bronx
Leon Kirsch, B.S. (Cooper Union)		1840 Belmont Ave., Bronx
Benjamin Lechner		76 Monroe St.
Emanuel Levin		137th St. & Amsterdam Ave.
Joseph S. Lobenthal		242 W. 112th St.
Arthur Machol, Ph.C. (Columbia)		938 St. Nicholas Ave.
Meyer Magui, A.B. (C.C.N.Y.)		809 Freeman St., Bronx

Max M. Mandl	137th St. & Amsterdam Ave.
Thomas J. McCarthy	228 W. 16th St.
Spyridon M. Metni	
Seiichi Miyasaki	250 W. 85th St.
Minoa J. Nicholas	270 Riverside Drive
Seymour Rabinowitz, A.B. (C.C. N.Y.)	60 E. 118th St.
Max Reich	28 Lewis St.
Morton F. Sanborn	36 Main St., Flushing, L. I.
Max Scheer, M.D. (Columbia)	723 St. Nicholas Ave.
Jehanguir A. Setna	509 W. 144th St.
A. David Shapiro	15 Hester St.
John Shlonsky	70 E. 99th St.
Alonzo D. Smith	202 W. 133d St.
Benjamin Solomon, B.S. (C.C. N. Y.)	67 W. 115th St.
Frederick A. Stahl	674 E. 245th St., Bronx
Alexander Tendler	33 Debevoise St., Bklyn.
Emil Thorne	259 W. 139th St.
Edward E. Tyler	43 E. 132d St.
Emanuel Weber, B.S. (C.C.N.Y.)	127 W. 22d St.
Julius Weinberger, B.S. (C.C.N.Y.)	214 E. 4th St.
Israel Weinstein, A.B. (C.C.N.Y.)	436 E. 138th St., Bronx
Philip Widockler, B.S. (C.C.N.Y.)	205 S. 3d St., Bklyn.
Julius J. Wittal, M.E. (Royal Hungarian Technical University, Buda-Pesth)	211 W. 117th St.
Total—56	

SUMMARY.

Upper Senior	66
Lower Senior	78
Upper Junior	100
Lower Junior	107
Upper Sophomore	123
Lower Sophomore	207
Upper Freshman	273
Lower Freshman	447
Special Students	56
Total	1,457
Subtract for duplication.....	3
	<hr/>
	1,454

EVENING SESSION.

In 1909, the Board of Trustees of the College established the Evening Session. The purpose was to make it possible for young men of High School education, who were employed during the day, to avail themselves of the advantages of the College at night. For the first year there were offered the Freshman courses in all subjects, and advanced work in a few branches which were in demand. With the progress of the students the regular prescribed courses of the Sophomore and later years were offered, until now nearly every prescribed course necessary for a degree and many electives are given.

All the courses offered are as far as possible identical with those of like designation given in the Day Session. The requirements for admission to, and the administration of these courses also follow the same standards. At least twenty qualified applicants are required before an initial elementary course will be begun.

The students of the Evening Session are as a body more mature than those who attend college by day. They are doctors, lawyers, engineers and teachers—in fact men from all walks of business and professional life. There are also recent High School graduates working side by side with their more experienced fellow-students. Many men employed by the city come to the College to develop greater efficiency and prepare for promotion to higher positions.

A Student Council is the organ of student self-government. This body consists of a member from each section. It deals with all matters of general student interest; conducts socials, dinners, dances and smokers, and voices student sentiment.

SUBJECTS OFFERED DURING THE YEAR 1913-1914.

ART.

1-2. DESCRIPTIVE GEOMETRY.

Mr. Autenreith.

This course is designed to familiarize the student with the methods of representing the form of objects and their relation in space, to develop his projective and constructive imagination and to habituate him to accuracy, clearness and neatness in draughtsmanship. It prepares the student for the construction and interpretation of constructive drawings.

The work consists of lectures and practical drawing-board representation of lines, planes, solids; intersections, sections, tangencies and developments; shades, shadows and perspective.

Prescribed for Science: Two terms, four hours a week, counts 4.

6. MECHANICAL DRAWING.

Mr. Autenreith.

The work of this course embraces drawing of mechanical details, such as bolts and nuts, screws, springs, keys, pipe fittings,

etc.; methods of dimensioning, tracing, etc.; making of scale drawings from sketches of parts of machines; also the drawing of details from "assembly" drawings as a drill in the reading of drawings.

Prerequisite: Art 1-2. One term, six hours a week, counts 2.

CHEMISTRY.

Note.—Physics 1 and 2 are prerequisite for all work in Chemistry.

1-2. DESCRIPTIVE CHEMISTRY.

Dr. Estabrooke.

For the student's general culture, acquainting him with the principles of chemical philosophy. Twenty-six weeks are given to the study of Inorganic Chemistry, essentially based upon the natural system, but involving the most modern conceptions of Physical Chemistry; the last six weeks are devoted to the Chemistry of the Carbon Compounds. During the second term, when the student has gained sufficient knowledge to appreciate it, parallel reading is assigned in the History of Chemistry. The lectures are accompanied throughout the session by weekly examinations and laboratory work to test the facts and principles upon which the science is founded. Text-books: Baskerville's *Inorganic Chemistry*, Baskerville and Curtis's *Laboratory Exercises*, Baskerville and Estabrooke's *Progressive Problems in Chemistry*, Remsen's *Organic Chemistry*, and Venable's *Short History of Chemistry*.

Prescribed: { Arts and } two terms, one recitation, two lectures and
 { Science. } two laboratory hours a week; counts 6.

The privilege of a limited amount of extra laboratory work is extended to those who wish to avail themselves of the opportunity.

3. QUALITATIVE ANALYSIS.

Dr. Breithut.

A grounding is given in the principles involved in the detection of unknown substances. Text-books: Moody's *Hobart Manual*, and Baskerville and Curtman's *Qualitative Analysis*. Parallel reading: Morgan's *Qualitative Analysis*.

Prerequisite: Chemistry 1-2.

Prescribed: Science, Fall term; laboratory work with a lecture or recitation every week; seven hours a week; counts 3.

Elective in Arts.

4. QUANTITATIVE ANALYSIS.

Dr. Breithut.

A training is given in the accurate determination of the quantity of an element or compound present, by both gravimetric and volumetric methods. Text-book: Moody's *Quantitative Analysis*.

Prerequisite: Chemistry 3. Spring term. Laboratory work with a lecture or recitation every fortnight; eight hours a week; counts 3.

Further elective subjects may be taken only by those students who have acquired a grade of 70 per cent. in Chemistry 3 and 4.

5. ORGANIC CHEMISTRY.

Dr. Prager.

The fundamental principles involving carbon compounds are studied. The lectures deal mainly with the aliphatic series and their derivatives, but at the end a few lectures are devoted to the cyclic series to indicate the lines followed in Chemistry 6. The laboratory practice is given over to the qualitative examination of carbon compounds and the making of some of the simpler preparations. Text-books: *Holleman's Organic Chemistry and Laboratory Manual*, Gatterman's *Practical Methods of Organic Chemistry* (English Edition), and Lassar-Cohn's *Arbeitsmethoden*.

Prerequisite: Chemistry 4. Fall term; lecture and recitation two hours and laboratory four hours a week; counts 3.

6. ADVANCED ORGANIC CHEMISTRY.

Dr. Prager.

The lectures deal with the cyclic and more complex carbon compounds, showing their relations in living processes. Many of them are isolated, prepared, and analyzed quantitatively in the laboratory. Text-books: Same as in Chemistry 5, and Fischer's *Anleitung zur Darstellung organischer Präparate*.

Prerequisite: Chemistry, 5. Spring term; lecture and recitation two hours and laboratory four hours a week; counts 3.

ENGLISH LANGUAGE AND LITERATURE.

1. THE HISTORY OF ENGLISH LITERATURE.

Dr. Palmer.

A course tracing the development of English literature from its earliest appearance down to the present century. As the aim is to train the student in a knowledge of literary periods and achievements, and to quicken his consciousness of literary values, the method will be to point out the sources and tendencies of each period, and to emphasize their effects upon one another and upon the literature of to-day, in the light of political, economic and social conditions.

The course will be guided by a syllabus. Collateral works in prose and poetry will be studied, critically, in illustration of the characteristics, the message and creative ideas of the principal authors. Reports and essays will be required. The essays will be corrected in personal conference with the Instructor. Text-books: Moody and Lovett's *First View of English Literature*, Pancoast's *Standard English Poems* and *Standard English Prose*.

Prescribed: Two terms, two hours a week, counts 4.

2 El. ELEMENTARY COMPOSITION.

Dr. Otis.

A course in the writing of English for those students who are not prepared to undertake the regular, college work in Composition and Rhetoric. As much time as possible is devoted to

actual writing by the class and the theoretical instruction is reduced to a necessary minimum. No college credit.

Two terms, two hours a week.

2. RHETORIC AND COMPOSITION.

Mr. Compton, Mr. Whiteside and Dr. Otis.

Theme and plan, kinds of composition—particularly argumentation—paragraph, sentence and diction. Frequent exercises, briefs and essays are required, some written work being done at least once a week. Personal conferences. Text-books: Lamont's *English Composition* and Genung's *Hand-book*.

Prescribed: One term, two hours a week, counts 2.

2 Ad. ADVANCED COMPOSITION.

Mr. Compton.

A course for advanced students who have shown an aptitude for composition. Although the training will be general, the exercises will take the forms of editorials, special articles, reviews and short stories.

Two terms, two hours a week, counts 4.

5-6. SHAKESPEARE.

Professor Krowl.

The work of this course covers one year. The first term is devoted largely to comedy, the second to tragedy. Four plays are read carefully in class each term and a considerable number at home. Attention is given to dramatic construction, character portrayal and poetic beauty. Various topics connected with Elizabethan drama are considered, *e. g.*, the construction of the Elizabethan theatre, the Bacon-Shakespeare controversy.

Two terms, two hours a week, counts 4.

GERMAN LANGUAGE AND LITERATURE.

For students in Arts who present as a second language two years of German, the following courses covering four terms are prescribed. To secure the 13 credits in second language in Arts, requisite for a degree, an additional course of one term (to be announced later) must be taken. To fill the requirements of second language in Science, 1, 2 and 3 must be taken.

1. INTERMEDIATE OR THIRD YEAR GERMAN. *Professor Kost.*

Schiller's *Wilhelm Tell*. The work is read, translated and discussed. Famous passages are memorized. The Shakespearean influence in construction and character is noted and points of historical interest are incidentally considered (two hours a week). Harris's *Composition, Part III, Letters* (one hour a week).

Three hours a week, Fall term, counts 2½.

2. INTERMEDIATE (Continued). *Professor Kost.*

Freytag's *Aus dem Staate Friedrich's des Grossen*. In the treatment of this work, the spirit, ideals and ideas of the eighteenth century are given due consideration. The French influence, manifested in the German language and literature of this period, is illustrated, and German equivalents for foreign terms used by the author and his subject are dwelt upon (two hours a week). Harris's *Composition, Part IV, Biographical and Historical Extracts* (one hour a week).

Three hours a week, Spring term, counts 2½.

3. ADVANCED OR FOURTH YEAR GERMAN. *Professor Kost.*

Schiller's *Wallenstein*. In the consideration of this work, especial emphasis is laid upon the study of the characters, historical and psychological. Important passages are memorized. Reading, translation and discussion (two hours a week). Composition: Advanced work based on the play or upon "*English Gems for German Composition*" (one hour a week).

Three hours a week, Fall term, counts 2½.

4. ADVANCED (Continued). *Professor Kost.*

Goethe's *Torquato Tasso* or *Iphigenie auf Tauris*. In connection with this course, Goethe's life and his place in literature will be considered. Reading, translation and discussion (two hours a week). Composition: Advanced work based on the text or "*English Gems for German Composition*" (one hour a week).

Three hours a week, Spring term, 2½.

HISTORY.

1. MEDIAEVAL AND MODERN EUROPE TO THE FRENCH
REVOLUTION. *Professor Schuyler.*

Important features of mediaeval history from the time of Charlemagne are dwelt upon with modern European history treated more fully. The aim will be to build up and explain the Europe of to-day to the American student before he takes up elective courses in this Department. The idea will be insisted on that in History there are no great breaks or changes, but that there is a continuous advance and development in which individuals exercise a powerful influence in directing local or national consciousness.

Political and dynastic changes will be treated, but more stress will be laid on the social and economic life of the peoples studied. The following topics, among others, will be discussed: Classical civilization and the Roman Empire; Christianity as a State religion; the rise of Monasticism and its effects; the rise of Islam;

the restoration of the Empire; Charlemagne; the beginning of nationalities; the rise of the vernacular; mediaeval types and institutions; the contest between the Papacy and the Empire; the Renaissance; the Protestant Revolt and the Counter-Reformation; Richelieu and the Treaty of Westphalia; European colonization; the Ages of Louis XIV; the work of Frederick the Great; the influence of Voltaire and Rousseau; the cause of the French Revolution, and the rise and fall of Napoleon.

Reports will be made by students on assigned readings.

Three hours a week, September to January, counts 3 credits.

2. EUROPE SINCE THE FRENCH REVOLUTION.

Professor Schuyler.

The aim and method will be much the same as that of History 1, of which this course is a continuation in subject. The influence of Europe upon American history will be developed.

Three hours a week, February to June, counts 3 credits.

7-8. CONSTITUTIONAL AND POLITICAL HISTORY OF THE UNITED STATES.

Professor Schuyler.

In these two courses attention will be given largely to political and constitutional development. After a careful study of the cause leading to the Revolution and a sketch of the events of the War itself, the work of the establishment of the Constitution is taken up, after which such topics are taken up as the development of National life, the rise of parties and party government, territorial expansion, foreign relations, the controversy over slavery, the Civil War and the Reconstruction Period and the present position of the United States as a world power. The work of great leaders in thought and action will be studied carefully. At the same time the economic aspect of American history will not be neglected, and an attempt will be made to secure an understanding of the industrial conditions and problems of our modern life.

History 7 covers the period from 1765 to 1848, and will be given during the term September, 1913, to January, 1914.

Three hours a week, counts 3 credits.

History 8 covers the period from 1848 to the present time, and will be given from February, 1914, to June, 1914.

Three hours a week, counts 3 credits.

LATIN LANGUAGE AND LITERATURE.

These courses must be taken as a first language requirement by all who are candidates for an Arts degree. Furthermore an additional course (Latin 5, 6, 7, 8 or 9) must be taken to make up the necessary 14 credits.

1-2. VERGIL.

Professor Burke.

Five books of the Aeneid, with study of Latin prosody; prose composition, with suitable grammatical lessons. Text-books: Frieze's *Vergil's Aeneid*; Ritchie's *Latin Prose Composition*.

Prescribed: Arts, two terms, three hours a week, counts 5.

Prerequisite: Three years, preparatory Latin.

3. HORACE'S ODES.

Professor Burke.

About 1,500 lines, with metrical, historical and aesthetic commentary; prose composition. Text-books: C. L. Smith's *Horace's Odes*; Ritchie's *Easy Continuous Latin Prose*.

Prescribed: Arts, Fall term, three hours a week, counts 3.

4. HORACE'S SATIRES AND EPISTLES.

Professor Burke.

With historical and metrical commentary, and lectures on etymology; prose composition. Text-books: Greenough's *Horace's Satires*; Ritchie's *Easy Continuous Latin Prose*.

Prescribed: Arts, Spring term, three hours a week, counts 3.

(Note.—Each course is the prerequisite for the one following it.)

MATHEMATICS.

1a. TRIGONOMETRY.

Professor Reynolds.

Plane and spherical, to cover the usual study of the trigonometric functions of angles, the solution of triangles, with simple application to surveying, navigation and astronomy. Text-book: Crawley, *Short Course in Trigonometry*.

Prescribed for students who do not present Trigonometry for entrance.

Fall term, three hours a week, counts 3.

2a. ADVANCED ALGEBRA.

Professor Reynolds.

To cover quadratic equations, ratio, proportion, variation, the progressions, logarithms, permutations, combinations, the binomial theorem, determinants, the theory of equations. Text-book: Hawkes, *Advanced Algebra*.

Prescribed for students who do not present Advanced Algebra for entrance.

Spring term, three hours a week, counts 3.

1. ANALYTIC GEOMETRY.

Professor Reynolds.

Plane and solid; to cover the use of the co-ordinates, cartesian and polar, in the study of curves, surfaces and solids as presented in the usual text-book. Text-book: Wentworth, *Analytic Geometry*.

Prerequisites: Entrance Trigonometry or Mathematics 1a, and Entrance Advanced Algebra or Mathematics 2a.

Prescribed for students in Science.

Two terms, three hours a week, counts 6.

2-3-4. CALCULUS.

Professor Pedersen.

Text-book: Osgood, *A First Course in the Differential and Integral Calculus*, or Osborne, *Differential and Integral Calculus*.

Prerequisite: Mathematics 1.

Prescribed for students in Science, elective for students in Arts. Three terms, three hours a week, counts 9.

(Note.—For science students, all these courses are prescribed, but Courses 1, 2, 3 and 4 must aggregate 14 credits. Of this 14, only 4 in Analytics are accepted.)

NATURAL HISTORY.

1. GENERAL BIOLOGY.

Dr. Browne.

A lecture and laboratory course in the fundamental laws and principles which underlie all the biologic sciences. The structure and functions, the behavior, the development and the history of living things will be discussed and studied in the laboratory by the use of specially selected types. This course furnishes the necessary basis for more advanced work in biology, and it gives to students in other departments a viewpoint essential to a proper comprehension of the laws of hygiene and sanitation and helpful in a consideration of the broader problems of organization and development as they are manifested in the life of human societies. Text-book: Sedgwick and Wilson's *General Biology*.

Prescribed: Two lectures and four laboratory hours a week, counts 4.

PHILOSOPHY.

1. ETHICS.

Professor Cohen.

A study of the principles of individual and social conduct, particularly as these have application in the moral conflicts of modern life.

Prescribed: Fall term, three hours a week, counts 3.

2. LOGIC AND SCIENTIFIC METHOD.

Dr. Turner.

This course is of fundamental importance to the student inasmuch as it aims to lay the foundation for clear and accurate thinking. It is therefore strongly advised as a preparation for all other elective work. The course aims to acquaint the student with the main principles of deductive and inductive inference and with the more specific methods of scientific thinking and research. By the use of practical examples the student is taught to recognize true and to detect false reasoning and is trained in the habit of correct judgment.

Spring term, three hours a week, counts 3.

3. PROBLEMS AND HISTORY OF PHILOSOPHY.

Dr. Turner.

In this course the main problems of philosophy are examined for the purpose, first, of understanding their significance as living

issues, and second, of attempting their solution. To this end the leading historical solutions from early Oriental and Greek thought to the present day are passed in review. The course aims primarily to introduce the student to constructive philosophical thinking.

Spring term, three hours a week, counts 3.

5. THE PHILOSOPHY OF LAW.

Professor Cohen.

A study of the ethical and metaphysical principles at the basis of our judicial procedure and social legislation. The leading features of the Roman and the common law, and such topics as the theory of property, contract, tort, etc., will be studied. The aim of this course is to place the student in a position to estimate the resources and limitations of the law as a factor in the ethical transformation of society. Lectures and student reports on selected readings from such works as Sohm's *Institutes of Roman Law*, Bentham's *Theory of Legislation*, Salmond's *Jurisprudence* and Holmes's *Common Law*.

Fall term, three hours a week, counts 3.

PHYSICS.

I. ELEMENTARY.

In the elementary work of the first year the primary facts and laws are taught by means of lectures with full demonstrations, individual laboratory exercises, and recitations and quizzes upon assigned work at home. Particular attention is given to the quantitative as well as to the qualitative relations between physical quantities, and numerous problems illustrative of these relations are solved by the students. Students are held strictly accountable for all the apparatus assigned to their use, and must replace any lost by breakage or waste through carelessness.

1. MECHANICS, HEAT AND MAGNETISM.

Professor Coffin, Mr. Corcoran and Mr. Truesdell.

Text-books: Milliken and Gale, *A First Course in Physics*.
Cheston, Dean, Timmerman, *Laboratory Manual of Physics*.

The laboratory work includes the following: the measurement of mass, volume and density; the study of Hooke's law, of the law of the composition of concurrent forces, of the pendulum, the lever, the inclined plane, pulleys, and of the laws of friction; applications of Archimedes' principle, and the determination of the specific gravity of various solids and liquids; Boyle's law of gases; the fixed points of the mercury thermometer; specific heat of various solids; the heat of fusion of ice and the heat of vaporization of water.

Prescribed for all students who do not offer Physics for entrance;
one lecture, one laboratory and two recitation hours a week.

Fall term.

2. SOUND, LIGHT AND ELECTRICITY.

Mr. Wetzel.

The same text-books are used as in Physics 1.

The following exercises are performed in the laboratory: the determination of the vibration frequency of a tuning-fork; of the wave-length of its tone in air; the tones produced by vibrating strings; photometric measurement; the study of plane mirrors, curved mirrors, lenses and prisms; experiments involving the chemical batteries, electrolysis, electroplating, Ohm's law, the use of Wheatstone's bridge, electro-magnetic induction, the dynamo and motor, electric bell and telegraph.

Prerequisite: Physics 1. Prescribed as in Physics 1.
Spring term.

II. COLLEGE PHYSICS.

These courses are intended more especially for students of science. The aim is to secure a thorough knowledge of the physical facts and of their quantitative relations both for the purpose of understanding the unity of natural phenomena, and also for the application of these facts and relations to practical problems. In all of the experimental work attention is especially given to the setting-up and to the use of the apparatus for the purpose of securing the best conditions of manipulation and the most accurate results of which the apparatus is capable. All observed data are carefully tabulated and reports upon every experiment are required to contain a description of the method of manipulation, complete calculations and conclusions based upon the observations, and appropriate diagrams and plots. Special attention is given to practical methods of computation.

3. MECHANICS, WAVE MOTION AND HEAT.

Mr. Truesdell.

Text-book: Watson, *General Physics*.

The experiments are: the construction and use of a model vernier caliper, the composition of vectors by graphical methods and verification by numerous calculations, the use of micrometers, the optical micrometer, the finding of the relation between the metric and English units of length, the use and theory of the balance, the determination of "g" from the simple pendulum and the reversible pendulum, the study of torque, angular velocity and angular acceleration and their relations to rotational mass, several uses of the Joly balance, the laws of torsion, the determination of the moment of inertia of a body by means of the torsion and the compound pendulum, the verification of the laws of capillarity, Boyle's law of gases at pressures both higher and lower than atmospheric, the calibration of thermometers, the constant of radiation, specific heat and latent heat of substances

by accurate methods, determination of the mechanical equivalent of heat.

Prerequisite: Elementary Physics.

Prescribed: Science } Fall term, one lecture, two recitations and
Elective: Arts } two laboratory hours a week, counts 3.

4. LIGHT AND ELECTRICITY.

Mr. Truesdell.

Text-book: Watson, *General Physics*.

The following experimental determinations are made: the radius of curvature of a lens by means of the spherometer; the relations between real conjugate foci of a converging lens; the index of refraction of light passing from water to air; power, spherical aberration, and astigmatism of a converging lens; the study and construction of simple optical instruments; the refracting angle of a glass prism and the index of refraction measured with the spectrometer; the use of the spectroscope; the wave length of sodium light with spectrometer and diffraction grating; distribution of magnetism in a bar magnet; measurement of resistances by both the slide-wire and coil form of Wheatstone's bridge; verification of the laws of resistance; determination of the specific resistance and of the temperature coefficient of a metal; measurement of a current by both a copper and a gas voltameter; determination of the mechanical equivalent of heat by means of a current.

Prerequisite: Physics 3.

Prescribed: Science } Spring term, one lecture, two recitations and
Elective: Arts }

III. ELECTIVE.

These courses and others to be added later are offered with two objects in view: to enable a student to contemplate his training in theoretical physics by the choice of a subject in which the mathematical treatment of physical problems serves to show the adaptability of mathematics to the investigation of natural phenomena; or to begin his preparation for engineering and technical work by choosing subjects involving the application of physics and mathematics to practical problems.

6. ADVANCED MECHANICS.

Professor Coffin.

This is principally an application of mathematics to the principles of the mechanics of rigid bodies. It includes a theoretical study of Statics, Kinetics and Kinematics and also the solution of practical problems. Text-books: Dadourian, *Analytical Mechanics*; Martin, *Text-Book of Mechanics*.

Prerequisites: Physics 3 and Mathematics 4.

Fall term, two lectures and two recitations a week, counts 3.

7. STRENGTH OF MATERIALS. *Professors Coffin and Bruckner.*

In this course there are developed the special rules of design and formulae applicable to the structural forms in common use, such as beams, columns, and struts, shafts, springs, spheres and cylinders under pressure, flat plates, hooks and links, and foundations. The physical properties of materials are studied and tests are made with the Riehle machine cement tester, and other devices, determining the elastic constants used in the formulae. Text-book: Slocum and Hancock, *Strength of Materials*.

Prerequisites: Physics 6 and Mathematics 4.

Spring term; one lecture, two recitations and two laboratory hours a week, counts 3.

14. THEORY OF SURVEYING. *Mr. McLoughlin and Mr. Corcoran.*

In this course are taken up the fundamental principles of surveying, the construction, adjustment and use of the tape, the transit, the level, the plane table and the sextant. Methods of surveying for area, profile and topography are studied, and the stadia method of measuring distances is fully treated. The work is supplemented by lectures and practice. Two hours a week are devoted to the field practice, in which the manipulation of the various instruments is taught and a traverse is run, with compass, transit, tape and land level, of a small area of rough ground. Problems in the reduction of actual field notes are solved by the students every week. Text-book: Bread and Hosmer, *Principles and Practice of Surveying*, and instructor's notes.

Elective: Fall term, two recitations and two field work hours a week, counts 3.

15a. PRACTICAL SURVEYING. *Mr. McLoughlin.*

The transit and level are adjusted by each student and five preliminary traverses are run: 1° B. M. Leveling and Profile, 2° Open Azimuth for Distance, 3° Azimuth and Stadia for Area, 4° Hand Level for Contours, and 5° Repetition for Distance and Angles. A complete survey is then made for a proposed road two miles long. Stakes are set, volumes computed, and maps prepared as in actual practice. Text-books: Tracy, *Plane Surveying*, instructor's notes. References: Tracy, *Exercises in Surveying*; Crandall, *Earthwork*; Searles, *Field Engineering*.

Prerequisite: Physics 14.

Spring term, two hours a week, counts 1½.

15b. PRACTICAL SURVEYING. (Continued.)

The work consists of five surveys: 1° The estimation of cubic yard of cut and fill to bring a city lot to grade for building purposes. 2° The location of a city street through a piece of property and the staking out of two city lots thereon. 3° The location of a simple railroad curve with inaccessible P. T. or P. C. The location of a curve with transitions. 4° Plane Table traverse

of a portion of a city park. 5° Observations on Polaris for Meridian and Latitude. Sextant observations for latitude, longitude, time and true meridian. Text-books and References: Tracy, *Plane Surveying*; Breed and Hosmer, *Plane Surveying*, vol. II.; Searles, *Field Engineering*; Crandall, *Transition Curve*; Wilson, *Topographic Surveying*; Mitchell, *Notes on Astronomy and Geodesy*.

Prerequisite: Physics 15a.

Fall term, two hours a week, counts 1½.

POLITICAL SCIENCE.

ECONOMICS.

1. ELEMENTS OF ECONOMICS. *Dr. Snider.*

An introductory course in the principles underlying the production, the distribution and the consumption of wealth. One lecture is given each week. The other two hours are devoted to recitation and discussion. Text, recitations and discussions.

Prescribed: One term, three hours a week, counts 3. There will be two sections in the Fall term and one in the Spring.

2. MONEY AND BANKING. *Dr. Brisco.*

This course develops the origin and uses of money, the laws of money, the history of coin and paper money, the problems of rising prices, bimetallism and gold exchange, the history and the principles of banking and the problems of banking reform. Especial attention is given throughout to money and banking conditions in the United States. Lectures, required readings, text.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

3. IMMIGRATION AND TARIFF. *Dr. Brisco.*

This course is devoted to a study of two practical economic problems: Immigration and Tariff. Reports upon assigned phases of these problems are required from each student. Lectures, required readings, student reports, and discussions.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week, counts 3.

4. TRUSTS AND TRADE UNIONS. *Dr. Brisco.*

This course is devoted to a study of two practical economic problems: Trusts and Trade Unions. Reports upon assigned phases of these problems are required from each student. Lectures, required readings, student reports, and discussions.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

5. ECONOMICS OF BUSINESS. *Dr. Brisco.*

This course treats leading economic phases of the business world, such as corporate organization, markets, buying, selling, advertising, credit and credit agencies, store and factory safety

and sanitation, wage systems, efficiency and scientific management. Required readings, reports, discussions and lectures.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week, counts 3.

6. BUSINESS METHODS IN FOREIGN TRADE. *Dr. Snider.*

This course includes a study of the resources of the principal commercial nations, of their struggle for the markets, of their operant tariff system and of world trade routes and a description of the financial, commercial and governmental institutions employed in promoting commerce. Particular attention throughout is given to the resources and commerce of the United States. Reports, lectures, required readings in selected reference books, trade journals, etc.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

This course may be offered to replace P. S. 5 in the Spring term.

GOVERNMENT.

11-12. CONSTITUTIONAL AND INTERNATIONAL LAW.

Dr. Schapiro.

The first term will consist of a study of the development of the American Constitutional System. The powers of the central government and of the states under the federal constitution will be considered as they affect commerce, taxation, finance, etc. Attention will be paid to leading decisions of the Supreme Court, particularly those affecting inter-state commerce and labor. The second term will be spent in the consideration of the rules and regulations between states, their agreements as shown in treaties, conventions and international tribunals; and historical policies such as the "balance of power" and Monroe Doctrine. Such topics as naturalization, extradition, commercial treaties, rights or neutrals and the rules of war will receive full treatment. Special emphasis will be laid on the principles and aims of internal arbitration and on the problems of international politics at the present time.

Two terms, three hours a week, counts 6.

14-15. POLITICAL THEORY AND COMPARATIVE GOVERNMENT.

Dr. Schapiro.

This course, during the first term, will deal with the government and politics of America. Its purpose is to acquaint the students with the structure of our government, both national and state, and with the systems of party organization. Particular emphasis will be laid on the political problems now before the American people. Such topics as the Initiative, Referendum and Recall, Direct Primaries, Short Ballot and Commission Government will be fully treated.

The second term will be devoted to the government and politics of the various European nations. To explain how the political systems of the Old World are being modified in order to solve the social problems of our day is the main object of this course. Subjects like the following will be discussed: social legislation in England and Germany, proportional representation in Belgium and France, woman's suffrage in England and America, socialism in Germany, race politics in Austria and imperial federation in England. From time to time, students will be assigned to review new books on government and politics.

Two terms, three hours a week, counts 6.

PUBLIC SPEAKING.

The purpose of the prescribed work of this department is the development of the art of public speaking. The students are first trained in the Principles of Expression and their elocutionary application, during the Freshman and Sophomore years; and then in Public Speaking proper, during the Junior and Senior years. The first, which treats the manner of delivery, is a necessary preparation for the second, in which, all the speeches being original, the emphasis is placed on the matter. All the prescribed courses (1 to 8) must be taken in sequence.

Classes are formed to give special help to those who, because of foreign birth or foreign influences, do not pronounce the English language well, and for those who have some impediment of speech, as lisping or stuttering.

I. EXPRESSION.

1-2. PRINCIPLES OF EXPRESSION.

Professor Palmer.

(a) *Vocal Means of Expression.*

The appeal to the ear. Breathing, Articulation, Orthoepy, Modulation (including the application of vocal inflection to the various grammatical forms of discourse) and Emphasis. The aim of this work is to secure good articulation and pronunciation, and to enlarge the powers of expression through an appreciative study and delivery of English composition.

(b) *Visible Means of Expression or Gesture.*

The physical means that appeal to the eye. Oratorical and Dramatic gesture are treated, and a complete system of oratorical gestures is taken up in detail. The class-room work consists of lectures, pantomimes, and the delivery of selections with appropriate action.

Text-books: Palmer and Sammis, *Principles of Oral English*, and Bacon, *Manual of Gestures*.

Prescribed: Two terms, one hour a week, counts 2.

3-4. PRACTICE IN EXPRESSION.

Dr. Redmond.

(a) *Prose Declamation.*

Dramatic and oratorical selections are declaimed, as much time as possible being given to actual practice in speech. As a preparation for delivery the students are required to make analyses of the intellectual and emotional content of their selections. The aim is to secure an intelligent and sympathetic rendition of the selections.

(b) *Poetry Declamation.*

The analytic method of preparation employed in (a) is continued, but especial attention is paid to the elements of composition more clearly demonstrable in poetry than in prose, such as alliteration, assonance, onomatopoeia, rhyme, rhythm, cadence and melody. The aim is to secure a just vocal expression of the music and suggestiveness of poetry. Instruction is given by lectures and criticism.

Prescribed: Two terms, one hour a week, counts 2.

II. PUBLIC SPEAKING.

A knowledge of the means of expression is presupposed, and a training in the delivery of original thought is given. All the work in courses 5, 6, 7, 8 is extemporaneous; memorizing is not allowed.

5. DEBATE. (First Term.)

Dr. Redmond.

Lectures are given on Evidence, the Principles of Argumentation and Brief Construction. This is followed by debates by the students. One debate, involving presentation and refutation, is given each period and is followed by a criticism of the students' floor work and by further instruction in presentation. A written brief showing research, analysis and arrangement must be presented by each student before he delivers his oral argument.

Prescribed: One term, one hour a week, counts 1.

6. DEBATE. (Second Term.)

Dr. Redmond.

Less time is given to formal instruction and more is devoted to actual debating by the students. Briefs are required as in Course 5, but two debates are heard each period. The order of speaking is arranged so as to emphasize the practice in rebuttal, and the criticism seeks particularly to strengthen the student in his analysis of an opponent's argument and in his refutation.

Prescribed: One term, one hour a week, counts 1.

7. EXTEMPORANEOUS SPEAKING. (First Term.)

Professor Palmer.

The aim of this term's work is to acquaint the student with the various types of speeches and to give him abundant practice in

delivering them. Instruction is given by lectures and criticism. The students' speeches are limited to seven minutes in length and five or six are heard each period. This enables each student to deliver many short, extemporaneous (though not impromptu) speeches during the term.

Prescribed: One term, one hour a week, counts 1.

8. EXTEMPORANEOUS SPEAKING. (Second Term.)

Professor Palmer.

The aim of the second term's work is to train the student in sustained power for the delivery of long speeches and in readiness for participation in discussion from the floor. The work is conducted in convention form. One student is assigned to deliver, each period, a speech not less than twenty minutes in length. The others are then called upon to discuss it in shorter addresses of from four to five minutes. Thus each man is given one or two opportunities to speak at length, during the term, and many opportunities for shorter discussion from the floor.

Prescribed: One term, one hour a week, counts 1.

ROMANCE LANGUAGES.

A—French Language and Literature.

Preparatory: Two years, three hours a week.

ELEMENTARY COURSE.

FRENCH ELEMENTARY (a) First half year. *Dr. Knickerbocker*
or Dr. Camera.

Downer's *First Book*, Lesson I through Lesson XXXV. Fall term.

FRENCH ELEMENTARY (b) Second half year. *Dr. Knickerbocker.*

Downer's *First Book*, Lessons XXXVI. through LVII. In later half of term one hour a week is devoted to François and Giroud's *Simple French*. Spring term.

INTERMEDIATE COURSE.

FRENCH ELEMENTARY (c) Third half year. *Dr. Camera*
or Dr. Knickerbocker.

Downer's *First Book* completed. Weill's *Historical Reader*. Fall term.

FRENCH ELEMENTARY (d) Fourth half year. *Dr. Camera.*

Reviews in Downer's *First Book*. Daudet's *Morceaux Choisis*. Spring term.

N. B. These two years of preparatory course are offered for the accommodation of students who, for the want of them or of

their equivalent, are unable to enter upon the College curriculum, but they are not a part of the said curriculum, and do not therefore carry with them any credits, except that Arts students who wish to take French as a third language may secure the necessary 6 credits by taking French Elementary (a) and (b). These courses will then be designated, French 5 and French 6.

COLLEGE COURSES.

For students in Arts, who present as a second language, two years of high school French or the successful passing of the Evening Session entrance examination in French, the first five, following courses are prescribed. Science students who present six terms of French for entrance to Science courses must take courses 2 and 3.

1. INTRODUCTION TO FRENCH LITERATURE.

Dr. Knickerbocker or Dr. Camera.

Biays' *Histoire de la Littérature Française*. A standard play is studied. François, *Introductory French Composition*. Review in grammar. Sight-reading in a modern writer.

Fall term, three hours, counts 2½.

2. NINETEENTH CENTURY LITERATURE. *Dr. Knickerbocker.*

Biays' *Histoire de la Littérature Française*. Extracts in Demogeot's *Textes classiques de la littérature française*, vol. II. Sight-reading in a modern writer. François' *Introductory French Prose Composition*.

Spring term, three hours, counts 2½.

3. THE CLASSICAL DRAMA. *Mr. Des Garennes.*

Extracts in Demogeot's *Textes classiques de la littérature française*, vol. I. Two plays are read entire. Sight-reading in Delpit's *L'Age d'or de la littérature française*.

Fall term, three hours, counts 2½.

4. STUDIES IN XVIIITH CENTURY LITERATURE.

Mr. Des Garennes.

Certain authors are studied with special care, as Molière, La Fontaine, Boileau, Bossuet. A play of Victor Hugo is read at sight.

Spring term, three hours, counts 2½.

4a. Texts to be announced later. Not offered this year; counts 3.

B—Spanish Language and Literature.

The first two terms may be taken to secure the six credits for third language in Arts. The other courses may count for additional language credit.

1-2. ELEMENTARY SPANISH. *Mr. Arbib-Costa and Dr. Camera.*

The rudiments of the language are taken up, including grammar, reading, diction and composition. More ground is covered than in elementary courses given to students of high school grade. Especial attention is paid to correct pronunciation from the beginning.

Two terms, three hours a week, counts 6.

3. GALDÓS-MARIANELA. *Mr. Des Garennes.*

This and other texts will be read. Familiar and commercial letters, business forms and conversation. Prose composition exercises.

Three hours a week, one term, counts 3.

5. DON QUIJOTE. *Mr. Arbib-Costa.*

This and other texts will be read. As far as possible, Spanish is the only language used in the class-room. The letter writing of 1-2 is continued and longer essays in Spanish are undertaken.

Three hours, one term, counts 3.

EVENING SESSION STUDENTS.

1913-1914.

Aaronson, Alfred	238 Fort Washington Ave.
Abelow, Joshua	844 Flushing Ave., Bklyn.
Abrams, William	454 West 58th St.
Acklind, Carl	951 New Lake Ave., Bklyn.
Adams, Chas.	203 West 109th St.
Adler, Paul	587 Riverside Drive
Adolph, Seymour	1017 Simpson St., Bronx
Albert, Isador	147 Heyward St., Bklyn.
Alexander, Maurice	2460 Seventh Ave.
Alexander, Prince	104 W. 138th St.
Altstadt, Benjamin	196 Clinton St., Manhattan
Anderson, Chas. A.	333 W. 58th St.
Ankener, Roland L.	140 12th St., Long Island City
Apatow, Jacob	426 Bushwick Ave., Bklyn.
Aranow, Geo.	204 E. 78th St.
Armb, Lorenzo	153 E. 44th St.
Aronson, Mortimer, H.	515 W. 143d St.
Ascher, Alexander	216 E. 83d St.
Ashkenazy, Max	1479 Washington Ave., Bronx
Auerbach, Rachmiel	551 Wendover Ave., Bronx
Boeshore, Jos. W.	1427 Amsterdam Ave.
Baker, Samuel	232 Monroe St.
Ballinger, Michael	36 Thompkins Ave., Brooklyn
Balzac, Raphael	4 St. Nicholas Terrace
Barnewall, Geo. A., Jr.	2016 Seventh Ave.
Baron, William	102 E. 103d St.
Barsky, Boris	568 Fox St.
Barrett, John M.	10 W. 90th St.
Barron, Edw. F.	366 St. Nicholas Ave.
Barry, John	2641 Cropsey Ave., Bklyn.
Basch, Solomon	629 Lenox Ave.
Baumwoll, Jos.	434 S. 5th St., Bklyn.
Baxter, Ralph H.	1756 Walton Ave., Bronx
Bayton, Daniel	411 E. 9th St.
Becache, Georges	84 Washington Ave.
Bechofer, Julius	115 W. 120th St.
Beck, Louis	139 Watkins St., Bklyn.
Beecher, Julius	2791 8th Ave.
Belaief, Michael G.	250 Trivonia Ave.
Benenson, Louis	1466 Wilkins Ave., Bronx
Berkowitz, Morris J.	308 E. 6th St.
Berg, Henry J.	772 Forest Ave., Bronx
Bergman, Joseph S.	31 W. 129th St.
Bernfeld, Lupescu M.	63 W. 143d St.
Bernstein, Harry	1639 Mt. Hope Ave.

Bernstein, Louis H.	1919 Seventh Ave.
Bernstein, Abraham	2246 Washington Ave., Bronx
Bernstein, Israel	5 W. 116th St.
Bernstein, Morris	790 Elsmere Place, Bronx
Bickart, Alfred	122 W. 85th St.
Bienenstock, Joseph	51 Norfolk St.
Bird, James	535 W. 144th St.
Birnbaum, Joseph	322 Sixth St.
Bisgeier, Jacob	1027 Tiffany St., Bronx
Bjorkman, Fritz E.	450 Mott Ave., Bronx
Block, Isidore	302 Wyckoff
Block, Bertram	352 W. 118th St.
Block, Max	17 Poplar St., Bklyn.
Blum, Louis	611 E. 11th St.
Bluestone, Abraham	40 E. 112th St.
Bodhanands, Swami	135 W. 80th St.
Boehm, Frank	170 W. 136th St.
Bogen, David	4 Hancock Place
Bolger, Patrick A.	595 W. 178th St.
Bollerman, Albert	Y. M. C. A., 153 E. 86th St.
Bonnick, Chris. R.	73 Crescent St., L. I.
Borsuk, Nathan	2159 Mapes Ave., Bronx
Bowie, Letham	323 E. 17th St.
Bowles, Robert	421 W. 121st St.
Boyan, Jas. E.	100 W. 143d St.
Boyan, William J.	100 W. 143d St.
Boynton, Howard W.	519 W. 152d St.
Bradley, John P.	318 W. 140th St.
Brandstaber, Joseph	1462 Fifth Ave.
Brayden, Geo. P.	228 W. 135th St.
Bregman, Hyman	26 Gouverneur St.
Bremer, Louis	63 Bank St.
Brigham, Warren B.	1238 Pacific St., Bklyn.
Briggs, Arthur A.	1522 Bryant Ave., Bronx
Brill, Nat. M.	170 S. 2d St., Bklyn.
Brittain, Wm. W.	221 Sherman Ave.
Broderick, Walter	227 W. 121st St.
Broderick, Wm. J., Jr.	1296 Third Ave.
Brody, Wm. S.	155 Huron St., Bklyn.
Bronstein, Milton. Sm.	59 W. 115th St.
Brooks, Clinton	243 Henderson St.
Brooks, Louis S.	601 W. 177th St.
Brown, Osmond Henry	Gen. Theological Seminary
Brown, Lester M.	1851 Seventh Ave.
Buckwald, Harry	110 W. 111th St.
Budish, James	1444 Crotona Park East, Bronx
Bungerz, Karl	499 E. 153d St., Bronx
Burke, Frank W.	118 W. 99th St.

Burrows, Michael	11 E. 118th St.
Burns, John R.	536 Eighty-third St.
Burnet, Monroe	114 W. 134th St.
Burtis, John	363 W. 55th St.
Buxbaum, Sol	266 E. Houston St.
Byrne, Richard M.	1071 Lorimer St., Bklyn.
Byron, Leroy	539 W. 112th St.
Carew, W. Jerome	135 Fifth Ave.
Carey, Jr., William	163 E. 83d St.
Cantor, Louis	362 Sackman St., Bklyn.
Cantales, Vincent	313 E. 118th St.
Candela, Rosarie	238 E. 106th St.
Campbell, Alex.	1123 Lind Ave.
Campbell, Worthington C.	265 W. 81st St.
Cahill, Peter	309 W. 127th St.
Cagney, W. Oakley	320 W. 137th St.
Cahill, Walter J.	2114 Anthony Ave., Bronx
Capprey, Robt.	237 E. 163d St., Bronx
Cardo, Michael	2121 Belmeon Ave., Bronx
Carlin, Edward	328 West St.
Carpenter, Thomas W.	4998 Beaufort St.
Carroll, Felix P.	2575 Bainbridge Ave., Bronx
Caserta, Herman	40 W. 126th St.
Casey, John A.	344 E. 124th St.
Caulfield, Sydney	110 S. 11th Ave.
Cerasa, Germaro	139 4th St.
Chaims, Chas. W.	2011 Amsterdam Ave.
Chariff, Meyer	714 Cauldwell Ave., Bronx
Cair, Edward	4519 Carpenter Ave., Bronx
Check, Harry	62 E. 7th St.
Cherr, George	68 W. 102d St.
Chilvers, Charles H.	537 W. 123d St.
Cleary, James M.	369 First St.
Cohen, David	530 W. 174th St.
Clinton, Chas. H.	350 W. 25th St.
Cohen, Emanuel	530 W. 174th St.
Cohen, Harry	530 W. 174th St.
Cohen, Irving L.	1848 Anthony Ave., Bronx
Cohen, Isidor	1469 Webster Ave., Bronx
Cohen, Julius A.	84 Lenox Ave.
Cohn, Joseph	362 10th Ave.
Cohen, Leo	17 E. 113th St.
Cohen, Samuel	115 Strong St.
Cohen, Solomon	188 Henry St.
Cohen, Harry	163 E. 89th St.
Cohen, Harry	74 E. 94th St.
Cohen, Martin B., Jr.	214 Riverside Drive
Cohen, Max	53 Park Row

Cohn, Sidney	472 W. 144th St.
Cole, Edgard	112 Willbur Ave., L. I.
Cole, J. M.	924 Summit Ave.
Collahan, John	720 Bay St.
Collins, Albert	264 National Ave.
Collins, Joseph	2177 Bedford Ave., Brooklyn
Collinton, Michael	117 Washington Ave.
Comstock, James	876 Marlborough Road, Brooklyn
Constable, Thomas W.	91a Lewis Ave., Brooklyn
Connor, John J.	1867 Bronsdale Ave., Bronx
Connell, Francis	459 E. 139th St.
Cooper, Joseph	2 Ave. D.
Corbett, Edward P.	456 Mott Ave.
Coughlin, James	546 Eighth Ave.
Cranberg, Hyman	1428 Crotona Park E., Bronx
Cronin, John A.	136 W. 82d St.
Cummingham, Aloysuis	3148 Perry Ave., Bronx
Cunningham, Richard L.	462 Convent Ave., City
Cybulsky, Wm.	2970 W. 3d St., Brooklyn
Daino, Anthony J.	1336 Shakespere Ave., Bronx
Daley, Joseph	1922 Crotona Pk., Bronx
Danaher, Joseph J.	1023 Woodycrest Ave.
Davidow, Morris	154 E. Houston St.
Davidon, Jacob	428 E. 6th St.
Davidson, Jos.	720 Manida St., Bronx
Davidson, Ogden	281 Edgecombe Ave.
Davidson, Joseph	53 W. 117th St.
DeGirolamo, James	307 W. 127th St.
Degen, Robert F.	429 E. 142d St.
De Gannes, Archibald	231 E. 75th St.
Delmar, Matthew	6 E. 128th St.
Demarest, Robert S.	1752 Topping Ave., Bronx
DeMuccio, Frank	131 Varick St.
Devery, John	168 E. 91st St.
De Venoge, Harry	506 W. 179th St.
Deymek, Emanuel J.	541 E. 72d St.
Diamond, Jorris	414 Junius St., Brooklyn
Dickinson, Herbert	513 W. 145th St.
Dlyn, Harry	794 Elsmere Place, Bronx
Dolgenas, Samuel	23 E. 111th St.
Donnelly, Roswell	8 St. Nicholas Terrace
Donohue, George	52 Larch St., Flushing, L. I.
Donvelly, Warren	829 E. 226th St.
Donovan, John	Manhattan College
Doran, Frank	37f W. 117th St.
Dossick, Harry	697 Dawson St., Bronx
Doyle, John W.	42 Jane St.
Drasner, Isidor	60 E. 102d St.

Dreyfuss, Maurice	408 W. 130th St.
Dressler, David	198 Orchard St.
Du Bois, Louis	340 Hudson St.
Dubinck, Benj. J.	99 Mesvole Ave., Bklyn.
Duffy, John,	71 W. 108th St.
Duffy, Luke V.	239 E. 51st St.
Dunn, Walter L.	1439 Commonwealth Ave.
Eagar, Robert	207 W. 82d St.
Edelson, Jacob	225 E. 4th St.
Ehlers, Harry	360 E. 166th St.
Ege, Chas. J.	62 Chas St.
Ehrlich, Henry H.	1310 Union Ave., Bronx
Eisenberg, Edward	440 11th Ave.
Ekerling, Isaac	167 Suffolk St.
Ellenoff, Geo.	1787 Madison Ave.
Elkin, Nathan	1545 Hoe Ave., Bronx
Elkind, Barnet	113 Monroe St.
Ellis, Herbert	63 Seigel St., Brooklyn
Elowsky, Louis	63 Seigel St., Bklyn.
Epstein, Nathan B.	751 E. 168th St., Bronx
Erhorn, Philip	985 E. 179th St., Bronx
Ernst, John A.	158 E. 82d St.
Esdom, John H.	231 E. 124th St.
Estrada, Jr., Raphael	583 Riverside Drive
Ébert, Jos. A.	311 E. 163d St., Bronx
Farrell, Harry L.	2255 Bathgate Ave.
Feiner, Mark A.	3143 Broadway
Feingarten, Bernard M.	58 W. 119th St.
Feis, Herbert	745 Riverside Drive
Ferber, Harry	646 Steinway Ave., Astoria, L. I.
Ferguson, Wm. A.	109 W. 138th St.
Feth, Otto A.	1716 Webster Ave., Bronx
Feinsky, Jacobs	6 Albatt St.
Finck, Frederick	18 E. 108th St.
Fidel, Herman	110 Claremont Ave.
Finkelstein, Louis	1137 Hoe Ave., Bronx
Fine, Abraham M.	73 E. 105th St.
Fine, Samuel	17 E. 107th St.
Finkelstein, Martin	216 W. 11th St.
Firebaugh, Carl	1709 Popham Ave.
Fisher, Arthur	11 E. 118th St.
Fischer, August	95 E. 10th St.
Fitch, Franklin E.	253 Throop Ave., Brooklyn
Flaherty, Gladstone	27 Broadway
Fleming, Michael F.	418 W. 57th St.
Flood, Francis	48 Way Ave., Corona
Fogerty, Chas.	494 E. 172d St.
Fogarty, Arthur	494 E. 172d St.

Fogarty, Joseph	2325 Bassford Ave., Bronx
Foley, Edw. J.	1341 Wash. Ave., Bronx
Foley, John J.	57 W. 124th St.
Folkoff, Meyer C.	759 Jennings St., Bronx
Ford, Alfred	837 N. Chestnut Drive, Wmsbridge
Forer, Samuel	23 E. 107th St.
Forman, Chas.	74 Leonard St., Brooklyn
Frank, Morris	698 Tenth Ave.
Frankel, Philip	448 Myrtle Ave., Brooklyn
Frenkenheim, Louis	936 Intervale Ave., Bronx
Freund, Max	29 E. 193d St.
Fricke, Otto	406 E. 160th St.
Fried, Joseph	3 W. 116th St.
Fried, Henry	480 E. 173d St.
Friedman, Herman	126 Ludlow St.
Fuchs, Benj.	54 E. 106th St.
Gabriel, G. Santley	153 E. 86th St.
Gaffrey, Jos.	812 E. 233d St.
Gahuse, Joel	1451 Wilkins Ave., Bronx
Gamso, Jos.	409 Chestnut St., Bklyn.
Garland, James	302 E. 163d St.
Garber, Samuel	319 Madison St.
Garrecht, Arthur	248 E. 207th St.
Geer, Hobart	1276 Clay Ave., Bronx
Geist, Herman	991 Union Ave., Bronx
Gelles, Geruhard	159 E. 61st St.
Gellart, Charles	748 6th St.
George, Frank	366 Boulevard Beach
Gerstle, Justin	37 W. 84th St.
Getelson, Julius	1440 Crotona Place East
Gilien, Leo	372 Vermont St., Bklyn.
Gillroy, Bernard	69 W. 105th St.
Ginsburg, Sam	56 W. 112th St.
Gladstone, Nathan	526 E. 135th St.
Gladstone, Nathaniel	318 W. 117th St.
Glassberg, Fred'k	1416 Stebbins Ave.
Gluster, Jacob	1567 Wilkins Ave., Bronx
Glucksman, Louis	881 E. 170th St.
Gold, Morris	1477 Madison Ave.
Goldberg, Abr.	916 S. Boulevard, Bronx
Goldberg, Abr.	125 Suffolk St.
Goldberg, Benj.	1536 Minford Place
Goldberg, David	137 W. 112th St.
Goldberg, Edward	400 Amsterdam Ave.
Goldberg, Jos.	57 Ave. B
Goldberg, Morris	1046 College Ave., Bronx
Goldberg, Solomon	1111 Union Ave.
Goldsdrundt, Max	7 W. 123d St.

Goldshlag, Nathan	787 E. 185th St.
Goldsmith, David	352 W. 118th St.
Golding, Jos.	129 W. 142d St.
Goldsmith, Samuel	1640 Concourse, Bronx
Goldsmith, William	1640 Concourse, Bronx
Goldstein, Edward	149 Ludlow St.
Goldson, Elias	1018 E. 165th St., Bronx
Goldstein, Jos.	860 E. 161st St.
Goldstein, Samuel	1067 Prospect Ave.
Goodman, Chas.	661 W. 180th St.
Goodman, E. B.	41 Convent Ave.
Gorlitzer, Benj.	987 Union Ave., Bronx
Gottlieb, Bernard	104 E. 81st St.
Gottschalk, Harry	230 W. 122d St.
Grau-Wandmayer, Alexander	61 Hamilton Place
Crabkowitz, Emanuel	146 W. 111th St.
Greenberg, Herman	122 Nostrand Ave.
Greenberg, Ira	557 W. 124th St.
Greenberg, Samuel	23 E. 108th St.
Greenberg, I. H.	500 E. 11th St.
Greenwald, Jos.	946 Union Ave.
Greenwald, Milton	521 W. 156th St.
Greve, Richard	994 Freeman St., Bronx
Grice, George	567 W. 186th St.
Grico, Victor	457 7th Ave.
Grief, Louis	416-18 Grand St.
Griffin, Gerald	W. 215th St., Broadway
Grisman, Reuben	175 S. 4th St., Bklyn.
Gross, Rudolph	1912 Myrtle Ave.
Gross, Rudolph	29 49th St., Corona
Grozofsky, Jos.	1006 E. 151st St., Bronx
Grupelli, Hector	1494 Commonwealth Ave.
Guttman, Wm.	1350 Bryant Ave., Bronx
Gunther, Oscar	317 W. 184th St.
Gurley, Royal	117 W. 82d St.
Hass, Jos.	380 E. 158th St.
Hach, Wm.	100 W. 136th St.
Hackes, Fred	546 E. 3d St.
Hackes, John	546 E. 3d St.
Haehnen, Edgar	353 W. 121st St.
Haight, Wm.	38 W. 129th St.
Halabof, Jacob	237 Cherry St.
Haysern, Jos.	604 E. 141st St.
Hamilton, Henry	332 Convent Ave.
Hammond, Simeon	58 E. 113th St.
Hanbury, Patrick	500 W. 173d St.
Hansen, Aage	505 W. 177th St.
Harris, Archibald	588 Lenox Ave.

Harris, Raymond	116 E. 60th St.
Harrison, Emanuel	2 E. 97th St.
Hart, Gustavus	317 W. 14th St.
Hart, Marion	977 Woody Crest Ave.
Hart, Wm.	457 E. 182d St.
Hartigan, Arthur	147 W. 62d St.
Haskell, Paul	546 W. 146th St.
Hayes, Jos.	444 E. 77th St.
Healy, John	344 E. 194th St.
Hecht, Max	230 W. 122d St.
Heidecker, Hugo	122 W. 85th St.
Heit, Theidore	362 9th St., Bklyn.
Henderson, Robert	130 Post Ave.
Hendricks, Montague	414 Central Park West
Herrman, Harold	32 W. 113th St.
Hershkowitz, Max	402 E. 30 St.
Herstein, Daniel	331 E. 13th St.
Herstein, Henry	331 E. 13th St.
Hees, Leonard	353 W. 118th St.
Hesse, Hans,	111 W. 76th St.
Hewitt, Walter	269 Harris Ave., L. I. City
Heggel, Paul,	5 W. 125th St.
Hibner, George	306 W. 128th St.
Hickey, John	227 W. 51st St.
Higbie, Wilfred	13-21 Park Row
Hill, George	112 W. 109th St.
Hingsbery, Thomas	2359 Southern Boulevard
Hirschhorn, Arthur	1754 Bathgate Ave.
Hopf, Fred'k	119 E. 10th St.
Horowitz, Edward	1555 Lexington Ave.
Horn, Harry	49 Willett St.
House, Nathan	3905 Broadway
Howells, Robert	2167 Seventh Ave.
Hughes, Patrick	391 E. 149th St.
Hunt, Dominic	811 St. Nicholas Ave.
Huppenbauer, Edwin	11 Third Place, Bklyn.
Hurtwitz, Julius	24 Broadway
Hyatt, Judson	567 W. 149th St.
Hyman, Albert	575 W. 185th St.
Hymans, Harold	427 E. 158th St.
Hyman, Harry	52 E. 106th St.
Hyman, Jacob	220 Roebling St., Bklyn.
Hynes, Michael	156 W. 98th St.
Isaacs, Max	235 S. 4th St., Bklyn.
Jackson, Harold	985 Fox St., Bronx
Jacobius, Milton	255 Seventh Ave.
Jacobs, Harold	116 E. 60th St.
Jacobson, Irving	1065 Prospect Ave., Bronx

Jacobson, Abr.	907 Tinton Ave., Bronx
Jacobson, Jacob	853 Southern Boulevard, Bronx
Jacobson, Louis	119 W. 111th St.
Jadlookin, Meyer	1525 Fulton Ave.
Japhe, Emanuel	Evening Session
Jauss, Ludwig	1930 Webster Ave., Bronx
Jenkins, Eugene	656 W. 178th St.
Jenkins Jos.	656 W. 178th St.
Jennings, Thomas	860 E. 149th St.
Johnston, Edmond	Castleton Corners, S. I.
Joseph, Harmond	83 Hamilton Place
Josephthal, Anton	66 W. 84th St.
Josias, Samuel	530 W. 159th St.
Judge, Jos.	19 E. 98th St.
Julius, Maurice	1244 Clay Ave.
Jung, W. W.	117 W. 142d St.
Kagan, Benj.	500 E. 136th St.
Kahn, Arthur	16 E. 96th St.
Kantor, Solomon	216 E. 115th St.
Kantrowitz, Max	502 W. 139th St.
Kaplan, Jack	83 W. 115th St.
Kaplan, Louis	1785 Fulton Ave., Bronx
Kaplan, Samuel	304 W. 143d St
Kappel, Max	216 E. Houston St.
Karlson, Dudley	108 E. 87th St.
Karmioli, Wm.	61 E. 103d St.
Kassel, Morris	301 Madison St.
Kutz, Chas.	374 Grand St., Bklyn.
Katz, Samuel	324 S. 4th St.
Kellogg, Dwight	295 McDonough St., Bklyn.
Kellogg, Irving	839 E. 230th St.
Kelly, Wm.	364 10th Ave.
Keppel, Max	216 E. Houston St.
Kessler, Max	108 St. Marks Place
Kierman, Peter	1317 First Ave.
Kiwul, Chas.	First Ave. 26th St.
Klein, Anthony	258 Devoe St., Bklyn.
Klein, Samuel	481½ Kosciusko St.
Klein, Sidney	66 E. 94th St.
Kretz, Herbert	51 Hamilton Place
King, Harry	614 St. Nicholas Ave.
Kinney, Nathan	123 W. 143d St.
Kissane, Thos.	448 St. Nicolas Ave.
Kitzes, Samuel	239 E. 109th St.
Kleindienst, Theodore	111 St. Marks Place, Bklyn.
Knoring, Abr.	54 Lenox Ave.
Kopp, Christian	1460 Green Ave., Bklyn.
Korwan, Anton	657 2d Ave., L. I. C.

Kosches, Reuben	1900 Lexington Ave.
Kosloff, Meyer	214 Madison St.
Kozinn, Jos.	596 Simpson St., Bronx
Kammerer, Austin	157 E. 46th St.
Kranis, Solomon	322 Sixth St.
Kratzer, Louis	1365 Intervale Ave.
Kreisle, Leopold	562 Cypress Ave.
Kreisle, Max	226 W. 140th St.
Krichesky, Israel	200 Broock Ave.
Krieghoff, Fred'k	522 W. 123d St.
Kroll, Jacob	309 121st St.
Kuttner, Sigmund	92 E. 9th St.
Lachenbroch, Jerome	202 Mt. Hope Place
Lordman, Cyril	526 W. 160th St.
Lahm, Mortimere	238 W. 106th St.
Lancaster, John	629 Myrtle Ave., Bronx
Landsman, Jos.	422 3d Ave.
Lane, Fred	Long Island City
Lanham, Edward	223 W. 127th St.
Langmuir, Dean	2351 Grand Concourse, Bronx
Langer, Arthur	129 E. 118th St.
Langsner, Adolph	1101 Fox St., Bronx
Lannan, James	212 W. 140th St.
Lare, Ray	141 W. 130th St.
Lanbentracht, David	64 E. 113th St.
Lazarus, Louis	1524 Charlotte St.
Loonin, Mezir	281 Saratoga Ave., Brooklyn
Lavine, Elias	247 E. 122d St.
Lonis, Jesse	239 W. 141st St.
Lebrecht, Jos.	230 W. 122d St.
Leib, John	370 E. 183d St.
Leibowitch, Irving	754 E. 165th St.
Leib, J. W.	370 E. 183d St.
Leibowitz, Jos.	1775 Fulton Ave.
Leimbach, Christopher	47 S. 17th St., Flushing
Lenck, Chas.	340 E. 143d St.
Lerch, John	3544 Broadway
Le Rolle, Luke	429 E. 135th St.
Lewittes, Samuel	177 E. 75th St.
Levey, Nathan	22 E. 102d St.
Levy, Harry	607 Water St.
Levin, Benj.	811 Ritter Place
Levin, Isidor	220 E. 67th St.
Levin, Louis	35 Henry St.
Levis, Harry	10 E. 117th St.
Levishn, Edwin	511 W. 143d St.
Levitt, Benj.	2860 Richmond Terrace
Levner, Jos.	124 E. 113th St.

Levin, Benj.	864 Fox St., Bronx
Levovich, Samuel	53 Monroe St.
Levy, Nathan	500 New Jersey Ave., Bklyn.
Levy, Harry	607 Water St.
Lewis, Ira	860 Fox St., Bronx
Liebman, Louis	452 W. 55th St.
Liff, Jos.	1416 Stebbins St., Bronx
Linton, Jas.	364 E. 18th St.
Livant, Louis	1535 Minford Place, Bronx
Leohrsen, Geo.	389 E. 136th St.
Leoby, Fritz.	31 W. 84th St.
Loewy, Maurice	468 Riverside
Loomis, Leo	520 W. 123d St.
Loria, David	168 W. 141st St.
Losch, Karl	802 Lexington Ave.
Lurye, Samuel	57 E. 117th St.
Luftschitz, Emanuel	452 W. 149th St.
Lyon, Ludwig	122 W. 85th St.
Lyons, John	322 W. 47th St.
Loewy, Alexander	468 Riverside Drive
Lohman, Jacob	509 E. 173d St .
Lohr, Fred	1616 42d St., Bklyn.
Lopez-de-Victoria, Cassius	216 E. 76th St.
Lorber, Benj.	2 Avenue D
Lubetkin, Herman	730 Riverside Drive
Lugand, Henry	603 W. 139th St.
Luskin, Abr.	1699 Pitkin Ave., Bklyn.
McAllister, Alexander	378 E. 140th St.
McAllester, Vincent	503 W. 125th St.
McCarthy, Wm.	152 W. 129th St.
McCormack, Harry	347 E. 87th St.
McRoy, Chas.	Tompkinsville, S. I.
McCave, James	2638 Eighth Ave.
MacDonagh, James	409 W. 22d St.
McCrudden, James	3590 Park Ave.
McDonagh, John	71 Broadway
McDonnell, Roger	287 Smith St., Bklyn.
McGarry, James	864 E. 165th St.
McGrath, Bernard	209 E. 51st St.
MacMillan, Robert	85 Hunter Ave., L. I. C.
McNally, Chas.	950 Anderson Ave.
McSpedon, Frank	141 E. 96th St.
McWilliams, Chas.	816 E. 179th St.
Maak, Otto	601 E. 170th St.
Mack, Jos.	205 Barnes Ave.
Madigan, James	470 Convent Ave.
Maerk, Otto	540 W. 156th St.
Magelofsky, Bernard	1424 Forty-fourth St., Bklyn.

Magnier, David	472 W. 165th St.
Mahnken, Harry	46 W. 62d St.
Mandel, Ernest	61 Avenue A
Manheim, Nathan	373 Lexington Ave.
Marshak, Jos.	460 Cherry St.
Manning, Wm.	469 W. 166th St.
Marik, John	426 E. 70th St.
Marion, John	540 W. 153d St.
Markowitz, Moses	631 E. 9th St.
Marshall, Chas.	423 Sixth St., Bklyn.
Martin, John	346 E. 15th St.
Mates, Isidor	149 Norfolk St.
Mayer, Henry	124 E. 92d St.
Maxmann, Harry	Marble Hill, Kingsbridge
Mozier, Chas.	1357 Boston Road
McHugh, Wm.	740 E. 220th St.
Meltzer, Samuel	1746 Bathgate Ave.
Mendelson, Samuel	1723 Lexington Ave.
Mercado, Julio	211 W. 121st St.
Merrihew, James	211 W. 121st St.
Meyer, Harry	408 E. 89th St.
Michel, Solomon	210 Third St.
Michael, John	155 Amsterdam Ave.
Miller, Edward	557 W. 149th St.
Miller, Fred	Garder St., Bronx
Miller, Max	2178 Belmont Ave.
Miller, Chas.	1951 Amsterdam ave.
Moesel, George	3762 Park Ave., Bronx
Molene, E.	500 W. 141st St.
Moore, Glenn	143 Lefferts Place, Bklyn.
Moran, Frank	241 W. 130th St.
Moran, Wm.	250 Chauncey St., Bklyn.
Morgensieur, David	688 Cauldwell Ave., Bronx
Morris, Edward	75 W. 128th St.
Morris, Walter	499 W. 135th St.
Moskovitz, Max	427 E. 121st St.
Mess, Arthur	1 W. 148th St.
Muller, Fred'k	40 High St., L. I. C.
Muller, Jos.	1378 Marks Ave., Bklyn.
Muller, Otto	18 W. 18th St.
Mundy, Wm.	366 E. 179th St., Bronx
Mumford, Lewis	100 W. 94th St.
Minster, Harry	213-15 E. 4th St.
Murray, Elmer	671 E. 216th St.
Murphy, Daniel	725 Home St.
Murphy, Martin	119 Wash. Place
Murphy, Jos.	91 Summit St.
Nakahara, Genyi	25 Arden St.

Nathan, Manfred	569 W. 173d St.
Naruhn, Rudolf	460 W. 144th St.
Neiderhoffer, Martin	98th St.
Neuban, Morris	272 Delancey St.
Neubeck, Edw.	618 Linden St.
Neville, Jas.	732 E. 234th St.
Newman, Abr.	1431 41st St., Bklyn.
Newman, Mortimer	2094 Fifth Ave.
Nimhauser, Jos.	135 E. 110th St.
Nobleman, Herman	1573 Fulton Ave., Bronx
Northern, Jos.	160 E. 94th St.
Northrup, Lloyd	26 St. Nicholas Place
Noska, Clarence	3211 Park Ave.
November, Julius	526 E. 11th St.
Novick, Philip	16 E. 105th St.
Oachs, Milford	83 W. 103d St.
O'Brien, James	652 E. 158th St.
O'Brien, Philip	326 W. 55th St.
Ockert, Fred'k	254 W. 104th St.
O'Mara, Arthur	425 W. 56th St.
O'Connor, Phillip	720 E. 181st St.
O'Leary, Alex	1229 Madison Ave.
Ossberg, Arthur	224 Ellis Ave.
Otto, Henry	89 Edsawall Ave.
Pakula, Wm.	750 Driggs Ave., Bklyn.
Polias, Isidor	1938 Wallace Ave., Van Nest
Parker, Frank	862 Jennings St.
Parton, Jos.	531 W. 133d St.
Pearlman, Henry	1001 Faile St., Bronx
Perlman, Jos.	1414 Prospect Ave.
Peritzky, Abr.	502 W. 139th St.
Peterson, Fred	151 Jerard Ave., Bronx
Pertsch, Fred'k	2642 Marion Ave., Bronx
Phillip, Fred	68 W. 65th St.
Plotkin, David	895 E. 172d St., Bronx
Podell, Max	238 Clinton St.
Podolsky, Morris	190 Orchard St.
Pollack, Selig	21 W. 111th St.
Ponch, Frank	148 W. 118th St.
Popkin, Louis	225 E. 126th St.
Poritsky, Abr.	N. Y. C. C. Evening Session
Pralatouski, Jacob	565 Broadway
Price, Chas.	620 E. 170th St.
Prosser, Rudolph	635 W. 142d St.
Prozora, Emile	2593 8th Ave.
Pruzan, Abr.	236 Madison St.
Quigley, Peter	3610 Broadway
Quirk, Edw.	43 Loft Ave.

Quackenbush, F. R.	154 W. 128th St.
Quinn, Jas.	N. Y. C. C. Evening Session
Riedl, Hugo	419 W. 129th St.
Roberts, Albert	3671 Broadway
Robertson, James	734 St. Anns Ave., Bronx
Robertson, Wm.	616 W. 182d St.
Robinson, James	451 E. 138th St.
Roche, Jas.	575 W. 183d St.
Rockwell, Wm.	524 W. 151st St.
Rodman, Preston	353 W. 19th St.
Rodier, Wm.	205 E. 205th St.
Rolls, John	889 Columbus Ave.
Rose, Martin	149 W. 142d St.
Rosenberg, Louis	293 Henry St.
Rosenberg, Samuel	636 E. 170th St.
Rosenblin, Jos.	331 Sackman St.
Rosenblith, Herman	705 E. 6th St.
Rosenblum, Jos.	331 Sackman St., Bklyn.
Rosenfeld, Bela	937 Tiffany St., Bronx
Rosenkranz, Louis	1468 5th Ave.
Rosenkranz, Abr.	106 W. 118th St.
Rosner, Max	51 E. 106th St.
Ross, Reuben	55a Fulton Ave.
Roth, Louis	16 E. 107th St.
Rothberg, Meyer	64 W. 115th St.
Rubin, George	533 E. 139th St., Bronx
Ruderman, Sidney	103 E. 106th St.
Ruettger, Carl	118 Chestnut St.
Rudolff, Fritz	315 8th Ave., Bklyn.
Russell, James	1334 Wilkins Ave., Bronx
Russell, Geo.	25 W. 65th St.
Ryan, John	175 Harrison St., Bklyn.
Ryan, Wm.	Manhattan College.
Rabinowitz, Benj.	223 W. 120th St.
Rackoff, Irwin	212 E. 40th St.
Rader, Adolph	37 Clinton St.
Randolph, Asa	40 W. 135th St.
Raylesberg, Isidor	794 Hewitt Place, Bronx
Raywid, Leo	1921 Madison Ave.
Rabinowitz, Leo	107 Forsyth St., Manhattan
Rausenmeyer, Walter	238 W. 137th St.
Roska, Francis	261 W. 137th St.
Reale, Genio	2049 2d Ave.
Rebafka, Erwin	322 E. 19th St.
Rees, Bird	672 St. Nicholas Ave., Manhattan
Reichelt, Victor	29 Ninth St., New Dorp, Richmond Boro.
Reiner, Samuel	68 E. 120th St.

Reines, Abr.	311 Broome St.
Richards, Julius	1 Main Ave.
Richards, Gragg	111 W. 82d St.
Richter, Eugens	26 W. 72d St.
Rigal, Peter,	131st St., Broadway
Sachs, Harry	604 W. 139th St.
Saghatehan, Apkar	328 E. 24th St.
Salmon, James	104 Morningside Ave.
Salazar, Filadelfo	53 W. 106th St.
Scanlon, Thos.	450 W. 164th St.
Saperston, Sidney	205 W. 119th St.
Sarris, Christopher	511 W. 145th St.
Schader, Jos.	266 W. 129th St.
Schaer, Otto	51 Manhattan Ave.
Scheinberox, Spencer	3053 Heath Ave., Bronx
Scheinberg, Abr.	66 Montgomery St.
Scheve, Jos.	1315 Plympton Ave.
Schritt, Louis	309 Wyona St., Bklyn.
Schiller, Ira	157 W. 111th St.
Schile, George	547 W. 149th St.
Schilling, Alexander	383 E. 200th St.
Schlesinger, Nat.	4052 Park Ave., Bronx
Schkis, Fred	1135 Lexington Ave.
Schmidt, Gustav	16 E. 9th St.
Schnepel, Chas.	353 W. 117th St.
Schneeweiss, Chas.	1165 40th St., Bklyn.
Schoener, Mortimer	153 Orchard St.
Schoenfeld, Fred'k	438 E. 131st St.
Schoenfeld, Herman	438 E. 83d St.
Schoning, Fred'k	504 W. 131st St.
Schuman, Isidore	877 E. 165th St.
Schultz, Chas.	1129 Tinton Ave., Bronx
Schwald, David	39 W. 117th St.
Schwartz, Pincus	384 E. 10th St.
Schwartz, Aaron,	1775 Fulton Ave., Bronx
Schwartz, Bernard	107 Forsyth St.
Schwartz, Ernest	331 Second Ave.
Schwartz, Fernand	10 W. 118th St.
Scudellari, Arman	340 E. 61st St.
Segal, Chas.	631 E. 168th St.
Shea, John	422 E. 178th St.
Scriven, Wm.	261 W. 153d St.
Seidler, Max	78 Second Ave.
Seideman, Max	52 Morningside Ave.
Seiler, I. W.	1534 Ave. A
Seiler, Carl	558 W. 161st St.
Seitz, Gustave	872 Mott Ave.
Seklir, A. Wendell	518 W. 134th St.

Serling, Maurice	193 St. Nicholas Ave.
Sesitzky, Isaac	15 E. 117th St.
Sesnan, Thomas	506 W. 148th St.
Sexton, Geo.	154 Nassau St.
Shanley, James	1319 Purdy St., Bronx
Shapiro, Harry	2619 8th Ave.
Shapiro, Abr.	346 Hopkinson Ave., Bklyn.
Sheil, Edmond	873 Fairmount Place, Bronx
Shepherd, Wm.	1970 Morris Ave.
Sher, Nathan	198 Henry St.
Sheinman, Harry	1041 Hoe Ave.
Sherlin, Chas.	507 W. 158th St.
Shapiro, Abram	1607 Bathgate Ave., Bronx
Siegel, Harry	152 Forsyth St.
Silver, Max	216 W. 143d St.
Silverman, Morris	11½ E. 117th St.
Simerman, Isidor	666 E. 164th St.
Simon, Hubert	9 W. 132d St.
Simmon, John	202 W. 118th St.
Sinai, Jerome	612 W. 137th St.
Sinclair, George	1304 Findlev Ave.
Singer, Abr.	48 Oak St.
Sintowsky, Elias	52 W. 117th St.
Smith, Morris	114 First Ave.
Smith, Irwin	980 Prospect Ave., Bronx
Smith, F. L.	3242 Corlear Ave., Bronx
Smythe, Mortimer	2176 Bathgate Ave.
Snyder, Percy	430 St. Nicholas Ave.
Solomon, David	661 E. 170th St.
Solomon, Leo	851 Hunts Point Ave., Bronx
Solonsky, Maurice	842 Beck St., Bronx
Soman, Julius	581 E. 170th St.
Somlo, Chas.	535 W. 147th St.
Sommer, Henry	510 Manhattan Ave.
Soos, Albert	531 E. 84th St.
Somerville, Geo.	2720 Creston Ave.
Spears, Edward	2069 Arthur Ave., Bronx
Spector, Louis	5th St., Hobby Park, Coney Island
Spengler, Ernest	7 E. 105th St.
Spier, Leslie	209 Dyckman St., Manhattan
Springer, Rudolf	460 W. 144th St.
Stabile, Vincent	236 E. 116th St.
Stashin, Israel	54 E. 100th St.
Steinberg, Benj.	1830 Marmion Ave., Bronx
Stevens, Mark	457 Grand St.
Stevens, Geo.	457 Grand St.
Steigman, Max	64 Suffolk St.
Steigman, Philip	23 Flatbush Ave., Bklyn.

Sterns, Harry	644 Columbus Ave.
Stevenson, Elwood	1128 E. 14th St., Bklyn.
Stick, Jacob	518 W. 151st St.
Strand, Ernest	111 W. 84th St.
Stranch, Robert	240 Dean St., Bklyn.
Strathearn, Robert	39 Schermerhorn St.
Strauss, Albert	37 W. 84th St.
Streitfeld, Conrad	972 Fox Ave., Bronx
Strien, John	432 E. 77th St.
Strom, Frank	400 9th St., Bklyn.
Strulowitz, Bennett	231 E. 5th St., Manhattan
Susman, Louis	381 E. 135th St.
Sweetbaum, Samuel	1016 Lexington Ave.
Tabor, Samuel	202 Broome St.
Talbot, Francis	98 Boerum Place, Bklyn.
Tandlech, S.	511 E. 78th St.
Tappey, Harold	248 W. 105th St.
Tanszig, David	541 W. 142d St.
Taylor, Harold	1042 Lowell St., Bronx
Terr, Jos.	120 E. 101st St., Manhattan
Thomas, Percy	N. Y. C. C. Evening Session
Thompson, Gustave	9 Fort Wash. Ave.
Thornton, Quillian	462 Brook Ave.
Tsehenn, Camill	116 W. 10th St.
Tonyan, Jos.	62 W. 104th St.
Levin, Isidor	220 E. 67th St.
Turner, Robert	401 W. 118th St.
Uman, Jacob	72 E. 121st St.
Usdansky, Abr.	10 W. 112th St.
Van Pelt, Kendrick	372 Convent Ave.
Van Wagner, Raymond	1027 Summit Ave.
Vogel, Herman	944 Sixth Ave.
Voderberg, Helmuth	231 W. 132d St., Manhattan
Vollbracht, John	450 Ralph St., Bklyn.
Vosatka, Edw.	781 Hewitt Place, Bronx
Van der Goltz, Eric	205 E. 72d St.
Wachs, Murray	168½ Delancy St.
Waldron, John	8 St. Nicholas Terrace
Waterstein, Daniel	115 St., Fifth Ave.
Wallace, Arthur	613 E. 134th St.
Water, Hyman	N. Y. C. C. Evening Session
Weber, Paul	440 St. Nicholas Ave.
Wechsler, Hyman	282 E. 4th St.
Weiller, Karl	216 W. 18th St.
Weinstein, Louis	145 Forty-fifth St., Bklyn.
Weinstein, Jacob	634 Jerome St., Bklyn.
Weinstein, Perry	127 Clinton St.
Weirich, Clarence	111 E. 127th St.

Weiss, Jacob	151 Second Ave.
Weiss, Moses	63 Canal St.
Weisman, Samuel	23 Lewis Ave., Bklyn.
Weitzner, Emil	135 Broadway
Wender, Harold	300 Osborn St., Bklyn.
Wender, Reginald	531 W. 143d St.
Wurzel, Bernard	881 Fox St., Bronx
Wolf, Milton	519 W. 135th St.
Wunsch, Jos.	51 Liberty Ave., Bklyn.
Wray, C.	644 Gates Ave., Bklyn.
Wittal, Julius	211 W. 117th St.
Witzig, Paul	73 Wash. Place
Wisetsky, Ruben,	288 Monroe St.
Winlack, Roger	517 W. 135th St.
Wilkinson, Lee	3544 Broadway
Williamson, Frank	750 E. 220th St.
Williams, Harry	16 Raleigh Place, Flatbush
Wild, Walter	204 Fenimore St., Bklyn.
Wickes, Ed.	310 W. 151st St.
Whyte, Lincoln	502 W. 145th St.
Whinston, Chas.	1807 Clinton Ave., Bronx
Whit, Simion	1325 Fifth Ave.
Wenger, Ernest	231 W. 132d St.
Wanderer, Henry	281 E. 4d St.
Weissel, Samuel	N. Y. C. C. Evening Session
Weiss, Stephen	1538 Minford Place
Weinberger, Isaac	1381 Putnam Ave., Bklyn.
Weinstern, Norman	540 W. 136th St.
Yassell, Emilis	1263 Richmond Road, Staten Island
Zoole, Chas.	576 Concord Ave., Bronx
Zlinkoff, Henry	228 Audubon Ave.
Zeisler, Alexander	801 Freeman St., Bronx
Zackerman, Solomon	1112 Forest Ave.
Zwilling, Isidor	997 Second Ave.
Zwewig, Isidor	664 E. 166th St.
Zusman, Sam'l	462 Christopher Ave., Bklyn.

EXTENSION COURSES FOR TEACHERS.

In order to assist the teachers of the city to extend their culture and to secure the additional knowledge and skill necessary to obtain higher licenses, the Department of Education of the College organized in September, 1908, a complete system of Extension Courses. The courses were submitted to the State Department of Education and were accepted and registered by it. They were then submitted to the Board of Examiners of the City Department of Education and were granted full credit toward partial fulfilment of the requirements for license as assistant teacher in the high schools, teacher of a graduating class in elementary schools, and principal and assistant to principal of elementary schools.

Each course is given in thirty sessions and to obtain credit for any course the matriculant must be present at twenty-six sessions and must be successful at the final examination. No course is given unless twenty-five teachers choose it, and courses may be discontinued at the discretion of the Director. Sessions are held daily after school hours, at 4.15 p. m., and on Saturdays, at 10 a. m. and 11 a. m.

SUBJECTS OFFERED DURING THE YEAR 1913-1914.

ART.

APPRECIATION OF MODERN ART.

Mr. Weinberg.

A course of thirty lectures on the history and appreciation of art. There will be ten lectures on the older masters as introduction to a series on the art of the nineteenth century. Beginning with the work of Giotto, the course of painting will be traced from the masterpieces of the Italian Renaissance through the art of Dürer and Holbein in Germany, Velasquez in Spain, to the art of Flanders in the Seventeenth century and that of France in the Eighteenth century. In the art of the Nineteenth century the development of style, the rapid sequence of new schools, Classical, Romantic, Realist, Historical, Pre-Raphaelite, Impressionist, Post-Impressionist and Futurist will be considered both as to their principle and practice. It will be the object of the course to help explain the technical and aesthetic aspects of painting and to aid towards its appreciation as a parallel expression along with the other arts of the life and character of the periods which produced them.

There will be a detailed syllabus which will include a specific list for each lecture of the opportunities afforded in New York for the direct study of originals. The lectures will be illustrated by stereopticon slides.

In the effort to make this course a center for a larger interest in current exhibitions in the city, there will be a series of talks on

American Art so designed as to enable the members of the class to personally follow the careers of the younger painters. At the beginning of each period there will be a brief consideration of the most interesting art activities of the week.

The authorities of the Metropolitan Museum of Art have kindly offered to give an opportunity for more intimate acquaintance with the works of art mentioned in the lectures. For the furtherance of this an officer of the Museum will accompany groups (limited to fifteen) at regular intervals.

OBJECT DRAWING.

Mr. Neus.

This course is designed to develop ability to draw from objects, such as type solids, still life and casts. Elementary principles of perspective will be deduced from these type solids. Methods of teaching Object Drawing will receive due attention. This course will be limited to 50.

DESIGN.

Mr. Weinberg.

This course includes the study of the theory and practice of design. The laws of order and fitness, the principles of conventionalization, of color and of lettering, the development and use of historic ornament will be treated. The length of the periods, 9.30 to 11.30, will make possible, in addition, class-room practice in various art media, charcoal, water color or oils, according to the individual preference or fitness.

EDUCATION.

HISTORY OF EDUCATION.

Professor Duggan.

The aim of the course is, first, to describe the systems of education by which the principal culture nations of the world have attempted to realize their social ideals; and, second, to criticise educational theories and practices from the standpoint of the educational principles now accepted as sound.

In addition to studying Monroe's History of Education as a text-book, those taking this course will be required to read the following educational classics: Rousseau's "Emile," Pestalozzi's "Leonard and Gertrude," and Spencer's "Education."

PRINCIPLES OF EDUCATION.

Professor Klapper.

The first third of the course has to do with the philosophy of education—a consideration of the basis of educational doctrine. The biological, physiological, psychological and sociological contributions to education are studied in an attempt to determine their practical application in the class room as well as to discover the trend of modern educational thought. The remainder of the course is designed to serve as a transition from theoretical psychology to methods of teaching. The aim throughout will be to interpret the lessons of psychology in terms of education and

class-room teaching and to formulate the scientific principles underlying a sound pedagogy.

In addition to the lectures and discussions and papers on supplementary topics, special assignment will be made in various reference works for systematic study.

METHODS OF TEACHING.

Professor Klapper.

The course will begin with a very brief survey of the problems of general method and of the conduct of the recitation as determined by the basic principles of education. The more important part of the work will be the study of the methods of teaching each of the elementary school subjects. The work will be practical and designed to help the teacher in the teaching problems which arise in the course of class instruction. With this end in view model lessons will be given by the instructor and will be required of the teachers if the size of the class will permit. In addition to the lectures, special assignments will be made in each of the subjects taught in the elementary school.

EDUCATIONAL PSYCHOLOGY.

Dr. Heckman.

The course is designed to give a knowledge of the nature and the activities of the mind from the standpoint of development, and with special reference to the needs of the teacher. To this end such mental processes as perception, imagination, attention, memory, apperception, judgment, reasoning, feelings and will are considered from the viewpoint of their psychological and pedagogical application to the classroom work. The prominent instincts of children as play, curiosity, imitation, emulation, etc., are considered in detail, as are likewise the processes of habit formation. Other topics as heredity, individual differences, and fatigue are also studied. In addition to the lectures reference readings are assigned on which reports are to be made. The work of the course is supplemented as far as possible with experimental demonstrations.

SCHOOL MANAGEMENT AND ADMINISTRATION.

Dr. White.

This course will deal with problems that naturally arise in the organization and management of a public school. The following are some of the topics that will be discussed: The child, his place in life and in the school; classification; gradation; examination; promotion; course of study; programs; text-books; the principal and his duties; the teacher, his co-operation with principal and parent; teachers' conferences; the school room; school hygiene; the recitation; the study period; inspection of work; school records and reports; discipline; rewards and punishments; moral training; rhetorical; school material, etc., etc.

EDUCATION OF BACKWARD AND DEFECTIVE CHILDREN.

Dr. Heckman.

The course has for its aim the study of the nature and causes of backwardness and mental deficiency in children of school age; the consequent teaching and treatment such children should have; the significance that mental defectiveness has for the school and for society.

The work of the course is conducted by lectures and assigned readings, and by diagnosis and examination of specific cases brought before the class.

In the study of the backward and retarded children, the main facts of physical defects of pupils and of school conditions are taken up in detail. Preliminary tests and diagnoses of children to detect defects of vision, hearing, breathing, nutrition, etc., are performed before the class, and the students are helped to make such diagnoses for themselves in the school-room.

The mentally defective or feeble-minded are studied first through examination into the causes which produce defectiveness; second, through tests and examinations for determining the mental status of the individual, including the Binet and DeScantis Intelligence Tests.

Finally the course takes up the study of the principles and methods particularly applicable in the teaching and training of exceptional children.

CLINICAL STUDY OF CHILDREN.

Dr. Heckman.

This is a laboratory course and is planned to give clinical instruction and practice in the various tests and measurements necessary for a thorough study of school children.

The work takes up first the anthropometric measurements and the tests of physical and motor capacity, with comparisons between measurements upon exceptional children and normal children. This is followed by psychophysical tests with special emphasis upon tests of those sensory capacities which may account for backwardness and retardation in the grades as well as permanent mental arrest. Here the student learns, in testing visual and auditory acuity, the use of test charts, test lenses, Maddox rods, the perimeter, Holmgren wool tests, the watch tests, the audiometer, acoumeter, and other apparatus. Other senses as touch, smell, taste, etc., are likewise investigated as they may influence the child's development and education.

A third phase of the work consists of the use of the various tests for intelligence, such as Binet tests, the De Sanctis tests, the Healy tests, and the Norsworthy tests. In addition, the student is made acquainted with the instruments for the most accurate measuring and analyzing of the mental reactions and mental processes, for example, the chronoscope, the ergograph, the plethysmograph, the sphygmograph. The tests and measurements

are applied to children who come to the laboratory for this purpose. Members of the course have the privilege also of bringing to the laboratory for special study such children of their classes who show exceptional characteristics and for whom they desire help or advice. The work of the course is further supplemented by instructions in the making and collecting records of results obtained and of life histories of children.

This course is planned for those students who want to do special work of an advanced character in the study of children and, therefore, it will be limited to those who have already taken or are taking Education VI, or its equivalent elsewhere.

MODERN EDUCATIONAL PROBLEMS.

This course is designed to give the busy teacher interested in educational thought a survey of the great problems that confront the leaders in the educational movement. Throughout, the course will emphasize the changing conception of educational thought, the educational problems produced by modern city life, and the demands made of education by present day economic and social life.

The course will be given by a number of lecturers who are leaders in the educational world and who bring a first hand knowledge of these problems to the teachers of the city. The topics that will be discussed are: "The Aims of Modern Education"; "Standardization in Education, the Need of Scientific Measurements of Educational Results"; "What Factors Determine an Efficient School System?"; "What is a Modern Standard for Measuring Efficient Instruction"; "What is a Modern Standard for Measuring Efficient Supervision"; "Educational Reforms in New York City"; "Increased Use of the School Plant"; "Vocational Education and Guidance"; "The Problems of Retardation and Elimination in the School, a Study of Educational Mortality—Its Causes and Remedies"; "Pupils' Self-Government"; "Heredity in Education"; "The Care and Education of Feeble-Minded and Exceptional Children"; "Physiological Age as a Basis for Scientific Classification of Children"; "Sex Hygiene, Its Place in the School."

ENGLISH.

THE ENGLISH DRAMA.

Professor Krowl.

This course will be devoted chiefly to the study of the Elizabethan drama, its inception, growth and decline. The plays of Shakespeare will constitute the basis of the work, especial attention being given to those that are usually studied in the elementary and in the secondary schools. The dramatic works of the eighteenth and nineteenth centuries will also be discussed, but more briefly.

Those who attend the course will be required to study the plays considered and read the assignments made by the instructor.

THE NOVEL.

Professor Horne.

This course aims to study the value of the novel as literature, to examine its laws of construction, and to trace the historical development of fiction. A second aim will be to note the progress of civilization and the development of the human mind, as shown in fiction.

Those taking the course will be required to read a selected series of the world's most celebrated works of fiction, ancient as well as modern. The text-book will be Horne's "Technique of the Novel."

ENGLISH AND AMERICAN POETS.

Professor Coleman.

The aim of this course is primarily appreciative. Beginning with Shakespeare it will pass to the chief poets of the eighteenth and nineteenth centuries studied in the elementary school, with a view to an understanding of the nature of poetic utterance—its subject-matter and its form.

While the course is not intended as a study in literary history, it will treat of the various poets in their historical order for the aid which this sequence will give in sympathetic judgment. Occasional suggestions will be made as to methods of interpreting poetry to school pupils. Conferences on the method of teaching the poems considered will follow after the lecture for those who desire to remain.

COMPOSITION AND RHETORIC.

Professor Horne

This course aims to supply practice in writing and to acquaint the student with the fundamental principles of rhetoric. Weekly themes will be required three to five pages long; during the first term these will be descriptive and narrative; during the second term, expository and argumentative. The work of the first term is intended to develop as far as practicable, observation and imagination; the second term, which deals with more matter-of-fact kinds of composition, insists upon an orderly and coherent presentation of facts. Throughout, the course furnishes drill in the choice of words, sentence structure and paragraph writing. Incidentally, the lectures suggest methods and devices in the teaching of composition. The class will have access to a reference library of the more important works and text-books dealing with composition and the teaching of composition.

Teachers who elect this course should be prepared to fulfill the requirements as to written work.

ORAL ENGLISH AND METHODS OF TEACHING READING.

Professor Robinson.

There will be two courses of 15 hours each.

I. The first course will treat two branches of the general topic of Oral English:

(a) The Philosophy of Expression. The psychological and physiological bases of expression will be discussed and a theory of elocution applied to all oral work in the schools. Special attention will be paid to the method of teaching memory selections as prescribed in the Course of Study. The theory will be illustrated by the reading of selections.

(b) Phonetics. While many pupils understand the words they read, they do not produce the sounds properly, because of foreign influences or physical defects. This course will impart, in convenient form, an understanding of the nature of the sounds of the language, the physiology of their production, and methods of correcting defects. Some time will be devoted to the consideration of teaching English to foreigners. This part will be of peculiar benefit to teachers of special classes, and those with a large percentage of foreigners.

II. The History of Reading Methods, and Analysis of Modern Methods of Teaching Reading. The general problem of teaching reading will be discussed first; then methods now being used in the schools will be analyzed in order to demonstrate their points of weakness and strength. Class-room devices to be used in connection with the methods will be presented. These lectures are arranged for Heads of Departments, in charge of primary reading, as well as for teachers.

NINETEENTH CENTURY LITERATURE.

Professor Krowl.

This course aims to acquaint the student with the chief writers of prose and of poetry. The treatment is not chronological. The authors are studied in the following groups: (1) essayists, (2) poets, (3) novelists, (4) short-story writers, (5) dramatists. Little attention is given to biographical details; the purpose of the lectures is to trace the relation of each writer and the literary, social and political movements of the century.

ROMANCE LITERATURES OF THE NINETEENTH CENTURY.

Professor Downer and Professor Coleman.

The course is designed to give precise information concerning the literary production of France during the last and probably the richest century in her literary activity, along with the related movements in the other two great Latin nations. In the three literatures, stress will be laid upon the nineteenth century, but a few lectures will be devoted to contemporary writers of undisputed eminence.

A knowledge of the three languages, although desirable, will not be necessary for the successful accomplishment of the work. The titles for the fall term follow: "Summary of French Literature Before the Nineteenth Century"; "Madame de Staël and Chateaubriand"; "The Romantic Movement: The Poets, The Drama, The Novel, The Historians"; "The Critics"; "Victor Hugo After 1850"; "The Parnassians and the Symbolists"; "Alexandre Dumas Fils"; "Emile Augier"; "Flaubert"; "Zola"; "Maupassant"; "Daudet." The titles for the Spring term will be published in January.

The French authors will be treated by Professor Downer during the Fall term and the first three or four lectures of the Spring term. Professor Coleman will deal with the Italian and the Spanish writers during the remainder of the Spring term.

HISTORY.

AMERICAN HISTORY AND GOVERNMENT. *Professor Guthrie.*

The aim of this course will be to trace the main steps in the growth of American institutions and government. The scope of the course will require that attention be directed to the great movements in American history rather than to a detailed study of particular events. In general the lecture method will be followed. Opportunity will be given for class discussion of the leading authorities on the subject.

COMPARATIVE MODERN HISTORY. *Dr. Schapiro.*

In this course an effort will be made to examine the distinguishing features of European civilization during the nineteenth and twentieth centuries. As the emphasis will be on the larger aspects of the subject, the treatment will be topical instead of narrative. The following topics will be discussed.

I. Heritage of the French Revolution, a discussion of the ideas at the basis of modern political life.

II. Industrial Revolution; the organization of society on a new economic foundation.

III. Growth of Nationality; the development of a new national spirit among the European peoples.

IV. Advance of Democracy; enfranchisement of the working classes, woman suffrage and government and politics in the various European countries.

V. Socialism; an explanation of the aims and principles, and history of the Socialist movement in Europe.

VI. Social and Industrial Progress; a discussion of the organization of Capital and Labor, industrial development and social legislation.

VII. European Diplomacy; the Balkan Question; North African Question, Triple Alliance, Dual Alliance and double entente.

VIII. Church and State; growth of religious toleration and progress towards dis-establishment.

IX. Elements of modern culture; literary and artistic movements, scientific and educational advance.

The object of giving this course is two-fold. In the first place, it is to inform the students of those great events in modern history that still exercise an effective influence; secondly, to indicate the drift of contemporary European civilization in order to get a point of view as to the study of history in general and of European history in particular.

MATHEMATICS.

FUNDAMENTALS OF MATHEMATICS.

Professor Allen

This course seeks to give the teacher of elementary mathematics some insight into the basic principles of arithmetic, algebra and geometry, their history, and their close inter-relation, with some detailed study of the properties of numbers, functions, equations and space. Not methods of teaching, but a clear understanding of the meaning and value of the principal conceptions and theories underlying elementary mathematics will chiefly be considered.

MECHANICAL ARTS.

WOODWORK FOR "SPECIAL CLASSES."

Mr. Holton.

This course seeks to give instruction in the use of the common woodworking tools, the elementary principles of construction and the best methods of presenting these to children in "special classes." The work will consist of demonstrations by the instructor, discussion by the class and the making of the model under consideration by members of the class working individually or in groups. The models studied will be those best related to the "Centers of Interest" that will dominate the work of the succeeding month. The object of this work will be primarily to obtain an understanding of the model, the best method of making it and of directing the pupils in the use of this method; skill in the use of the tools and the completion and finishing of the model will be attempted only so far as the time of the session permits. The shop will be open and the instructor in attendance an hour after each session to assist those who desire this additional opportunity for shop practice.

ART AND CRAFTS.

Mr. Jeffries.

This is an elementary course in hammered metals and will teach to make simple objects, such as trays, bowls, boxes, etc.

The processes employed will aid the student to understand the coloring of metals under various conditions. Suitable designs will be furnished by the instructor. Throughout the course the artistic element in the crafts will be emphasized. This initial work will lead to more advanced problems.

For the convenience and the economy of the students, the metals to be used may be purchased from the instructor at cost price. Students must furnish their own special hammers. This course will be limited in number.

MUSIC.

HISTORY AND APPRECIATION OF MUSIC. *Professor Baldwin.*

This course will include a comprehensive study of the growth of music as an art, the great composers and their works, and the analysis of musical forms.

The whole subject will be considered from the standpoint of those who listen to music, the purpose of the course being to give to the student an intelligent understanding and appreciation of the masterpieces of musical composition. No knowledge of music is required.

POLITICAL SCIENCE.

ECONOMICS. *Professor Clark.*

This course is designed to be a suggestive introduction to the study of Economics. Emphasis will be given to the great practical issues of the economic world. Not only will the general principles underlying the production and the distribution and the consumption of wealth be stated and illustrated, but much time will be devoted to the presentation of concrete problems connected with such topics as Immigration, Trades Unions, Corporations, Trusts, Railroads, Money, Banking, Tariff, Taxation and Socialism.

It will be the aim of the course to develop a theoretic basis of Economics, and so to suggest a number of its leading applications to actual life, that students, following the course with side readings in any good text-book, will become well grounded in this Science of Wealth.

ACADEMIC DEPARTMENT.

To every New York City boy graduating from an Elementary School there is open a college preparatory course in Townsend Harris Hall, a school maintained by the City for those who wish to prepare for admission to College and especially to the Freshman class of The College of The City of New York, which is also open without fee to residents of the City.

The sum of the work required for the completion of the preparatory course, and so for admission to College, is 14½ units.

The emphasis is placed on the quality of the work and the capacity of the student. The individual schedule is determined by the record of the student from term to term.

This flexible program, administered under close supervision, gives every student opportunity to prepare most economically for his College studies.

The applicant for admission to Townsend Harris Hall must decide whether or not he wishes to take later the degree in Arts. If he does, then he must begin with Latin; but if he does not, then he may begin with either Latin or French. The initial choice of the Latin permits the later election of either an Arts or a Science course, but the initial choice of French restricts the applicant to the Science Course. For all students in Townsend Harris Hall an election is offered between second year Drawing and Manual Training.

The total requirements of the Townsend Harris Hall courses are as follows:

ARTS.		SCIENCE.	
Subject.	Units.	Subject.	Units.
English	3	English	3
Latin	3	French	3
Greek, French or German.....	2	German or Spanish.....	2
Mathematics	3	Mathematics	3
Physics	1	Physics	1
History	1	History	1
Drawing	½	Drawing	½
Physiology	½	Physiology	½
Additional Drawing or Manual Training	½	Additional Drawing or Manual Training	½
Oral English		Oral English	

For the first half-year all students take Latin or French, English, Mathematics and Drawing, each five hours a week. Thereafter the number of subjects assigned depends upon the student's capacity. Advancement throughout the course is by subject, so that the satisfactory completion of each half-year's work in a subject is necessary for its continuation. An added subject may be taken at the beginning of any half-year when

the student's record for the preceding half-year indicates that he can satisfactorily pursue the additional subject. The schedule of recitations is purposely arranged to permit the student to benefit by his proficiency and in consequence thereof he may complete the course in three years.

Admission to the College courses is had upon the presentation of 14½ units for which the courses in Townsend Harris Hall make provision. In the College the prescribed work in both Arts and Science courses covers approximately two years. The work of the remaining two years is elective under certain restrictions as to grouping. By a judicious choice of the electives offered, these groups may be made to fit the needs of the student who purposes to follow teaching, journalism, law, medicine, business, manufacturing or engineering.

ART.

T 1-2. ELEMENTARY FREEHAND DRAWING. *5 hours a week.*

The first term is devoted to Freehand Drawing from simple geometrical solids, single and in groups, with application of the elementary principles of perspective. Particular stress is laid on construction, but some attention is given to light and shade. The principles of Decorative Design are studied. In the second term casts of simple ornamental forms are introduced and their light and shade given fuller rendering; next, various articles of pottery, of plant and other forms, involving the rendering in black and white of color values. Exercises in drawing simple solids from memory are also assigned. Decorative Design is continued, with application to familiar forms. Some attention is given to Historic Ornament and Architecture.

Prescribed: Arts and Science, Class C; two terms.

T 3-4. ADVANCED FREEHAND DRAWING AND DESIGN.

4 hours a week.

Advanced Freehand Drawing; continuation of Decorative Design, with use of color and application to practical problems.

Elective: Arts and Sciences, Class B; two terms.

Note—To complete the required work in Lower B and in Upper B students must choose either Art T 3 or Art T 4, or else corresponding options in Manual Training.

ENGLISH.

Prescribed: Six terms in both the Arts and Science Courses.

T 1.

5 hours a week.

Of the five hours available, three are devoted to grammar and composition. Hitchcock's *Enlarged Practice Book in English Composition* is used as a text-book. In addition to numerous

short exercises, weekly and fortnightly themes are required. English grammar is systematically reviewed. Two hours each week are given to the study of Irving's *Sketch Book* and Scott's *Ivanhoe*. Selections from both are memorized.

T 2.

5 hours a week.

The time is divided as in T 1, and the same text-book is used for rhetorical drill. The work in composition is concentrated on sentence structure. The practice afforded by the exercises in the text-book is supplemented by fortnightly themes. In poetry a study is made of *The Ancient Mariner*, *The Vision of Sir Launfal*, *The Deserted Village* and Gray's *Elegy*. Some selections in verse are memorized. In prose the students read *Silas Marner* in class and Parkman's *Oregon Trail* at home.

T 3.

4 hours a week.

Of the four hours available, two are devoted to rhetoric and two to literature. Part I. of Brooks and Hubbard's *Composition Rhetoric* is covered, with chief attention to the paragraph. Frequent practice is given in the methods of paragraph development, and fortnightly themes are required. The study of grammar is continued; some time is devoted to synonyms; several extracts are memorized. The study of literature includes *The Sir Roger de Coverley Papers*, *The Tale of Two Cities* and *The Merchant of Venice*.

T 4.

4 hours a week.

The division of time is the same as in T 3. The principles of Description, Narration, Exposition and Argumentation are presented on the basis of Part II. of Brooks and Hubbard's *Composition Rhetoric*. Weekly and fortnightly themes form a part of the work. The students read three or four *Idylls of the King*, *Julius Caesar* and *A Midsummer Night's Dream*. Extracts from these works are memorized.

T 5-6.

4 hours a week.

In this year a careful critical study is made of Burke's *Speech on Conciliation*, Macaulay's *Johnson*, Milton's *L'Allegro*, *Il Penseroso* and *Comus* and Shakespeare's *Macbeth*. Composition work is frequent. Grammar and rhetoric are reviewed.

FRENCH.

Prescribed: Six terms in the Science Course.

T 11. ELEMENTARY.

5 hours a week.

Downer's *First Book in French*, through the thirty-fifth lesson.

T 12. ELEMENTARY.

5 hours a week.

Downer's *First Book in French*, through the fifty-seventh lesson. François and Giroud's *Simple French*.

T 13. ELEMENTARY. 5 hours a week.
Downer's *First Book in French*, completed. Weill's *Historical French Reader*.

T 14. ELEMENTARY. 5 hours a week.
Review in grammar. Daudet's *Neuf contes choisis*, Erckmann-Chatrian's *Madame Thérèse*.

T 15. INTERMEDIATE. 4 hours a week.
Review in grammar. Marique and Gilson's *French Composition*. Dumas' *Monte-Cristo*.

T 16. INTERMEDIATE. 4 hours a week.
A modern play is read. A piece of narrative prose from a standard author. Marique and Gilson's *French Composition*. Letter writing. Weill's *Newspaper Reader*.

Prescribed four terms in the Arts Course for those taking French as second language.

T 1. ELEMENTARY. 5 hours a week.
Downer's *First Book in French* through the forty-fifth lesson.

T 2. ELEMENTARY. 5 hours a week.
Downer's *First Book in French*, completed. Sym's *Le Chien de Brisquet*, and other stories.

T 3. ELEMENTARY. 5 hours a week.
Review in grammar. Daudet's *Neuf contes choisis* and Erckmann-Chatrian's *Madame Thérèse*.

T 4. INTERMEDIATE. 5 hours a week.
Review in grammar. Composition, letter writing. Mérimée's *Colomba*. Weill's *Newspaper Reader*.

GERMAN.

Prescribed for those taking German as a second language.

T 1. ELEMENTARY. 5 hours a week.
Collar's *German Lessons* through the seventeenth lesson.

T 2. ELEMENTARY. (Continued.) 5 hours a week.
Collar's *German Lessons* through the twenty-ninth lesson. Joynes' *Reader*.

T 3. ELEMENTARY. (Continued.) 5 hours a week.
Hauff's *Karawane*, Composition, Review of the Grammar.

T 4. ELEMENTARY. (Completed.) *5 hours a week.*
Gerstäcker's *Germelshausen*. Seidel's *Leberecht Huehnchen*.
Poems in Whitney's *Reader*, Harris's *Composition*.

GREEK.

Prescribed for those taking Greek as a second language.

T 1-2. ELEMENTARY. *5 hours a week.*
Pronunciation, etymology and syntax are studied simultaneously. Text-book: White's *First Book*.

T 3-4. ELEMENTARY. (Continued.) *5 hours a week.*
Translation with practice lessons in etymology and syntax. Also instruction and practice in reading at sight. Hellenica texts one hour a week. Eleven exercises each term in Greek prose composition. Text-books: Goodwin's *Anabasis*, one book the first term and three the second; Spencer's *Prose Composition*.

HISTORY.

T 1-2. GREEK AND ROMAN HISTORY. *3 hours a week.*
A study of the old European world as far as Charlemagne's time, 800 A. D. The foundation is laid for the understanding of later national history and the influence of successive epochs upon each other. Text-book: Myers' *General History*, with assigned readings and map drawing. Two terms.

T 3-4. AMERICAN HISTORY. *3 hours a week.*
A full course in the history of the United States, colonial and national. Preparatory, also, for special periods in the College course. Text-book: Montgomery's *Students' American History* and reference books. Readings and reports. Two terms

LATIN.

Prescribed six terms in the Arts course.

T 1-2. ELEMENTARY. *5 hours a week.*
Students begin with the Grammar, finishing the entire Etymology and the Syntax, not including the exceptions of the Prosody. Simultaneously a course of English and Latin exercises is pursued. Text-books: Allen and Greenough's *Latin Grammar*, Bennett's *Latin Lessons*, or Burke and Newton's *Latin Lessons*.

T 3-4. CAESAR. *5 hours a week.*
The Grammar is reviewed and completed; four books of Caesar are read, and exercises are given in Latin Prose Composition, based on the reading in Caesar. Text-book: Kelsey's *Caesar's De Bello Gallico*.

T 5-6. CICERO.

4 hours a week.

Six orations are read with weekly exercises in Latin Prose Composition based thereon. Syntax is continued. Text-book: D'Ooge's *Cicero's Orations*.

MANUAL TRAINING.

Note—Optional with Art 3-4 in the B year.

A preparatory course in the use of wood-working tools and in the methods of forging iron is offered to the students of the B classes. This work will be of special importance to the students who intend to take up applied science, but it will be also extremely useful to any one who has to use his hands as well as his brain. It should be remembered that "the chief object of shop-and-tool instruction is mental discipline. The tools are to be intelligently used, and the methods of execution adopted are to be chosen intelligently. The concrete product is of importance only in so far as it bears witness to progress."*

The exercises chosen will introduce the use of all the principal wood-working bench tools and elementary forge work, comprising pointing, turning, flattening, bending, welding and tempering. Opportunity will be given for the development of special skill.

The laboratories are well equipped with the necessary fixed appliances and hand tools.

T 21-22. WOOD AND METAL WORKING.

4 hours a week.

B classes for two terms; one term wood-working, one term forge work and metal-working.

MATHEMATICS.

Prescribed for six terms in both the Arts and Science Courses.

Note.—The successful completion of every term's work is prerequisite for the following term's work.

T 1. ELEMENTARY ALGEBRA.

5 hours a week.

The Fundamental Operations. Factors, Fractions, Equations of the First Degree in One or Two Unknown Letters. Text-book: Wells, *Essentials of Algebra*.

T 2. PLANE GEOMETRY.

5 hours a week.

Text-book: Durell, *Plane and Solid Geometry*.

T 3. ELEMETARY ALGEBRA.

5 hours a week.

Involution, Evolution, Radicals and Fractional Exponents, Equations of the Second Degree in One or Two Unknown Letters. Text-book: Wells, *Essentials of Algebra*.

*Woodward, "Manual Training School," p. 30.

T 4. PLANE AND SOLID GEOMETRY. 5 hours a week.
Text-book: Durell, *Plane and Solid Geometry*.

T 5. TRIGONOMETRY. 4 hours a week.
Text-book: Crawley, *Short Course in Trigonometry*.

T 6. ADVANCED ALGEBRA. 4 hours a week.
The Theory of Quadratic Equations, Ratio, Proportion and Variation, the Progressions, Logarithms, Permutations and Combinations, the Binomial Theorem, Determinants, the Theory of Equations. Text-book: Hawkes, *Advanced Algebra*.

NATURAL HISTORY.

T 1. PHYSIOLOGY. 4 hours a week.
This subject introduces the student to the general natural phenomena pertaining to man. It deals with the structure and functions of the body. It includes discussions on exercise, diet, use of stimulants and narcotics, and the various ways of preserving health and promoting body development.

PHYSICS.

Prescribed for two terms in both the Arts and Science Courses.

The primary facts and laws are taught by means of lectures with full demonstrations, individual laboratory exercises, and recitations and quizzes upon assigned work at home. Particular attention is given to the quantitative as well as to the qualitative relations between physical quantities, and numerous problems illustrative of these relations are solved by the students. Students are held strictly accountable for all the apparatus assigned to their use, and must replace any lost by breakage or waste through carelessness.

1. MECHANICS, HEAT AND MAGNETISM. 4 hours a week.
Text-books: Millikan and Gale, *A First Course in Physics*.
Cheston, Dean, Timmerman, *Laboratory Manual of Physics*.

The laboratory work includes the following: the measurement of mass, volume and density; the study of Hooke's law, of the law of the composition of concurrent forces, of the pendulum, the lever, the inclined plane, pulleys, and of the laws of friction; applications of Archimedes' principle, and the determination of the specific gravity of various solids and liquids; Boyle's law of gases; the fixed points of the mercury thermometer; specific heat of various solids; the heat of fusion of ice and the heat of vaporization of water.

2. SOUND, LIGHT AND ELECTRICITY. 4 hours a week.

The same text-books are used as in 1.

The following exercises are performed in the laboratory; the determination of the vibration frequency of a tuning-fork; of the wave-length of its tone in air; the tones produced by vibrating strings; photometric measurement; the study of plane mirrors, curved mirrors, lenses and prisms; experiments involving the chemical batteries, electrolysis, electroplating, Ohm's law, the use of Wheatstone's bridge, electro-magnetic induction, the dynamo and motor, electric bell and telegraph.

PUBLIC SPEAKING.

A—THE CORRECTION OF SPEECH DEFECTS. 1 hour a week.

All the students entering the Class A of Townsend Harris Hall must present themselves for examination in oral English. Those who are found to have any defect of speech will be assigned to take this course. The work will consist of exercises adapted to the individual difficulties of the student and designed to habituate him to enunciate correctly all the sounds of spoken English and to use them smoothly in continuous, idiomatic discourse.

The successful completion of this course, or relief from it by examination is a necessary entrance prerequisite for all the college courses in Public Speaking.

SPANISH.

Prescribed for those taking Spanish as a second language.

T 1. ELEMENTARY. 5 hours a week.

Hills and Ford's *Spanish Grammar* through Lesson XXV.

T 2. ELEMENTARY. 5 hours a week.

Hills and Ford's *Spanish Grammar* completed. Loiscaux's *Reader*.

T 3. ELEMENTARY. 5 hours a week.

Review of the grammar. Valera's *Pajaro Verde*. Ford's *Composition*.

T 4. ELEMENTARY. 5 hours a week.

Review of the grammar. Alarcon's *Capitan Veneno*. Ford's *Composition*.

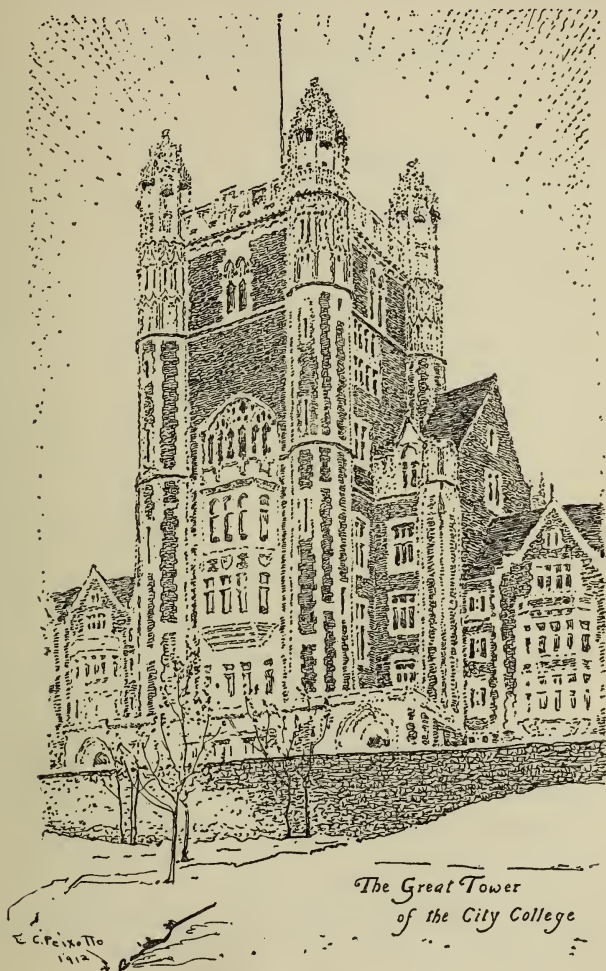
The College of the City of New York



Register for 1914-1915

Bulletin for 1915-1916

THE COLLEGE
OF
THE CITY OF NEW YORK



*The Great Tower
of the City College*

SIXTY-SIXTH ANNUAL REGISTER
1914-1915

ANNOUNCEMENT OF COURSES FOR 1915-1916

C. H. 7

COLLEGIATE CALENDAR.

1915 - 1916.

1915.

- Sept. 14. Tuesday—Registration Day.
Sept. 16. Thursday—Recitations begin.
Oct. 12. Tuesday—Columbus Day.
Nov. 2. Tuesday—Election Day.
Nov. 12. Friday—Prize Speaking.
Nov. 25. Thursday—Thanksgiving Day.
Dec. 24. Friday—
Dec. 31. Friday— } Winter Vacation.

1916.

- Jan. 17. Monday—Beginning of Examinations.
Feb. 1. Tuesday—Registration Day.
Feb. 2. Wednesday—Beginning of Second Term.
Feb. 22. Tuesday—Washington's Birthday.
April 4. Friday—Kelly Prize Debate.
April 17. Monday—
April 25. Tuesday— } Spring Vacation.
May 12. Friday—Prize Speaking.
June 5. Monday—Beginning of Examinations.
June 22. Thursday—Commencement.

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BOARD OF TRUSTEES.

CHARLES E. LYDECKER, *Chairman.*

JAMES W. HYDE, *Secretary.*

	Term Expires July 1st.
BERNARD M. BARUCH, A.B.....	1915.
WILLIAM HENRY CORBITT, A.B., LL.B.....	1916.
MOSES J. STROOCK B.S., LL.B.....	1917.
WILLIAM F. MCCOMBS, A.B., LL.B.....	1918.
LEE KOHNS, B.S.....	1919.
FREDERICK P. BELLAMY, A.M., LL.B.....	1920.
CHARLES H. TUTTLE, A.B., LL.B.....	1921.
CHARLES E. LYDECKER, B.S., LL.B.....	1922.
JAMES W. HYDE, A.B., LL.B.....	1923.
THOMAS W. CHURCHILL, A.B., LL.B.....	[<i>ex-officio</i>].

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

Arranged in Order of Seniority.

- SIDNEY EDWARD MEZES, President.
B.S., University of California, 1884; A.B., Harvard, 1890; A.M., 1891; Ph.D.,
1893; LL.D., Southwestern University, 1911; University of California,
1912; New York University, 1915; University of Cincinnati, 1915.
- ADOLPH WERNER, Emeritus Professor of the German Language
and Literature.
B.S., College of the City of New York, 1857; M.S., 1860; Ph.D., Rutgers
Female College, 1880.
- CHARLES GEORGE HERBERMANN, Emeritus Professor of the Latin
Language and Literature.
A.B., Fordham, 1858; A.M., 1860; Ph.D., St. Francis Xavier, 1865; LL.D.,
1882; Litt.D., Holy Cross, 1906; Catholic University of America, 1915.
- FITZ GERALD TISDALL, Professor of the Greek Language and Literature.
A.B., College of the City of New York, 1859; A.M., 1862; Ph.D., New York
University, 1874.
- HENRY PHELPS JOHNSTON, Professor of History.
B.A., Yale, 1862; M.A., 1884.
- LEWIS FREEMAN MOTT, Professor of the English Language.
B.S., College of the City of New York, 1883; M.S., 1886; Ph.D., Columbia,
1896.
- FREDERICK DIELMAN, Professor of Art.
B.A., Calvert College, 1864; N.A., 1883.
- CHARLES A. DOWNER, Professor of Romance Languages.
A.B., College of the City of New York, 1886; Ph.D., Columbia, 1901; Officier
d'Académie, 1906; Chevalier de la Légion d'Honneur, 1913.
- CHARLES BASKERVILLE, Professor of Chemistry,
and Director of the Chemistry Building.
B.S., University of North Carolina, 1892; Ph.D., 1894; F.C.S., 1898.
- JOHN ROBERT SIM, Professor of Mathematics,
and Director of Townsend Harris Hall.
A.B., College of the City of New York, 1868.
- IVIN SICKELS, Professor of Natural History,
and Chairman of the Executive Council.
B.S., College of the City of New York, 1874; M.S., 1878; M.D., New York
University, 1883.
- WALTER ERNEST CLARK, Professor of Political Science.
A.B., Ohio Wesleyan University, 1896; A.M., 1898; Ph.D., Columbia, 1903.

- THOMAS ANDREW STOREY, Professor of Hygiene,
and Director of the Gymnasium.
A.B., Leland Stanford Jr. University, 1896; A.M., 1900; Ph.D., 1902; M.D.,
Harvard, 1905.
- HARRY ALLEN OVERSTREET, Professor of Philosophy.
A.B., University of California, 1899; B.Sc., Oxford, 1901.
- STEPHEN PIERCE DUGGAN, Professor of Education,
and Director of the Extension Courses and the Evening Session.
B.S., College of the City of New York, 1890; M.S., 1897; A.M., Columbia,
1898; Ph.D., 1901.
- WILLIAM FOX, Professor of Physics.
B.S., College of the City of New York, 1884; M.E., Stevens Institute, 1886.
- PAUL L. SAUREL, Professor of Mathematics.
B.S., College of the City of New York, 1890; D.Sc., Bordeaux, 1900.
- WILLIAM GEORGE MCGUCKIN, Associate Professor of History.
A.B., College of the City of New York, 1869; LL.B., Columbia, 1881.
- LEIGH HARRISON HUNT, Associate Professor of Art.
B.S., College of the City of New York, 1877; M.S., 1880; M.D., New York
University, 1880.
- CALVIN RAE SMITH, Associate Professor of Art.
- AUGUST RUPP, Associate Professor of Latin.
A.B., College of the City of New York, 1884.
- ERNEST ILGEN, Associate Professor of German.
A.B., College of the City of New York, 1882; A.M., New York University,
1902.
- C. HOWARD PARMLY, Associate Professor of Physics.
B.S., College of the City of New York, 1888; M.S., 1893; E.E., Columbia,
1892.
- CARLETON L. BROWNSON, Associate Professor of Greek,
and Dean of the Faculty.
B.A., Yale, 1887; Ph.D., 1897.
- ERASTUS PALMER, Associate Professor of Public Speaking.
A.B., Hamilton, 1882; A.M., 1890.
- HERBERT R. MOODY, Associate Professor of Chemistry,
and Secretary of the Executive Council.
S.B., Massachusetts Institute of Technology, 1892; A.M., Columbia, 1900;
Ph.D., 1901.
- SAMUEL A. BALDWIN, Associate Professor of Music.
F. A. G. O., 1902.
- VICTOR EMMANUEL FRANÇOIS, Associate Professor of French.
Candidat en philosophie et lettres, University of Brussels, 1888; A.M., Uni-
versity of Michigan, 1902; Ph.D., New York University, 1906.
- L. HENRY FRIEDBURG, Associate Professor of Chemistry.
Ph.D., Göttingen, 1870.
- HARRY C. KROWL, Associate Professor of English.
A.B., College of the City of New York, 1895; Ph.D., New York University,
1900.

- WILLIAM B. GUTHRIE, Associate Professor of Political Science.
B.S., Lenox, 1893; Ph.B., State University of Iowa, 1895; Ph.D., Columbia,
1905.
- FREDERICK G. REYNOLDS, Associate Professor of Mathematics,
and Secretary of the Faculty.
B.S., College of the City of New York, 1891; LL.B., New York University,
1896; M.S., 1899; Sc.D., 1904.
- EDMUND BURKE, Assistant Professor of Latin.
A.B., College of the City of New York, 1890.
- JOSEPH ALLEN, Assistant Professor of Mathematics.
A.B., Harvard, 1892; A.M., 1892.
- HOLLAND THOMPSON, Assistant Professor of History,
and Director of the Townsend Harris Hall Annex.
Ph.B., University of North Carolina, 1895; A.M., Columbia, 1900; Ph.D.,
1906.
- LIVINGSTON ROWE SCHUYLER, Assistant Professor of History.
A.B., College of the City of New York, 1889; S.T.B., General Theological
Seminary, 1894; Ph.D., New York University, 1904.
- CHARLES F. HORNE, Assistant Professor of English.
B.S., College of the City of New York, 1889; M.S., 1898; Ph.D., New York
University, 1905.
- VENTURA FUENTES, Assistant Professor of Spanish.
A.B., College of the City of New York, 1889; M.D., Columbia, 1892.
- NELSON P. MEAD, Assistant Professor of History.
B.S., College of the City of New York, 1899; A.M., Columbia, 1903; Ph.D.,
1906.
- HENRY S. CARR, Assistant Professor of Mathematics.
A.B., College of the City of New York, 1866; A.M., 1869.
- SAMUEL HANAWAY, Assistant Professor of Mathematics.
B.S., College of the City of New York, 1883.
- FREDERICK MALLING PEDERSEN, Assistant Professor of Mathematics.
B.S., College of the City of New York, 1889; M.S., 1893; E.E., Columbia,
1893; Sc.D., New York University, 1905.
- ARTHUR BRUCKNER, Assistant Professor of Physics.
B.S., College of the City of New York, 1892; M.E., Cornell, 1898.
- ALLAN P. BALL, Assistant Professor of Latin.
B.A., Amherst, 1892; M.A., 1895; Ph.D., Columbia, 1903.
- LOUIS DELAMARRE, Assistant Professor of French.
B-ès-L., Paris, 1881; L-ès-L., 1894; Ph.D., New York University, 1905.
- HOWARD WOOLSTON, Assistant Professor of Political Science.
B.A., Yale, 1898; S.T.B., Chicago, 1901; A.M., Harvard, 1902; Ph.D.,
Columbia, 1909.
- JOSEPH G. COFFIN, Assistant Professor of Physics.
B.S., Massachusetts Institute of Technology, 1898; Ph.D., Clark University,
1903.
- ALEXIS I. DU PONT COLEMAN, Assistant Professor of English.
B.A., Oxford, 1887; M.A., 1906.

- ARTHUR B. TURNER, Assistant Professor of Mathematics.
A.B., Johns Hopkins, 1892; Ph.D., University of Pennsylvania, 1902.
- CARROLL N. BROWN, Assistant Professor of Greek.
A.B., Harvard, 1891; A.M., 1891; Ph.D., 1900.
- MORRIS RAPHAEL COHEN, Assistant Professor of Philosophy.
B.S., College of the City of New York, 1900; Ph.D., Harvard, 1906.
- FREDERICK B. ROBINSON, Assistant Professor of Public Speaking
and Assistant to the Director of the Evening Session.
A.B., College of the City of New York, 1904; M.A., New York University,
1906; Ph.D., 1907.
- GASTON A. LAFFARGUE, Assistant Professor of French.
B-ès-L. [1^{ère} Partie], University of Rennes, 1882; Officier d'Académie, 1906;
Officier de l'Instruction Publique, 1914.
- FELIX WEILL, Assistant Professor of French.
B-ès-L., Paris, 1888; L-ès-L., 1892; Officier d'Académie, 1904; Officier de
l'Instruction Publique, 1910.
- EARLE FENTON PALMER, Assistant Professor of English.
B.S., College of the City of New York, 1888; A.M., New York University,
1903; Ph.D., 1906.
- MARIO EMILIO COSENZA, Assistant Professor of Latin.
A.B., College of the City of New York, 1901; Ph.D., Columbia, 1906.
- THOMAS R. MOORE, Assistant Professor of History.
A.B., Wesleyan, 1897; M.A., New York University, 1905; Ph.D., 1906.
- RESTON STEVENSON, Assistant Professor of Chemistry.
A.B., University of North Carolina, 1902; A.M., 1903; Ph.D., Columbia,
1908.
- MAXIMILIAN PHILIP, Assistant Professor of Mathematics.
B.S., College of the City of New York, 1898; M.S., New York University,
1903; Sc.D., 1906.
- GEORGE G. SCOTT, Assistant Professor of Natural History.
A.B., Williams, 1898; A.M., 1899; Ph.D., Columbia, 1913.
- ABRAHAM J. GOLDFARB, Assistant Professor of Natural History.
B.S., College of the City of New York, 1900; Ph.D., Columbia, 1909.
- JOHN PICKETT TURNER, Assistant Professor of Philosophy.
A.B., Vanderbilt University, 1900; A.M., 1901; Ph.D., Columbia, 1910.
- PAUL KLAPPER, Assistant Professor of Education,
and Secretary of the Extension Courses.
A.B., College of the City of New York, 1904; M.A., New York University,
1907; Ph.D., 1909.
- HENRY G. KOST, Assistant Professor of German.
B.S., College of the City of New York, 1880.
- LIVINGSTON BURRILL MORSE, Assistant Professor of History.
B.S., College of the City of New York, 1889.
- HOMER CURTIS NEWTON, Assistant Professor of Latin.
B.A., University of Colorado, 1899; M.A., 1900; Ph.D., Cornell, 1902.
- EDWARD E. WHITFORD, Assistant Professor of Mathematics.
A.B., Colgate, 1886; A.M., 1890; Ph.D., Columbia, 1912.

- SAMUEL B. HECKMAN, Assistant Professor of Education.
Ph.B., Earlham, 1893; A.B., Harvard, 1894; A.M., University of Pennsylvania, 1905; Ph.D., 1906.
- ROBERT F. SMITH, Instructor in Mathematics.
B.S., College of the City of New York, 1887; M.S., New York University, 1903.
- MOSES STUART LEVUSOVE, Instructor in Descriptive Geometry.
B.S., College of the City of New York, 1893; LL.B., New York Law School, 1900.
- EMORY B. LEASE, Instructor in Latin.
A.B., Ohio Wesleyan University, 1885; A.M., 1888; Ph.D., Johns Hopkins, 1894.
- ENGELBERT NEUS, Instructor in Descriptive Geometry and Architectural Drawing.
B.S., College of the City of New York, 1893; A.M., Columbia, 1904.
- ALFRED D. COMPTON, Instructor in English.
B.S., College of the City of New York, 1897.
- DONALD G. WHITESIDE, Instructor in English.
B.S., College of the City of New York, 1897; M.A., New York University, 1900.
- CARL W. KINKELDEY, Instructor in German.
A.B., College of the City of New York, 1893; M.A., New York University, 1898; Ph.D., 1906.
- STANLEY SIMONDS, Instructor in Latin.
A.B., Harvard, 1884; Ph.D., Johns Hopkins, 1896.
- JOSEPH VINCENT CROWNE, Instructor in English.
A.B., St. Joseph's College, Philadelphia, 1896; A.M., University of Pennsylvania, 1898; Ph.D., 1899.
- BARCLAY W. BRADLEY, Instructor in Latin.
A.B., University of Pennsylvania, 1897; Ph.D., 1900.
- ROBERT H. HATCH, Instructor in Public Speaking.
- DANIEL W. REDMOND, Instructor in Public Speaking.
Ph.B., Hamilton, 1901; Ph.D., Columbia, 1913.
- HUGH S. LOWTHER, Instructor in Romance Languages.
A.B., Syracuse, 1899; Ph.D., University of Pennsylvania, 1904.
- THOMAS GAFFNEY TAAFFE, Instructor in English.
A.B., Fordham, 1890; A.M., 1891; Ph.D., 1901.
- JAMES H. DE GROODT, Instructor in Mechanic Arts.
- EMILE SCHOEN, Special Instructor in Music, Dept. of Education.
- GEORGE V. EDWARDS, Instructor in Latin.
A.B., Hamilton, 1891; A.M., 1894; Ph.D., Johns Hopkins, 1899.
- TITUS BERTHEAU VOELKEL, Instructor in German.
Ph.D., Halle, 1875.
- ALEXIS EUGENE SENFTNER, Instructor in Latin.
A.B., Columbia, 1899; B.D., Union Theological Seminary, 1902; M.A., New York University, 1902; Ph.D., 1904.

- NORRIS A. BRISCO, Instructor in Political Science.
A.B., Queen's University, 1898; A.M., 1900; Ph.D., Columbia, 1907.
- GUY EDWARD SNIDER, Instructor in History.*
B.L., University of Wisconsin, 1901; M.A., University of Missouri, 1902;
Ph.D., Columbia, 1907.
- HERBERT MILES HOLTON, Instructor in Mechanic Arts.
B.S., College of the City of New York, 1899.
- J. REDDING KELLY, Instructor in Free-Hand Drawing and Design.
- GEORGE C. AUTENRIETH, Instructor in Descriptive Geometry
and Mechanical Drawing.
B.S., College of the City of New York, 1902; A.M., Columbia, 1906.
- KURT E. RICHTER, Instructor in German.
Dipl. Addison Teachers' College, 1894; B.S., New York University, 1905;
Pd.D., 1908.
- WILLIAM L. PRAGER, Instructor in Chemistry.
B.S., College of the City of New York, 1900; M.S., New York University,
1904; Ph.D., Clark University, 1908.
- WILLIAM BRADLEY OTIS, Instructor in English.
A.B., Iowa College, 1901; A.M., Columbia, 1904; Ph.D., New York Univer-
sity, 1908.
- FREDERICK W. HUTCHISON, Instructor in Free Hand Drawing and Design.
- CHARLES JASTROW MENDELSON, Instructor in Greek.
A. B., University of Pennsylvania, 1900; Ph.D., 1904.
- JUSTIN HARTLEY MOORE, Instructor in French.
A.B., College of the City of New York, 1903; A.M., Columbia, 1904; Ph.D.,
1908; LL.M., New York University, 1913; J.D., 1913.
- WILLIAM WALLACE WHITELOCK, Instructor in French.
A.B., Johns Hopkins, 1890; Ph.D., Munich, 1893.
- HOWARD D. MARSH, Instructor in Philosophy.
A.B., Ohio Wesleyan University, 1901; A.M., 1902; Ph.D., Columbia, 1905.
- ROBERT W. CURTIS, Instructor in Chemistry.
B.S., Trinity, 1896; Ph.D., Yale, 1904.
- FELIX GRENDON, Instructor in English.
B.S., College of the City of New York, 1900; A.M., Columbia, 1902; Ph.D.,
1909.
- FREDERICK E. BREITHUT, Instructor in Chemistry.
B.S., College of the City of New York, 1900; Sc.D., New York University,
1909.
- FRANCESCO ETTARI, Instructor in Italian.
Licenza Liceale, University of Naples, 1881; Baccelliere in Lettere, 1883;
Dottore in Lettere, 1885; Professore di Letteratura Italiana, 1886.
- JOSEPH CUMMINGS CHASE, Instructor in Free-Hand Drawing and Design.
- JACOB SALWYN SCHAPIRO, Instructor in History.
A.B., College of the City of New York, 1904; Ph.D., Columbia, 1909.

* After Sept. 1, 1915, in Political Science.

- LOUIS J. CURTMAN, Instructor in Chemistry.
B.S., College of the City of New York, 1899; M.S., New York University,
1902; Ph.D., Columbia, 1907.
- WILLIAM L. ESTABROOKE, Instructor in Chemistry.
A.B., Harvard, 1901; A.M., University of New Brunswick, 1902; Ph.D., 1905.
- LYNN MATEER SAXTON, Instructor in Mathematics.
B.S., Lafayette, 1897; M.S., 1900; Pd.M., New York University, 1908; Pd.D.,
1909.
- JOHN SCHULER, Instructor in German.
B.A., German Wallace College, 1891; Ph.D., Columbia, 1909.
- FAUST CHARLES DE WALSH, Instructor in German.
A.B., University of Rochester, 1903; Ph.D., Columbia, 1910.
- DAVID KLEIN, Instructor in English.
A.B., College of the City of New York, 1902; A.M., Columbia, 1904; Ph.D.,
New York University, 1909.
- HENRY W. PECKWELL, Instructor in Free-Hand Drawing.
- JAMES ROBERT WHITE, Instructor in Education.
Pd.B., Normal College, Albany, N. Y., 1893; A.M., Illinois Wesleyan Univer-
sity, 1896, Ph.D., 1910.
- PIERRE J. MARIQUE, Instructor in French.
Professeur agrégé de l'enseignement moyen, State Board, Brussels, 1902; Pd.D.,
New York University, 1910; Ph.D., 1912.
- WILLIAM E. KNICKERBOCKER, Instructor in French.
A.B., College of the City of New York, 1904; Ph.D., Columbia, 1911.
- FRANCIS L. ROUGIER, Instructor in French.
B-és-Sc., Paris, 1894; A.B., Fordham, 1905, M.A., New York University, 1907;
Ph.D., 1911.
- JACOB WITTMER HARTMANN, Instructor in German.
B.S., College of the City of New York, 1901; Ph.D., Columbia, 1912.
- GEORGE C. O. HAAS, Instructor in German.
A.B., Columbia, 1902; A.M., 1902; Ph.D., 1909.
- JOSEPH A. MOSHER, Instructor in Public Speaking.
Ph.B., Syracuse, 1905; Ph.M., 1906; A.M., Columbia, 1907; Ph.D., 1911.
- AUSTIN BAXTER KEEP, Instructor in History.
B.A., Amherst, 1897; M.A., 1901; Ph.D., Columbia, 1911.
- LIONEL B. MCKENZIE, Special Instructor in Hygiene.
- ALFRED N. GOLDSMITH, Instructor in Physics.
B.S., College of the City of New York, 1907; Ph.D., Columbia, 1911.
- ALFRED G. PANARONI, Instructor in Romance Languages.
B.S., College of the City of New York, 1902.
- GEORGE PAYN QUACKENBOS, Instructor in Latin.
A.B., Columbia, 1900; A.M., 1901; Ph.D., 1915.
- JARVIS KEILEY, Instructor in English.
A.B., Harvard, 1899; A.M., 1900.
- PAUL H. LINEHAN, Instructor in Mathematics.
A.B., Harvard, 1902.

- SAMUEL CARLETON HAIGHT, Instructor in History.
B.S., College of the City of New York, 1892.
- AMERICO ULYSSES N. CAMERA, Instructor in Romance Languages.
Ph.B., New York University 1900; A.M., Columbia, 1901; Ph.D., New York University, 1912.
- GEORGE MONROE BRETT, Instructor in Mathematics.*
A.B., Bowdoin, 1897.
- ALFONSO ARBIB-COSTA, Instructor in Romance Languages.
Dipl., Royal Technical Institute, Rome, 1888.
- BIRD WILLIAMS STAIR, Instructor in English.
B.S., Purdue, 1899; M.S., 1902.
- FREDERIC A. WOLL, Instructor in Hygiene.
B.S., Teachers College, Columbia, 1910; A.M., 1911.
- JOSEPH SOHN, Instructor in German.
A.B., Neue Akademie, Berlin, 1887.
- ABRAM G. SCHULMAN, Instructor in Free Hand Drawing and Design.
A.B., College of the City of New York, 1902.
- ROBERT J. DAMEN, Instructor in French.
Agrégé de l'Académie de Paris, 1899.
- EMIL A. C. KEPPLER, Instructor in German.
Ph.B., Columbia, 1895; A.M., 1897.
- RICHARD O. HEYNICH, Instructor in German.
Dipl., Lehrer-Seminar, Osterode, Germany, 1892.
- EDMOND ERNEST ADRIEN LE MAIRE, Instructor in French.
B-és-L., Paris, 1870; Officer d'Académie, 1908.
- MAXIME L. BERGERON, Instructor in French.
A.B., College of the City of New York, 1903; M.A., Yale, 1904; Ph.D., New York University, 1914.
- JOSEPH L. TYNAN, Instructor in English.
A.B., College of the City of New York, 1901; A.M., Columbia, 1907.
- GEORGE M. HAYES, Instructor in Mathematics.
A.B., Fordham, 1906; A.M., 1913.
- RICHARD J. O'NEIL, Instructor in Hygiene.
- CHARLES A. CORCORAN, Instructor in Physics.
B.S., College of the City of New York, 1904; A.M., Columbia, 1906.
- CAMILLE A. TOUSSAINT, Instructor in Mathematics.
A.B., Columbia, 1903; A.M., 1904.
- JOHN ALFRED BREWSTER, Instructor in Mathematics.
A.B., Harvard, 1896.
- ROBERT BRUCE MACDOUGALL, Instructor in Free-Hand Drawing and Design.
- SAMUEL A. SCHWARZ, Instructor in Mathematics.
A.B., College of the City of New York, 1902; C.E., Columbia, 1905; A.M., 1905.

* After Sept. 1, 1915, in Political Science.

- LOUIS SIGMUND FRIEDLAND, Instructor in English.
A.B., College of the City of New York, 1905; M.A., New York University,
1910; Ph.D., 1912.
- DAYTON JAMES EDWARDS, Instructor in Natural History.
B.S., University of Maine, 1906; Ph.D., Columbia, 1914.
- JOSEPH PEARL, Instructor in Latin.
A.B., College of the City of New York, 1906; Ph.D., New York University,
1913.
- LEON H. CANFIELD, Instructor in History.
A.B., Syracuse, 1908; Ph.D., Columbia, 1913.
- HOMER ADOLPH STEBBINS, Instructor in History.
Ph.B., Syracuse, 1906; Ph.M., 1907; LL.B., 1908; Ph.D., Columbia, 1913.
- WILLIAM WARD BROWNE, Instructor in Natural History.
A.B., Brown, 1908; A.M., 1909 Ph.D., 1912.
- *H. WHEELER POWELL, Tutor in Mathematics.
B.S., College of the City of New York, 1883.
- EDGAR HALLIDAY, Tutor in Latin.
A.B., Princeton, 1898; A.M., Columbia, 1902.
- WILLIAM F. X. GEOGHAN, Tutor in English.
A.B., St. Joseph's College, Philadelphia, 1903; A.M., 1905; LL.B., George-
town, 1906.
- HOWARD C. GREEN, Tutor in English.
A.B., College of the City of New York, 1902.
- SAMUEL J. MAGARGE, Tutor in Mathematics.
A.B., St. Joseph's College, Philadelphia, 1896; B.S., University of Pennsylvania
1900.
- WALDO BROMLEY TRUESDELL, Tutor in Physics.
A.B., Harvard, 1897; A.M., Columbia, 1912.
- LEONARD L. PALMER, Tutor in Hygiene.
Dipl. in Physical Education, Teachers College, Columbia, 1910.
- JOSEPH FRANCIS WICKHAM, Tutor in English.
A.B., Holy Cross, 1904; A.M., Columbia, 1908.
- JOSEPH EDWARD FITZPATRICK, Tutor in English.
A.B., Fordham, 1906.
- EDMUND C. COOK, Tutor in Mathematics.
A.B., Dartmouth, 1892; Harvard, 1894; A.M., Dartmouth, 1900.
- WILLIAM BALLANTINE BOYD, Tutor in Hygiene.
B.S., College of the City of New York, 1897; M.D., Columbia, 1905.
- LOUIS WEINBERG, Tutor in Free-hand Drawing.
A.B., College of the City of New York, 1905.
- WILLIAM ALEXANDER WHYTE, Tutor in Mathematics.
B.S., New York University, 1911.
- JEAN DES GARENNES, Tutor in French.
A.M., Georgetown, 1906.

*On leave of absence, spring 1915.

- RALPH TILMONT, Tutor in French.
Candidat en philosophie et lettres, University of Brussels, 1889; Doctor Juris,
1893.
- HASWELL C. JEFFERY, Tutor in Physics.
- MICHAEL J. KELEHER, Tutor in English.
A.B., Georgetown, 1904; A.M., St. Francis Xavier, 1906.
- ALFREDO ELIAS, Tutor in Spanish.
Bachiller en Artes, Instituto de Barcelona, 1888; Licenciado en Derecho,
University of Barcelona, 1894.
- BERTRAM T. BUTLER, Tutor in Natural History.
Ph.B., Hamline, 1901; A.M., Columbia, 1908.
- ROBERT H. ALLES, Tutor in English.
B.S., College of the City of New York, 1906; A.M., Columbia, 1908.
- BENJAMIN G. FEINBERG, Tutor in Chemistry.
B.S., College of the City of New York, 1906; A.M., Columbia, 1910; Ph.D.,
1913.
- WALTER WILLIAMSON, Tutor in Hygiene.
A.B., New York University, 1906.
- CANUTE H. HANSEN, Tutor in Hygiene.
D.D.S., New York College of Denistry, 1915.
- JAMES I. CONWAY, Tutor in Mathematics.
A.B., Loyola College, 1896.
- WILLIAM H. HASKELL, Tutor in Free-Hand Drawing.
- KENNETH GROESBECK, Tutor in English.
A.B., College of the City of New York, 1905; A.M., Columbia, 1913.
- REINHARD A. WETZEL, Tutor in Physics.
B.S., University of Minnesota, 1901.
- ARTHUR J. KLEIN, Tutor in History.
B.A., Wabash, 1906; B.D., Union Theological Seminary, 1909; A.M., Colum-
bia, 1909.
- GUSTAV F. SCHULZ, Tutor in English.
B.S., College of the City of New York, 1907; A.M., Columbia, 1909.
- RADFORD J. McCORMICK, Tutor in Hygiene.
- EDWARD CHRISTOPHER BRENNER, Tutor in Hygiene.
A.B., College of the City of New York, 1904; M.D., Columbia, 1908.
- DAVID LE ROY WILLIAMS, Tutor in Chemistry.
B.S., Hobart, 1906.
- ROBERT THOMAS STOKES, Tutor in Chemistry.
B.S., Dartmouth, 1907.
- FREDERIC O. X. McLOUGHLIN, Tutor in Physics.
B.S., College of the City of New York, 1909; C.E., Columbia, 1913; A.M.,
1914.
- ARTHUR DICKSON, Tutor.
B.S., College of the City of New York, 1909; A.M., Columbia, 1911.

HARRY KURZ, A.B., College of the City of New York, 1909; A.M., Columbia, 1911.	Tutor in French.
PAUL H. REICHARDT, Dipl., International Y.M.C.A. College, Springfield, Mass., 1907.	Tutor in Hygiene.
WALTER SCOTT HEARD,	Tutor in Hygiene.
WARREN G. HUBERT, B.S., College of the City of New York, 1907; M.S., New York University, 1909.	Tutor in Mathematics.
JOHN T. LANG,	Tutor in Free-Hand Drawing.
JOHN JAMES DAILEY,	Tutor in Hygiene.
OTTO H. LEBER, A.B., Columbia, 1904; M.D., 1908.	Tutor in Natural History.
BERTON LATTIN, A.B., Cornell, 1907; M.D., 1910.	Tutor in Hygiene.
HERBERT STETSON WARREN, B.S., College of the City of New York, 1911.	Tutor in Natural History.
ARTHUR WILSON COURTNEY, A.B., College of the City of New York, 1910; A.M., Columbia, 1911.	Tutor in Public Speaking.
EDWARD J. STORK, B.S., Columbia, 1907.	Tutor in Free-Hand Drawing.
*GABRIEL GREEN, B.S., College of the City of New York, 1911; A.M., Columbia, 1912; Ph.D., 1913.	Tutor in Mathematics.
HENRY EUGENE HANSEN,	Tutor in Hygiene.
RAYMOND FORREST PURCELL,	Tutor in Hygiene.
DEVEREUX DUER ROBINSON, M.E., Stevens Institute, 1910.	Tutor in Mathematics.
STANLEY F. BROWN, A.B., Colby, 1910; A.M., 1914.	Tutor in Chemistry.
ALEXANDER MARCUS, B.S., College of the City of New York, 1910.	Tutor in Physics.
GILBERT GIDDINGS BENJAMIN, Ph.B., Syracuse, 1899; A.M., Yale, 1904; Ph.D., 1907.	Tutor in History.
†HENRY J. KLINE, A.B., Columbia.	Tutor in Physics.
GEORGE A. PFEIFFER, M.E., Stevens Institute, 1910; A.M., Columbia, 1911; Ph.D., 1914.	Tutor in Mathematics.

* On leave of absence.

† Until Jan. 1, 1915.

*J. S. SNODDY,	Tutor in English.
*RICHARD H. KEEP, A.B., College of the Academy of the New Church, 1893; D.B., 1895.	Tutor in History.
*EDWARD R. MALONEY, A.B., St. Joseph's College, Philadelphia, 1902.	Tutor in English.
*WILLIAM T. ROWLAND, M.A., Vanderbilt University, 1907.	Tutor in Latin.
WILLIAM M. THORNTON, B.A., Hampden-Sidney College, 1904; M.A., University of Virginia, 1907; M.A., Yale, 1912; Ph.D., 1914.	Tutor in Chemistry.
ROBERT DRESSLER,	Assistant Tutor in Physics.
FRANCIS PARKER JORALEMON,	Assistant Tutor in Chemistry.
JOSEPH X. HEALY, A.B., College of the City of New York, 1912.	Assistant Tutor.
PHILIP R. V. CUROE, B.S., College of the City of New York, 1913.	Assistant Tutor.
THOMAS A. SIMMONS,	Assistant Tutor in Hygiene.
MORTON GOTTSCHALL, A.B., College of the City of New York, 1913.	Assistant Tutor.
CARROLL M. ROBERTS, A.B., Oberlin, 1913.	Assistant Tutor in Hygiene.
FRANCIS R. DIEUAIDE, A.B., College of the City of New York, 1913.	Assistant Tutor in Natural History.
ELLIS A. JOHNSON, B.S., College of the City of New York, 1914.	Assistant Tutor in Mathematics.
SAMUEL O. JACOBSON, B.S., College of the City of New York, 1897; E.E. Columbia, 1904.	Assistant Tutor in Physics.
FREDERICK GEORGE MERCKEL,	Assistant Tutor in Physics in the Evening Session.

ROBERT V. DAVIS,	Curator.
ARVID D. ANDERSON,	Registrar.
HARRIET L. MCCARTIE,	Secretary to the President.
HENRY E. BLISS,	Acting Librarian.
THOMAS GEORGE SCHWARTZ, A.B., College of the City of New York, 1912.	Assistant in the Library.

* Until Feb. 1, 1915.

Arranged by Departments.

ART.

FREDERICK DIELMAN, B.A., N.A.,	<i>Professor.</i>
LEIGH HARRISON HUNT, M.S., M.D.,	<i>Associate Professor.</i>
CALVIN RAE SMITH,	<i>Associate Professor.</i>
MOSES STUART LEVUSOVE, B.S., LL.B.,	<i>Instructor.</i>
ENGELBERT NEUS, A.M.,	<i>Instructor.</i>
J. REDDING KELLY,	<i>Instructor.</i>
GEORGE C. AUTENRIETH, A.M.,	<i>Instructor.</i>
FREDERICK W. HUTCHISON,	<i>Instructor.</i>
JOSEPH CUMMINGS CHASE,	<i>Instructor.</i>
HENRY W. PECKWELL,	<i>Instructor.</i>
ABRAM G. SCHULMAN, A.B.,	<i>Instructor.</i>
R. BRUCE MACDOUGALL,	<i>Instructor.</i>
LOUIS WEINBERG, A.B.,	<i>Tutor.</i>
WILLIAM H. HASKELL,	<i>Tutor.</i>
JOHN T. LANG,	<i>Tutor.</i>
EDWARD J. STORK, B.S.,	<i>Tutor.</i>

CHEMISTRY.

CHARLES BASKERVILLE, Ph.D., F.C.S.,	<i>Professor.</i>
HERBERT R. MOODY, Ph.D.,	<i>Associate Professor.</i>
L. HENRY FRIEDBURG, Ph.D.,	<i>Associate Professor.</i>
RESTON STEVENSON, Ph.D.,	<i>Assistant Professor.</i>
WILLIAM L. PRAGER, Ph.D.,	<i>Instructor.</i>
ROBERT W. CURTIS, Ph.D.,	<i>Instructor.</i>
FREDERICK E. BREITHUT, Sc.D.,	<i>Instructor.</i>
LOUIS J. CURTMAN, Ph.D.,	<i>Instructor.</i>
WILLIAM L. ESTABROOKE, Ph.D.,	<i>Instructor.</i>
BENJAMIN G. FEINBERG, Ph.D.,	<i>Tutor.</i>
DAVID LE ROY WILLIAMS, B.S.,	<i>Tutor.</i>
ROBERT THOMAS STOKES, B.S.,	<i>Tutor.</i>
STANLEY F. BROWN, A.M.,	<i>Tutor.</i>
WILLIAM M. THORNTON, Ph.D.,	<i>Tutor.</i>
FRANCIS PARKER JORALEMON,	<i>Assistants Tutor.</i>

EDUCATION.

STEPHEN PIERCE DUGGAN, Ph.D.,	<i>Professor.</i>
PAUL KLAPPER, Ph.D.,	<i>Assistant Professor.</i>
SAMUEL B. HECKMAN, Ph.D.,	<i>Assistant Professor.</i>
EMILE SCHOEN,	<i>Special Instructor.</i>
JAMES ROBERT WHITE, Ph.D.,	<i>Instructor.</i>

ENGLISH.

LEWIS FREEMAN MOTT, Ph.D.,	<i>Professor.</i>
HARRY C. KROWL, Ph.D.,	<i>Associate Professor.</i>
CHARLES F. HORNE, Ph.D.,	<i>Assistant Professor.</i>
ALEXIS I. DU PONT COLEMAN, A.M.,	<i>Assistant Professor.</i>
EARLE FENTON PALMER, Ph.D.,	<i>Assistant Professor.</i>
ALFRED D. COMPTON, B.S.,	<i>Instructor.</i>
DONALD G. WHITESIDE, A.M.,	<i>Instructor.</i>
JOSEPH VINCENT CROWNE, Ph.D.,	<i>Instructor.</i>

THOMAS GAFFNEY, TAAFFE, Ph.D.,	<i>Instructor.</i>
WILLIAM BRADLEY OTIS, Ph.D.,	<i>Instructor.</i>
FELIX GRENDON, Ph.D.,	<i>Instructor.</i>
DAVID KLEIN, Ph.D.,	<i>Instructor.</i>
JARVIS KEILEY, A.M.,	<i>Instructor.</i>
BIRD WILLIAMS STAIR, M.S.,	<i>Instructor.</i>
JOSEPH L. TYNAN, A.M.,	<i>Instructor.</i>
LOUIS SIGMUND FRIEDLAND, Ph.D.,	<i>Instructor.</i>
WILLIAM F. X. GEOGHAN, A.M., LL.B.,	<i>Tutor.</i>
HOWARD C. GREEN, A.B.,	<i>Tutor.</i>
JOSEPH FRANCIS WICKHAM, A.M.,	<i>Tutor.</i>
JOSEPH EDWARD FITZPATRICK, A.B.,	<i>Tutor.</i>
MICHAEL J. KELEHER, A.M.,	<i>Tutor.</i>
ROBERT H. ALLES, A.M.,	<i>Tutor.</i>
KENNETH GROESBECK, A.B.,	<i>Tutor.</i>
GUSTAV F. SCHULZ, A.M.,	<i>Tutor.</i>
*J. S. SNODDY,	<i>Tutor.</i>
*EDWARD R. MALONEY, A.B.,	<i>Tutor.</i>

GERMAN.

ERNEST ILGEN, A.M.,	<i>Associate Professor.</i>
HENRY G. KOST, B.S.,	<i>Assistant Professor.</i>
CARL W. KINKELDEY, Ph.D.,	<i>Instructor.</i>
TITUS BERTHEAU VOELKEL, Ph.D.,	<i>Instructor.</i>
KURT E. RICHTER, Pd.D.,	<i>Instructor.</i>
JOHN SCHULER, Ph.D.,	<i>Instructor.</i>
FAUST CHARLES DE WALSH, Ph.D.,	<i>Instructor.</i>
JACOB WITTMER HARTMANN, Ph.D.,	<i>Instructor.</i>
GEORGE C. O. HAAS, Ph.D.,	<i>Instructor.</i>
JOSEPH SOHN, A.B.,	<i>Instructor.</i>
EMIL A. C. KEPPLER, A.M.,	<i>Instructor.</i>
RICHARD O. HEYNICH, Dipl. Lehrer-Seminar,	<i>Instructor.</i>

GREEK.

FITZ GERALD TISDALL, Ph.D.,	<i>Professor.</i>
CARLETON L. BROWNSON, Ph.D.,	<i>Associate Professor.</i>
CARROLL N. BROWN, Ph.D.,	<i>Assistant Professor.</i>
CHARLES JASTROW MENDELSON, Ph.D.,	<i>Instructor.</i>

HISTORY.

HENRY PHELPS JOHNSTON, A.M.,	<i>Professor.</i>
WILLIAM GEORGE MCGUCKIN, A.B., LL.B.,	<i>Associate Professor.</i>
HOLLAND THOMPSON, Ph.D.,	<i>Assistant Professor.</i>
LIVINGSTON ROWE SCHUYLER, S.T.B., Ph.D.,	<i>Assistant Professor.</i>
NELSON P. MEAD, Ph.D.,	<i>Assistant Professor.</i>
THOMAS R. MOORE, Ph.D.,	<i>Assistant Professor.</i>
LIVINGSTON BURRILL MORSE, B.S.,	<i>Assistant Professor.</i>
GUY EDWARD SNIDER, Ph.D.,	<i>Instructor.</i>
JACOB SALWYN SCHAPIRO, Ph.D.,	<i>Instructor.</i>
AUSTIN BAXTER KEEP, Ph.D.,	<i>Instructor.</i>
SAMUEL CARLETON HAIGHT, B.S.,	<i>Instructor.</i>
LEON H. CANFIELD, Ph.D.,	<i>Instructor.</i>

*Until Feb. 1, 1915.

HOMER ADOLPH STEBBINS, Ph.D., LL.B.,	<i>Instructor.</i>
ARTHUR J. KLEIN, B.D., A.M.,	<i>Tutor.</i>
GILBERT G. BENJAMIN, Ph.D.,	<i>Tutor.</i>
*RICHARD H. KEEP, A.B., D.B.,	<i>Tutor.</i>

HYGIENE.

THOMAS ANDREW STOREY, Ph.D., M.D.,	<i>Professor.</i>
LIONEL B. MCKENZIE,	<i>Special Instructor.</i>
FREDERIC A. WOLL, A.M.,	<i>Instructor.</i>
RICHARD J. O'NEIL,	<i>Instructor.</i>
LEONARD L. PALMER, Dipl. Phys. Ed.,	<i>Tutor.</i>
WILLIAM BALLANTINE BOYD, B.S., M.D.,	<i>Tutor.</i>
WALTER WILLIAMSON, A.B.,	<i>Tutor.</i>
CANUTE H. HANSEN, D.D.S.,	<i>Tutor.</i>
RADFORD J. MCCORMICK,	<i>Tutor.</i>
EDWARD CHRISTOPHER BRENNER, A.B., M.D.,	<i>Tutor.</i>
PAUL H. REICHARDT,	<i>Tutor.</i>
WALTER SCOTT HEARD,	<i>Tutor.</i>
JOHN JAMES DAILEY,	<i>Tutor.</i>
BERTON LATTIN, A.B., M.D.,	<i>Tutor.</i>
HENRY EUGENE HANSEN,	<i>Tutor.</i>
RAYMOND FORREST PURCELL,	<i>Tutor.</i>
THOMAS A. SIMMONS,	<i>Assistant Tutor.</i>
CARROLL M. ROBERTS, A.B.,	<i>Assistant Tutor.</i>

LATIN.

AUGUST RUPP, A.B.,	<i>Associate Professor.</i>
EDMUND BURKE, A.B.,	<i>Assistant Professor.</i>
ALLAN P. BALL, Ph.D.,	<i>Assistant Professor.</i>
MARIO EMILIO COSENZA, Ph.D.,	<i>Assistant Professor.</i>
HOMER C. NEWTON, Ph.D.,	<i>Assistant Professor.</i>
EMORY B. LEASE, Ph.D.,	<i>Instructor.</i>
STANLEY SIMONDS, Ph.D.,	<i>Instructor.</i>
BARCLAY W. BRADLEY, Ph.D.,	<i>Instructor.</i>
GEORGE V. EDWARDS, Ph.D.,	<i>Instructor.</i>
ALEXIS EUGENE SENFTNER, B.D., Ph.D.,	<i>Instructor.</i>
GEORGE PAYN QUACKENBOS, Ph.D.,	<i>Instructor.</i>
JOSEPH PEARL, Ph.D.,	<i>Instructor.</i>
EDGAR HALLIDAY, A.M.,	<i>Tutor.</i>
†WILLIAM T. ROWLAND, M.A.,	<i>Tutor.</i>

MATHEMATICS.

JOHN ROBERT SIM, A.B.,	<i>Professor.</i>
PAUL L. SAUREL, D.Sc.,	<i>Professor.</i>
FREDERICK G. REYNOLDS, LL.B., Sc.D.,	<i>Associate Professor.</i>
JOSEPH ALLEN, A.M.,	<i>Assistant Professor.</i>
HENRY S. CARR, A.M.,	<i>Assistant Professor.</i>
SAMUEL HANAWAY, B.S.,	<i>Assistant Professor.</i>
FREDERICK MALLING PEDERSEN, E.E., Sc.D.,	<i>Assistant Professor.</i>
ARTHUR B. TURNER, Ph.D.,	<i>Assistant Professor.</i>

* Until Feb. 1, 1915.

† Until Feb. 1, 1915.

MAXIMILIAN PHILIP, Sc.D.,	<i>Assistant Professor.</i>
EDWARD E. WHITFORD, Ph.D.,	<i>Assistant Professor.</i>
ROBERT F. SMITH, M.S.,	<i>Instructor.</i>
LYNN MATEER SAXTON, Pd.D.,	<i>Instructor.</i>
PAUL H. LINEHAN, A.B.,	<i>Instructor.</i>
GEORGE MONROE BRETT, A.B.,	<i>Instructor.</i>
GEORGE M. HAYES, A.M.,	<i>Instructor.</i>
CAMILLE A. TOUSSAINT, A.M.,	<i>Instructor.</i>
JOHN ALFRED BREWSTER, A.B.,	<i>Instructor.</i>
SAMUEL A. SCHWARZ, A.M., C.E.,	<i>Instructor.</i>
*H. WHEELER POWELL, B.S.,	<i>Tutor.</i>
SAMUEL J. MAGARGE, B.S.,	<i>Tutor.</i>
EDMUND C. COOK, A.M.,	<i>Tutor.</i>
WILLIAM ALEXANDER WHYTE, B.S.,	<i>Tutor.</i>
JAMES I. CONWAY, A.B.,	<i>Tutor.</i>
WARREN G. HUBERT, M.S.,	<i>Tutor.</i>
*GABRIEL GREEN, Ph.D.,	<i>Tutor.</i>
DEVEREUX D. ROBINSON, M.E.,	<i>Tutor.</i>
GEORGE A. PFEIFFER, Ph.D.,	<i>Tutor.</i>
ELLIS A. JOHNSON, B.S.,	<i>Assistant Tutor.</i>

MUSIC.

SAMUEL A. BALDWIN, F.A.G.O.,	<i>Associate Professor.</i>
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NATURAL HISTORY.

IVIN SICKELS, M.S., M.D.,	<i>Professor.</i>
GEORGE G. SCOTT, Ph.D.,	<i>Assistant Professor.</i>
ABRAHAM J. GOLDFARB, Ph.D.,	<i>Assistant Professor.</i>
DAYTON JAMES EDWARDS, Ph.D.,	<i>Instructor.</i>
WILLIAM WARD BROWNE, Ph.D.,	<i>Instructor.</i>
BERTRAM T. BUTLER, A.M.,	<i>Tutor.</i>
OTTO H. LEBER, A.B., M.D.,	<i>Tutor.</i>
HERBERT STETSON WARREN, B.S.,	<i>Tutor.</i>
FRANCIS R. DIEUAIDE, A.B.,	<i>Assistant Tutor.</i>

PHILOSOPHY.

HARRY ALLEN OVERSTREET, B.Sc. (OXON.),	<i>Professor.</i>
MORRIS RAPHAEL COHEN, Ph.D.,	<i>Assistant Professor.</i>
JOHN PICKETT TURNER, Ph.D.,	<i>Assistant Professor.</i>
HOWARD D. MARSH, Ph.D.,	<i>Instructor.</i>

PHYSICS.

WILLIAM FOX, B.S., M.E.,	<i>Professor.</i>
C. HOWARD PARMLY, M.S., E.E.,	<i>Associate Professor.</i>
ARTHUR BRUCKNER, B.S., M.E.,	<i>Assistant Professor.</i>
JOSEPH G. COFFIN, Ph.D.,	<i>Assistant Professor.</i>
JAMES H. DE GROOT,	<i>Instructor.</i>
HERBERT MILES HOLTON, B.S.,	<i>Instructor.</i>
ALFRED N. GOLDSMITH, Ph.D.,	<i>Instructor.</i>
CHARLES A. CORCORAN, A.M.,	<i>Instructor.</i>

* On leave of absence.

WALDO BROMLEY TRUESDELL, A.M.,	<i>Tutor.</i>
HASWELL C. JEFFERY,	<i>Tutor.</i>
REINHARD A. WETZEL, B.S.,	<i>Tutor.</i>
FREDERIC O. X. MCLOUGHLIN, A.M., C.E.,	<i>Tutor.</i>
ALEXANDER MARCUS, B.S.,	<i>Tutor.</i>
*HENRY J. KLINE, A.B.,	<i>Tutor.</i>
ROBERT DRESSLER,	<i>Assistant Tutor.</i>
SAMUEL O. JACOBSON,	<i>Assistant Tutor.</i>

POLITICAL SCIENCE.

WALTER ERNEST CLARK, Ph.D.,	<i>Professor.</i>
WILLIAM B. GUTHRIE, Ph.D.,	<i>Associate Professor.</i>
HOWARD WOOLSTON, Ph.D.,	<i>Assistant Professor.</i>
NORRIS A. BRISCO, Ph.D.,	<i>Instructor.</i>
†GUY EDWARD SNIDER, Ph.D.,	<i>Instructor.</i>
†GEORGE MONROE BRETT, A.B.,	<i>Instructor.</i>

PUBLIC SPEAKING.

ERASTUS PALMER, A.M.,	<i>Associate Professor.</i>
FREDERICK B. ROBINSON, Ph.D.,	<i>Assistant Professor.</i>
ROBERT H. HATCH,	<i>Instructor.</i>
DANIEL W. REDMOND, Ph.D.,	<i>Instructor.</i>
JOSEPH A. MOSHER, Ph.D.,	<i>Instructor.</i>
ARTHUR WILSON COURTNEY, A.M.,	<i>Tutor.</i>

ROMANCE LANGUAGES.

CHARLES A. DOWNER, Ph.D.,	<i>Professor.</i>
VICTOR EMMANUEL FRANÇOIS, Ph.D.,	<i>Associate Professor.</i>
VENTURA FUENTES, A.B., M.D.,	<i>Assistant Professor.</i>
LOUIS DELAMARRE, Ph.D.,	<i>Assistant Professor.</i>
GASTON A. LAFFARGUE, B-és-L.,	<i>Assistant Professor.</i>
FELIX WEILL, L-és-L.,	<i>Assistant Professor.</i>
HUGH S. LOWTHER, Ph.D.,	<i>Instructor.</i>
JUSTIN HARTLEY MOORE, Ph.D., J.D.,	<i>Instructor.</i>
WILLIAM WALLACE WHITELOCK, Ph.D.,	<i>Instructor.</i>
FRANCESCO ETTARI, Prof. di Lett. Ital.,	<i>Instructor.</i>
PIERRE J. MARIQUE, Pd.D., Ph.D.,	<i>Instructor.</i>
WILLIAM E. KNICKERBOCKER, Ph.D.,	<i>Instructor.</i>
FRANCIS L. ROUGIER, Ph.D.,	<i>Instructor.</i>
ALFRED G. PANARONI, B.S.,	<i>Instructor.</i>
AMERICO ULYSSES N. CAMERA, Ph.D.,	<i>Instructor.</i>
ALFONSO ARBIB-COSTA,	<i>Instructor.</i>
ROBERT J. DAMEN,	<i>Instructor.</i>
EDMOND ERNEST ADRIEN LE MAIRE, B-és-L.,	<i>Instructor.</i>
MAXIME L. BERGERON, A.M.,	<i>Instructor.</i>
JEAN DES GARENNES, A.M.,	<i>Tutor.</i>
RALPH TILMONT, J.D.,	<i>Tutor.</i>
ALFREDO ELIAS, A.B.,	<i>Tutor.</i>
HARRY KURZ, A.M.,	<i>Tutor.</i>

* Until Jan. 1, 1915.

† After Sept. 1, 1915.

STANDING COMMITTEES.

- ON COURSE AND STANDING: Professors Mott, Downer, Overstreet, Dean Brownson, Professor Reynolds.
- EXECUTIVE COUNCIL: Professors Sickels, Baskerville, Sim, Storey, Duggan, Parmly, Brownson, Moody, Thompson, and Mr. Davis.
- ON ADMISSION: Professors Saurel, Allen, and Fuentes; Professor Cosenza, Secretary.
- ON ATHLETICS: Professors Storey, Clark, Rupp, Palmer, and Moody.
- ON ATHLETICS OF TOWNSEND HARRIS HALL: Professor Newton, Mr. Linehan, Dr. Quackenbos, Mr. Whyte, Mr. Stair, Mr. Panaroni and Mr. Hayes.
- ON COURSE AND STANDING IN THE EVENING SESSION: Professors Duggan, Reynolds, Krowl, Schuyler, and Coffin.
- ON EMPLOYMENT: Professors Ilgen, McGuckin, and Ball.
- ON GREAT HALL LECTURES: Professors Duggan, Overstreet, and Fox.
- ON HIGH SCHOOLS: Professors Duggan, Overstreet, Hunt, Guthrie, Schuyler, Horne, Mead, Coffin, Coleman, Robinson, E. F. Palmer, Cosenza, Goldfarb; Dr. Taaffe, Mr. Holton, Dr. Estabrooke.
- ON HYGIENE AND SANITATION: Professors Storey, Guthrie, Thompson, Hanaway, Fuentes, Coffin and Dr. Breithut.
- ON THE LIBRARY: The President, and Professors Mott, Sickels, and Saurel.
- ON THE REGISTER: Professors Parmly, Pedersen, and Ball.
- ON STUDENT ACTIVITIES: Professors Storey, François, Krowl, Carr and Scott.
- ON UNIVERSITIES AND PROFESSIONAL SCHOOLS: Professors Baskerville, Sickels, Clark, Duggan, and Fox.
- MARSHALS: Professors Erastus Palmer, Moody, Reynolds, Fuentes, and Moore.
- ADVISERS OF THE FRESHMAN CLASS: Professors Burke, Fuentes, Pedersen, Ball, Woolston, Brown, E. F. Palmer, T. R. Moore, and Dr. Redmond and Dr. Estabrooke.

The College of the City of New York

History. The College of the City of New York, originally called the Free Academy, was established in 1848 by the Board of Education of the City of New York, in pursuance of an Act of the Legislature of the State passed May 7, 1847, and ratified by a vote of the people of the city, June 9, 1847. The first class entered in January, 1849, and completed its course in July, 1853. In the year 1854 the Legislature passed a law endowing the institution with collegiate powers and privileges, so far as pertained to conferring upon its graduates the usual collegiate degrees and diplomas in the Arts and Sciences. In the year 1866, on the recommendation of the Board of Education, the Legislature of the State changed the name to that of "*The College of the City of New York*," and conferred on the institution the powers and privileges of a college, pursuant to the Revised Statutes of the State, rendering it subject to the provisions of the said statutes relative to colleges and to visitation of the Regents of the University, in like manner with other colleges of the State, and making the members of the Board of Education, *ex officio*, the Trustees of the College. In the year 1882 the Legislature repealed so much of the statutes relating to the College as had made attendance at the public schools of the city a requisite for admission, thus opening the College to all young men of the city of proper age and sufficient preparation.

In May, 1900, the Legislature created a separate Board of Trustees, composed of nine members, to be appointed by the Mayor, charged with the sole care and control of the College. Of this Board, the President of the Board of Education of the City of New York is *ex officio*, an additional member. The appointive members serve for nine years each.

Buildings. In September, 1907, the College removed from the buildings which from its foundation it had occupied at the corner of Twenty-third Street and Lexington Avenue, to the new buildings which the City erected for it on Washington Heights, between One Hundred and Thirty-eighth and One Hundred and Fortieth Streets, Amsterdam Avenue and St. Nicholas Terrace. These buildings stand upon an ele-

vation a short distance from the Hudson River, and rise immediately above St. Nicholas Park, which lies about them to the north and east and south, and affords a permanently unobstructed view over a large part of the city. Their location insures not only an attractive environment and space for recreation, but also freedom from most of the noises of the city streets. Some of the advantages of a rural campus are thus within reach of the homes of every borough of the City of New York.

The new group includes the following buildings:

1. The Main Building, containing rooms for most of the departments of study, besides the Great Hall, the Library and the Executive Offices.
2. The Chemistry Building.
3. Compton Hall (The Mechanic Arts Building).
4. Townsend Harris Hall, occupied by the Academic Department.
5. The Gymnasium.

All these buildings are in the English Gothic style, and are constructed of the native grey stone with white terra cotta ornament. Built around a central plaza they form one of the city's most attractive architectural groups. The equipment is exceptionally complete.

6. The Stadium.

The College of the City of New York has been deemed worthy to receive the gift of the first stadium built for the public in this city, an edifice erected through the munificent generosity of Mr. Adolph Lewisohn. It occupies the plot of ground bounded by One Hundred and Thirty-sixth and One Hundred and Thirty-eighth Streets and Amsterdam and Convent Avenues. The contour and slope of the field, a natural amphitheatre, suggested to President John H. Finley the utilization of these features for a stadium. The present structure, of which Mr. Arnold W. Brunner is the architect, is built of reinforced concrete; it is semi-elliptical in form, with lines resembling those of the Coliseum in Rome. There are twenty tiers of seats surrounded by a great colonnade of sixty-four Doric columns sixteen feet high: this colonnade terminates in two pavilions. The seating capacity is about six thousand, and there is standing room for fifteen hundred more. The entrances, which are especially spacious in order to allow for the handling of large crowds, have columns and pylons of classic design, which harmonize with the rest of the edifice. The outside dimensions are four hundred and sixty by one hundred and ninety-five feet. The athletic field within will contain a baseball diamond, a football field, a fifth of a mile running track, a four hundred foot straightaway course, and provision for other sports.

The College of the City of New York is a free college maintained by the city for those of her sons who have the ambition and ability to go beyond the high school curriculum and to prepare themselves for service in the higher grades of intellectual and professional life. It conducts the following activities:

College of Arts and Science, Day Session.

College of Arts and Science, Evening Session.

College Extension Courses for Teachers.

College Preparatory High School.

The College offers two general courses of study, one leading to the degree of Bachelor of Arts (A.B.), the other leading to the degree of Bachelor of Science (B.S.). These general courses are designed to give a thorough college training on broad and liberal lines; to give the student in the upper classes an opportunity to follow a well-defined group of subjects leading toward a definitely chosen life work; to qualify him for entering with advanced standing a professional or technical school upon graduation from the College; and to furnish him with a thorough training in those technological branches for which the science departments are well equipped.

The College has no graduate department, although many college graduates, as special students, avail themselves of its facilities for higher work. It has never lost sight, however, of the two aims which were clearly set forth in the report of the first Executive Committee for the government of the Academy. This Committee meant to establish an institution which, on the one hand, "in the character, kind and value of the education imparted, should be inferior to none of our colleges," and on the other hand, "should be so organized that the course of studies to be pursued would tend to educate the pupils practically." These two ideas have recently borne fruit in a revision of the curriculum of the college which, while it prescribes the disciplines of the first two years as a basis for sound general culture, makes it possible for the student to do very serious work in a few subjects in the upper years and to go, if he desires, in the direction of his life work.

For the student who contemplates professional study in schools of medicine, law, theology or applied sciences and arts, the College furnishes the general training required by the best professional schools as prerequisites and also allows opportunity for specialization which may be used materially to shorten the period of professional work. Graduates of the College are admitted to all higher institutions requiring the A.B. or B.S. degree for entrance; and at the principal schools of applied science and en-

gineering, graduates of the College who have chosen their electives wisely, have no difficulty in completing their professional course in two years instead of four.

Evening Session. In 1909, the Board of Trustees of the College established the Evening Session. The purpose was to make it possible for young men, meeting the regular entrance requirements, who were employed during the day, to pursue the courses of the College, leading to its degrees, at night.

There is a Director in charge of the administration. The professors and instructors are drawn from the regular college staff; the rules for admission, courses, credits and discipline are the same as those of the Day Session. Since the hours available for work in the evening are fewer than in the day, evening students are not allowed to carry schedules as large as those taken by day students. Consequently it takes longer to secure a degree by night than by day.

The Evening Session has its own Student Council which acts in the same manner as the Day Session Council.

Under the heading DEPARTMENTS, the subjects which are starred are available to students of the Evening Session.

Extension Courses. These were organized in September, 1908, to assist the teachers of the city to extend their culture and to secure the additional knowledge and skill necessary to obtain higher licenses. The courses which were offered in 1914-1915 are described under the heading EXTENSION COURSES FOR TEACHERS. Similar courses will be given in 1915-1916.

College Preparatory. A college preparatory course is maintained by the City for those New York City boys graduating from the Elementary Schools. This preparatory school is under the direction of The College of the City of New York and is conducted in Townsend Harris Hall, one of the buildings on the College campus. The sum of the work required for the completion of the preparatory course, and so for admission to the College, is $14\frac{1}{2}$ units. Emphasis is placed on the quality of the work and the capacity of the student. The schedule of recitations is purposely arranged to permit the student to benefit by his proficiency and in consequence thereof he may complete the course in three years. The subjects included in the curriculum are described under the heading ACADEMIC DEPARTMENT.

ADMISSION REQUIREMENTS.

For admission to the Freshman Class a candidate must offer a total of $14\frac{1}{2}$ units.

A **unit** shall be acquired by satisfactory completion of the assigned work in any subject in the Academic Department of the College or at a Preparatory School, requiring both preparation for and attendance at recitations for at least four or five periods each week for one school year, or by doing at such school equivalent work in any subject not requiring preparation.

Required Subjects.

Every candidate must offer:*

ENGLISH.....	$\left\{ \begin{array}{l} a \text{ Reading and Practice} \\ b \text{ Study and Practice} \end{array} \right\}$3 Units
HISTORY.....	$\left\{ \begin{array}{l} a \text{ Ancient} \\ b \text{ Medieval and Modern} \\ c \text{ English} \\ d \text{ American and Civics} \end{array} \right\}$1 Unit
Any two		
LANGUAGES....	$\left\{ \begin{array}{l} \text{French} \\ \text{German} \\ \text{Greek} \\ \text{Latin} \\ \text{Spanish} \end{array} \right\}$	Three years of any one.....3 Units and Two years of any other.....2 Units
MATHEMATICS..	$\left\{ \begin{array}{l} a1 \text{ Algebra to Quadratics} \\ c \text{ Plane Geometry} \end{array} \right\}$2 Units

Elective Subjects.

The **remainder** of the $14\frac{1}{2}$ units required for entrance may be chosen from the following list of Electives:

ADDITIONAL LANGUAGE, one or two years.....		1 or 2 Units
MATHEMATICS	$\left\{ \begin{array}{l} a2 \text{ Intermediate Algebra.....} \\ b \text{ Advanced Algebra.....} \\ d \text{ Solid Geometry.....} \\ e \text{ Trigonometry.....} \end{array} \right\}$	$\frac{1}{2}$ Unit $\frac{1}{2}$ Unit $\frac{1}{2}$ Unit $\frac{1}{2}$ Unit

*The letters in italics preceding the titles of the courses refer to the definitions of the College Entrance Examination Board.

HISTORY, one or two courses.....	$\frac{1}{2}$ or 1 Unit
DRAWING (according to the number of hours).....	$\frac{1}{2}$ or 1 Unit
SHOPWORK (according to the number of hours).....	$\frac{1}{2}$ or 1 Unit
ELEMENTARY PHYSICS.....	1 Unit
ELEMENTARY CHEMISTRY.....	1 Unit
ELEMENTARY BIOLOGY.....	1 Unit
ADVANCED BOTANY.....	1 Unit
ADVANCED ZOOLOGY.....	1 Unit
HYGIENE.....	$\frac{1}{2}$ Unit

Additional Explanation of the Admission Requirements.

The candidate for admission should thoroughly understand the following explanations:

ENGLISH.

The three (3) unit requirement in English represents four (4) years of work in that subject completed in a recognized preparatory school.

HISTORY.

To meet the requirement in History it is sufficient to offer half-unit courses in any two of the four subjects specified. Additional credit is allowed, not to exceed one unit, if the candidate offers unit courses, or courses in more than two of the four subjects.

LANGUAGES.

In the Language requirement three years of any one of the specified languages and two years of any other are necessary for admission; but to conform to the curriculum in arts three years of Latin should be presented, and in Science at least one modern language.

Additional Language Preparation. If the candidate for admission has more than a total of five (5) years of languages, he may offer such work under the first of the **Elective Subjects** described above as **ADDITIONAL LANGUAGE**. This additional language preparation is limited to a maximum of two (2) years, thus bringing the number of years of language work for which a candidate may receive credit for entrance to a grand total of seven (7). Furthermore, this additional year, or these additional two years, may have been spent upon the language or the languages already presented, or upon a third language, or upon a third and a fourth language, such as Italian. Finally it must be noted that the candidate will receive College credit for any additional language which he may present, after he

has met the minimum requirement for entrance of three years in a first language and of two years in a second language, provided said additional language be of a grade equivalent to that of the work done in the classes of the College. It is understood, however, that any given course offered by the candidate cannot receive double credit—that is to say, it cannot be given College credit and be counted towards graduation from the College if it has already been counted as credit for entrance among the $14\frac{1}{2}$ units required for admission to the Freshman class.

MATHEMATICS AND PHYSICS.

Solid Geometry, Trigonometry, Advanced Algebra and Physics are required for the degree of B.S. (see below). *It is advised, therefore, that prospective candidates for the Science Course elect Solid Geometry, Trigonometry, Advanced Algebra and Physics while at the preparatory school.*

Credentials that may be presented for entrance.

The units for entrance may be acquired in any of the following ways:

1. By presenting certificates from the New York City High Schools or from other accepted High Schools.
2. By presenting a College Entrance Diploma issued by the New York State Education Department.
3. By presenting certificates of the College Entrance Examination Board.

Note. Certificates such as are described in 1, 2 and 3 are accepted only in so far as they cover specifically and by name subjects or lettered parts of those subjects which are accepted for admission to the Freshman class as given above in the list of Admission Requirements.

Candidates must place all credentials in the hands of the Committee on Admission in due time for consideration thereon by the Committee.

4. By passing the entrance examinations of The College of the City of New York, or the graduating examinations of the Academic Department of the College.

Note. Entrance Examinations are held at the College in January, in June and in September. Application for permission to take Entrance Examinations should be made at least two weeks before the beginning thereof. The dates may be ascertained by addressing the Committee on Admission.

A candidate may take examinations in some subjects at one time, in other subjects at other times; but he may not present himself for said entrance examinations more than four (4) successive times, except by special consent of the Committee on Admission. The results of these entrance examinations may stand to the credit of the candidate for the period of one and one-half ($1\frac{1}{2}$) years, but no longer.

Conditions.

A candidate may, in the discretion of the Committee on Admission, be admitted to the Freshman class carrying conditions equal to two (2) units, but these conditions must be removed before the student can be registered as a member of the Sophomore class.

A candidate admitted to the Freshman class and lacking the preparation in Languages, Mathematics or Physics, which is necessary for the course that he wishes to pursue, will be obliged to take such work as a part of his course, and he will receive College credit for it. It is clearly understood, however, that work done to remove an entrance condition shall not receive College credit.

Credit will be given for advanced standing in any subject, except that all credits of the Senior year must be acquired by work at the College.

Special Students.

The Board of Trustees of The College of the City of New York authorizes, from term to term, the enrollment of Special Students. Men who are not regularly enrolled in the College may, in accordance with said resolutions, be admitted to any particular course or courses which they may choose. The following restrictions, however, should be clearly understood:

1. The privileges of special students are extended only to male students, twenty-one years or over, who are actual residents of the City of New York. In all cases the Committee on Admission reserves the right of requesting official confirmation of the candidate's age.
2. All candidates who desire to enroll as special students must meet in full the regular requirements for admission to the Freshman class of the College. (For the Admission Requirements see above.)
3. All candidates must give satisfactory evidence to the Head of the Department to whose course or courses they seek admission, that they are fully equipped to pursue the work of the course or courses chosen.
4. The number of hours for which special students may enroll shall be not less than five (5) hours a week.

COURSES OF STUDY.

DAY AND EVENING SESSIONS.

The College offers two general courses of study, one leading to the Degree of Bachelor of Arts (A.B.), the other leading to the Degree of Bachelor of Science (B.S.).

These general courses are designed to give a thorough college training on broad and liberal lines; to give the student in the upper classes an opportunity to follow a well-defined group of subjects leading toward a definitely chosen life work; to qualify him for entering with advanced standing a professional or technical school upon graduation from the College, and to furnish him with a thorough training in those technological branches for which the science departments are well equipped.

To attain these results, the four (4) year course has been divided into two nearly equal parts—an earlier portion consisting mainly of Prescribed Work, and a later portion consisting mainly of Elective Work.

The total number of credits required for graduation is 128. A little more than one-half of these credits is Prescribed Work, and a little less than one-half is Elective Work.

It is expected that the candidate for a degree should complete all of the prescribed work before taking up elective courses, except four credits in Public Speaking which it is contemplated will be taken in the last two years.

PRESCRIBED WORK.

For Candidates for the Degree of

BACHELOR OF ARTS.

	No. of Terms.	Total Credits.
FIRST LANGUAGE (LATIN).....	4	14
SECOND LANGUAGE (GREEK, FRENCH OR GER- MAN).....	4	13
THIRD LANGUAGE OR COMPARATIVE LITERATURE AND ART.....	2	6

	No. of Terms.	Total Credits.
ENGLISH.....	2	6
CHEMISTRY.....	2	6
HISTORY.....	2	7
*MATHEMATICS—		
TRIGONOMETRY.....	1	3
ADVANCED ALGEBRA.....	1	3
SOLID GEOMETRY.....	1	3
NATURAL HISTORY.....	1	4
PHILOSOPHY.....	1	3
HYGIENE.....	4	2
*PHYSICS.....	2	6
POLITICAL SCIENCE.....	1	3
PUBLIC SPEAKING.....	8	8

*If not presented for admission.

Additional Explanation of the Prescribed Work.

FIRST LANGUAGE (LATIN).

Candidates for the degree of A.B. must take Latin. The total of prescribed work in Latin is therefore five years—three (3) years completed at the preparatory school, plus two (2) years completed at College.

SECOND LANGUAGE (GREEK, FRENCH OR GERMAN).

The total of prescribed work in a *Second Language* is four years—two (2) years completed at the preparatory school, plus two (2) years completed at College.

It should be clearly understood that the language grouping for the degree of A.B. may vary as follows: Latin and Greek, Latin and French, Latin and German.

ENGLISH. (*Extract from the by-laws of the Board of Trustees.*)

“In the Department of English Language and Literature one-half credit shall be reserved until graduation.

“The Head of any Department of the College who finds a student deficient in written English is required to report that fact to the Head of the Department of English Language and Literature and the student so reported shall be required to write essays of such number and quality as shall satisfy the Head of said Department and the Head of the Department who shall have reported the deficiency, that the same has been removed.”

MATHEMATICS AND PHYSICS.

The courses in Trigonometry, Advanced Algebra, Solid Geometry and Physics will not be prescribed for the candidates who have already presented said courses for entrance.

The Table of Prescribed Work as outlined above therefore applies to those students who present at entrance only the *minimum* entrance requirement in the various subjects. Students who present more than the minimum entrance requirements will receive College credits, in consequence of which they will diminish the number of credits necessary for graduation.

PRESCRIBED WORK.

For Candidates for the Degree of BACHELOR OF SCIENCE.

	No. of Terms	Total Credits
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ERRATA.

Page 32 - Solid Geometry is not a Prescribed
subject in the Arts Course.

SOLID GEOMETRY.....	1	3
ANALYTICAL GEOMETRY.....	1	4
CALCULUS.....	3	9
NATURAL HISTORY.....	1	4
PHILOSOPHY.....	1	3
HYGIENE.....	4	2
PHYSICS.....	2	6
POLITICAL SCIENCE.....	1	3
PUBLIC SPEAKING.....	8	8

*If not presented for admission.

Additional Explanation of the Prescribed Work.

A MODERN LANGUAGE.

Candidates for the degree of B.S. must present at least one modern language; either French, German or Spanish. If, upon entrance, a student offers three (3) years of Latin and two (2) of French, this requirement means that he will be required to

take a third year of French, making the language requirement necessary for the B.S. degree a total of six (6) years. Again if, upon entrance, a student offers three (3) years of French and two (2) of German or Spanish he may elect to make the additional year of required modern language either fourth year French or third year German or Spanish in either way bringing up his total of language requirement to six (6) years. Other combinations are possible, of course, but this will suffice to make clear the meaning of this requirement.

ENGLISH.

See note on English, under the Prescribed Work for the degree of A.B.

MATHEMATICS.

This requirement is meant for those candidates who have not already offered at entrance Trigonometry, Advanced Algebra or Solid Geometry. Candidates who have offered said subjects at entrance have correspondingly less to do in College.

PHYSICS.

This requirement represents a year of College Physics, based upon a year of High School preparation.

The Table of Prescribed Work as outlined above, therefore, applies to those students who present at entrance only the *minimum* entrance requirement in the various subjects. Students who present more than the minimum entrance requirements will receive College credits, in consequence of which they will diminish the number of credits necessary for graduation.

ELECTIVE WORK.

The Curriculum for the Junior and the Senior Years.

The remaining credits required for a degree are elective under restrictions which oblige a certain concentration, but which permit beyond that wide distribution or further specialization, as the student may, upon advice, choose. At the end of the Sophomore year, therefore, the student is asked to decide in which of the *Divisions* named below he desires to pursue his major work.

I. Language and Literature.

ENGLISH.
 GERMAN.
 GREEK.
 LATIN.
 ROMANCE LANGUAGES.

II. Social Science.

HISTORY.
 PHILOSOPHY.
 POLITICAL SCIENCE.

III. Natural Science.

CHEMISTRY.
 MATHEMATICS.
 NATURAL HISTORY.
 PHYSICS.

In the Division so elected he will be required to take at least *one-half* of his elective credits, and at least twelve (12) credits of this number in one Department of the Division so elected.

The other half of the elective credits may be acquired in any Department or Departments of the College, including with those named in the above Divisions, the Departments of ART, EDUCATION, MUSIC, HYGIENE, and PUBLIC SPEAKING.

Students are recommended to consult with the Chairmen of the Divisions and with the Heads of Departments when about to make their elections. It cannot be too strongly emphasized that when, at the end of the Sophomore year, the student begins to make his elections, he should plan, not merely for the Lower Junior term, but also for all the terms before him until graduation. The student who, as the result of his High School and College preparation in Prescribed Work, comes to the choice of his Elective Work with a full consciousness of his capacities and limitations, should be able to decide as to the general direction of his future study. Some of the elective groups which may be formed, having for their purpose the achievement of some definite end, are presented in order to show the possibilities of the elective freedom. A judicious choice of elective courses, covering the period of the last two years, may be made to assist the student in preparing himself for a specific life work, as, for example, City, State, or Federal service, commercial and industrial positions of responsibility, and teaching. It may also be directed to the shortening of the period of residence in professional and post-graduate schools—whether the graduate desires to proceed with special work in biology, chemistry, engineering, languages, law, history, medicine, philosophy or political science. This enumeration is not meant to be exhaustive. Such pursuits have been selected merely as suggestions to the student of the many possibilities presented to him by the course of study at The College of the City of New York.

ILLUSTRATIVE ELECTIVE GROUPS.

DIVISION I. LANGUAGE AND LITERATURE.

Chairman, PROFESSOR DOWNER.

Secretary, PROFESSOR BURKE.

The possibilities of grouping in this Division are many, as all the Departments of Language and Literature are included within it. Every student who contemplates teaching a language or literature will elect a major here, as will those students who are looking forward to life work in journalism, the ministry, the law or letters. And those who elect majors in the other Divisions are strongly urged to take at least one course each semester within the scope of this Division.

DIVISION II. HISTORY, PHILOSOPHY, AND POLITICAL SCIENCE.

Chairman, PROFESSOR JOHNSTON.
Secretary, PROFESSOR MEAD.

The electives offered by the Departments within this Division afford an opportunity for the student to extend his knowledge of those subjects which deal primarily with social man—his achievements, his thoughts, his organizations. The study of these subjects leads to a greater comprehension and to a fuller appreciation of the complex phenomena of organized society. Those students who contemplate studying Law or Journalism, entering Business, or devoting themselves to Public or to Social Service, will find among the subjects offered many which will assist them in preparing for their chosen work. For such students the following groups of courses from this Division are suggested.

For those preparing for LAW.

HISTORY.	POLITICAL SCIENCE.
5. Eng. Constitutional. 3	5. Immigra. & Tariff. . . } 3
7. Am. Const. & Polit.. 3	or
8. Civil War & Recon. 3	6. Trusts & Labor }
PHILOSOPHY.	26. Constitutional Law . . . 3
2. Logic & Sci. Method 3	27. International Law . . . 3
5. Philosophy of Law.. 3	54. Criminology 3
6. Social & Polit. Phil.. 3	ADDITIONAL ELECTIVES 23
21. General Psychology. 3	

For those preparing for JOURNALISM.

HISTORY.	POLITICAL SCIENCE.
6. Am. Colonial & Rev. 3	4. Money & Banking . . . 3
7. Am. Const. & Polit. 3	5. Immigra. & Tariff . . . 3
8. Civil War & Recon.. 3	6. Trusts & Labor 3
9. Contemporary Euro. 3	26. Constitutional Law . . . 3
PHILOSOPHY.	51. Elem. of Sociology . . . 3
2. Logic & Sci. Method 3	55. Municipal Affairs . . . 3
21. General Psychology. 3	ADDITIONAL ELECTIVES 20

For those preparing for BUSINESS.

HISTORY.	POLITICAL SCIENCE.
7. Am. Const. & Polit.. 3	4. Money & Banking . . . 3
9. Contemporary Euro. 3	5. Immigra. & Tariff . . . 3
PHILOSOPHY.	6. Trusts & Labor 3
2. Logic & Sci. Method 3	8. Economics of Business 3
5. Philosophy of Law.. 3	9. Business Efficiency . . . 3
21. General Psychology. 3	57. Statistics 3
24. Vocational Psych... 3	ADDITIONAL ELECTIVES 20

For those preparing for PUBLIC SERVICE.

HISTORY.		POLITICAL SCIENCE.	
7. Am. Const. & Polit.	3	5. Immigra. & Tariff . .	} 3
8. Civil War & Recon..	3	or	
PHILOSOPHY.		6. Trusts & Labor	} 3
2. Logic & Sci. Method	3	26. Constitutional Law . . .	
5. Philosophy of Law..	3	51. Elem. of Sociology . . .	3
6. Social & Pol. Phil. . .	3	57. Statistics	3
21. General Psychology.	3	ADDITIONAL ELECTIVES	26

For those preparing for SOCIAL SERVICE.

HISTORY.		POLITICAL SCIENCE.	
7. Am. Const. & Polit.	3	5. Immigra. & Tariff . .	} 3
8. Civil War & Recon..	3	or	
PHILOSOPHY.		6. Trusts & Labor	} 3
2. Logic & Sci. Method	3	51. Elem. of Sociology . . .	
5. Philosophy of Law..	3	53. Philanthropy	3
6. Social & Pol. Phil. . .	3	57. Statistics	3
21. General Psychology.	3	ADDITIONAL ELECTIVES	23
24. Vocational Psych. . .	3		

These courses are considered to be particularly helpful to students intending to pursue the professions or activities suggested by these groups. Other courses within this Division are available from which the student can make such a selection as will best fit his individual needs.

The student is strongly urged to distribute a part of his free elective time among departments other than those in this Division. He is advised to consult the heads of those departments that he may choose courses best suited to his particular line of work.

DIVISION III. CHEMISTRY, MATHEMATICS, NATURAL HISTORY, AND PHYSICS.

Chairman, PROFESSOR BASKERVILLE.

Secretary, PROFESSOR REYNOLDS.

This Division contains the Departments dealing with the Natural Sciences and Mathematics. Not only is a broad training obtainable in this Division, but opportunity is provided for preparation along professional lines as well. While in some cases the courses advised for specific preparation for a life work approach a technical character, still there is opportunity for the student to choose approximately a quarter of his elective subjects within the other two Divisions. However, provided

the student has a reading knowledge of French and German, he may make further elections looking toward a specific profession. The subjects named in the groups herewith presented are essential to more advanced work, provision for which is made in part by the several Departments of the College in other electives offered, some of which are required in Technical Schools or Universities. The student may avail himself of the privilege of pursuing the more technical subjects offered by remaining as a special student for one or two terms after graduation in accordance with a resolution of the Board of Trustees, or he may, by advice, elect them as partial requirements for the bachelor's degree. The groups suggested are summarized below and their content is shown under separate headings in the pages which follow. Students should, however, consult the Chairman of the Division:

GENERAL SCIENCE.....	{	CHEMISTRY..... 9	} Teaching Business Science Training
		NATURAL HISTORY..... 9	
		PHILOSOPHY..... 6	
		PHYSICS..... 5	
		ADDITIONAL ELECTIVES... 27	
CHEMISTRY.....	{	CHEMISTRY..... 30	} Analytical Chemist Chemical Engineering Chemical Industries
		PHILOSOPHY..... 3	
		PHYSICS..... 3	
		ADDITIONAL ELECTIVES... 20	
MATHEMATICS, PHYSICS.....	{	CHEMISTRY..... 6	} University Courses Physical Research
		MATHEMATICS..... 18	
		PHILOSOPHY..... 3	
		PHYSICS..... 9	
		ADDITIONAL ELECTIVES... 20	
NATURAL HISTORY.....	{	CHEMISTRY..... 12	} Medicine Public Health Sanitary Engineering
		NATURAL HISTORY..... 21	
		PHILOSOPHY..... 3	
		ADDITIONAL ELECTIVES... 20	
ENGINEERING...	{	CHEMISTRY..... 6	} Civil Electrical Mechanical
		DRAWING..... 2	
		PHYSICS..... 25	
		POLITICAL SCIENCE..... 3	
		ADDITIONAL ELECTIVES... 20	

GENERAL SCIENCE.

For students who contemplate becoming Teachers of Science, or who expect to enter General Business, or who wish a broad Scientific Training without specialization. By a judicious choice of additional electives this group may be extended to meet a great variety of individual aims. A reading knowledge of French and German is necessary:

CHEMISTRY.		PHILOSOPHY.	
4. Quantitative.....	3	2. Logic & Sci. Method..	3
5. Organic.....	3	21. General Psychology..	3
7. Physical.....	3	PHYSICS.	
NATURAL HISTORY.		12. Descriptive Astron...	3
3. Elementary Botany..	3	21. Joinery.....	2
4. Invertebrate Zoology.	3	ADDITIONAL ELECTIVES....	
12. Geology.....	3	27	

CHEMISTRY.

For students who wish to specialize in Chemistry with the view of becoming Analytical Chemists, of preparing for the profession of Chemical Engineering, of engaging in Chemical Industries, or of pursuing Graduate Work in Chemistry. A reading knowledge of French and German is necessary:

CHEMISTRY.		CHEMISTRY.	
4. Quantitative.....	3	14. Advanced Quantitative	3
5-6. Organic.....	6	15. Advanced Inorganic...	3
7. Physical.....	3	PHILOSOPHY.	
8. Electro.....	3	2. Logic & Sci. Method..	3
9. Applied Inorganic...	3	PHYSICS.	
10. Applied Organic.....	3	5. Advanced Electricity..	3
13. Advanced Qualitative	3	ADDITIONAL ELECTIVES.....	
		20	

MATHEMATICS—PHYSICS.

For students who wish to specialize in Mathematics and in Mathematical Physics with the view of pursuing University Courses in these subjects, or of entering the field of Physical Research. A reading knowledge of French and German is necessary:

CHEMISTRY.		PHILOSOPHY.	
7. Physical.....	3	2. Logic & Sci. Method..	3
MATHEMATICS.		4. Phil. of Science.....	3
7. Advanced Dif. Cal...	3	PHYSICS.	
8. Advanced Int. Cal...	3	5. Advanced Electricity.	3
9. Ordinary Dif. Equa..	3	6. Advanced Mechanics.	3
10. Vector Analysis.....	3	16. Advanced Heat.....	3
11. Differential Geometry	3	ADDITIONAL ELECTIVES.....	
12. Partial Dif. Equa....	3	20	

MEDICINE AND PUBLIC HEALTH.

For students who wish to specialize in Natural History with the view of studying Medicine, or of following a career in Public Health, or of preparing to become Sanitary Engineers. A reading knowledge of French and German is necessary. All the subjects named are essential to both Medicine and Public Health. Additional subjects are offered which enable the student to specialize in either of them:

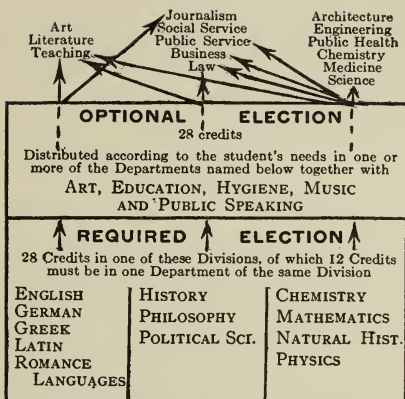
<p>NATURAL HISTORY.</p> <p>3. Botany..... 3</p> <p>4. Zoology..... 3</p> <p>6. Embryology & Hist.. 3</p> <p>7. Theoretical Biology.. 3</p> <p>10. Anthropology..... 3</p> <p>13. Bacteriology..... 3</p> <p>15. Municipal Sanitation. 3</p>	<p>CHEMISTRY.</p> <p>4. Quantitative..... 3</p> <p>5-6. Organic..... 6</p> <p>7. Physical..... 3</p> <p>PHILOSOPHY.</p> <p>2. Logic & Sci. Method 3</p> <p>ADDITIONAL ELECTIVES.... 20</p>
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ENGINEERING.

For students who wish to prepare for Civil, Electrical, or Mechanical Engineering. All the subjects named are common to all three professions. Additional subjects are offered which enable the student to specialize toward any one of them. He should seek advice in planning the sequence of his work in order that he may most advantageously distribute it:

<p>PHYSICS.</p> <p>5. Advanced Electricity. 3</p> <p>6. Mechanics..... 3</p> <p>7. Materials..... 3</p> <p>8. Hydraulics..... 4</p> <p>9. Heat Engines..... 4</p> <p>14. Surveying..... 3</p> <p>16. Advanced Heat.... 3</p> <p>22. Forge & Foundry.... 2</p>	<p>CHEMISTRY.</p> <p>4. Quantitative..... 3</p> <p>7. Physical..... 3</p> <p>DRAWING.</p> <p>6. Mechanical..... 2</p> <p>POLITICAL SCIENCE.</p> <p>10. Municipal Affairs.... 3</p> <p>ADDITIONAL ELECTIVES.... 17</p>
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Years
4



2

PRESCRIBED COLLEGE COURSE			
72 credits			
ARTS		SCIENCE	
LATIN	14	MOD. LANGUAGE	7
GREEK	13	MATHEMATICS	13
FRENCH, OR GERMAN		PHYSICS	6
3 ^o LANGUAGE OR COMP. LIT. & ART.	6	DRAWING	4
CHEMISTRY	6	CHEMISTRY	9
	ENGLISH	6	
	HISTORY	7	
	HYGIENE	2	
	NATURAL HISTORY	4	
	PHILOSOPHY	3	
	POLITICAL SCIENCE	3	
	PUBLIC SPEAKING	8	

0

ENGLISH	3	TOWNSEND HARRIS HALL PREPARATION	DRAWING	½
1 ^o LANGUAGE	3		DRAWING OR MANUAL TRAINING	½
2 ^o LANGUAGE	2		PHYSICS	1
MATHEMATICS	3		PHYSIOLOGY	½
HISTORY	1			
		14½ units		

ELEMENTARY SCHOOL FOUNDATION

SUMMARIZED COURSE OF STUDY AT THE COLLEGE OF THE CITY OF NEW YORK

DEPARTMENTS.

ART.

* Starred courses are offered in the Evening Session also.

The work in this department embraces courses in the following subjects: Freehand Drawing, Mechanical Drawing, Descriptive Geometry, and Aesthetics.

The course in Freehand Drawing aims to give the student the knowledge and skill required for the truthful reproduction of geometrical forms, and of artificial and natural objects, and by this training to develop his perceptive faculties in the just appreciation of lines, forms, proportion, light and shade, color values, etc. In the advanced course attention is given to the further development of taste, to the elements of Design, and to the teaching of Drawing.

The course in Mechanical Drawing begins with instruction and practice in the use of instruments, the making of working drawings for constructions of various kinds; always with regard to the practical requirements of the modern workshop.

The more advanced work offers the students in Science a completely rounded course in the subjects usually comprised under this head. To students intending to pursue one of the engineering professions, or architecture, training is given bearing directly on their future work without, however, transgressing the limits of the regular college curriculum.

The course in Descriptive Geometry aims to familiarize the student with the means afforded by this applied science and art for complete graphic expression of forms and their relation in space; further, to develop his projective imagination, as well as to habituate him to accuracy, clearness and neatness in execution.

The course in Aesthetics embraces a brief consideration of the philosophy and psychology of Art, its bearing upon human life and the development of civilization. The history of the evolution of the various forms of historic art, in architecture, sculpture, painting, and the minor arts, together with their relation to general history, is given in a series of fully illustrated lectures.

*1-2. DESCRIPTIVE GEOMETRY AND MECHANICAL DRAWING.

Professors Dielman and Hunt, Messrs. Levussove, Neus, Autenrieth and Kelly.

This course consists of lectures, recitations, and practice on problems in Descriptive Geometry involving lines, planes, surfaces, solids; their relations, tangencies, intersections, and development. The 1st and 3d angle methods of Mechanical Drawing are derived from the principles of Descriptive Geometry, and are illustrated by working drawings of simple constructions.

Prescribed: Science, two terms, four hours a week, counts 4.
Elective for Arts Students.

3. FREEHAND DRAWING.

Professor Dielman.

Freehand Drawing with special application to scientific work, such as the making of graphic notes or records in connection with Chemistry, Physics, or Natural History.

One term, four hours a week, counts 2.

*4. TOPOGRAPHICAL DRAWING.

Mr. Autenrieth.

Study of signs employed in making topographical maps fully rendered. Plotting; particular attention being given to contour maps and the solution of problems relating thereto. The student is also required to plot the surveys made in the field during his course in practical surveying.

Prerequisite: Art 1-2, and Physics 14. One term, six hours a week, counts 2.

5. SHADES, SHADOWS AND PERSPECTIVE.

Professor Hunt.

Theory of Shades and Shadows. Shadows of mechanical and geometrical objects on planes; of solids on solids with special reference to rendering of mechanical and architectural drawings.

Theory of Perspective. Its basis on Descriptive Geometry. Discussion of and practice in the vanishing and division point method, and in the so-called ground-plane and "office" methods. All of Art 5 is given with reference to work pursued later by those electing Art 11.

Prerequisite: Art 1-2. One term, six hours a week, counts 2.

*6. MECHANICAL DRAWING.

Mr. Autenrieth.

The work of this course embraces drawing of mechanical details, such as bolts and nuts, screws, springs, keys, pipe fittings, etc.; methods of dimensioning, tracing, etc.; making of scale drawings from sketches of parts of machines; also the drawing of details from "assembly" drawings as a drill in the reading of drawings.

Prerequisite: Art 1-2. One term, six hours a week, counts 2.

7-8. AESTHETICS.

Professor Dielman.

Lectures on the history of architecture, sculpture, painting, and the minor arts; the place of the fine arts in the history of civilization; the appreciation of art; historic ornament; the great art of the world illustrated by means of casts, photographs, slides, etc. Notes of lectures are written up and submitted by the students. The course aims to give the general student such comprehension of the subject as is essential to a liberal education; it has special value for those who may devote themselves to teaching, to writing or criticism in connection with art, or to other pursuits requiring knowledge and training in matters of taste.

Two terms, two hours a week, each term, counts 3.

9. ADVANCED FREEHAND DRAWING.

Professor Dielman.

Drawing from casts, natural objects, articles of glass, pottery, etc., involving the rendering in black and white of color values; from casts of the human figure in part or entire; practical application of perspective; the elements of Decorative Design; the use of water color, and instruction in the teaching of art. The course has been planned with a view to the requirements that must be met by applicants for teachers' License No. 1, and in connection with 7-8, Aesthetics, it enables the student to prepare for the intelligent and effective teaching of art.

One term, four hours a week, counts 2.

10. ADVANCED MECHANICAL AND ELEMENTARY MACHINE DESIGN.

Mr. Autenrieth.

This course consists of drawing board problems, supplemented by lectures explaining the static and kinetic principles involved; design of cams, analyses of link-work, gearing, etc.; determination of the proportions of machine parts subjected to tension, compression, shear, etc.

One term, six hours a week, counts 2.

11a. ARCHITECTURAL DRAWING.

Mr. Neus.

The classic orders and brush rendering. The proportions of the orders are studied from Ware's *American Vignola*; they are rendered in India ink outline as well as an India ink and color wash. Shadows are constructed by the student.

Prerequisite: Art 1-2. One term, three hours a week, counts 1.

11b. ARCHITECTURAL DRAWING.

Continuation of 11a with application of the orders to elementary architectural designs.

Prerequisite: 11a. One term, three hours a week, counts 1.

The casts belonging to the department are very fine, most of them having been taken from early molds. The collection contains many beautiful examples of the Phidian era, the most notable being a large number from the Frieze of the Parthenon, and a few of the best preserved Metopes; the heroic statues of Theseus and Cephisus; a Caryatid from the Erechtheum. These copies of the Elgin Marbles were given by Charles M. Leupp, Esq. There are, furthermore, the busts of Jupiter from Otricoli, the Venus of Milo, the Venus of Arles, Juno, the Hermes, the Apollo Belvedere, the Belvedere Torso and examples of the work of Michael Angelo, Cellini and Thorwaldsen.

This department also makes use of a collection of about 275 photographs, the gift of the Class of '75, illustrating the architecture and sculpture of the Greeks and Romans, early Christians and Renaissance painting in Italy and a number of the most noted buildings of all European countries. Each print is marked with the name, the date of production and the present location of the subject represented. East Indian, Egyptian, Romanesque and Gothic Architecture are likewise illustrated by a number of photographs purchased by the College; and a collection of over 500 lantern slides is used in the lectures on the history of the Fine Arts.

COMPARATIVE LITERATURE AND ART.

This course offers a general view of ancient, mediaeval and modern literature and art. There will be two lectures and one recitation each week; note-books will be examined and reports will be required on assigned reading and on objects of art. The general director of the course will be Professor Mott; Professor Dielman will have charge of the work in art, and the lectures on literature will be delivered by members of the different language departments.

Prerequisite: English 1 and one year of college work in a foreign language.

Prescribed: Either this course or a third language for Arts students only; two terms, three hours a week, counts 6.

CHEMISTRY.

* Starred courses are offered in the Evening Session also.

Note.—*Physics 1 and 2 are prerequisite for all work in Chemistry.*

*1-2. DESCRIPTIVE CHEMISTRY.

Professor Baskerville and Drs. Curtis, Estabrooke, Feinberg, Thornton and Mr. Brown.

For the student's general culture, acquainting him with the principles of chemical philosophy. Of the thirty-two weeks most of the time is given to the study of Inorganic Chemistry, essentially based upon the natural system, but involving the most modern conceptions of Physical Chemistry; any available time is devoted to the Chemistry of the Carbon Compounds. During the second term, when the student has gained sufficient knowledge to appreciate it, parallel reading is assigned in the History of Chemistry. The lectures are accompanied throughout the session by weekly examinations and laboratory work to test the facts and principles upon which the science is founded. Text-books: Baskerville's *Inorganic Chemistry*, Baskerville and Curtis' *Laboratory Exercises*, Baskerville and Estabrooke's *Progressive Problems in Chemistry*, and Venable's *Short History of Chemistry*.

Prescribed: { Arts and } two terms, one recitation, two lectures and
 { Science. } two laboratory hours a week; counts 6.

The privilege of a limited amount of extra laboratory work is extended to those who wish to avail themselves of the opportunity.

*3. QUALITATIVE ANALYSIS. *Drs. Curtman, Breithut, and Mr. Stokes.*

A grounding is given in the principles involved in the detection of unknown substances. Text-books: Curtman's *Preliminary Experiments in Qualitative Analysis*, and Baskerville and Curtman's *Qualitative Analysis*. Parallel reading: Morgan's *Qualitative Analysis*.

Prerequisite: Chemistry 1-2

Prescribed: Science, Sophomore, one term; laboratory work with a lecture or recitation every week; seven hours a week; counts 3.
Elective in Arts.

Students wishing electives should consult the head of the Department.

*4. QUANTITATIVE ANALYSIS.

Dr. Prager.

A training is given in the accurate determination of the quantity of an element or compound present in a substance, by both gravimetric and volumetric methods. Text-book: Moody's *Quantitative Analysis*.

Prerequisite: Chemistry 3. Laboratory work with a lecture or recitation every fortnight; eight hours a week; counts 3.

Further elective subjects may be taken only by those students who have acquired a grade of C or higher in both Chemistry 3 and 4.

*5. ORGANIC CHEMISTRY.

Professor Friedberg.

The fundamental principles involving carbon compounds are studied. The lectures deal mainly with the aliphatic series and their derivatives, but at the end a few lectures are devoted to the cyclic series to indicate the lines followed in Chemistry 6. The laboratory practice is given over to the qualitative examination of carbon compounds and the making of some of the simpler preparations. Text-books: Holleman's *Organic Chemistry and Laboratory Manual*, Gatterman's *Practical Methods of Organic Chemistry* (English Edition), and Lassar-Cohn's *Arbeits-methoden*.

Prerequisite: Chemistry 4. One term, Fall and Spring, lecture and recitation two hours and laboratory four hours a week; counts 3.

*6. ADVANCED ORGANIC CHEMISTRY.

Professor Friedberg and Dr. Prager.

The lectures deal with the cyclic and more complex carbon compounds, showing their relations in living processes. Many of the compounds are isolated, purified, and analyzed quantitatively in the laboratory. Text-books: Same as in Chemistry 5, and Fischer's *Anleitung zur Darstellung organischer Prepare*.

Prerequisite: Chemistry 5. One term, Fall and Spring; lecture and recitation two hours and four laboratory hours a week; counts 3.

*7. PHYSICAL CHEMISTRY.

Professor Stevenson.

The lectures cover the entire field of physical chemistry except electro-chemistry, and are supplemented by problems and parallel reading. The laboratory practice includes such topics as standardization of apparatus, thermostats, determinations of molecular weights, viscosity, index of refraction, vapor pressure, velocity of reaction, etc. Special experiments are also laid out for students who indicate a desire to prepare for some particular line of work. Text-books: Walker's *Introduction to Physical Chemistry* and Findlay's *Practical Physical Chemistry*.

Prerequisites: Chemistry 4. Mathematics 2 and 3 are desirable. One term, Fall and Spring. Lectures two hours, and five laboratory hours a week; counts 3.

8. ELECTRO-CHEMISTRY.

Professor Stevenson.

The lectures are upon theoretical and industrial electro-chemistry, and are supplemented by problems and parallel reading. The laboratory practice includes such topics as conductivity, electrolysis, electro-plating, electro-analysis, decomposition voltage, electrolytic reactions and electric furnace syntheses. Text-books: Le Blanc's *Electro-Chemistry* and Findlay's *Practical Physical Chemistry*.

Prerequisites: Chemistry 4. Mathematics 2 and 3 are desirable. One term, Fall and Spring. Lectures two hours, and five laboratory hours a week; counts 3.

9. APPLIED INORGANIC CHEMISTRY.

Professor Moody and Mr. Stokes.

Lectures and laboratory practice, with parallel reading, are given on such subjects as use of fuels, high temperature measurements, generation of power, abrasives, water and its safeguarding, technical evaporation, filtration and crystallization, the most important acids and alkalies, the soil, fertilizers, fireproofing and explosives, nitrogen industries, refrigeration, etc. Text-books: Mason's *Examination of Water*, Richards and Woodman's *Air, Water and Food*, Bailey's *Sanitary and Applied Chemistry*, Thorpe's *Industrial Laboratory Manual*. Parallel reading is assigned in standard works of reference and in current technical journals. Excursions.

Prerequisite: Chemistry 4. One term, Fall; lectures and recitations two hours, and five laboratory hours a week; counts 3.

10. APPLIED ORGANIC CHEMISTRY.

Professor Moody and Mr. Stokes.

Lectures and laboratory practice, with parallel reading are given on such subjects as preparation of hydrocarbon gases, coal gas, and water gas, fibres and textile industries, cellulose products, animal industries, bleaching, dyeing, oils, gums, soaps, etc. Text-books: Sadtler's *Industrial Organic Chemistry*, Rogers' *Laboratory Guide to Industrial Chemistry*, and Bailey's *Sanitary and Applied Chemistry*. Parallel reading is assigned in Nagel's *Mechanical Appliances of Chemical Industries and Lay-out, Design and Construction of Chemical Plants*, and in current technical journals. Excursions to typical plants form an essential part of this course and are taken on most of the Saturday mornings of the term.

Students are advised, although not required, to take 9 and 10 in numerical sequence.

Prerequisites: Chemistry 4 and 5. One term, Spring; lectures and recitations two hours and five laboratory hours a week, counts 3.

11. CHEMISTRY OF METALS (FERRIFEROUS). *Professor Moody.*

Such topics as fuels, cement, concrete, refractories, furnace building materials and the construction of typical furnaces, general metallurgical processes, especially cast and wrought iron, and steel are considered. The several subjects are studied practically in the laboratory including calorimetry and pyrometry. Text-books: Tarr's *Economic Geology*, Stoughton's *Metallurgy of Iron and Steel*. Excursions.

Prerequisite: Chemistry 4. Natural History 11 and 12 and Physics 7 should be taken in advance or pursued at the same time. One term, Fall; seminar and recitations two hours and five laboratory hours a week; counts 3.

12. CHEMISTRY OF METALS (NON-FERRIFEROUS).

Professor Moody.

The treatment of ores for the winning of metals, their subsequent working for various uses, as in coinage, alloys, electroplating, etc. The several steps are accompanied by practical verification in the laboratory, together with fire-assay work. Text-Books: McFarlane's *Practical Metallurgy*, Hoffman's *Metallurgy of Copper*, Hiorn's *Mixed Metals*, and Lodge's *Notes on Assaying*. Excursions.

Prerequisites: Chemistry 4, 11. Natural History 11 and 12 should be taken in advance or pursued at the same time. One term, Spring; seminar and recitations two hours and five laboratory hours a week; counts 3.

*13. ADVANCED QUALITATIVE ANALYSIS.

Dr. Curtman.

An extension of Chemistry 3. The instruction follows the preceptorial plan and is laid out so as to allow the student to acquire advanced standing in a professional school. Text-books, Baskerville and Curtman's *Qualitative Analysis*, Treadwell's *Analytical Chemistry*.

Prerequisite: Chemistry 4, or may be taken at the same time. The subject may be taken concurrently with any other elective in the Department, except 15. Fall and Spring terms; laboratory practice eight hours a week, counts 3.

14. ADVANCED QUANTITATIVE ANALYSIS.

Professor Moody and Mr. Williams.

An extension of Chemistry 4. The instruction follows the preceptorial plan and is so laid out as to allow the students to acquire advanced standing in a professional school. Text-books: Chesneau's *Theoretical Principles of Analytical Chemistry*, and Cumming and Kay's *Quantitative Chemical Analysis*.

Prerequisite: Chemistry 4. The subject may be taken concurrently with any other elective in the Department, except 15. Fall and Spring terms; laboratory practice eight hours a week, counts 3.

15. ADVANCED INORGANIC CHEMISTRY.

Professors Baskerville and Stevenson.

This course is essentially all laboratory practice, involving the more refined methods of gas analysis, use of the spectroscope, mineral analysis, etc., or research work may be undertaken. Instruction in this subject follows the preceptorial plan.

Prerequisite: Chemistry 14 or its equivalent. Fall and Spring terms; laboratory practice and work in the chemical library nine hours a week; counts 3.

Note.—A special department certificate may be acquired by completing courses 1-8 inclusive, and 13-15, inclusive, with an average of at least 80 per cent. or B grade.

16. PHYSICAL CHEMISTRY.

Professor Stevenson.

An extension course in Physical Chemistry consisting of thirty lectures and fifteen laboratory periods of three hours, throughout the college year, is offered to properly qualified persons. It is essentially a course in laboratory technique. Applicants must guarantee the cost of chemicals used and breakage. Applications should be made to the Director of the Laboratory. This course will not be given in 1915-16 unless there is a sufficient demand for it.

17. MUNICIPAL CHEMISTRY. *Dr. Breithut and Professor Baskerville.*

Special practice in the analysis of products purchased by the City (as coal, soap, paint, and oils, lubricating oils and greases, asphalt, cement and paper). This course is given in co-operation with the Central Testing Laboratory of the Board of Estimate and Apportionment, members of whose staff give some of the lectures and participate in the seminars. Text-books: Baskerville's *Municipal Chemistry*, standard works of reference, current journals and the instructor's notes.

Prerequisites: Chemistry 4 and 10, or the latter may be taken at the same time. One term, Spring and Fall; six laboratory hours a week; counts 2.

Chemistry 9 may be taken at the same time, but completion of Chemistry 10 is required before credit is allowed in 17.

18. MUNICIPAL SANITARY INSPECTION.

Dr. Breithut.

This course is given in conjunction with Natural History 15, the seminar work being done in the College and the field work in company with and under the direct supervision of an Inspector of the Department of Health of the City. The course is limited to six students each semester, and is intended for those planning to go into this branch of the City's service. The qualifications will be based upon individuality, personality playing a prominent part.

One term, Fall and Spring; two seminar hours and one recitation, with one inspection tour a week; counts 3.

19. FOOD INSPECTION AND ANALYSIS.

Dr. Breithut.

Special practice in the analysis of products whose sale is controlled by the City, as milk, butter, cereals, beverages, drugs, etc. Occasional lectures and excursions. This course is given in co-operation with the Food and Drug Inspection Laboratory of the Department of Health.

Text-books: Standard works on food and the instructor's notes.

Prerequisites: Chemistry 4 and 10, or the latter may be taken at the same time. One term, Spring and Fall; six laboratory hours a week; counts 2.

A series of lectures by experts not connected with the College is announced each year. These lectures are given Friday afternoons and are open to the public as well as to the students of the College.

The *Museum* has been equipped with many specimens for the illustration of the lectures and observation by the students. Many more valuable exhibits have recently been presented to the College by chemical manufacturers in this country and abroad.

The *Wolcott Gibbs Library of Chemistry*, containing about 6,000 volumes and 7,000 pamphlets, is open from 10 to 3, five days in the week, a member of the staff always being present for conference. The library is being added to constantly. Mr. James R. Steers, '53, presented the library with 4,000 volumes and endowed it so that it is kept abreast of the times with current journals and by purchase of the most modern authoritative works on chemistry.

A *City College Chemical Society*, organized and directed by the Junior and Senior students, meets regularly, the programmes of the meetings being posted on the bulletin board of the Department. Members of the staff attend the meetings, and from time to time arrange excursions to works where chemistry as applied to commerce is seen and studied in operation. Papers and digests of the current journals in English, German, French and Italian are presented and discussed. Graduates are welcomed at these meetings.

Special Students. All the courses in the various departments of the College are open to men twenty-one years of age who are able to satisfy the entrance requirements to the College and who are also qualified to pursue the course desired. Under this provision, choice may be made of a limited number of subjects without pursuing the regular College course for a degree. A minimum attendance of five hours a week is required.

Municipal Students. Employees of the City of mature age and able to comply with the Departmental requirements, but not necessarily able to satisfy the entrance requirements of the College, may be admitted to a limited number of the subjects offered.

EDUCATION.

* Starred courses are offered in the Evening Session also.

All the work in this department is elective. The aims are:

(1) To contribute to a truly liberal culture by a study of the educational history of the race and the underlying forces that make for a higher civilization.

(2) To provide the future citizen with a knowledge of sound principles of school administration and management.

(3) To provide those who intend to make teaching their profession with adequate training in the principles and methods of teaching.

To become eligible for the College Graduate Professional Certificate of the New York State Education Department, it is necessary to complete Philosophy 2 and the courses in Education numbered 1, 2, 3 and 5.

To become eligible for the City Superintendent's examination for license to teach in the elementary schools, it is necessary to complete Philosophy 2 and the courses in Education numbered 1, 2, 3 and 5.

To secure the recommendation of the Department for license to teach in the High Schools it is necessary to complete Course 6 and in addition other courses amounting to 90 hours of work.

*1. THE HISTORY OF CULTURE AND EDUCATION.

Professor Duggan.

The aim is, first, to describe the systems of education by which the principal culture nations of the world have attempted to realize their social ideals; and, second, to criticise educational theories and practices from the standpoint of the educational principles now accepted as sound. The work is conducted by means of recitations, assigned readings and the writing of themes. Open to all students above the Freshman class. Text-book: Monroe, *A Brief Course in the History of Education.*

One term, three hours a week; counts 3.

2. EDUCATIONAL PSYCHOLOGY.

Professor Heckman.

This course is designed to give a knowledge of the nature and of the activities of the mind from the standpoint of development with special reference to the needs of the teacher. To this end such mental processes as perception, imagination, atten-

tion, memory, apperception, judgment, reasoning, feeling and will are considered from the viewpoint of their psychological and pedagogical application to classroom work. The prominent instincts of children such as play, curiosity, imitation, emulation, etc., are considered in detail, as are likewise the processes of habit formation. Other topics such as heredity, individual differences, fatigue, etc., are also studied. In addition to the recitations there are assigned reference readings on which reports are made. The work of the course is supplemented as far as possible with experimental demonstrations.

Prerequisite: Philosophy 2. One term, three hours a week; counts 3.

*3. PHILOSOPHY AND PRINCIPLES OF EDUCATION.

This subject is devoted, first, to a consideration of the general basis of educational doctrine. The important principles contributed to education by biology, physiology, psychology and sociology are considered in determining their practical application and the modern trend of educational thought. This is followed by work designed to serve as a transition from theoretical psychology to the methods of teaching. The aim is to interpret the lessons of psychology in terms of education and to formulate the scientific principles for a sound pedagogy. These principles are derived from a detailed study of the emotional, intellectual and volitional activities of the child in class teaching. The work is conducted as in Education 1. Text-book: Klapper, *Principles of Educational Practice*.

Prerequisite: Education 2. One term, three hours a week; counts 3.
Not given in Fall term 1915.

4. SCHOOL MANAGEMENT AND ADMINISTRATION. *Dr. White.*

This subject treats of the organization, administration, and supervision of schools and the school system. It considers the methods and processes by which school authority is expressed in national, in state, and in local administrative divisions. The emphasis is upon the administration of city school systems and the management of their schools. The work is conducted as in Education 1. In addition, students must visit schools for purposes of observation and report.

Prerequisites: Education 1, 2 and 3. One term, three hours a week; counts 3.

5. METHODS OF TEACHING AND CLASS MANAGEMENT.

Professor Klapper.

A survey of the problems of general method, of the conduct of the recitation and the principles of class management. Special emphasis is laid upon methods of teaching each of the elementary

school subjects. In addition, time is devoted to practice work by the students under the supervision and criticism of the instructor. Students are required to observe a minimum of twenty hours in the public schools. The work is conducted as in Education 1.

Prerequisites: Education 1, 2 and 3. One term, five hours a week; counts 3.

6. SECONDARY TEACHING.

Dr. White.

The course is designed to prepare those students who desire to teach in the High Schools. It will be limited to students in the Senior class, each of whom must present a certificate from the Department Head of the subject he wishes to teach, testifying to his personality and scholarship. The student studies the psychology of the adolescent, and the principles and methods applicable to teaching in the secondary schools. He then applies these principles and methods in Practice Teaching in Townsend Harris Hall. The work in the class-room is conducted by lectures, quizzes and discussions on assigned reading in Hall's *Adolescence*; DeGarmo, *Principles of Secondary Education*; *Report of the Committee of Ten*, etc. In addition, students must visit other High Schools for the purpose of observation.

Co-requisite: Education 5. One term, three hours a week; counts 3.

7. EDUCATION OF BACKWARD AND DEFECTIVE CHILDREN.

Professor Heckman.

The purpose of the course is to acquaint the student with the methods and tests used in making physical and mental examinations of backward and mentally deficient children, and with the significance of these defectives to the school and to society; to acquaint him with the causes of defectiveness, *e.g.*, heredity, natal influences, childhood diseases and injuries; to acquaint him with the methods of treatment and training of children in special classes and institutions.

Students will be given not only opportunity to observe diagnoses and examinations made in the laboratory, but they will be given practice in making tests and diagnoses for themselves so that they will be prepared to apply the results of their work to pupils in the schoolroom.

In conjunction with the practical demonstration work, lectures with assigned readings will be given dealing with the theoretic phases of the problem including the history, classification, treatment and training of backward and feeble-minded children.

Students will be required to visit classes for defective children in the public schools or in institutions for the purpose of observing methods of teaching and treatment.

Text-books to be used in connection with the course are: Whipple, *Manual of Mental and Physical Tests*; Lapage, *Feeble-mindedness in Children of School-Age*; Tredgold, *Mental Deficiency*; Cornell, *Health and Medical Inspection of School Children*; Walter, *Genetics*.

Prerequisite: Education 2. Three hours a week, counts 3.

8. METHODS IN TEACHING MUSIC. *Dr. Schoen.*

The object is to prepare the student in the theoretical, practical and pedagogical phases of the work and thus qualify him to teach music in the elementary schools.

For Upper Seniors only; one term, two hours a week; counts 1.

9. METHODS OF TEACHING DRAWING. *Mr. Levussove.*

This course is designed for those who would teach drawing in the elementary schools. It is divided into three parts, dealing respectively with representative drawing, with decorative design, and with working drawings and patterns. The art-principles are studied both theoretically and in practice periods, the student's work is criticised, and the modes of presentation, illustration, and drill in class, are fully discussed.

One term, four hours a week; counts 1.

10. NATIONAL SYSTEMS OF EDUCATION. *Professor Duggan.*

This course makes a comparative study of the educational systems of England, France, Germany and the United States to discover the aim, organization, content and method in the fields of elementary, secondary and higher education.

One term, three hours a week; counts 3. *Not given in the year 1915-16.*

11. SOCIAL FACTORS IN EDUCATION. *Professor Klapper.*

This course studies the social factors and forces which operate to produce the greatest social efficiency of the individual. The scope of education is here made synonymous, not with the school, but with all other factors of the environment.

The course will study such educational problems as vocational education; moral training; the delinquent; the reformatory, its methods and limitations; social agents in education, such as the settlement; the social work of the school, such as the club, etc.

The work of students will consist of visits to various institutions, theses, reports, assigned readings and class discussions.

One term, three hours a week; counts 3. *Not given Fall term 1915.*

12. EDUCATIONAL SEMINAR.

The Department Staff.

The study of important educational problems from educational records and through examination of actual conditions in the New York City school system. It is proposed to take problems which are now confronting the Board of Superintendents and the Department of Reference and Research, and to use these as laboratory material for specially selected students who have shown their worth in the other courses in Education.

One term, three hours a week; counts 3.

ENGLISH LANGUAGE AND LITERATURE.

*Starred courses are offered in the Evening Session also.

*1. THE HISTORY OF ENGLISH LITERATURE.

Collateral reading required. Essays are also written and corrected in personal conference with the instructors. Text-books: Moody and Lovett's *First View of English Literature*, Pancoast's *Standard English Poems* and *Standard English Prose*.

Prescribed: One term, four hours a week; counts 4.
Primarily for Freshmen.

*2. RHETORIC.

Theme and plan, kinds of composition—particularly argumentation—paragraph, sentence and diction. Frequent exercises, briefs and essays are required, some written work being done at least once a fortnight. Personal conferences. Text-books: Lamont's *English Composition* and Genung's *Hand-book*.

Prescribed: One term, two hours a week; counts 2.
Primarily for Freshmen and Sophomores.

3. DICTION AND GRAMMAR.

The aim is partly to enlarge the student's vocabulary and give him a sense of the finer distinctions between words, and partly to guide him to the rhetorical effect of the order and arrangement of words in sentences. Some attention is also given to the history of the language, and to literary thought. Frequent written exercises are required. Text-books: West's *English Grammar*, Roe's *English Prose*.

Prerequisite: English 2. Cannot be taken at the same time as English 13.
One term, two hours a week; counts 2.
Primarily for Sophomores.

4. SHAKESPEARE'S HISTORIES.

Professor Mott.

All the histories will be read, together with Marlowe's *Edward II*; *Richard II*, *Henry IV*, both parts, and *Henry V* will be more carefully studied.

Prerequisite: English 1 and 2.
Fall term in alternate years (to be given 1916), three hours a week, counts 3.

*5. SHAKESPEARE'S COMEDIES. *Professor Mott.*

All the comedies will be read: *Much Ado About Nothing*, *As You Like It*, *Twelfth Night*, and *Winter's Tale* will be more carefully studied.

Prerequisite: English 1 and 2.

Fall term in alternate years (to be given 1915), three hours a week; counts 3.

*6. SHAKESPEARE'S TRAGEDIES. *Professor Mott.*

All the tragedies will be read, together with Marlowe's *Faustus* and Kyd's *Spanish Tragedy*; *Hamlet*, *King Lear*, *Othello* and *Coriolanus* will be more carefully studied.

Prerequisite: English 1 and 2.

Spring term, three hours a week; counts 3.

The following courses are primarily for Juniors and Seniors.

7. ENGLISH POETRY. *Professor Mott.*

The Renaissance and the Classic Influences; a study of the Pastoral, Epic Romance, Epic, Classic Drama, Satire and Epistle. Text-books: Selections from the words of Spenser, Milton and Pope.

Prerequisite: English 1 and 2.

Fall term, two hours a week; counts 2.

8. ENGLISH POETRY OF THE XIXTH CENTURY. *Professor Mott.*

Text-book: Ward's *English Poets*, Vol. IV.

Prerequisite: English 1 and 2.

Spring term, two hours a week; counts 2.

9. ENGLISH PROSE TO THE END OF THE XVIIITH CENTURY. *Professor Krowl.*

The work of this subject is divided into three parts: (1) lectures, recitations and reports, intended to familiarize the student with the history of prose and its relation to contemporary social and political movements; (2) private reading of a considerable amount of prose literature; (3) occasional themes, designed to give the student practice in composition. Text-book: Clark's *A Study of English Prose Writers*.

Prerequisite: English 1 and 2.

Fall term, two hours a week, counts 2.

10. ENGLISH AND AMERICAN PROSE OF THE XIXTH CENTURY. *Professor Krowl.*

The work is divided as in 9, and the same text-book is used.

Prerequisite: English 1 and 2.

One term, two hours a week; counts 2.

11. THE DEVELOPMENT OF FICTION. *Professor Horne.*

The progress of fiction and man's development as shown in fiction are traced from antiquity to the evolution of modern society and the modern novel. Text-books: Horne's *Technique of the Novel*, and a selected series of works, covering the masterpieces of early fiction.

Prerequisite: English 1 and 2.

Fall term, two hours a week, counts 2.

12. THE NOVEL OF THE XIXTH CENTURY. *Professor Horne.*

Text-books: Horne's *Technique of the Novel*, and a selected series of great novels both English and foreign.

Prerequisite: English 1 and 2.

Spring term, two hours a week; counts 2.

Applicants for this course who have not taken English 11, must consult Professor Horne and do some preparatory work.

13. SYNTAX AND STYLE. *Professor Mott.*

A study of present English usage. Text-books: Onion's *Advanced English Syntax* and Barnett and Dale's *Anthology of Modern English Prose*.

Prerequisites: English 1 and 2. Cannot be taken at the same time as English 3.

One term, two hours a week; counts 2.

GERMAN.

* Starred courses are offered in the Evening Session also.

I. SECOND LANGUAGE IN ARTS.

For students in Arts who present as a second language two years of German for admission, the following course covering four semesters is prescribed.

During each semester the subject is taken four hours a week and counts thirteen credits for the two years.

*1. INTERMEDIATE.

Schiller's *Wilhelm Tell*, Harris's *Composition*, and Hauff's *Lichtenstein* (at sight).

*2. INTERMEDIATE. (Continued).

Prose texts, history and oratory; Harris's *Composition*, Hauff's *Lichtenstein* (at sight).

*3. ADVANCED.

Schiller's *Wallenstein* and composition.

*4. ADVANCED. (Continued.)

Goethe's *Iphigenie* and *Tasso*, and composition.

II. THIRD LANGUAGE IN ARTS.

For students in Arts who elect as a third language one year of German, the following course of two semesters is prescribed. During each semester the subject is taken three hours a week and counts 3.

5. ELEMENTARY.

Pronunciation, essentials of grammar, elementary phraseology, reading and translation. Collar's *German Lessons*, Joynes' *Reader*.

6. ELEMENTARY. (Continued.)

Seidel's *Leberecht Huchnchen*, Harris's *Composition*, Collar's *German Lessons*.

III. SECOND LANGUAGE IN SCIENCE.

For students in Science who present as a second language two years of German for admission the following course of two semesters is prescribed unless German 1 and 2 be chosen instead.

During each semester the subject is taken four hours a week and counts seven credits for the two semesters.

7-8. INTERMEDIATE.

Scientific German and Composition. *Lichtenstein* (at sight).

IV. ELECTIVE.

9. COMEDY.

Professor Ilgen.

Lessing's *Minna von Barnhelm*, and Fulda's *Talisman*.

Prerequisite: German 4. Fall term; three hours a week, counts 3.

10. MODERN NOVEL AND POETRY.

Professor Ilgen.

Prerequisite: German 4. Three hours a week; counts 3.

11. HISTORY OF THE LITERATURE.

Professor Ilgen.

Thomas' *German Literature*, and Thomas' *German Anthology*.

Prerequisite: German 4. Spring term; three hours a week; counts 3.

12. ADVANCED COMPOSITION.

Professor Kost.

Prerequisite: German 2 or 8. Two hours a week, counts 2.

GREEK.

The study of Greek in the College is continued after two years of preparation in Townsend Harris Hall or an equivalent elsewhere. At present White's *First Greek Book* complete and four books of Xenophon's *Anabasis*, and lessons in Greek prose composition are required from those presenting Greek for admission to College. The study is continued for two years in College, four hours a week, counting thirteen credits in all. As the continuation of the study is no longer required in the Junior year, some changes will gradually be made in the content of the subject in the Freshman and Sophomore classes. For the year 1914-1915 the content will be the same, or very nearly the same, as heretofore.

Four terms of Greek prescribed for those students in the Arts Course who choose Greek as their second language.

1. HOMER (ILIAD OR ODYSSEY).
Arnold's *Greek Prose*, and sight reading.
2. HOMER. (Continued.)
3. DEMOSTHENES FOR CTESIPHON.
Sight reading. Aeschines against Ctesiphon.
4. PLATO, APOLOGY. ARISTOPHANES, CLOUDS.
Sight reading. Xenophon, *Memorabilia*.

5-8. GREEK LITERATURE.

Professor Tisdall.

For students of the Junior and Senior Classes, who have acquired sufficient vocabulary and had enough practice in sight reading to be able to read profitably selections from a large number of Greek authors. Passages are to be selected with the intent of obtaining a clear understanding of the ancient Greek life and character; their mythology, religion, morals, philosophy, art, science, polity, customs and manners, etc., as depicted in Homer, Hesiod, the Lyric, Tragic and Comic poets, Herodotus, Thucydides, Plato, Aristotle, Lucian, Pausanias and others. The subjects are to be divided into groups; the same authors in some

cases being read in more than one group. Consultation is desirable before electing groups.

Full course of four terms each with three credits or partial courses of one, two or three terms may be taken.

9. PHILOLOGY (Introduction to).

For students registered in the Junior and Senior classes.

One term, one hour a week; counts 1.

10. GREEK WORDS IN ENGLISH.

One term, one hour a week, counts 1.

11-12. ELEMENTARY.

For qualified registered students of the Junior and Senior classes who have not studied Greek.

Two terms, five hours a week; counts 10.

HISTORY.

* Starred courses are offered in the Evening Session also.

*1. MEDIEVAL AND MODERN, TO 1648.

Professors McGuckin and Schuyler.

Important features of medieval history from Charlemagne's time are dwelt on. An intelligent view of that formative European period is sought for, without introducing masses of detail. Origins, formations, changes—political, social and material—will be traced.

Text-books: Robinson's *History of Western Europe, Readings in Modern European History*. References, such as Seignobos, Adams, Duruy, etc. Recitations and note books.

Prescribed: One term, four hours a week; counts 4.

*2. POLITICAL HISTORY SINCE 1648. *Professors Mead and Moore.*

Modern European history is treated as a basis. The aim is to build up and explain the Europe of to-day to the American student before he takes up elective courses in this department. Emphasis is laid on the political and institutional side, and comparisons are made between the old and the new and between present nations which claim to have made the greatest advance in principles and methods of government and in the promotion of the best civilization.

Text-book: Robinson and Beard, *Outline of European History*. Reference works, recitations and essays.

Prescribed: One term, three hours a week; counts 3.

Prerequisite: History 1.

3. ANCIENT CIVILIZATIONS.

Professor Schuyler.

A general review of Greek and Roman political and civic life. What it was and the survival of its influence to modern times. Forms of government, laws, religions, morals, literature, art, architecture, etc., are considered as factors of different values in the make-up of the old civilizations. By way of comparison the changed or distinctively new factors in the national types of to-day are considered. Lectures, reference works, essays by students.

One term; three hours a week; counts 3.

Will not be given during 1915.

*5. ENGLISH CONSTITUTIONAL AND POLITICAL HISTORY.

Professor Moore.

The important periods are taken up, the Stuart and later periods especially, both with the view of showing how England has evolved her own political principles and methods, and to what extent these have been followed by other nations. The narrative portion includes the leading facts of English history and the work and influence of leading Englishmen. Lectures, reference works, essays.

One term; three hours a week; counts 3.

6. AMERICAN COLONIAL AND REVOLUTIONARY HISTORY.

Professor Mead.

The aim here is to trace the development of the American nation in its earlier periods rather than to deal with details of the history of the individual colonies. Emphasis is laid upon the growth of our governmental forms and special characteristics indicating the influence of European institutions upon those of America. The system of English Colonial administration and the conflict of imperial and colonial interests are considered in order to understand the underlying causes of the Revolution and the growth of the spirit of independence and union. Lectures, reference books, reports, recitations.

One term; three hours a week; counts 3.

7. AMERICAN CONSTITUTIONAL AND POLITICAL HISTORY.

Professors Johnston and Mead.

A study of our national period from Washington to Lincoln. Our experiences as a new people dealing with many new situations and problems—constitutional interpretation, political parties, territorial growth, critical issues—are treated according to their importance. The strength of the Republic and the spreading and deepening of the popular belief in its principles and promise are traced in the succession of events. Lectures, seminar work, essays.

One term; three hours a week; counts 3.

8. CIVIL WAR AND RECONSTRUCTION PERIOD.

Professor Johnston.

The main events of this critical epoch are reviewed in the light of accumulating new material and the calmer temper of the day. The grand results of the conflict, with the various treatment of the subject generally by historical writers, are discussed in the class-room. Lectures, seminar work, essays.

One term; three hours a week; counts 3.

9. MAIN CURRENTS OF CONTEMPORARY EUROPEAN HISTORY.

Professor McGuckin and Dr. Schapiro.

This course deals mainly with the tendencies of European civilization since 1870. Its aim is to acquaint the students with the larger aspects of the subject; hence the treatment will be topical and not narrative. Among subjects to be discussed will be: Growth of the National Spirit, Expansion of Democratic Ideals and Systems, Social Legislation, International Problems, Government and Parties of the European Countries; the European War of 1914-15. The influence of great personalities like Gladstone, Bismarck, Gambetta and Cavour will receive special attention. Lectures, seminar work, student essays.

One term; three hours a week; counts 3.

*10. DEVELOPMENT OF THE SOUTH AMERICAN STATES.

Professor Schuyler.

Beginning with a careful survey of conditions both political and economic in Spain during the period from Ferdinand and Isabella to the death of Philip II, the general course of exploration and colony building in South America will be taken up, stress being laid upon the essential differences between the Spanish and the English conception of the colony and its relations to the mother country. The most important events in the history of the colonies up to the close of the Revolutions of 1810-1826 will be briefly noted, after which a careful study of the development of the more important States will be made, bringing the subject down to the present time. In all the work regard will be had to the needs of those who expect to enter into business or professional relations with the South American States.

One term; three hours a week; counts 3.

HYGIENE.

* Starred courses are offered in the Evening Session also.

The organization in this department has been planned primarily to give the student such supervision, instruction and experience as will enable him to understand his own peculiar health possibilities and therefore to formulate intelligently his own policy of personal health control. In addition instruction is offered in a variety of those motor activities that are known to have a desirable influence on the development of neuro-muscular strength, endurance and co-ordination, and which are also known to assist in the formation of certain valuable traits of character.

It is calculated that these educational influences may, on the one hand, teach the young man how to secure and conserve his own health, and, on the other hand, lead him in his graduate years to become an effective factor in the advancement of the public health and character.

In addition, this Department is concerned with all those influences within the College which affect the health of the student. Every reasonable effort is exercised to make the institution safe and attractive to the clean, healthy individual.

The following phases of departmental work are combined for the purpose of securing these results:

*1. INDIVIDUAL INSTRUCTION IN HYGIENE.

This instruction is of a personal character, and is given in the form of advice based upon medical history supplied by the individual, and upon medical and hygienic examinations and inspections of the individual.

(a) Medical and hygienic history and examination.

In this relationship with the student the Department attempts to secure such information concerning environmental and habit influences in the life of the student as may be used as a basis for supplying him with helpful advice concerning the organization of his policy of personal health control. The medical examinations are utilized for the purpose of finding remediable physical defects whose proper treatment may add to the physiological efficiency and therefore to the health possibilities of the student.

Prescribed: Arts and Science; Freshman, Sophomore, Junior, Lower Senior and Special Students. Once each term. No credit.

(b) Hygienic inspections.

These inspections are applied in the mutual interest of personal, departmental and institutional hygiene.

Prescribed: Arts and Science; Classes, Freshman and Sophomore.

(c) Conferences.

All students who have been given personal hygienic or medical advice are required to report in conference by appointment in order that the advice may be followed up.

All individuals found with communicable diseases are debarred from all classes until it is shown in conference that they are receiving proper medical treatment, and that they may return to class attendance with safety to their comrades.

All individuals found with remediable physical or hygienic defects are required to report in conference with evidence that the abnormal condition has been brought to the serious attention of the parent, guardian or family medical or hygienic adviser. Students failing to report as directed may be denied admission to all classes.

II. MEDICAL AND SANITARY SUPERVISION.

(a) Sanitary supervision.

An "Advisory Committee on Hygiene and Sanitation" with the Professor of Hygiene as Chairman, has been appointed by the President. This committee has been instructed to "inquire from time to time into all our institutional influences which are likely to affect the health of the student and instructor, and to make such reports and recommendations to the President as may seem wise and expedient."

(b) Board of Health Regulations. Reports of contagious cases in all the Boroughs of Greater New York are daily received from the Board of Health, and under section 94 of the Sanitary Code, all students exposed to contagious disease are debarred from further attendance until properly certified by the Board of Health.

(c) Medical consultation.

Open to all students. (Optional.)

(d) Medical examination of Athletes.

(See "c" under VI.)

(e) Treatment.

Emergency treatment is the only treatment attempted by the Department. Such treatment will be applied only for the purpose of protecting the individual until he can secure the service he selects for that purpose.

(f) Conferences.

(See "c" under I.)

(g) Laboratory: The Department Laboratory is equipped for efficient bacteriological and chemical analyses. The water

in the swimming pool is examined daily. The laboratory service will be utilized to identify typhoid and diphtheria carriers, and in every other reasonable way to assist in the protection of student health.

III. LECTURES IN HYGIENE.

Four terms, twenty lectures each term.

- (a) Some of the common causes of disease.
- (b) The carriers of disease.
- (c) The contributory causes and carriers of disease.
- (d) Defenses against disease.

IV. INSTRUCTION IN PHYSICAL EXERCISE.

- (a) Drills. Graded through four terms.
- (b) Apparatus. Graded through four terms.
- (c) Swimming. Graded through four terms.
- (d) Indoor and outdoor games and play graded throughout four terms. The stadium will be utilized for much of this exercise.

V. WRITTEN AND PRACTICAL EXAMINATIONS.

- (a) Daily examinations in personal hygiene (inspections).
- (b) Monthly examinations, both written and practical.
- (c) Term examinations. Final written examination.

VI. ATHLETIC CONTROL.

(a) The Faculty Athletic Committee has jurisdiction over all athletic matters involving academic relationship.

(b) The Athletic Council has jurisdiction over all business activities connected with student athletic enterprises.

(c) The Department of Hygiene has jurisdiction over all athletic instruction, coaching, training, etc.

(d) The Department of Hygiene has supervision over the use of the stadium.

1. COURSE ONE.

- (a) Lectures. "Some of the common causes of disease."
- (b) Physical Exercise.

i. Graded mass drills.

(a) Elementary drills are used in order to develop obedience and ready response to command, accurate execution, good form and carriage and facility of control.

(b) More advanced drills are given in which movements are made in response to commands. Strength, endurance and co-ordination are brought into play.

- ii. Apparatus work. Elementary graded exercises for squads of five students each.

- iii. Selected, graded, recreative indoor and outdoor games and play.
- iv. Swimming. Each student is required to learn to swim with more than one variety of stroke.

Prescribed: Freshman; first term, two hours a week; counts $\frac{1}{2}$.

2. COURSE TWO.

(a) Lectures. "The carriers of disease."

(b) Physical Exercise.

- i. Graded mass drills. Two-count movements. These drills are continuations of, but more advanced than those given in the preceding term.
- ii. Apparatus work. Continuation of graded exercises for squads of five.
- iii. Selected, graded, recreative indoor and outdoor games and play.
- iv. Swimming. Each student is required to develop endurance in swimming.

Prerequisite: 1.

Prescribed: Freshman; second term, two hours a week; counts $\frac{1}{2}$.

3. COURSE THREE.

(a) Lectures. The contributory causes and carriers of disease.

(b) Physical Exercise.

- i. Graded mass drills. Four-count movements. More advanced work.
- ii. Apparatus work. Continuation of graded exercises for squads of five.
- iii. Selected, graded, recreative indoor and outdoor games and play.
- iv. Swimming. Diving, rescue and resuscitation of the drowning.

Prerequisite: 2.

Prescribed: Sophomore; first term, two hours a week; counts $\frac{1}{2}$.

4. COURSE FOUR.

(a) Lectures. "Defenses against poor health and disease."

(b) Physical Exercise.

- i. Advanced graded mass drills. Eight-count movements.
- ii. Advanced graded apparatus work. For squads of five.
- iii. Selected, graded, recreative indoor and outdoor games and play.
- iv. Swimming. Advanced continuation of requirements outlined for Courses 2 and 3.

Prerequisite: 3.

Prescribed: Sophomore; second term, two hours a week, counts $\frac{1}{2}$.

Note: In each of the above required courses provision is made for those students whose organic condition may permanently disqualify them for the regular scheduled work.

Voluntary Classes. These are organized at such times of the day as do not conflict with the required work. They are open to all collegiate students without credit. Opportunity is given in these classes for advanced work and for experience in certain phases of normal work.

5. INTERMEDIATE PHYSICAL TRAINING.

This course is planned to supply the student with such organic development and efficiency as will enable him to demonstrate successfully as a teacher various type exercises for classes in elementary and intermediate indoor and outdoor gymnastics, aquatics, games, play and athletics.

Prerequisite: Course 4. One term, two hours a week; counts $\frac{1}{2}$.

6. ADVANCED PHYSICAL TRAINING.

This course is a continuation of Course 5, and is designed for the physical equipment of teachers of more advanced physical work.

Prerequisite: Course 5. One term, two hours a week, counts $\frac{1}{2}$.

7. CLASS MANAGEMENT.

This course supplies the practical instruction and experience needed for the training of special teachers in the management of elementary and intermediate classes in various forms of physical exercise.

Prerequisite: Course 6, and Elements of Human Physiology—Natural History 2. One term, three hours a week; counts 1.

8. CLASS MANAGEMENT.

This course is a continuation of Course 7. It is planned to give a training in the management of more advanced classes.

Prerequisite: Course 7. One term, three hours a week; counts 1.

9. CONTROL OF EMERGENCIES AND FIRST AID TO THE INJURED.

This course supplies instruction concerning the management and protective care of common emergencies. The instruction is practical and rational. It covers such emergencies as: sprains, fractures, dislocations, wounds, bruises, sudden pain, fainting, epileptic attacks, unconsciousness, drowning, electric shock, and so on.

Prerequisite: Natural History 2, Elements of Human Physiology; and Natural History 13, General Bacteriology. One term, two hours a week; counts 1.

10. THEORY AND PRACTICE OF INDIVIDUAL INSTRUCTION IN
HYGIENE AND IN DEPARTMENTAL SANITATION.

Prerequisites or Corequisites: Natural History 2, Elements of Human Physiology; Natural History 13, General Bacteriology; Natural History 15, Municipal Sanitation. One term, six hours a week in two periods of three hours each: counts 2.

LATIN LANGUAGE AND LITERATURE.

* Starred courses are offered in the Evening Session also.

*1-2. VERGIL.

Four or five books of the Aeneid, with study of Latin prosody; prose composition, with suitable grammatical lessons. Text-books: Frieze's *Vergil's Aeneid*; Ritchie's *Latin Prose Composition*.

Prescribed for candidates for the Arts degree; two terms, four hours a week; counts 7.

*3. AN ESSAY OF CICERO AND SELECTED ODES OF HORACE.

About six weeks are devoted to the study of Cicero's *De Senectute* or *De Amicitia* with exercises in Latin Prose Composition; the remainder of the term to Horace. Text-books: Bennett's edition of the *De Senectute* and *De Amicitia*; Smith's *Horace's Odes*; Ritchie's *Easy Continuous Latin Prose*.

Prescribed for candidates for the Arts degree; one term, four hours a week; counts 3½.

*4. HORACE'S SATIRES, ODES AND EPISTLES.

Selected satires and epistles and additional odes with historical and metrical commentary, and studies in etymology. Text-book: Greenough's *Horace's Satires*.

Prescribed for candidates for the Arts degree; one term, four hours a week; counts 3½.

5. THE LATIN DRAMA. PLAUTUS.

Selected comedies of Plautus.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

6. THE LATIN DRAMA. TERENCE.

Selected comedies of Terence.

Prerequisite: Latin 4. One term, three hours a week; counts 3.

7. LATIN LYRIC AND SATIRIC POETRY.

Selections from *Catullus*, *Tibullus*, *Propertius*, *Ovid* and *Juvenal*.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

8. THE LATIN HISTORIANS.

Selected readings from *Sallust*, *Livy* or *Tacitus*.

Prerequisite: Latin 4. One term, three hours a week, counts 3.

9. CICERO'S PHILOSOPHICAL WORKS.

For students interested in the history of ancient philosophy. Cicero's *De Natura Deorum*, *Academica* or *Tusculan Disputations*.

Prerequisite: Latin 4. One term, three hours a week; counts 3.

10. LATIN LINGUISTICS.

For students of Language, especially the Latin, Romance and English languages.

Prerequisite: Latin 4. One term, one hour a week; counts 1.

11. ADVANCED LATIN PROSE COMPOSITION.

For students intending to become teachers of language, especially Latin.

Prerequisite: Latin 4. One term, one hour a week, counts 1.

13-14. ELEMENTARY LATIN.

Prescribed for students of the Arts Course who matriculated before May, 1913, and have not had Latin.

Two terms, three hours a week; counts 6.

15-16. ELEMENTARY LATIN.

Elective for Juniors and Seniors in the Science courses.

Two terms, five hours a week; counts 10.

MATHEMATICS.

* Starred courses are offered in the Evening Session also.

*20. SOLID GEOMETRY.

Text-book: Durell, *Plane and Solid Geometry*.

One term, three hours a week; counts 3.

*21. TRIGONOMETRY.

Text-book: Crawley, *Short Course in Trigonometry*.

One term, three hours a week; counts 3.

*22. ADVANCED ALGEBRA.

Text-book: Hawkes, *Advanced Algebra*.

Prescribed for:

{	Science students who do not present Advanced Algebra for entrance.
	Arts students who do not present Advanced Algebra for entrance, unless Mathematics 3a is elected.

One term, three hours a week; counts 3.

3a. ANALYTIC GEOMETRY (Outline).

Text-book: Wentworth, *Analytic Geometry*.

Prerequisite: Entrance Trigonometry or Mathematics 1a.

Elective for students in Arts.

One term, three hours a week; counts 3.

4a. DIFFERENTIAL AND INTEGRAL CALCULUS (Outline).

Text-books: Fisher, *Infinitesimal Calculus*, Osborne, *Differential and Integral Calculus*.

Prerequisites: Mathematics 3a. Elective for students in Arts.

One term, three hours a week, counts 3.

*1. PLANE AND SOLID ANALYTIC GEOMETRY.

Text-book: Wentworth, *Analytic Geometry*.

Prerequisites: Entrance Trigonometry or Mathematics 1a, and Entrance Advanced Algebra or Mathematics 2a.

Prescribed for students in Science.

One term, four hours a week; counts 4.

*2-3-4. CALCULUS.

Text-book: Osgood, *A first Course in the Differential and Integral Calculus*, or Osborne, *Differential and Integral Calculus*.

Prerequisites: For Mathematics 2, Mathematics 1 or 3a; for Mathematics 3, Mathematics 2; for Mathematics 4, Mathematics 3.

Prescribed for students in Science, elective for students in Arts.

Three terms, three hours a week; counts 9.

MUSIC.

1. HISTORY AND APPRECIATION OF MUSIC. *Professor Baldwin.*

A comprehensive study of the growth of music as an Art, the development and analysis of Musical Forms, and the Great Composers from the standpoint of an intelligent appreciation. No practical knowledge of music is required. The work is conducted by means of lectures with ample musical illustrations, recitations, text-book study and prepared papers. Text-book: Pratt, *The History of Music*.

One term, two hours a week; counts 2.

2. A STUDY OF MODERN MUSIC. *Professor Baldwin.*

This subject is intended to supplement the preceding, and is devoted to a detailed study of composers of the nineteenth and twentieth centuries, including the various phases of instrumental music since Beethoven, and the development of the modern Music-Drama. Lectures are given with musical illustrations; and recitations, readings and a thesis from each student upon some assigned phase of the subject are required.

Prerequisite 1. Spring term, two hours a week, counts 2.

3. HARMONY. *Professor Baldwin.*

This course deals with the formation of chords and their proper relationship. The study of harmony will be carried through triads and their inversions, seventh and ninth chords, altered chords, non-harmonic tones and modulations, and will involve harmonizing both given basses and given melodies. Some practical knowledge of music is required for admission.

Fall term, two hours a week; counts 2.

This Department also conducts the following:

WEEKLY PUBLIC LECTURES IN APPRECIATION OF MUSIC.
Tuesday afternoons at 4.15, October to May, inclusive.

GLEE CLUB. The object is to develop choral singing in the College, and includes instruction in the rudiments of voice production.

ORCHESTRA. A course in orchestral training is open to all students of the College, who are properly qualified, and to students of music outside of the College, in order that instruments which cannot be supplied by the College students may be secured.

ORGAN RECITALS given by Professor Baldwin twice each week throughout the College year.

NATURAL HISTORY.

* Starred courses are offered in the Evening Session also.

The Department of Natural History aims to secure in all the subjects taught that all-round culture which may be obtained only through the study of nature, and also to train in the methods and technique of science. The subject matter is taught by lectures to the entire class, recitations and laboratory work in small sections supplemented by field work, visits to museums, laboratories, and municipal and industrial establishments.

Students pursuing biologic courses are advised to elect during the junior terms among the subjects: N-2, 3, 4, 5, 6, 11 and 13, followed in the senior year by: N-7, 8, 9, 12, 14 and 15; to finish with: N-10 and 16.

N-2, 5, and 6 should be taken before N-8.

N-3, 4, and 5 before N-7.

N-3, before N-9.

N-4, 5, and 11 before N-12.

N-13 before N-14.

N-8, before N-10,

N-7, 8, 11, and 13 before N-16.

The library of the department is open to all students during college hours. It contains over one thousand volumes on the various biologic subjects, with an additional three hundred volumes on sanitation from the Gerhardt Gift. Several private funds are available for developing the library, most important of which are the Steers Fund for books and the Warburg Fund for the purchase of journals.

The Department of Natural History maintains for exhibition and study a departmental museum containing many rare and valuable specimens used in the course in biology and geology. At present there are about 20,000 specimens which are being added to regularly by purchases and by gifts from friends of the department. The museum is open daily.

*1. GENERAL BIOLOGY.

Professor Scott.

This subject deals with the fundamental laws and principles which underlie all the biologic sciences. The structure, functions, development, behavior and history of living things will be discussed and in addition studied in the laboratory by the use of selected types. This course furnishes the necessary basis for

more advanced work in biology. Text-book: Abbott's *General Biology*.

Prescribed: One lecture, one recitation and four laboratory hours a week; counts 4.

*2. ELEMENTS OF HUMAN PHYSIOLOGY. *Dr. Edwards.*

Designed to instruct the student in the general principles of human physiology. The subject matter deals with the functions of the organs of the body, and is accompanied by laboratory work illustrating their activities. Also, it deals with the general principles of the chemistry of foods and nutrition, with especial reference to the food requirements of man, and such physiologic facts as are of practical worth in enabling the student to understand better the laws of health and apply them to daily living.

One lecture, one recitation and two laboratory hours a week; counts 3.

3. GENERAL BOTANY. *Mr. Buller.*

Treats of the nature, development and evolution of plant life. Laboratory work will consist of the study of types with special emphasis on plant physiology. Field excursions will be made for ecologic study, and to obtain familiarity with the more common plants.

Spring term; one lecture, one recitation and four laboratory hours a week; counts 3.

4. INVERTEBRATE ZOOLOGY. *Professor Goldfarb.*

This subject is intended to afford the student an opportunity to study intensively the chief types of invertebrate animals, including their functions, structure, adaptations and history, and with particular emphasis on the theory of evolution.

One lecture, one recitation, and four laboratory hours a week; counts 3.

*5. COMPARATIVE ANATOMY. *Professor Scott.*

This subject treats of the comparative anatomy of the various systems of organs of the vertebrates, the relationships between the different classes and questions relating to the origin and evolution of the vertebrates. Laboratory work consists of the dissection of typical vertebrates and the examination of anatomic preparations in the museum collection. Visits are made to the Aquarium, Museum of Natural History and the Zoological Park.

Fall term; one lecture, one recitation and four laboratory hours a week; counts 3.

6. EMBRYOLOGY AND HISTOLOGY. *Professor Scott.*

This subject includes a study of the cell and the general embryologic processes, such as fertilization and the formation

of the germ layers. The development of the various systems of organs is studied by means of frog and chick preparations. The histologic structure of various adult organs is obtained from a study of mammalian preparations. Special training is given in microscopic technique.

Spring term; one lecture, one recitation, and four laboratory hours a week; counts 3.

7. THEORETIC BIOLOGY.

Professor Goldfarb.

In this subject it is proposed to study critically the larger problems of biology, such as evolution, variation, selection, heredity, growth, regeneration and sex determination, to give the requisite historic back-ground, and to examine the problems in the light of recent experimental researches.

Two lectures and one recitation, counts 3.

8. ADVANCED PHYSIOLOGY.

Dr. Edwards.

A study of the fundamental facts of physiology and methods of investigation. The aim is to give a complete study of certain topics; the phenomena of contraction, conduction, sense perception and the various mechanisms of general metabolism. Laboratory work is arranged to show the methods of physiologic experimentation and to emphasize the necessity of using care and accuracy in their application.

Spring term; two lectures and two laboratory hours a week; counts 3.

9. APPLIED BOTANY.

Mr. Butler.

Is designed as a foundation for practical economic botany. Lectures and laboratory work will refer to the more important plants used in the arts and industries. The characteristics, comparative utility and commercial value of foods, textiles, building materials and other plant products will be studied. Field work consists of visits to mills and factories.

Fall term; one lecture, one recitation and four laboratory hours a week; counts 3.

10. ANTHROPOLOGY.

Professor Sickels and Dr. Scott.

This subject deals with the natural history of man: his comparison with the lower animals, apes and primitive man, his structure, racial variations, his origin, development and distribution. References: Duckworth and Brinton.

A portion of the time will be given to the study of the human brain and the special senses.

Two lectures and two laboratory hours a week; counts 3.

11. MINERALOGY.

Professor Sickels.

This subject includes a short course in crystallography, blow-pipe analysis, and economic mineralogy. Students are required to recognize the more common minerals and rocks by their physical and chemical properties. Reference: Dana.

Two lectures and two laboratory hours a week; counts 3.

12. GEOLOGY.

Professor Sickels.

In this subject the student is given a general knowledge of the origin, structure and history of the earth, and of the forces which have brought about its present condition. The subject includes paleontology, the study of fossil plants and animals from the point of view of evolution. Text-books: Norton, Dana. References: Scott, Zittell, etc. Open to Juniors and Seniors who have had mineralogy. Also Seniors, second term.

Two recitations and three laboratory hours a week; counts 3.

13. GENERAL BACTERIOLOGY.

Dr. Browne.

Lectures, recitations and laboratory work introducing the student to the technique of bacteriology and to the more important facts about the structure and function of bacteria. Special applications of bacteriology to agriculture and the industries are discussed and brief references are made to the activities of allied microbes, the yeasts and molds. The general relations of bacteria to disease and the principles of immunity and its control are included.

One lecture, one recitation and four laboratory hours a week; counts 3.

14. ADVANCED BACTERIOLOGY.

Dr. Browne.

This subject is devoted to the laboratory methods of biology as applied in the work of state and municipal boards of health. Practice will be given in the methods used for the diagnosis of diphtheria, tuberculosis, malaria and typhoid fever, and in the sanitary examination of water supplies and milk supplies. The higher microscopic forms, Algae and Protozoa, which are the cause of tastes and odors in reservoirs, will also be studied, with the technique used for their recognition and enumeration.

Spring term; one lecture and six laboratory hours a week; counts 3.

15. MUNICIPAL SANITATION.

Dr. Browne.

Lectures, discussions and visits to public works of special importance. The principles which underlie a pure water supply and the means by which the wastes of the city, its sewage and garbage may be successfully disposed of, and the problems of

pure milk and pure food supplies, the housing question with its special phase of ventilation and plumbing, and the methods by which a municipal board of health is organized to fight tuberculosis and other specific diseases will be studied.

Two lectures and one field trip a week; counts 3.

16. RESEARCH WORK.

Seniors who have completed satisfactorily a sufficient amount of work in the Department may be assigned some topic to serve as a basis for a thesis which will be submitted as credit for the work at its completion. The student will receive the advice of the instructor in the subject in which the research falls, but as much independent work as possible will be insisted upon. The purpose is to introduce the student into research methods and also to foster independence.

PHILOSOPHY.

* Starred courses are offered in the Evening Session also.

*1. ETHICS. *Professors Overstreet, Cohen, Turner and Dr. Marsh.*

A study of the principles of individual and social conduct, particularly as these have application in the moral conflicts of modern life.

Prescribed: One term, three hours a week; counts 3.

*2. LOGIC AND SCIENTIFIC METHOD.

Professors Cohen and Turner.

This course aims to acquaint the student with the main principles of deductive and inductive inference and with the more specific methods of scientific thinking and research. By the use of practical examples the student is taught to recognize true and to detect false reasoning.

One term, three hours a week; counts 3.

*3. PROBLEMS AND HISTORY OF PHILOSOPHY.

Professor Overstreet.

In this course the main problems of philosophy are examined for the purpose, first, of understanding their significance as living issues, and second, of attempting their solution. To this end the leading historical solutions from early Oriental and Greek thought to the present day are passed in review. The course aims primarily to introduce the student to constructive philosophical thinking.

Fall term, three hours a week; counts 3.

4. THE PHILOSOPHY OF SCIENCE.

Professor Cohen.

A study of the logical and metaphysical problems presented by the mathematical, natural and social sciences. The aim of the course is to deepen the student's insight into the nature of scientific method and to help him to construct a rational world view. The work will be carried on mainly through reports on memoirs which have had an important influence in the history of science.

Prerequisite: Completion of all the prescribed science work.

Fall term, three hours a week; counts 3.

5. THE PHILOSOPHY OF LAW.

Professor Cohen.

A study of the ethical and metaphysical principles at the basis of our judicial procedure and social legislation. The leading features of the Roman and the common law, and such topics as the theory of property, contract, tort, etc., will be studied. The aim of this course is to place the student in a position to estimate the resources and limitations of the law as a factor in the ethical transformation of society. Lectures and student reports on selected readings from such works as Sohm's *Institutes of Roman Law*, Bentham's *Theory of Legislation* and Salmond's *Jurisprudence*.

Spring term, three hours a week; counts 3.

6. SOCIAL AND POLITICAL PHILOSOPHY.

Professor Overstreet.

In this course the various social activities, relations and institutions are studied in such manner as to lead to an understanding of the fundamental ends involved in social life. The course aims to be synthetic in relation to the several social sciences and so to give to the student a comprehensive grasp of the significance of the social structure and processes.

Spring term, three hours a week; counts 3.

PSYCHOLOGY.

*21. GENERAL PSYCHOLOGY. *Professor Turner and Dr. Marsh.*

This course is introductory to all the following courses in Psychology. Its object is to present the essential facts and laws of behavior and to indicate their bearing upon the various practical interests of life, such as education, law, medicine, politics, business, etc. Recitations, demonstrations, and experimental work.

One term, two lectures and two laboratory hours a week; counts 3.

22. EXPERIMENTAL PSYCHOLOGY.

Dr. Marsh.

The intention in this course is to study the self from the genetic or developmental standpoint by laboratory methods and appliances, with special emphasis upon the range and measurement of psychic similarities and differences in individuals and in groups. Provision is made for self-analysis and for special investigations and researches. This course, though not prerequisite, is desirable for those wishing to take Course 24.

Prerequisite: Philosophy 21.

One term, one lecture and two laboratory hours a week; counts 2.

23. ABNORMAL PSYCHOLOGY.

Professor Turner.

This course is offered with particular reference to the needs of students who plan to enter the medical profession; but it is designed also for students whose interest in psychology is more general. The special field traversed is suggested by the topics treated: hysteria, multi-personality, dreams, suggestions, etc. Lectures, recitations and clinical visits.

Prerequisite: Philosophy 21.

Spring term, three hours a week; counts 3.

24. VOCATIONAL PSYCHOLOGY.

Dr. Marsh.

This course aims to meet the wide need for a practical psychotechnics. It distinguishes the primary mental properties of the fields of education, industry, business, law, and journalism. and the mental traits essential for success in the persons who choose them. It presents the psychological bases of personal growth, vocational guidance, and professional efficiency. Lectures and demonstrations, student papers and reports, class experiments and observational visits and special research.

Prerequisite: Philosophy 21.

One term: two lectures and two laboratory hours a week; counts 3.

PHYSICS.

* Starred courses are offered in the Evening Session also.

I. ELEMENTARY.

The elementary courses are intended for students who do not offer Physics for entrance. Nothing more being required of candidates for the degree in Arts, the entire subject is covered in a general way, special emphasis being laid on the primary facts and on the important principles. The study is pursued by means of lectures, recitations, and individual laboratory exercises. Students are held strictly accountable for all the apparatus assigned to their use, and must replace any lost by breakage or waste through carelessness.

*1. MECHANICS, HEAT AND MAGNETISM.

Text-books: Millikan and Gale. *A First Course in Physics*.
Cheston, Dean, Timmerman, *Laboratory Manual of Physics*.
Prescribed for all students who do not offer Physics for entrance; one laboratory and three recitation and lecture hours a week.

*2. SOUND, LIGHT AND ELECTRICITY.

The same text-books are used as in Physics 1.
Prerequisite: Physics 1. Prescribed as in Physics 1.

II. COLLEGE PHYSICS.

These courses are intended more especially for students of science. The aim is to secure a thorough knowledge of the physical facts and of their quantitative relations both for the purpose of understanding the unity of natural phenomena, and also for the application of these facts and relations to practical problems. In all of the experimental work attention is especially given to the setting-up and to the use of the apparatus for the purpose of securing the best conditions of manipulation and the most accurate results of which the apparatus is capable. All observed data are carefully tabulated and reports upon every experiment are required to contain a description of the method of manipulation, complete calculations and conclusions based upon the observations, and appropriate diagrams and plots. Special attention is given to practical methods of computation.

*3. MECHANICS, WAVE MOTION AND HEAT.

Text-book: Watson, *General Physics*.

The experiments are: the construction and use of a model vernier caliper, the composition of vectors by graphical methods and verification by numerical calculations, the use of micrometers, the optical micrometer, the finding of the relation between the metric and English units of length, the use and theory of the balance, the determination of "g" from the simple pendulum and the reversible pendulum, the study of torque, angular velocity and angular acceleration and their relations to rotational mass, several uses of the Joly balance, the laws of torsion, the determination of the moment of inertia of a body by means of the torsion and the compound pendulum, the verification of the laws of capillarity, Boyle's law of gases at pressures both higher and lower than atmospheric, the calibration of thermometers, the constant of radiation, specific heat and latent heat of substances by accurate methods, determination of the mechanical equivalent of heat.

Prerequisite: Elementary Physics.

Prescribed: Science } One term; one lecture, two recitations and two
Elective: Arts } laboratory hours a week; counts 3.

*4. LIGHT AND ELECTRICITY.

Text-book: Watson, *General Physics*.

The following experimental determinations are made: the radius of curvature of a lens by means of the spherometer; the relations between real conjugate foci of a converging lens; the index of refraction of light passing from water to air; power, spherical aberration, and astigmatism of a converging lens; the study and construction of simple optical instruments; the refracting angle of a glass prism and the index of refraction measured with the spectrometer; the use of the spectroscope; the wave length of sodium light with spectrometer and diffraction grating; distribution of magnetism in a bar magnet; measurement of resistances by both the slide-wire and coil form of Wheatstone bridge; verification of the laws of resistance; determination of the specific resistance and of the temperature co-efficient of a metal; measurement of a current by both a copper and a gas voltameter; determination of the mechanical equivalent of heat by means of a current.

Prerequisite: Physics 3.

Prescribed: Science } One term; one lecture, two recitations and two
Elective: Arts } laboratory hours a week; counts 3.

III. ELECTIVE.

These courses are offered with two objects in view; to enable a student to complete his training in theoretical physics by the choice of a subject in which the mathematical treatment of physical problems serves to show the adaptability of mathematics to the investigation of natural phenomena; or to begin his preparation for engineering and technical work by choosing subjects involving the application of physics and mathematics to practical problems.

*5. ADVANCED ELECTRICITY. *Professor Parmly.*

The purpose of this course is to prepare the student for the study of electrical engineering by presenting to him the principles of electricity and magnetism which form the foundation of the art. The term's work is nearly equally divided between the exposition of those principles which apply equally to both direct and to alternating currents, and to those which belong particularly to varying currents. Precise measurements are made of all the quantities which appear in practical work. A few experiments will familiarize the student with the operation of generators and motors.

Text-book: Pender, *Principles of Electrical Engineering.*

Prerequisite: Physics 4 and Mathematics 4.

One term; one lecture, two recitations, and two laboratory hours a week; counts 3.

*6. ADVANCED MECHANICS. *Professor Fox and Mr. Corcoran.*

This is principally an application of mathematics to the principles of the mechanics of rigid bodies. It includes a theoretical study of Statics, Kinetics and Kinematics and also the solution of practical problems.

Text-books: Dadourian, *Analytical Mechanics*; Martin, *Text-Book of Mechanics.*

Prerequisites: Physics 3 and Mathematics 4.

One term, one lecture and three recitations a week; counts 3.

*7. STRENGTH OF MATERIALS. *Professor Fox and Mr. McLoughlin.*

In this course there are developed the special rules of design and formulae applicable to the structural forms in common use, such as beams, columns, and struts, shafts, springs, spheres and cylinders under pressure, flat plates, hooks, and links, and foundations. The physical properties of materials are studied and tests are made with the Riehle machine, cement tester, and other devices, determining the elastic constants used in the formulae.

Text-book: Slocum and Hancock, *Strength of Materials.*

Prerequisites: Physics 6 and Mathematics 4.

One term: three recitations or lectures and two laboratory hours a week; counts 3.

8-9. THEORY OF PRIME MOVERS.

Professor Fox and Mr. Corcoran.

Air pressure, water pressure, wind power and water power are studied, and the mechanical principles involved in navigation, aeronautics, pumps, water wheels, water turbines and pressure engines. Hot-air engines, internal combustion engines, steam engines and turbines, boilers and furnaces are studied in a similar manner. Methods for calculating the theoretical efficiency of all these machines are taught, and the conditions for obtaining the highest efficiency are determined.

The laboratory work is done in the well-equipped mechanical laboratory of Compton Hall. It consists in the practical study of the devices used in testing power plants, *e. g.*, gauges, scales, weirs, meters, indicators, calorimeters. Full tests are made of a hydraulic ram, a Pelton wheel, a water turbine, a boiler and furnace, different types of steam engines, a steam turbine, a gas engine, a gasolene engine, a hot-air engine and pumps. Complete calculations and reports of the tests are required of every student. The power plants of the College and of other institutions in the city are also inspected and studied. Text-books: Rankine's *Manual of Prime Movers*; Church, *Hydraulic Motors*; Reeve, *Thermodynamics of Heat Engines*; Allen and Bursley, *Heat Engines*; Smart, *Engineering Laboratory Practice*; Carpenter and Diedrichs, *Experimental Engineering*.

Prerequisites: Physics 6 and 16.

Beginning in Fall, two terms, three recitations or lectures and four laboratory hours a week: counts 4 each term.

*10. ELECTRODYNAMICS OF DIRECT CURRENTS.

Professor Parmly.

Lectures and quizzes are given upon the theory and calculation of the magnetic circuit; derivation of the fundamental equation of the dynamo, purpose and design of the essential parts of a dynamo; theory of the shunt, series and compound generators; methods of distribution; theory of the shunt, series and compound motors; conditions of operation and methods of speed variation; numerous problems embodying the various principles.

The theoretical work is supplemented in the Electrical Laboratory of Compton Hall by practical work with both generators and motors. The following tests are made: measurement of the resistance of the field and of the armature of a dynamo; critical examination of the construction and operation of various types of ammeters and voltmeters; study of the magnetic circuit to determine the influence of length, cross-section, and air-gap upon the reluctance; determination of the magnetic distribution in the air-gap of a D. C. machine; determination of the permeability

curve of a sample of iron by the ballistic galvanometer; measurement of the candle-power and efficiency of an incandescent lamp at various voltages; operation and control of an arc lamp; determination of the influence of load, distance, and cross-section upon voltage drop of transmission and distribution lines; setting-up and operating both generators and motors, including all the measuring and controlling apparatus; no-load, voltage and excitation characteristics of a shunt-wound and a of compound-wound generator; operation of two shunt-wound generators in parallel; direct-current armature windings.

Prerequisite: Physics 5. Spring term, two lectures or recitations, one afternoon in the laboratory a week; counts 3.

11. ELECTRODYNAMICS OF ALTERNATING CURRENTS.

Professor Parmly.

In the theoretical work the following topics are studied from Rhoades's *Alternating Currents*: energy equations, inductance, capacity, power, graphical representations, vector algebra, vector solutions, harmonics, choke coils, theory and design of transformers, synchronous motors, polyphase currents, induction motors, rotary converter, transmission lines, power measurement. Numerous examples and problems illustrative of the text are solved, and in the laboratory work the verification of the theory is made prominent as well as the practical operation of alternating currents. The tests performed in the Electrical Laboratory of Compton Hall include the calibration of ammeters and voltmeters, study and calibration of indicating wattmeters, test of an integrating wattmeter, determination of the factors which influence reactance, measurement of impedance, power relations with impedances in series and in parallel, measurement of capacities, effect of power-factor upon voltage drop in a transmission line, loading and testing transformers, determination of the electrical relations in polyphase systems, characteristics of single phase alternators, parallel operation of alternators, operation and test of two and of three phase induction motors, armature windings.

Prerequisite: Physics 5. Fall term, two recitations and one afternoon in the laboratory a week; counts 3.

12. DESCRIPTIVE ASTRONOMY.

Professor Turner.

A study of the systems of coordinates, sun, moon, planets, eclipses, tides. Lectures and recitations are supplemented by observations. Text-book: Young, *General Astronomy*.

Fall term; three hours a week; fortnightly a two-hour period of laboratory and observation; counts 3.

13. ELEMENTARY PRACTICAL ASTRONOMY. *Professor Turner.*

Determination of time, latitude, longitude and azimuth; practice with the sextant and transit, each student completing ten selected problems. The two small towers on the main building are fitted up with instruments and conveniences for this purpose. The Newcomb Library, donated by Mr. John Claflin, '69, is available for reference. Text-book: Campbell, *Elements of Practical Astronomy*.

Prerequisite: Physics 12.

Spring term; four hours a week, divided between lectures, recitations, and observing; counts 3.

*14. THEORY OF SURVEYING. *Mr. McLoughlin.*

In this course are taken up the fundamental principles of surveying, the construction, adjustment and use of the tape, the transit, the level, the plane table and the sextant. Methods of surveying for area, profile and topography are studied, and the stadia method of measuring distances is fully treated. The work is supplemented by lectures and practice. Two hours a week are devoted to the field practice, in which the manipulation of the various instruments is taught and a traverse is run, with compass, transit, tape and hand level, of a small area of rough ground. Problems in the reduction of actual field notes are solved by the students every week.

Text-book: Breed and Hosmer, *Principles and Practice of Surveying*, and instructor's notes.

Elective: Fall term, two recitations and two field work hours a week, counts 3.

15a. PRACTICAL SURVEYING. *Mr. McLoughlin.*

This course consists of fifteen days' continuous field work during the summer months, with weekly conferences during the term.

The transit and level are adjusted by each student and five preliminary traverses are run: 1° B. M. Leveling and Profile, 2° Open Azimuth for Distance, 3° Azimuth and Stadia for area, 4° Hand Level for Contours, and 5° Repetition for Distance and Angles. A complete survey is then made for a proposed road two miles long. Stakes are set, volumes computed, and maps prepared as in actual practice.

Text-books: Tracy, *Plane Surveying*, instructor's notes. References: Tracy, *Exercises in Surveying*, Crandall, *Earthwork*, Searles, *Field Engineering*.

Prerequisite: Physics 14.

Spring term, one conference hour a week and at least twelve clear days during June and July.

15b. PRACTICAL SURVEYING. (Continued.)

The work consists of five surveys: 1° The estimation of cubic yards of cut and fill to bring a city lot to grade for building purposes. 2° The location of a city street through a piece of property and the staking out of two city lots thereon. 3° The location of a simple railroad curve with inaccessible P. T. or P. C. The location of a curve with transitions. 4° Plane Table traverse of a portion of Van Cortlandt Park. 5° Observations on Polaris for Meridian and Latitude. Sextant observations for latitude, longitude, time and true meridian.

Text-books and References: Tracy, *Plane Surveying*; Breed. and Hosmer, *Plane Surveying*, vol. II., Searles, *Field Engineering*; Crandall, *Transition Curve*; Wilson, *Topographic Surveying*; Mitchell, *Notes on Astronomy and Geodesy*.

Prerequisite: Physics 15a.

Fall term, one hour conference weekly and at least twelve clear days in September; counts 3.

16. MATHEMATICAL PHYSICS.

Professor Coffin.

During the coming year thermodynamics will be studied from the mathematical point of view. Stress will, however, be laid upon the possible application of the results obtained and the students will be prepared to take up the subject of Engines in a thorough and intelligent manner. Text-book: Goodenough, *Principles of Thermodynamics*.

Prerequisite: Physics 3 and Mathematics 4. Physics 16 is a prerequisite for Physics 9.

Two lectures and two recitations a week, counts 3.

17. ADVANCED EXPERIMENTAL PHYSICS.

Dr. Goldsmith.

During the coming year this will be a course in RADIO-COMMUNICATION.

This course deals with the theory and practice of the more important methods of generating, transmitting, and receiving electric waves of high energy. Special stress is laid on the design, construction, and maintenance of radio-telegraph and radio-telephone stations. The student is given ample opportunity to become thoroughly familiar with the practical use of apparatus in this field, as well as with the elements of its design.

Partly through the generosity of Mr. Gano Dunn, '89, the laboratory is well equipped with some of the most modern appliances for use in radio-communication. There are included a complete 5 kilowatt Poulsen arc radio-telegraph transmitter (including a 500 volt motor generator), two 0.5 kilowatt Poulsen arc radio-telephone sets, several complete spark sets ranging from several hundred watts to over a kilowatt in power (including a 5 kilowatt 60 cycle motor generator), a large assortment of

detectors, various types of receiving apparatus, sets of electrical standards, and some precision measuring apparatus. Auxiliary apparatus, such as high voltage condensers and inductances, and regulating rheostats are also provided. A large carefully constructed aerial has been installed with connection to the laboratory.

Wherever feasible, opportunities for advanced or original work will be given. Visits to typical stations and factories are made possible for students in this course.

Prerequisite: Physics 5 and Mathematics 4. Physics 10 and 11 are desirable.

Six hours a week; counts 3.

THE MECHANIC ARTS LABORATORIES.

The instruction in these laboratories is given with a view to its cultural value, and not with the purpose of training the student in a handicraft. The student is taught to consider the relation between the physical peculiarities of the materials used and the shape and manipulation of the tools to work them; habits of neatness and orderliness are inculcated; precision of method is insisted upon; in short, manual training is taken to be a training *through* the hands, as well as *of* the hands.

Students using the laboratories are required to provide themselves with a suit of overalls, are held strictly accountable for the tools assigned to their use, and are charged for all material wasted.

The following electives are open to all students:

21. GENERAL ELEMENTARY WOODWORKING.

This includes the elements of joinery and wood-turning. The student is instructed in the use of the principal wood-working bench tools and in the typical operations of wood-turning. The structure and properties of wood are studied with the purpose of demonstrating the bearing of these on tool design and manipulation, and of developing notions of sound wood construction. The use of the speed lathe is taught by graded exercises and the student is made familiar with the parts of the machine tool used. This course is intended to be followed by 23 or 24 or both.

One term; six laboratory hours a week; counts 2.

22. FORGE AND FOUNDRY LABORATORY.

This laboratory is equipped with thirteen down draft forges and twenty-six anvils, with six molding benches, a core oven, a furnace for melting cast iron, three vise benches, a steam hammer, a drill press and the necessary hand tools to accommodate sections of twenty six.

The greater part of the term is devoted to forge work, which comprises exercises in pointing, turning, flattening and bending,

in the making of various kinds of welds, in steel working, hardening, annealing and tempering.

Enough work in chipping, filing, molding and casting is done to familiarize the students with these operations.

Frequent talks are given on the manufacture of the different varieties of iron, their properties, defects and suitability for various purposes.

One term; six laboratory hours a week; counts 2.

23. CABINET-MAKING.

This course includes instruction in the use of the wood-working machines and in shop management. This is especially valuable for those who wish to qualify to teach shopwork in the schools.

The equipment is for sections of twenty-six, and consists of twenty-six speed lathes, a pattern-maker's lathe, a band saw, a universal saw-bench, a drum and disk sander, a jointer or planing machine and a wood trimmer. Students use these machines only under the direct supervision of their instructor.

Prerequisite: Physics 21; or "High School" Joinery.

One term; six laboratory hours a week; counts 2.

24. PATTERN MAKING AND BRASS TURNING.

The principles of joinery and of turning are applied to the making of patterns in sufficient variety to exemplify typical patterns for small and medium-sized castings. Brass-turning will be exemplified by the making of small electrical connections and fittings.

The equipment is the same as in Physics 23.

This course is intended especially for students who expect to follow engineering.

Prerequisites: Physics 21 and 22, or corresponding courses in High School.

One term; six laboratory hours a week; counts 2.

25. MACHINE TOOL LABORATORY.

This laboratory is equipped with seventeen lathes, two planers, two shapers, two milling machines, a universal grinder, a centering machine, a sensitive drill, a radial drill, a power hack saw, a hardening and annealing oven, and a double emery grinder. Over one-half the machines are provided with individual motor drive. The exercises on the lathe are graded and cover all the typical lathe operations. After the student has completed these lathe exercises, he takes up the work on the other machines and advanced lathe work. The student is required to make a careful study of each machine before being allowed to operate it.

Prerequisite: Physics 24.

One term, six hours a week, counts 2.

POLITICAL SCIENCE.

* Starred courses are offered in the Evening Session also.

ECONOMICS AND BUSINESS.

*1. ELEMENTS OF ECONOMICS.

An introductory course in the principles underlying the production, the distribution and the consumption of wealth. One lecture is given each week. The other two hours are devoted to recitation and discussion. Text, recitations and discussions.

Prescribed: One term, three hours a week; counts 3.

2. ECONOMIC DEVELOPMENT OF THE UNITED STATES.

Dr. Snider.

A study of the development and the interaction in the United States, of the factors of production, land, labor, capital, entrepreneurship and social organization, from the Colonial period up to the present time. Text, lectures, reports, collateral readings.

Co-requisite: Pol. Sci. 1. Fall term, three hours a week; counts 3.

3. RESOURCES AND INDUSTRIES OF THE UNITED STATES.

Dr. Snider.

A survey of business in the United States based upon the work of the Federal Bureaus and Commissions, the Courts, National and local Chambers of Commerce and Trade Associations. Typical industries will be followed from the production of their raw material until the marketing of their finished products. Lectures, reports, collateral readings.

Co-requisite: Pol. Sci. 1. Spring term, three hours a week; counts 3.

*4. MONEY AND BANKING.

Professor Clark and Dr. Brisco.

This course develops the origin and uses of money, the laws of money, the history of coin and paper money, the problems of rising prices, bimetallism and gold exchange, the history and the principles of banking and the problems of banking reform. Especial attention is given throughout to money and banking conditions in the United States. Lectures, required readings, text.

Co-requisite: Pol. Sci. 1. One term, three hours a week; counts 3.

*5. IMMIGRATION AND TARIFF. *Professor Clark.*

This course is devoted to a study of two practical economic problems: Immigration and Tariff. Reports upon assigned phases of these problems are required from each student. Lectures, required readings, student reports, and discussions.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week; counts 3.

*6. TRUSTS AND LABOR PROBLEMS. *Professor Clark.*

This course is devoted to a study of two practical economic problems: Trusts and Labor Problems. Reports upon assigned phases of these problems are required from each student. Lectures, required readings, student reports, and discussions.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week; counts 3.

7. PUBLIC AND MUNICIPAL FINANCE. *Professor Clark.*

A study of the principles and of the efficient machinery involved in getting public revenues, making public expenditures and dealing with public debts. Emphasis will be put upon the systems of finance in New York City and New York State. Text, lectures, reports, required readings.

Co-requisite: Pol. Sci. 1. Spring term, three hours a week, counts 3.

*8. ECONOMICS OF BUSINESS. *Dr. Brisco.*

This course treats leading economic phases of the business world, such as factory organization, buying, salesmanship, advertising, credit and credit agencies, store and factory safety and sanitation, wage systems, patents, trade-marks, copyrights, and scientific management. Text, reports, discussions and lectures.

Co-requisite: Pol. Sci. 1. Fall term, three hours a week; counts 3.

9. BUSINESS EFFICIENCY. *Dr. Brisco.*

This course treats the underlying principles of business efficiency, under the following heads: Methods, hiring of labor, training, habits, fatigue, working environment, welfare work, accidents, fire prevention, wages, scientific piece-rate systems and organized labor's attitude toward efficiency methods. Text, discussions and reports by students.

Co-requisite: Pol. Sci. 1. Spring term, three hours a week; counts 3.

10. SOUTH AMERICAN MARKETS. *Dr. Snider.*

Factors in foreign business competition for South American trade: Investments, freight rates, comparative costs, commercial and financial organizations, and cultural relations. Factors in development of the markets: Natural resources, land ownership, social classes, customs and characteristics, purchasing power and standards of living. Lectures, discussions, reports, collateral readings.

Co-requisite: Pol. Sci. 1. Fall term, three hours a week; counts 3.

*11. BUSINESS METHODS IN FOREIGN TRADE. *Dr. Snider.*

This course includes a study of the resources of the principal commercial nations, of their struggle for the markets, of their operant tariff systems and of world trade routes and a description of the financial, commercial and governmental institutions employed in promoting commerce. Particular attention throughout is given to the resources and commerce of the United States. Reports, lectures, required readings in selected reference books, trade journals, etc.

Co-requisite: Pol. Sci. 1. Spring term, three hours a week; counts 3.

12. PRINCIPLES OF ACCOUNTING, I. *Mr. Brett.*

A brief synopsis of book-keeping. Fundamental principles of accounting and their application to double entry book-keeping. Development of various forms of auxiliary books, use of columnar books, loose leaf systems and other labor saving-devices. Text, lectures, problems and practice.

Co-requisite: Pol. Sci. 1. One term, four hours a week; counts 3.

13. PRINCIPLES OF ACCOUNTING, II. *Mr. Brett.*

Interpretation of the principal classes of account and their effect on final statements. Proper determination of profits and assets, capital expenditures and operating expenses. Adjustment for accruals, depreciation and deferred items. Construction and meaning of the balance sheet and profit and loss statement. Text, lectures, problems and practice.

Prerequisites: Pol. Sci. 1 and 12. One term, four hours a week; counts 3. (Not offered Fall term of 1915).

14. FOREIGN EXCHANGE. *Mr. Brett.*

A brief analysis of the various items of debt one country incurs with another and the methods of settlement. Causes and meaning of fluctuations in rates of exchange. Methods of buying and selling exchange; cable transfers; bills of exchange; letters of credit; arbitrage transactions; etc. The computations involved. Text, lectures and problems.

Co-requisite; Pol. Sci. 1. Fall term, three hours a week; counts 3.

*15. INSURANCE. *Mr. Brett.*

A brief history of the development of the marine, fire, casualty, surety and life insurance companies, The fundamental principles and theory of insurance. Functions of each kind of insurance. Kinds of companies and associations; the organization, requirements and opportunities of entering the employment of some of their departments, such as the actuarial, statistical, auditing and agency departments. Text, lectures and readings.

Co-requisite: Pol. Sci. 1. Spring term, three hours a week; counts 3.

GOVERNMENT AND LAW.

*26. AMERICAN CONSTITUTIONAL LAW. *Professor Guthrie.*

An interpretative study of the Constitution of the United States in the light of the actual workings of the governmental system. Text, lectures, discussions and case reports.

Fall term, three hours a week; counts 3.

*27. INTERNATIONAL LAW. *Professor Guthrie.*

A study of the rules controlling the relations between nations. Text, recitations, discussions and case reports.

Spring term, three hours a week: counts 3.

*28. POLITICAL THEORY. *Professor Guthrie.*

This course outlines the evolution of the State and presents historic and present political theories. American political theory is emphasized. Texts, lectures, recitations and student reports.

Fall term, three hours a week; counts 3.

*29. COMPARATIVE GOVERNMENT. *Professor Guthrie.*

This course outlines five foreign governmental systems and presents systems of governing colonies and dependencies. Lectures, text, recitations and reports by the students.

Spring term, three hours a week; counts 3.

30. STATE LEGISLATION AND ADMINISTRATION. *Professor Guthrie.*

This course treats law making and law administration in American states, especial attention being given to New York State. Various local executives of state law will be studied at close range. Detailed attention will be given to the powers and duties in New York State of State Assemblymen and Senators and Executive officers and to the daily workings of the Assembly, to Senate and the Executive departments. Disputed areas of legislative and executive competency will be studied through leading cases in the Court of Appeals. Lectures, readings, reports and discussions.

Fall term, three hours a week; counts 3.

31. MUNICIPAL ADMINISTRATION. *Professor Guthrie.*

A study of the organs of city administration with especial attention to the City of New York. The powers and the duties of all officials of New York City, of the Board of Estimate, of the Board of Aldermen and of the various city departments will be

treated in some detail. Concrete illustrative material will be used and visits will be made to Board sessions and to Departmental headquarters. Such problems as "home rule," "commission government," and "city managers" will be treated. The experiences of leading cities in the United States and in foreign countries will be used to test the value of New York City's institutions. Lectures, readings, discussions and concrete observations.

Spring term, three hours a week; counts 3.

SOCIOLOGY AND STATISTICS.

51. ELEMENTS OF SOCIOLOGY. *Professor Woolston.*

This course offers an introduction to the study of society. It treats of the origin and development of human institutions, of the principles of organization and the motives of group action. The laws of association, progress and social control are considered; the problems of adjustment, co-operation and uplift are indicated. Text, lectures and discussions.

Fall term, three hours a week; counts 3.

52. ELEMENTS OF ETHNOLOGY. *Professor Woolston.*

An introduction to the study of social groups. The characteristics and achievements of the more important races and nations of the world, their customs and civilization. A comparison of the essential social institutions actually in effect to-day. Text-book, papers and discussions.

Spring term, three hours a week; counts 3.

53. APPLIED SOCIOLOGY—PHILANTHROPY. *Professor Woolston.*

This course presents the facts and causes of poverty, describes methods of public and private relief, discusses the care of defectives, and indicates lines of constructive philanthropy. Special attention is given to the organization and work of local charitable institutions. Required readings, visits, student reports, lectures and discussions.

Prerequisite: Pol. Sci. 1. Fall term, three hours a week; counts 3.

54. APPLIED SOCIOLOGY—CRIMINOLOGY. *Professor Woolston.*

This course deals with the character, causes and treatment of crime. It describes the criminal, his trial and punishment. Especial study is made of local courts, reformatories, and preventive agencies. Required readings, student reports, lectures and discussions.

Prerequisite: Pol. Sci. 1. Spring term, three hours a week; counts 3.

55. MUNICIPAL SOCIOLOGY.

Professor Woolston.

The social problems presented by the growth of modern cities and the agencies developed to meet them—safety, health, recreation, education, morality. A comparison of local conditions with the best examples of municipal progress elsewhere. Required readings, papers and discussions.

Fall term, three hours a week; counts 3.

56. PUBLIC RECREATION.

Professor Woolston.

The organization and social function of indoor and outdoor recreation—parks, playgrounds and gymnasias; theaters, concerts and social centers. Physical, mental and moral effects of group play. Examples of public agencies here and abroad. Required readings, papers and discussions.

Spring term, three hours a week; counts 3.

57. STATISTICS.

Professor Woolston.

The quantitative analysis of social groups. Introductory study of averages, variations and probability. Use of short methods and mechanical devices for calculation. Criticism of data, tabulation and graphic methods. Investigation of problems in demography, vital, administrative, moral and educational statistics. Text, laboratory, reports and discussions.

Prerequisite: Pol. Sci. 1. One term, two hours recitations and two hours laboratory; counts 3.

PUBLIC SPEAKING.

*Starred courses are offered in the Evening Session also.

The purpose of the prescribed work of this department is the development of the art of public speaking. The students are first trained in the Principles of Expression and their elocutionary application, during the Freshman and Sophomore years; and then in Public Speaking proper, during the Junior and Senior years. The first, which treats the manner of delivery, is a necessary preparation for the second, in which, all the speeches being original, the emphasis is placed on the matter. All the prescribed courses (1 to 8) must be taken in sequence.

Classes are formed to give special help to those who, because of foreign birth or foreign influences, do not pronounce the English language well, and for those who have some impediment of speech, as lisping or stuttering.

I. EXPRESSION.

*1-2. PRINCIPLES OF EXPRESSION.

Dr. Redmond, Dr. Mosher and Mr. Courtney.

(a) *Vocal Means of Expression.*

The appeal to the ear. Breathing, Articulation, Orthoepy, Modulation (including the application of vocal inflection to the various grammatical forms of discourse) and Emphasis. The aim of this work is to secure good articulation and pronunciation, and to enlarge the powers of expression through an appreciative study and delivery of English composition.

(b) *Visible Means of Expression or Gesture.*

The physical means that appeal to the eye. Oratorical and Dramatic gesture are treated, and a complete system of oratorical gestures is taken up in detail. The class-room work consists of lectures, pantomimes, and the delivery of selections with appropriate action.

Text-books: Palmer and Sammis, *Principles of Oral English.*

Prescribed: Two terms, one hour a week; counts 2.

*3-4. PRACTICE IN EXPRESSION.

Mr. Hatch.

(a) *Prose Declamation.*

Dramatic and oratorical selections are declaimed, as much time as possible being given to actual practice in speech. As a preparation for delivery the students are required to make analyses of the intellectual and emotional content of their selections. The

aim is to secure an intelligent and sympathetic rendition of the selections.

(b) *Poetry Declamation.*

The analytic method of preparation employed in (a) is continued, but especial attention is paid to the elements of composition more clearly demonstrable in poetry than in prose, such as alliteration, assonance, onomatopoeia, rhyme, rhythm, cadence and melody. The aim is to secure a just vocal expression of the music and suggestiveness of poetry. Instruction is given by lectures and criticism.

Prescribed: Two terms, one hour a week; counts 2.

II. PUBLIC SPEAKING.

A knowledge of the means of expression is presupposed, and a training in the delivery of original thought is given. All the work in courses 5, 6, 7, 8 is extemporaneous; memorizing is not allowed.

*5. DEBATE. (First Term.) *Professor Robinson and Dr. Redmond.*

Lectures are given on Evidence, the Principles of Argumentation and Brief Construction. This is followed by debates by the students. One debate, involving presentation and refutation, is given each period and is followed by a criticism of the students' floor work and by further instruction in presentation. A written brief showing research, analysis and arrangement must be presented by each student before he delivers his oral argument.

Prescribed: One term, one hour a week; counts 1.

*6. DEBATE. (Second Term.) *Professor Robinson.*

Less time is given to formal instruction and more is devoted to actual debating by the students. Briefs are required as in Course 5, but two debates are heard each period. The order of speaking is arranged so as to emphasize the practice in rebuttal, and the criticism seeks particularly to strengthen the student in his analysis of an opponent's argument and in his refutation.

Prescribed: One term, one hour a week; counts 1.

*7. EXTEMPORANEOUS SPEAKING. (First Term.)
Professor Palmer and Dr. Mosher.

The aim of this term's work is to acquaint the student with the various types of speeches and to give him abundant practice in delivering them. Instruction is given by lectures and criticism. The students' speeches are limited to seven minutes in length and five or six are heard each period. This enables each student to deliver many short, extemporaneous (though not impromptu) speeches during the term.

Prescribed: One term, one hour a week; counts 1.

*8. EXTEMPORANEOUS SPEAKING. (Second Term.)

Professor Palmer.

The aim of the second term's work is to train the student in sustained power for the delivery of long speeches and in readiness for participation in discussion from the floor. The work is conducted in convention form. One student is assigned to deliver, each period, a speech not less than twenty minutes in length. The others are then called upon to discuss it in shorter addresses of from four to five minutes. Thus each man is given one or two opportunities to speak at length during the term, and many opportunities for shorter discussion from the floor.

Prescribed: one term, one hour a week; counts 1.

III. ELECTIVES.

The electives 9 and 10 are more strictly cultural and scientific than the prescribed, practical work of the department. They deal with the theory and history of public speaking rather than with the practical development of the art of public speech.

Prerequisites: Any student who has completed courses 3 and 4, may elect either or both of the following courses in addition to his prescribed work in Public Speaking.

9. SCIENCE OF DEBATE.

Professor Robinson.

The regular Junior work in the Art of Debate is supplemented by a careful consideration of the science that underlies the art. Specimens of argumentation illustrating the different forms of reasoning are studied, until the student is able immediately to classify any argument presented to him and point out its vulnerable points. The several classes of fallacies are examined with the two-fold purpose in view (1st) of enabling the student to detect fallacies, and (2d) of enabling him to make clear to an audience the fact of fallacy and the reason for it.

Prerequisite: P. S. 3 and 4.

One term, two hours a week; counts 2.

10. HISTORY OF ORATORY.

Professor Robinson.

The lives of the world's greatest orators are studied and examples of their eloquence are presented for appreciation and analysis. The rhetorical theories of the Greek writers, of Quintilian, Cicero and other Latins, as well as modern views on eloquence, are explained and tested by the actual speeches of great orators. An attempt is made to give a sympathetic grasp of the crises which stirred the orators and led to their speeches. The times and the individual lives of the orators serve as a background for their works.

Prerequisite, P. S. 3 and 4.

One term, two hours a week; counts 2.

ROMANCE LANGUAGES.

* Starred courses are offered in the Evening Session also.

FRENCH.

I. AS FIRST LANGUAGE.

7-8. Optional course of two semesters for Science students who have completed six terms of Academic French. Same as French 2 and 3 respectively.

II. AS SECOND LANGUAGE.

Course of four semesters prescribed for students who have chosen French as a second language. Each semester, four hours a week, counting thirteen credits in all.

*1. INTRODUCTION TO FRENCH LITERATURE.

Biays' *Histoire de la littérature française*. A standard work is studied. François, *Introductory French Prose Composition*. Review in grammar. Sight-reading in a modern writer.

*2. NINETEENTH CENTURY LITERATURE.

Biays' *Histoire de la littérature française*. Extracts in Demogeot's *Textes classiques de la littérature française*, vol. II. Sight-reading in a modern writer. François' *Introductory French Prose Composition*.

*3. THE CLASSICAL DRAMA.

Studies in Seventeenth Century Literature, Corneille, Racine, Boileau. Sight-reading.

*4. STUDIES IN SEVENTEENTH CENTURY LITERATURE.

Molière, La Fontaine, Bossuet. A modern work read at sight.

III. AS THIRD LANGUAGE.

5-6. Course of two semesters for Arts students who choose French as a third language. Each semester, three hours a week, three credits. Elementary grammar, reading, translation and composition.

IV. ELECTIVE.

9-10. ELEMENTARY.

A course in elementary grammar, reading of simple texts, translation into French, readings in standard authors, outline of the history of French literature.

Elective for Juniors and Seniors who have not had French. Must be taken two consecutive semesters; five hours a week; counts 10.

11. EIGHTEENTH OR NINETEENTH CENTURY PROSE.

Elective for those who have had French 4, or who have completed French 3, with grade B.

Fall term; three hours a week; counts 3.

12. POETRY.

Some poems in former centuries are read, but the work deals mainly with the Nineteenth and Twentieth Centuries.

Prerequisites as for French 11. Spring term, three hours a week; counts 3.

13. MODERN DRAMA. A.

History of French Drama; special study of the Nineteenth Century plays.

Prerequisites as for French 11. Fall term; two hours a week; counts 2.

14. MODERN DRAMA. B.

Methods as in 13, but differing in content.

Prerequisites as for French 11. Spring term; two hours a week, counts 2.

15-16. COMPOSITION.

Prerequisites as for French 11. Two terms; two hours a week, each term counts 2.

17-18. ADVANCED STUDY.

Work in Grammar, Diction, History of French literature, History of France.

Prerequisites: French 4 with Grade B, or for Science students French 3 with Grade A. Must be taken two consecutive semesters; two hours a week; counts 4.

19. SCIENCE READINGS. A.

Prerequisites: For Arts students 2, for Science students 3. Fall term; two hours a week; counts 2.

20. SCIENCE READINGS. B.

Prerequisites as for 19. Spring term; two hours a week; counts 2.

ITALIAN.

1-2. ELEMENTARY.

A course in elementary grammar, reading of simple modern texts, exercises in translation into Italian, portions of the great classical authors, and an outline of the History of Italian literature. Texts: Arbib-Costa's *Italian Lessons*, Bowen's *First Italian Readings*, Martini's *Antologia della Prosa Moderna*, Grandgent's *Italian Composition*.

Elective for Juniors and Seniors who have not had Italian. Must be taken two consecutive semesters; five hours a week; counts 10.

SPANISH.

*1-2. ELEMENTARY.

Course of two semesters for Arts students who choose Spanish as a third language. Each semester three hours a week, counts 3. Elementary grammar, reading, translation and composition.

*3. INTERMEDIATE.

(a) A modern novel. Composition.

Prerequisite: One year of elementary Spanish.
One term; four hours a week; counts 4.

(b) A modern novel or play. Composition.

Prerequisite: Two years of elementary Spanish.
One term; four hours a week; counts 4.

4. INTERMEDIATE.

(a) A modern novel. Composition.

Prerequisite 3a.
One term; four hours a week; counts 3.

(b) A modern novel or play. Composition and sight reading.

Prerequisite 4b.
One term; four hours a week; counts 3.

*5. DON QUIJOTE.

Prerequisite 4: one term; two hours a week; counts 2.

6. LITERATURE.

Lectures giving briefly an outline of the History of Spanish literature. Reading of extracts from the works of some of the classical authors and the writing of short essays by the students.

Prerequisite 4: one term; two hours a week; counts 2.

7-8. THE CLASSICAL DRAMA.

Lectures, and the reading of extracts from the works of Lope de Vega, Calderón, Juan Ruiz de Alarcón, Tirso de Molina and others.

Prerequisite 4: two terms; three hours a week; counts 6.

9-10. ELEMENTARY.

Open to Juniors and Seniors who have never studied Spanish. The work and texts are the same as in Course 1-2, and in addition, readings in standard modern writers.

Two terms, five hours a week; counts 10.

EXAMINATION AND ADVANCEMENT.

The result of a student's work in every subject of study, whether prescribed or elective, shall be marked and expressed by a single final grade indicated by one of the six letters, A, B, C, D, E, or F, corresponding, respectively, to percentages in the nineties, eighties, seventies, sixties, fifties, and those below fifty. A, B, C, and D are *passing* grades for which students are credited with the number of counts belonging to the particular subject. A signifies *exceptional excellence*; B *very good work*; C *fairly good work* of the ordinary type; D merely a *passing mark*; E a *condition*; and F a *failure*.

In estimating the counts for registration and graduation, a student receiving four (4) credits with grade A shall, for every such four (4) credits, have an *extra* credit point. Similarly for every eight (8) credits received with grade B. For every eight (8) credits received with grade D, one (1) credit shall be *deducted*.

Whenever a student has obtained eighty (80) original credits with grade D, no further credits shall be allowed him for work done with a grade less than C.

A student receiving the grade F in a prescribed course shall repeat that course.

A student receiving the grade E in any course is conditioned in that course; but is not thereby precluded from continuing his work in the department, except under the following provisions:

(a) No student is allowed more than two conditions in the work of any one term; and each additional grade E shall be rated as an F.

(b) Any student who has received the grade F in more than one course at the end of a term, shall not be allowed more than one condition; and if he has received F in more than two courses, he shall not be allowed any condition. In such cases the additional courses reported E shall be rated F.

Examinations for the removal of conditions received in January or June shall be held on a day during the spring or fall term, respectively, to be fixed by the President.

A condition is to be removed by satisfactory work or by re-examinations, as follows:

(a) If the course in which the condition is incurred be announced as prerequisite to a subsequent course in the same department, the student shall be allowed to pursue the subsequent course; and, if his work in the latter be satis-

factory, the department may, at the time set for the re-examination, assign him the grade D in the prerequisite course, without requiring him to pass the re-examination.

(b) Otherwise a student may remove his condition or conditions at the re-examinations. Conditions so removed shall receive a grade not higher than C.

(c) A student who fails to pass the re-examination set for the removal of a particular condition shall have no further opportunity to remove it and shall receive the grade F for the course.

No student in the College shall be permitted to take more than $17\frac{1}{2}$ credits during any term unless he has had during the preceding term an average grade B and has not fallen below C in any subject; and such a student shall not be allowed to take more than $17\frac{1}{2}$ credits except by permission of the Committee on Course and Standing.

The requirement for enrollment in a class is as follows:

For Upper Freshman.....	12 credits.
“ Lower Sophomore.....	28 “
“ Upper Sophomore.....	45 “
“ Lower Junior.....	61 “
“ Upper Junior.....	78 “
“ Lower Senior.....	94 “
“ Upper Senior.....	111 “
“ Graduation.....	128 “

Provided, however, that no student shall be enrolled as a Sophomore until he has removed all entrance conditions, and that any student who is at any time carrying a sufficient number of credits to complete the total required for graduation shall be registered as an Upper Senior.

A student who is required to repeat any work may, with the consent of the Committee on Course and Standing, take with a higher class other subjects, to which such work is not a prerequisite, sufficient to make up the prescribed number of credits, provided the hours do not conflict with the subjects he is pursuing with the lower class; and such student may be allowed by the Committee to take such subjects in a higher class in addition to the regular number of credits as may in its judgment be taken without injury to his other work. All extra work done by such student in the attempt to regain standing must be by regular attendance in class room.

Work in a higher class than that in which a student is enrolled may be done only with the consent both of the head of the department and of the Committee.

A student shall not be graduated until he has received all the credits prescribed, and until all his indebtedness to the college has been discharged.

HONORS.

DEPARTMENT.—There shall be published annually in the Register an “Honorable Mention List” of each of the three higher (Sophomore, Junior, Senior) college classes, the names being printed alphabetically. Honorable mention is given for excellent work in a department and the standard shall be the grade B or higher in subjects counting at least 16 credits, continued for two college years.

SECOND YEAR.—At the close of the second year there shall be three grades of honor:

Highest second year honors shall be given for the grade A in prescribed courses counting at least 50 credits, with the remaining grades B.

High second year honors shall be given for the grade A in prescribed courses counting at least 30 credits, with the remaining grades B.

Honors shall be given for the grades A and B in prescribed courses counting at least 55 credits.

COMMENCEMENT.—At commencement there shall be three grades of honors:

The *summa cum laude* shall be granted to those students who have received the grade A in courses counting at least 115 credits, with the remaining grades all B.

The *magna cum laude* shall be granted to those students who have received the grade A in courses counting at least 64 credits, with the remaining grades all B.

The *cum laude* shall be granted to those students who have received the grades A and B in courses counting at least 120 credits.

PHI BETA KAPPA.

GAMMA CHAPTER.

Such members of the graduating class of The College of the City of New York, as have distinguished themselves by scholarship manliness, and integrity, may be elected to membership in the Gamma Chapter of Phi Beta Kappa upon proposal by the Committee on Admissions.

TRUST FUNDS.

THE PELL MEDALS.

In 1849, Duncan C. Pell, by a gift of \$500, established a fund the interest on which is to be devoted to the purchase of a gold medal, to be awarded annually to the student who shall rank highest in all the studies of the year taken together; and in 1856 the donor authorized the trustees of the fund to devote a portion of the income to the provision of a silver medal to be given to the student who shall rank second.

Trustees: The President of the Board of Education, the President of the College.

THE CROMWELL MEDALS.

In 1850, Charles T. Cromwell, by a gift of \$500, established a fund the interest on which is to be devoted to the purchase of a gold medal, to be awarded annually to the best scholar in History and Belles-Lettres; in 1856 the donor authorized the provision of a silver medal for the second scholar.

Trustees: The President of the College, the Professor of History (Treas.), Mr. Henry P. Davison.

THE HOLBROOK LIBRARY FUND.

In 1852, a clause of the will of Ephraim Holbrook bequeathed to the Board of Education of the City of New York the sum of \$5,000, the interest on which is to be applied to the purchase of books for the library of the Free Academy.

Trustees: The Board of Education.

THE WARD MEDALS.

In 1853, Augustus H. Ward, by a gift of \$1,000, established a fund the interest on which is to provide for the award of twenty bronze medals, one for each of the studies named, to be awarded annually to the student of most proficiency therein, provided he shall have regularly pursued each study for not less than two months of the collegiate year then closing; a student gaining one medal not to be precluded from gaining others at the same time or subsequently.

The subjects are: Chemistry, Natural History, Natural Philosophy, Moral Philosophy, Political Science, English, Greek. Latin, French, Spanish, German, Oratory, Composition, Logic, Astronomy, History, Drawing, Algebra and Geometry, Descriptive Geometry, Botany.

Trustees: The Board of Education, the President of the College, and their successors.

THE GROSVENOR LIBRARY FUND.

In 1856, a clause of the will of Seth Grosvenor bequeathed to the Board of Education in New York the sum of \$30,000, and provided that the income thereof should be expended in purchasing books to form a library for the Free Academy. The fund now amounts to \$32,000.

Trustees: The Board of Education.

THE STUDENTS' AID FUND.

In 1857 the Associate Alumni established a fund for the purpose of granting pecuniary aid to such students as might otherwise find difficulty in completing their College course. This fund is maintained by contributions from the alumni. In 1865 the Students' Aid Association was incorporated under the laws of the State of New York. The management of the fund is committed to five trustees, who loan, without interest, such sums as they think proper to deserving students. Neither the names of those to whom the loans are made, nor the amounts of the loans, are known to any but the trustees and the auditors of the fund. Further information may be obtained by consulting any one of the trustees.

The following are the present trustees:

John R. Sim, '68, President	Office T. H. Hall.
Edmund Burke, '90, Treasurer	Room 224, College.
Alfred D. Compton, '97, Secretary	Room 116, College.
Sigmund Pollitzer, '79.	51 East 60th Street.
Wm. Houston Kenyon, '76.	61 Broadway.

THE RIGGS MEDAL.

In 1864, Elisha Riggs, by a gift of \$1,000, established a fund the interest on which is to provide a gold medal to be annually awarded to the author of the best English prose composition in the Senior or Junior class. The subject is announced early in the term, and the essays must be handed in on the last day of recitations in May, each signed with pseudonym and accompanied by the student's real name in a sealed envelope.

Trustees: The President of the College, the Professor of History, and the Professor of the English Language and Literature (Treas.).

THE KELLY PRIZES.

In 1869, James Kelly, by a gift of \$1,000, established a fund the interest on which is to provide two prizes for debate and literary criticism. One prize is given to the best debater in the Literary Societies, three contestants being chosen by the Clionian Society, and three by the Phrenocosmian. The Chairman of the Board of Trustees selects the subject and submits it to the Faculty for approval.

The other prize is given to the member of either Society who shall write the best critique on some work of English literature. The subject is announced before the Christmas vacation, and the essays must be handed in on the last day of recitations in May.

The judges of the debate are selected by the Chairman of the Board of Trustees; the judges of the essays are the President of the College, the Professor of History and the Professor of the English Language and Literature.

Trustees: The Board of Trustees of the College.

THE CLAFLIN MEDALS.

In 1871, John Clafin, by a gift of \$1,250, established a fund the interest on which is to provide two gold and two silver medals, which are awarded as follows:

A gold medal to the student of the Senior Class electing Greek who shall pass the best competitive examination in that and a gold medal to the student of the Senior Class electing Latin who shall pass the best competitive examination in that subject, it being provided, however, that in either subject the medal may be offered to the Junior instead of to the Senior Class, at the discretion of the Head of the Department; a silver medal to the student of the Freshman Class most proficient in Greek; and a silver medal to the student of the Freshman Class most proficient in Latin.

Trustees: The President of the College, and Mr. George C. Lay (Treas.).

THE BELDEN PRIZES.

In 1883, William Belden, by a gift of \$1,000, established a fund the interest on which is to provide prizes for excellence in Pure Mathematics, the nature of the prizes and the terms of their award to be determined from time to time by the President of the College and the Professor of Pure Mathematics.

At present the prizes are awarded annually on Commencement Day, in the Junior and Sophomore classes, as follows:

1. A gold medal to the student in each class of greatest proficiency in the studies of the department during the year. This

greatest proficiency is to be determined either by the marks from recitations and examinations, or by a special competitive examination, as may in each case seem best to the Trustees of the Prize.

2. A silver medal to any other student, in either class, whose aggregate marks for recitations and examinations shall reach ninety-five per cent. of the maximum.

Trustees: The President of the College, and the Professor of Pure Mathematics (Treas.).

THE KETCHUM PRIZES.

In 1891, Col. Alexander P. Ketchum, of the Class of 1858, by a gift of \$1,000, established a fund the interest on which is to provide two prizes in the History of Philosophy and two prizes in Political Economy, the awards to be made by the professors, on the papers presented in the regular final examination.

Trustees: The President of the College, Professor Adolph Werner (Treas.), and Mr. W. Rogers Westerfield.

THE ROEMER PRIZE.

In 1892, upon the death of Professor Roemer, it was found that for thirty-eight years he had provided anonymously a prize for the declamation of poetry. In recognition of this fact and in honor of his memory and name, the Roemer Prize Fund was established by a gift of \$300 from a group of officers and graduates of the College. The speakers are selected from the Sophomore class by competition. The declamations are delivered on the same occasion as the prose orations, and judged by the same judges.

Trustees: The Chairman of the Board of Trustees of the College, the President of the Associate Alumni, and Professor Adolph Werner (Treas.).

THE BENNETT PRIZE IN POLITICAL SCIENCE.

In 1893, James Gordon Bennett, by the gift of \$1,000, established a fund the interest on which is to provide a prize to be given annually upon Commencement Day to the "member of the Senior Class who shall have taken the prescribed course of the institution in Political Science and English Literature, and who shall have prepared the best essay in English prose upon some subject of American governmental domestic or foreign policy of contemporaneous interest." The subjects are selected and the rules of competition announced and the decision rendered by the Faculty of the College.

Trustees: The Board of Trustees of the College.

THE RALPH WEINBERG MEMORIAL PRIZE.

In 1898, Miriam Richter, by a gift of \$500, established a fund the interest on which is to provide an annual prize to be awarded to that student of the College who shall present the best poem upon a topic selected by the Professor of the English Language and Literature. This prize is to be known as the Ralph Weinberg Memorial Prize.

Trustees: The President of the College, the Professor of History, and the Professor of the English Language and Literature (Treas.).

THE PRAGER MEMORIAL PRIZE.

In 1903, Mr. William Prager, by a gift of \$1,000, established a fund the interest on which is to provide a prize in memory of his son, David Prager, of the Class of 1903, which is awarded to that member of the Senior Class who receives the highest aggregate mark in his studies for the Senior year.

Trustees: The Chairman and the Secretary of the Board of Trustees, and the President of the College.

THE KENYON PRIZE.

In 1904, Messrs, Wm. Houston Kenyon, Alan D. Kenyon, and Robert N. Kenyon, all graduates of the College, by the gift of \$1,000, established a fund the interest on which is to provide a gold and bronze medal, to be awarded annually at Commencement to those students who, in the course of the year, attain the highest distinction in Pure and Applied Mathematics. The Trustees of the Fund each year determine the award.

Trustees: The President of the College, the Professor of Mathematics, and Mr. Wm. Houston Kenyon.

THE STEERS BOOK FUND.

In 1907, Mr. James R. Steers, of the Class of 1853, gave a fund of \$10,000, the interest on which is to be applied to the purchase of such scientific books as the President of the College may direct, for the use of members of the instructional staff and the students and such other persons as the President may designate. The books are at present purchased from this fund for the departments of Chemistry, Natural History and Physics.

Trustees: The Board of Trustees of the College.

THE GENERAL TREMAIN PRIZE.

In 1909, General Henry Edwin Tremain, of the Class of 1860, established a trust of \$5,000, to be invested in Savings Banks in New York, the income to be used for two prizes; the first prize of one hundred and fifty dollars (\$150.00), and the second prize of fifty dollars (\$50.00); such prizes to be awarded annually, under rules and regulations to be made by the Faculty of the College, for the best essays on the theme "Causes, Conduct and Conclusions of the Great Civil War in the United States." The competitors are to be members of the Senior and Junior classes, and the prizes are to be awarded by two judges who shall be annually selected, one by the Faculty and one by the Commander for that year of the New York Commandery of the "Military Order of the Loyal Legion of the United States;" the two judges thus selected, in case they disagree as to the award, to appoint a third judge. For this year the judges are Hon. Hugh Hastings and Professor Adolph Werner of the Class of 1857.

Trustees: The President of the College (Treas.), the Professor of History, and the Professor of the English Language and Literature.

THE GIBBS-STEERS FUND.

In 1911, Mr. James R. Steers, of the Class of 1853, established a fund of \$5,000, the interest on which is to be applied to the purchase of books for the Wolcott Gibbs Library of Chemistry.

Trustees: The President of the College, the Professor of Chemistry, and the Chairman of the Board of Trustees.

THE CLASS OF 1885 FUND.

In 1911, the Class of 1885, by a gift of \$2,000, provided a fund the income from which is to be used for the purchase of books for the Department of Romance Languages.

Trustees: Dr. George B. McAuliffe, Dr. Samuel M. Landesman, and Mr. Louis P. Bach.

THE WARBURG FUND.

In 1912, Mr. Felix M. Warburg, by a gift of \$2,500, provided a fund the income from which is to be used for the purchase of periodicals for the Department of Natural History.

Trustees: The Board of Trustees of the College.

THE JAMES R. STEERS PRIZE.

In 1912, Mr. James R. Steers, of the Class of 1853, established a fund of \$1,000, the interest on which is devoted to the payment of an annual prize, or semi-annual prizes, for excellence in the Department of Art, the basis for such award, and the character of such award or awards, to be determined from time to time by the Trustees of this Fund.

Trustees: the President of the College, the Professor of Art and the Chairman of the Board of Trustees.

THE CLASS OF 1872 FUND.

In 1914, the Class of 1872, in commemoration of the fortieth anniversary of their graduation, gave to the Trustees of the College the sum of Twelve Thousand (\$12,000) Dollars, face value, in the three and one-half ($3\frac{1}{2}\%$) per cent. Bonds of the City of New York. The income from this Fund is to be devoted annually to secure a course of lectures by lecturers on subjects to be selected by the Board of Trustees.

PRIZES ANNUALLY DONATED.

THE PRIZE OF THE BOARD OF TRUSTEES AND THE DRUMMOND PRIZE FOR PUBLIC SPEAKING.

In 1852, the President of the Board of Education provided a prize for excellence in public speaking. It is continued by the present Board of Trustees.

Members of the Junior and Senior classes present original orations to compete for the privilege of entering the contest. Six are selected to be delivered in public for the prize.

In 1901, Mr. Lewis F. Drummond, of the Class of 1888, offered a prize for excellence in public speaking, in memory of Mrs. Jane M. Drummond, of the Normal College class of 1890, to be awarded to the student who stands second in the competition for the Prize of the Board of Trustees. The award, of the value of twenty dollars, is granted annually by the donor.

THE F. W. DEVOE AND COMPANY PRIZES.

In 1885, F. W. Devoe & Co. offered two annual prizes, each to consist of a set of drawing instruments of the value of twenty-five dollars for proficiency in the Mechanic Arts. They are to be awarded by a committee, consisting of the President of the College, the Chairman of the Board of Trustees and the Professor of Physics, to the student of greatest merit, in the first and second years respectively, of the work in Mechanic Arts. The merits of the competitors are to be judged by the excellence and quickness of their work, and by the improvement made by them during the year. In 1909 the donors modified their gift by making provision for the award at each semi-annual commencement.

THE DRUMMOND HISTORY PRIZE.

In 1903, Mr. Lewis F. Drummond, of the Class of 1888, offered a prize consisting of a gold medal, to be awarded to that student of the Junior Class who submits the best essay on local self-government in America, or a given phase of it, treated mainly with reference to its historical development. The topic is given out by the Professor of History. A committee of three, including the Professor and two other instructors of the department, awards the prize.

THE LIBRARY.

The Library of the College is open to all for reference. Books may be borrowed by persons connected in any way with the College. The departmental collections are accessible during hours which are stated for each department.

The books in the main library have been purchased largely with the income from endowments by Mr. Ephraim Holbrook in 1852 and Mr. Seth M. Grosvenor in 1856. The departmental collections have been derived chiefly from the more recent endowments of Mr. James R. Steers, of the Class of 1853, and Mr. Felix M. Warburg. These endowments are described more specifically under the heading, Trust Funds.

In 1909, by the generous donation of Mr. John Clafin, of the Class of 1869, the collection of the late Professor Simon Newcomb, of Washington, D. C., was purchased for the Library, and was catalogued at the donor's expense. About 4,000 volumes and 2,000 pamphlets, mostly in the mathematical and astronomical sciences, are contained in the Newcomb Library.

Mr. Jacob H. Schiff by a gift of \$2,000 in 1910, provided for the purchase of books for the collection in the Department of History. Mr. Adolph Lewisohn in 1910, and again in 1913, made a donation of \$1,000, for a library in the Department of German. The Class of 1885, on the occasion of the twenty-fifth anniversary of graduation, resolved upon a gift to the College, and the following year gave to the Department of Romance Languages about a thousand volumes in French and established a fund which enables the department to purchase forty or fifty volumes a year. The department of English received in 1912 from Mr. Bernard M. Baruch, of the Class of 1889, a gift of \$500 for its library, which had previously possessed a small collection of books, chiefly the gift of Mr. Ernest N. Perrin, of the Class of 1879.

The Library is a depository for the publications of the United States government, receiving during each year about 250 bound volumes and 2,000 pamphlets. These have now amounted to more than 6,000 volumes and probably more than 30,000 pamphlets. Besides these many books and pamphlets are presented by authors, by societies, and by other donors, singly or a few at a time. During 1914, these numbered 289 bound volumes and 1662 pamphlets. The total increase of the Library during 1914, was 1,429 volumes and 4,215 pamphlets. The total of the collections is 65,583 volumes and about 40,000 pamphlets. These are classified as follows:

Reading-room collection	2,931
Bibliography	225
Periodicals and Societies' Publications	2,362
Science, General and Miscellaneous	2,115
Physics	1,005
Chemistry	446
Astronomy	292
Geology and Natural History	401
Biological Sciences	734
Anthropology and Ethnology	654
Psychology	266
History, Ethnic, Political, and Social	10,858
Social Sciences and Education	2,213
Useful Arts	450
Fine Arts	1,335
Philology, General and Miscellaneous	717
Greek Philology	791
Latin "	989
Romance "	1,533
Germanic "	1,222
English Language and Literature	4,851
Philosophy	536
Theology	943
United States Documents	6,029
Unclassified and Miscellaneous	2,294
Antiquated, Duplicates, Etc.	1,739
Total for the Main Library	47,931
Departmental Collections	16,791
Total for all the Collections	64,722

STUDENT GOVERNMENT.

Supervision of student activities and control of interclass functions are in the hands of a Student Council which is composed of representatives chosen by the students. Regular meetings are held at which questions concerning the welfare of the students and of the college are discussed. The results have been helpful both to the student body and to the Faculty.

COLLEGE PERIODICALS.

Every periodical or paper published by the students, and sold or distributed by them within the College, shall have printed upon it the name of the managing editor, who shall be a student.

No such periodical or paper shall be sold or distributed in the College until the President shall be satisfied that the foregoing regulation has been complied with.

It shall be the duty of the managing editor to exclude from the columns of the College publication controlled by him all discourteous remarks on the officers or management of the College.

For any infraction of the preceding rules the managing editor shall be held responsible.

No periodical or paper, whose managing editor has violated the preceding rules, shall be sold or distributed in the College while he remains the editor.

COLLEGE ATHLETICS.

The Athletic Organizations of the College are under the supervision of the Faculty Athletic Committee. This committee has adopted and published rules for the purpose of maintaining a proper academic standing among the athletes of the institution, and of securing a clean amateur policy in the various student athletic enterprises. No student is permitted to go into training whose organic condition makes such a procedure unsafe.

The executive work connected with the management of the teams and the general administrative details are conducted by an Athletic Association through a board of officers elected by the students.

This Association offers a number of opportunities to those students who desire to secure business and managerial experience in connection with athletic enterprises. The College supervision of these enterprises restricts student initiative as little as possible although a careful and persistent effort is made to secure reliable and effective business methods in all of the transactions of the Association. This supervision of business details is secured through the authority of the Faculty Athletic Committee and through the services of various instructors in the Department of Hygiene. The services of instructors from other departments are frequently utilized for this purpose.

Two years ago the City of New York turned over to the College two entire city blocks immediately south of the Gymnasium building. These blocks have been transformed into an athletic field for the use of the Department of Hygiene and for the benefit of the entire student body. An adequate Stadium, the gift of Mr. Adolph Lewisohn, has been completed, which is equipped with such conveniences as to make it available for indoor and outdoor work throughout the entire College season.

LITERARY SOCIETIES.

Two literary societies, the Clionian and the Phrenocosmian, have for many years been maintained by the students of the College. Membership in these is confined to the students of the Junior and Senior classes. A third society, the Adelphian, is

supported from the Freshman and Sophomore classes. They are devoted to the cultivation of the arts of composition, oratory and debate, and the promotion of friendly intercourse between students. Weekly meetings are held during the collegiate year. The first two societies annually choose the contestants for the Kelly Prize Debate.

TERMS AND VACATIONS.

There are three vacations in each Collegiate year; the summer, the winter and the spring vacations being at such times as the Board of Trustees may from time to time designate.

There are no College exercises on Lincoln's birthday, on Washington's birthday, on Good Friday, on Decoration Day, on Labor Day, on Columbus Day, on Election Day, on Thanksgiving Day, or on any Friday immediately following a legal holiday, a College holiday, or a regular vacation. The College year ends on the fortieth Thursday after the opening in September, on which day the June Commencement is held. The College year is divided into two terms.

COMMITTEE ON EMPLOYMENT.

In view of the large number of students of the College compelled to contribute toward their own support, a Committee on Employment has been appointed from the Faculty to aid in bringing together those wishing work and those who want extra or part time work done.

The work sought for students is mainly afternoon and evening work and on Saturdays, holidays and during vacations in summer and winter. For this purpose the Committee maintains a bureau in the Main Building of the College in Room 16A. All the expenses of the bureau, such as clerk hire, circularizing places of business, stationery, etc., are defrayed by Alumni and other friends of the College. No fee is demanded from the students, but simply the faithful performance of whatever work is secured for them. The success of the bureau depends largely upon the conscientious fulfillment of the tasks assigned to the students by their employers. The bureau is in charge of Mr. Henry Katz, as Manager.

COMMENCEMENT.

FEBRUARY 12, 1914.

GRADUATION HONORS.

Cum Laude.

For having received from 85 per cent. to 90 per cent. of the total aggregate of maxima from the beginning of the Freshman to the end of the Senior year.

David Kraus.

SENIOR ADDRESSES.

Prejudice Against the New.....August Lodato, Jr.
Lift Up Thine Eyes.....David W. Park
A Lesson of the Day.....David Kraus

AWARD OF PRIZES.

The Pell Medals.

To the student who shall rank highest in all the studies of the year.

Gold.....Joseph J. Zweifel.....Junior
Silver.....August Lodato, Jr.....Senior

The Cromwell Medal.

For proficiency in History:

Gold.....Irving Wolk.....Sophomore

The Ward Medals.

For the greatest proficiency in:

Chemistry.....Max Mosher.....Senior
Natural History.....Arthur P. Caldwell, Jr.....Senior
Moral Philosophy.....Charles G. Cristiano.....Senior
Political Science.....David Kraus.....Senior
English.....Robert J. Hammond.....Senior
Latin.....David W. Park.....Senior
French.....Max M. Sindeband.....Sophomore
Oratory.....Milton B. Perlman.....Senior

The Ward Medals—Continued.

For the greatest proficiency in:

Composition.....	Theodore Goodman.....	Junior
History.....	Alexander S. Gordon.....	Senior
Certificate.....	Joseph B. Strauss.....	Senior
Spanish.....	Philip A. Langh.....	Junior
German.....	Herbert V. Licht.....	Freshman
Freehand Drawing.....	Thomas Spector.....	Senior
Algebra and Geometry.....	Abraham Yahr.....	B Class
Botany.....	William E. Austein.....	Freshman

The Prager Memorial Prize.

Medal.....	August Lodato, Jr.....	Senior
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The Ketchum Prizes.

For proficiency in Political Science:

First.....	Alexander Markowitz.....	Junior
Second.....	Louis Finkelstein.....	Junior

The Ralph Weinberg Memorial Prize.

For proficiency in English:

Medal.....	Meyer Cohn.....	Senior
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The F. W. Devoe and Company Prizes.

For proficiency in Mechanical Arts:

Metal Working.....	John Herber.....	B Class
Wood Working.....	John Keilly.....	B Class

The Claffin Medals.

For proficiency in Greek:

Gold.....	David Schneidman.....	Senior
Silver.....	Harry W. Schachter.....	Freshman

For proficiency in Latin:

Gold.....	Harold L. Costello.....	Senior
	David W. Park.....	Senior
Silver.....	Benedict Wolfner.....	Freshman

The Belden Prizes.

For proficiency in Pure Mathematics:

Silver.....	Howard Adler.....	Sophomore
	Robert J. McAusland, Jr.....	Sophomore

The Steers Prize.

For the best work in the Department of Art:

Interest.....Thomas Spector.....Senior

The Prize of the Board of Trustees.

For best Oration.....Herman P. Levine.....Senior

The Drummond Prize.

For second best Oration.....Nathaniel Rosenzweig.....Senior

The Roemer Prize.

For best Poetry

Declamation.....James V. Mulholland.....Sophomore

HONORABLE MENTION.

In Chemistry.

David Drogin
Nathan Gussow
David Hammer
Joseph K. Marcus
Max Mosher
Alvin Schalkenstein
David Soletsky
Benjamin Solomon
Harry W. Wolff

In Education.

Solomon Bluhm
August Lodato, Jr.
Herbert V. Nussey

In English.

Meyer Cohn

In Greek.

Solomon Bluhm
David W. Park

In Latin.

Solomon Bluhm

In Mathematics.

Arthur P. Caldwell, Jr.
William Katz

In Natural History.

Arthur P. Caldwell, Jr.
Nathan Gussow
David Soletsky

In Physics.

Meyer S. Rosen
Lazarus Shapiro

In Political Science.

David Kraus
Emanuel A. Obstfeld
Milton B. Perlman
Lazarus D. Ross
Joseph B. Strauss

In Romance Languages.

David Kraus
Nathaniel Rosenzweig

DEGREES CONFERRED.

Bachelor of Arts.

Abelson, Aaron	Marcus, Joseph K.
Abrams, Sidney	Marz, George A., Jr.
Bluhm, Solomon	Neuman, Samuel
Brown, Louis	Nussey, Herbert V.
Cohn, Meyer	Obstfeld, Emanuel A.
Drogin, David	Pagnotta, Joseph
Frabbito, Paul F.	Park, David W.
Frankel, Louis	Perlman, Milton B.
Gordon, Alexander Sidney	Rosenzweig, Nathaniel
Gottlieb, Aaron J.	Ross, Lazarus D.
Grosin, Philip	Samuels, Leon
Hellner, John Campbell	Schalkenstein, Alvin
Honor, Leo L.	Schneidman, David
Jessen, Charles P.	Schoenbrun, Irving
Katz, Jacob	Strauss, Joseph B.
Kraner, Irving	Swartz, Sidney A.
Kraus, David	Thomas, Anthony B.
Levine, Herman P.	Wallman, Samuel
Lodato, August, Jr.	Yarnall, Warren H.

Bachelor of Science.

Buchner, George I.	Meisel, Max
Caldwell, Arthur P., Jr.	Mosher, Max
Conroy, John F.	Pellerano, Silvio
David, Isidore	Rosen, Meyer S.
Fish, Abraham	Sasserath, Ira
Grossberg, Hyman M.	Shapiro, Lazarus
Gussow, Nathan	Soletsky, David
Hammer, David	Solomon, Benjamin
Hirscher, Max N.	Spector, Thomas
Katz, William	Tabachnick, Morris
Klein, Henry J.	Weber, Emanuel
Landsman, William	Wolff, Harry W.
Measom, Gilbert L.	Zuckerman, Frank E.

COMMENCEMENT.

JUNE 18, 1914.

GRADUATION HONORS.

Cum Laude.

For having received from 85 per cent. to 90 per cent. of the total aggregate of maxima from the beginning of the Freshman year to the end of Senior year.

Isidore Cohen,

Ellis A. Johnston.

SENIOR ADDRESSES.

Achievement Through Aspiration.....Morris Buchter
Open Thou Thy Mind.....Isidore Cohen
Respite.....Ellis A. Johnson

AWARD OF PRIZES.

The Pell Medals.

To the student who shall rank highest in all the studies of the year.

Gold.....Isaac Kaplan.....Sophomore
Silver.....Ellis A. Johnson.....Senior

The Cromwell Medal.

For proficiency in History:

Gold.....Herman A. Grablowsky.....Sophomore

The Ward Medals.

For the greatest proficiency in:

Logic.....Julius Zimmerman.....Junior
Certificate of Equal Merit..James Goold.....Junior
Moral Philosophy.....Bertram D. Wolfe.....Junior
Honorable Mention.....Max Grossman.....Junior
Honorable Mention.....Jacques de La Chapelle.....Senior

The Ward Medals—Continued.

For the greatest proficiency in:

Natural History.....	Isidore Cohen.....	Senior
English.....	Theodore Goodman.....	Senior
Latin.....	Lucian Lamm.....	Sophomore
German.....	Morris Buchter.....	Senior
Spanish.....	David S. Goldberg.....	Freshman
Composition.....	Robert J. Hammond.....	Senior
History.....	Ellis A. Johnson.....	Senior
Public Speaking.....	Harry Rotkowitz.....	Senior
Political Science.....	Harry Rotkowitz.....	Senior
French.....	Philip A. Langh.....	Senior
Descriptive Geometry.....	Wm. Rapp.....	Freshman

The Ralph Weinberg Memorial Prize.

For the best English poem:

Medal.....	Theodore Goodman.....	Senior
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The Prager Memorial Prize.

To the student who ranks highest in all the studies of the Senior year:

Medal.....	Ellis A. Johnson.....	Senior
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The Belden Prizes.

For excellence in Pure Mathematics:

Gold.....	Jesse Douglas.....	Sophomore
Silver.....	Thomas P. Clendenin.....	Sophomore

The Clafin Medals.

For proficiency in Greek:

Silver.....	Bennington P. Gill.....	Freshman
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For proficiency in Latin:

Gold.....	Samuel Muldofsky.....	Junior
Silver.....	Victor Smith.....	Sophomore

The General Tremain Prizes.

For the best essays on the theme, "Causes, Conduct and Conclusion of the Great Civil War in the United States.":

First.....	Louis Cohen.....	Senior
Second.....	E. Pennington Meyer.....	Senior

The Riggs Medal.

For the best English Prose Composition:

Leon Mones.....Senior

The Kelly Prize.

For the best critique on English Literature:

Leon Mones.....Senior

The Prize of the Board of Trustees.

For the best Oration.....Harry Rotkowitz.....Senior

The Drummond Prize.

For the second best Oration...Charles G. Cristiano.....Senior

The Roemer Prize.

For the best Poetry

Declamation.....Herman A. Grablowsky.....Sophomore

The Steers Prize.

For excellence in Art.....Herbert S. Katz.....Junior

The Ketchum Prizes.

For proficiency in Political Science:

First.....Aaron O. Weinberg.....Senior

Second.....Harry L. Crowley.....Senior

The James Gordon Bennett Prize.

For the best essay in Political Science:

James Kraft.....Senior

HONORABLE MENTION.

In Chemistry.

Samuel Goldklang
Ellis A. Johnson
Jacob Kawanov
Rudolph Kramer
Bernard Salkin

In Education.

Morris Buchter
Charles G. Cristiano
Abraham Deutsch
Jacob Hohenstein
Samuel Ivler
Irving Ritter
Daniel Tenrosen
Morris Troper

In English.

Robert J. Hammond

In German.

Rudolph Kramer

In Greek.

Morris Buchter

In History.

Ellis A. Johnson
Aaron O. Weinberg

In Latin.

Morris Buchter

In Mechanic Arts.

Harrison M. Kümmerle

In Natural History.

Philip Astrofsky
Jacob August Cantor
Isidore Cohen
Meyer M. Harris
Sidney D. Kramer

In Philosophy.

Abraham Deutsch
Harry Goldstein
Jerome M. Ziegler

In Physics.

Stephen C. Carr
Isidore Cohen
Jacques de La Chapelle

In Political Science.

Ralph Batt
Henry Lawrence Crowley
James W. Donoghue
Jerome E. Malino
Harry Rotkowitz
Everett Southwick
Aaron O. Weinberg

In Romance Languages.

Charles G. Cristiano
Jacob S. Goldberg
Paul M. Hahn
Daniel Tenrosen

DEGREES CONFERRED.

Bachelor of Arts.

Bennett, Alfred C.	Hammond, Robert J.
Berman, Gustave	Ivler, Samuel
Buchter, Morris	Katz, Henry
Caicedo, Hernando	Kohn, Max
Cantor, Jacob August	Kraft, James
Cohen, Louis	Malino, Jerome E.
Costello, Harold L.	Matthews, Jerome
Cristiano, Charles G.	Miller, Samuel C.
Deutsch, Abraham	Moore, George P.
Deutsch, Jacob;	Raskin, Irving
Donoghue, James W.	Ritter, Irving
Elowsky, Louis	Rotkowitz, Harry
Feinstein, Abraham	Schiff, Hyman
Fuchs, Benjamin	Schulberg, Sol.
Goldberg, Jacob S.	Shircas, Hyman S.
Goldstein, Herman	Tenrosen, Daniel
Goodstein, Jacob	Troper, Morris
Grossman, Leonard	Weinberg, Aaron O.
Gutowitz, Benjamin	Weiss, Abraham
Hahn, Paul M.	Willbach, Harry
	Ziegler, Jerome M.

Bachelor of Science.

Astrofsky, Philip	Klenke, Francis M.
Batt, Ralph	Kramer, Rudolph
Carr, Stephen C.	Kramer, Sidney D.
Chapman, Isaac	Kümmerle, Harrison M.
Cohen, Isidore	La Chapelle, Jacques de
Crowley, Henry Lawrence	Levy, Joseph
Drapkin, Jacob	Liftman, Emanuel
Goldklang, Samuel	McGrath, Harold
Goldstein, Harry	Nussbaum, Sydney
Greenberg, Joseph	O'Connor, Edward P.
Harris, Meyer M.	Priess, William H.
Havender, Joseph	Salkin, Bernard
Hohenstein, Jacob	Southwick, Everett
Jacobson, Joseph	Steigman, Max
Johnson, Ellis A.	Wiesenberg, William M.
Kawanov, Jacob	Winegrad, George

DIRECTORY.

BOARD OF TRUSTEES.

Name.	Place of Business.
BARUCH, BERNARD M.....	111 Broadway
BELLAMY, FREDERICK P.....	204 Montague Street, Brooklyn
CHURCHILL, THOMAS W.....	63 Wall Street
CORBITT, WILLIAM HENRY.....	60 Wall Street
HYDE, JAMES W.....	10 Wall Street
KOHNS, LEE.....	42 Warren Street
LYDECKER, CHARLES E.....	2 Rector Street
MCCOMBS, WILLIAM F.....	96 Broadway
STROOCK, MOSES J.....	30 Broad Street
TUTTLE, CHARLES H.....	34 Nassau Street

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

ABBREVIATIONS.

- Main. — Main Building.
 C. H. — Compton Hall (Mechanic Arts Building).
 Chem. — Chemistry Building.
 Gym. — Gymnasium.
 T. H. H. — Townsend Harris Hall.

Allen, Joseph,	Main	9 Myrtle St., White Plains.
Alles, Robert H.,	T. H. H.	205 S. Van Dien Ave., Ridgewood, N. J.
Anderson, Arvid D.,	Main	122 Fenimore St., Brooklyn.
Arbib-Costa, Alfonso,	T. H. H.	500 W. 144th St.
Autenrieth, George C.,	Main	1628 St. Peter's Ave., Westchester, New York City.
Baldwin, Samuel A.,	Main	611 W. 137th St.
Ball, Allan P.,	Main	313 Convent Ave.
Baskerville, Charles,	Chem.	611 W. 110th St.
Benjamin, Gilbert G.,	T. H. H.	24 St. Nicholas Place.
Bergeron, Maxime L.,	T. H. H.	511 W. 146th St.
Bliss, Henry Evelyn,	Main	25 Belden Ave., Dobbs Ferry.
Boyd, William B.,	Gym.	25 Claremont Ave.
Bradley, Barclay W.,	T. H. H.	Hastings-upon-Hudson.
Breithut, Frederick E.,	Chem.	569 W. 171st St.
Brenner, Edward C.,	Gym.	840 West End Ave.
Brett, George M.,	Main	404 W. 116th St.
Brewster, John A.,	T. H. H.	728 W. 181st St.
Brisco, Norris A.,	Main	527 W. 124th St.
Brown, Carroll N.,	Main	6035 Tyndall Ave., Bronx.
Brown, Stanley F.,	Chem.	352 W. 123d St.
Browne, William Ward,	Main	385 Edgecombe Ave.
Brownson, Carleton L.,	Main	164 W. 74th St.
Bruckner, Arthur,	C. H.	Hastings-on-Hudson.
Burke, Edmund,	Main	135 Hamilton Place.
Butler, Bertram T.,	Main	Leonia, N. J.
Camera, A. U. N.,	Main	575 West Ave., Kensington, Brook- lyn.

Canfield, Leon H.,	T. H. H.	106 Northern Ave.
Carr, Henry S.,	Main	133 Manhattan Ave.
Chase, Jos. Cummings,	T. H. H.	222 W. 23d St.
Clark, Walter Ernest,	Main	West Nyack, N. Y.
Coffin, Joseph G.,	Main	382 Wadsworth Ave.
Cohen, Morris R.,	Main	581 W. 161st St.
Coleman, A. I. du P.,	Main	15 W. 58th St.
Compton, Alfred D.,	Main	2 St. Nicholas Terrace.
Conway, James I.,	T. H. H.	1680 Clay Ave., Bronx.
Cook, Edmund C.,	T. H. H.	560 W. 113th St.
Corcoran, Chas. A.,	Main	2408 Morris Ave., Bronx.
Cosenza, Mario E.,	Main	605 W. 144th St.
Courtney, Arthur W.,	Main	292 W. 4th St.
Crowne, J. Vincent,	Main	607 W. 138th St.
Curoe, Philip R. V.,	Main	968 St. Nicholas Ave.
Curtis, Robert W.,	Chem.	515 W. 143d St.
Curtman, Louis J.,	Chem.	547 W. 142d St.
Dailey, John J.,	Gym.	227 E. 43d St.
Damen, Robert J.,	T. H. H.	370 Convent Ave.
Davis, Robert V.,	Main	222 W. 23d St.
DeGroodt, Jas. Hervey,	C. H.	73 Prescott Pl., Jersey City.
Delamarre, Louis,	Main	237 Tecumseh Ave., Mt. Vernon.
De Walsh, Faust C.,	Main	664 W. 179th St.
Dickson, Arthur,	Main	52 W. 129th St.
Dielman, Frederick,	Main	41 W. 10th St.
Dieuaide, Francis R.,	Main	854 W. 181st St.
Downer, Charles A.,	Main	802 W. 181st St.
Dressler, Robert,	Main	518 E. 85th St.
Duggan, Stephen P.,	Main	11 Myrtle St., White Plains.
Edwards, Dayton J.,	Main	505 W. 124th St.
Edwards, George V.,	T. H. H.	2413 Lorillard Pl., Bronx.
Eliás, Alfredo,	T. H. H.	544 W. 157th St.
Estabrooke, Wm. L.,	Chem.	12 Prospect Drive, Yonkers.
Ettari, Francesco,	T. H. H.	43 Mayflower Ave., New Rochelle.
Feinberg, Benj. G.,	Chem.	530 W. 123d St.
Fitzpatrick, Joseph E.,	T. H. H.	315 W. 51st St.
Fox, William,	Main	575 W. 183d St.
Francois, Victor E.,	Main	260 Convent Ave.
Friedburg, L. Henry,	Chem.	601 W. 148th St.
Friedland, Louis S.,	T. H. H.	364 W. 121st St.
Fuentes, Ventura,	Main	518 W. 143d St.
Garennnes, Jean des,	T. H. H.	285 Lincoln St., Flushing, L. I.
Geoghan, Wm. F. X.,	T. H. H.	1748 46th St., Brooklyn.
Goldfarb, A. J.,	Main	251 W. 112th St.
Goldsmith, Alfred N.,	Main	43 Fifth Ave.
Gottschall, Morton,	Main	947 Avenue St. John, Bronx.
Green, Howard C.,	T. H. H.	511 W. 160th St.
Grendon, Felix,	Main	141 E. 26th St.

Groesbeck, Kenneth,	T. H. H.	854 W. 181st St.
Guthrie, William B.,	Main	515 W. 111th St.
Haas, George C. O.,	T. H. H.	518 W. 140th St.
Haight, Samuel C.,	T. H. H.	1426 Clinton Ave.
Halliday, Edgar,	T. H. H.	221 Eighth Ave., Brooklyn.
Hanaway, Samuel,	Main	220 Audubon Ave.
Hansen, Canute H.,	Gym.	120 Convent Ave.
Hansen, Henry E.,	Gym.	41 Convent Ave.
Hartmann, Jacob W.,	Main	468 W. 153d St.
Haskell, William H.,	T. H. H.	Scarsdale, N. Y.
Hatch, Robert H.,	Main	166 W. 74th St.
Hayes, George M.,	T. H. H.	3091 Decatur Ave., Bronx.
Healy, Joseph X.,	Main	2582 Eighth Ave.
Heard, Walter S.,	Gym.	962 Anderson Ave.
Heckman, Samuel B.,	Main	390 Wadsworth Ave.
Heynich, Richard O.,	T. H. H.	500 W. 144th St.
Holton, Herbert M.,	C. H.	3872 Boston Road, Bronx.
Horne, Charles F.,	Main	616 W. 148th St.
Hubert, Warren G.,	T. H. H.	269 McLean Ave., Yonkers.
Hunt, Leigh Harrison,	Main	14 W. 12th St.
Hutchison, Frederick W.,	T. H. H.	45 E., 59th St.
Ilgen, Ernest,	Main	689 St. John's Pl., Brooklyn.
Jacobson, Samuel O.,	Main	501 W. 121st St.
Jeffery, Haswell C.,	C. H.	558 W. 164th St.
Johnson, Ellis A.,	T. H. H.	160 Vernon Ave., Brooklyn.
Johnston, Henry P.,	Main	221 W. 49th St.
Joralemon, F. Parker,	Chem.	3 Dawson St., Boonton, N. J.
Keep, Austin B.,	T. H. H.	Livingston Hall, Columbia University.
Keiley, Jarvis,	T. H. H.	600 W. 161st St.
Keleher, Michael J.,	T. H. H.	1027 Southern Boulevard.
Kelly, J. Redding,	T. H. H.	55 W. 95th St.
Kepler, Emil A. C.,	T. H. H.	353 W. 85th St.
Kinkeldey, Carl W.,	Main	1041 Faile St., Bronx.
Klapper, Paul,	Main	1157 Longfellow Ave., Bronx.
Klein, Arthur, J.,	T. H. H.	421 W. 118th St.
Klein, David,	T. H. H.	1214 Boston Road, Bronx.
Knickerbocker, Wm. E.,	Main	145 W. 128th St.
Kost, Henry G.,	Main	472 E. 134th St.
Krowl, Harry C.,	Main	335 W. 14th St.
Kurz, Harry,	T. H. H.	507 W. 113th St.
Laffargue, Gaston A.,	Main	1944 Madison Ave.
Lang, John T.,	T. H. H.	51 Charlton St.
Lattin, Berton,	Gym.	850 Park Ave.
Lease, Emory B.,	Main	St. Regis Court, 3675 Broadway.
Leber, Otto H.,	T. H. H.	537 West End Ave.
Le Maire, Edmond E. A.,	T. H. H.	3057 Webster Ave., Bronx.
Levussove, M. Stuart,	Main	118 E. 92d St.

Linehan, Paul H.,	Main	518 W. 143d St.
Lowther, Hugh S.,	T. H. H.	610 Riverside Drive.
McCartie, Harriet L.,	Main	23 Hamilton Terrace.
McCormick, Radford J.,	Gym.	323 Edgecombe Ave.
MacDougall, Robert B.,	T. H. H.	121 E. 23d St.
McGuckin, William G.,	Main	176 W. 105th St.
McKenzie, Lionel B.,	Gym.	474 W. 152d St.
McLoughlin, F. O. X.,	Main	260 Convent Ave.
Magarge, Samuel J.,	T. H. H.	252 W. 84th St.
Marcus, Alexander,	Main	173 W. 83d St.
Marique, Pierre J.,	T. H. H.	3270 Perry Ave.
Marsh, Howard D.,	Main	620 W. 152d St.
Mead, Nelson P.,	Main	1601 Jerome Ave.
Mendelsohn, Chas. J.,	T. H. H.	261 Edgecombe Ave.
Merckel, Frederick George,	Main	107 E. 10th St.
Mezes, Sidney Edward,	Main	Hotel Majestic, 72d St., and Central Park West.
Moody, Herbert R.,	Chem.	330 Convent Ave.
Moore, Justin H.,	Main	13 W. 129th St.
Moore, Thomas R.,	Main	14 W. 128th St.
Morse, Livingston B.,	T. H. H.	Spring Valley, N. Y.
Mosher, Joseph A.,	Main	106 Northern Ave.
Mott, Lewis F.,	Main	172 W. 79th St.
Neus, Engelbert,	Main	703 W. 171st St.
Newton, Homer C.,	Main	Hastings-on-Hudson.
O'Neil, Richard J.,	Gym.	3605 Broadway.
Otis, Wm. Bradley,	Main	504 W. 112th St.
Overstreet, Harry A.,	Main	7 High St., White Plains.
Palmer, Earle Fenton,	Main	828 St. Nicholas Ave.
Palmer, Erastus,	Main	260 Convent Ave.
Palmer, Leonard L.,	Gym.	408 W. 150th St.
Panaroni, Alfred G.,	T. H. H.	21 W. 129th St.
Parmly, C. Howard,	Main	524 W. 114th St.
Pearl, Joseph,	T. H. H.	1375 Franklin Ave.
Peckwell, Henry W.,	T. H. H.	2338 University Ave.
Pedersen, Frederick M.,	Main	452 W. 144th St.
Pfeiffer, George A.,	T. H. H.	Palisade, N. J.
Philip, Maximilian,	Main	450 W. 149th St.
Prager, William L.,	Chem.	414 W. 120th St.
Purcell, Raymond F.,	Gym.	551 W. 161st St.
Quackenbos, G. Payn,	T. H. H.	127 W. 73d St.
Redmond, Daniel W.,	Main	1743 Montgomery Ave., Bronx.
Reichardt, Paul H.,	Gym.	318 W. 57th St.
Reynolds, Frederick G.,	Main	437 W. 147th St.
Richter, Kurt E.,	Main	2730 Creston Ave., Bronx.
Roberts, Carroll M.,	Gym.	1116 Amsterdam Ave.
Robinson, Devereux D.,	T. H. H.	101 W. 85th St.
Robinson, Frederick B.,	Main	537 W. 149th St.

Rougier, Francis L.,	T. H. H.	7 Kingsbridge Rd., Mt. Vernon.
Rupp, August,	Main	14 Hamilton Terrace.
Saurel, Paul L.,	Main	524 W. 150th St.
Saxton, Lynn Mateer,	T. H. H.	843 W. 179th St.
Schapiro, J. Salwyn,	Main	529 W. 123d St.
Schoen, Emile,	Main	65 E. 93d St.
Schuler, John,	T. H. H.	7 Linden Ave., Brooklyn.
Schulman, Abram G.,	T. H. H.	346 E. 173d St.
Schulz, Gustav F.,	T. H. H.	506 W. 143d St.
Schuyler, Livingston R.,	Main	567 W. 139th St.
Schwartz, Thomas G.,	Main	341 E. 19th St.
Schwarz, Samuel A.,	T. H. H.	558 W. 164th St.
Scott, George G.,	Main	899 Valley Rd., Upper Montclair, N.J.
Senftner, Alexis E.,	T. H. H.	428 W. 154th St.
Sickels, Ivin,	Main	West Nyack, N. Y.
Sim, John Robert,	T. H. H.	536 W. 156th St.
Simmons, Thomas A.,	Gym.	235 E. 28th St.
Simonds, Stanley,	Main	516 W. 142d St.
Smith, Calvin Rae,	T. H. H.	104 Decatur St., Brooklyn.
Smith, Robert F.,	T. H. H.	614 W. 146th St.
Snider, Guy Edward,	Main	511 W. 112th St.
Sohn, Joseph,	T. H. H.	152 W. 93d St.
Stair, Bird Williams	Main	25 St. Nicholas Terrace.
Stebbins, Homer A.,	T. H. H.	431 W. 121st St.
Stevenson, Reston,	Chem.	510 W. 140th St.
Stokes, Robert T.,	Chem.	800 Argyle Rd., Brooklyn.
Storey, Thomas Andrew,	Gym.	660 Riverside Drive.
Stork, Edward J.,	T. H. H.	212 Hancock Ave., Jersey City.
Taaffe, Tho ^s . Gaffney,	Main	332 Manor Rd., Castleton Corners, S. I.
Thompson, Holland,	T. H. H.	102 Waverley Place.
Thornton, William M.,	Chem.	20 W. 9th St.
Tilmont, Ralph,	T. H. H.	516 W. 174th St.
Tisdall, FitzGerald,	Main	1 W. 81st St.
Toussaint, Camille A.,	T. H. H.	3688 Boulevard, Jersey City.
Truesdell, Waldo B.,	Main	515 W. 143d St.
Turner, Arthur B.,	Main	245 N. Mountain Ave., Montclair, N. J.
Turner, John P.,	Main	504 W. 122d St.
Tynan, Joseph L.,	Main	2336 Loring Place.
Voelkel, Titus,	Main	502 W. 139th St.
Warren, Herbert S.,	Main	468 E. 134th St.
Weill, Felix,	Main	50 Morningside Ave.
Weinberg, Louis,	T. H. H.	539 W. 162d St.
Wetzel, Reinhard A.,	Main	505 W. 142d St.
White, James R.,	Main	382 Wadsworth Ave.
Whitelock, Wm. Wallace,	Main	758 West End Ave.
Whiteside, Donald,	Main	522 W. 157th St.

Whitford, Edward E.,	Main	180 Claremont Ave.
Whyte, W. Alexander,	T. H. H.	530 W. 136th St.
Wickham, Joseph F.,	T. H. H.	513 W. 144th St.
Williams, David L.,	Chem.	38 W. 75th St.
Williamson, Walter,	Gym.	962 Anderson Ave.
Woll, Frederic A.,	Gym.	1013 Home St., Bronx.
Woolston, Howard B.,	Main	431 W. 121st St.

ENROLLMENT.

For the Year Ending June, 1915.

DAY SESSION STUDENTS.

UPPER SENIOR CLASS.

Abrams, Sol	Arts	Handelman, Jacob S.	Arts
Amend, Charles E.	Arts	Hendelman, Isidor	Arts
Banks, Louis	Sc.	Horowitz, George J.	Arts
Barnason, Charles F.	Arts	Hyak, Charles, Jr.	Sc.
Berkowitz, Harry	Sc.	Icahn, Michael	Arts
Boston, Henry R.	Sc.	Inkeles, Abraham	Sc.
Brenner, Isden P.	Arts	Kadison, Alexander	Arts
Bristol, Edward S.	Sc.	Kilpatrick, Martin, Jr.	Arts
Brown, David	Sc.	Kramer, Samuel	Arts
Campbell, Charles	Arts	Kupec, William J.	Sc.
Campiglia, Frank, Jr.	Arts	Kurtz, Louis	Sc.
Cawley, Charles A.	Sc.	Lewis, Harold	Arts
Cohen, Frank	Arts	Lieb, Michael	Arts
Cohen, Harry	Sc.	Lipschitz, Joseph H.	Sc.
Cohen, Mortimer J.	Arts	Manley, Donald	Sc.
Coleman, Laurence V.	Sc.	Meyerson, Oscar L.	Arts
Davidson, Arthur W.	Sc.	Meyrowitz, Julius	Arts
Distefano, Alfredo	Arts	Mintzer, Joseph	Arts
Eichner, Benjamin	Arts	Mulholland, James V.	Arts
Finkelstein, Louis	Arts	O'Connell, Nicholas	Sc.
Frank, David H.	Sc.	Oesterreicher, Osias	Sc.
Frankel, Leo	Arts	Peterson, Martin D. S.	Arts
Freiberg, Hyman	Sc.	Port, Benjamin	Arts
Fried, Samuel	Sc.	Rabinowitz, Benjamin	Arts
Goldberg, Philip P.	Sc.	Rappaport, Gustav S.	Sc.
Goldsmith, Max	Sc.	Rauch, Nathan A.	Sc.
Goodman, Hyman C.	Sc.	Rosen, Max	Sc.
Grabson, Emanuel	Sc.	Rosenblum, Joseph	Sc.
Greenberg, Jacob	Sc.	Rothstein, Morris	Arts
Hammer, Jacob	Sc.	Ryba, J. Francis	Sc.
Hammer, Louis	Arts	Schachner, Nathan	Sc.
		Schatzberg, Sigmund	Sc.
		Schechter, Louis	Arts

Scheer, Henry I.Sc.
 Schwartz, JosephSc.
 Shapiro, DavidSc.
 Siegel, MartinArts
 Siyavitz, BenjaminArts
 Smith, KarlArts
 Stern, Harry R.Sc.
 Stockel, SamuelArts
 Wallach, MaxSc.
 Weiss, CharlesSc.
 Weiss, JosephSc.
 Welke, Rudolph A.Sc.
 Wolowitz, Abraham C.Sc.
 Zitner, MorrisArts
 Zukin, IsidorSc.

Total 79

LOWER SENIOR CLASS.

Aaronson, HenrySc.
 Abrahams, MortonArts
 Adler, HowardSc.
 Albrecht, Arthur E.Arts
 Alport, MaxSc.
 Aronovitz, HenrySc.
 Battistella, FrancescoSc.
 Brown, J. T. LindsaySc.
 Cohen, BarrettSc.
 Cohen, JacobSc.
 Cohen, Jacob E.Sc.
 Coulton, Thomas E.Arts
 Dill, Gilbert T.Sc.
 Dounn, David K.Sc.
 Epstein, DavidArts
 Frankenstein, LouisSc.
 Fried, Maurice A.Arts
 Goold, JamesSc.
 Graham, JacobArts
 Greene, MatthewArts
 Greene, Percy E.Arts
 Gross, PaulSc.
 Grossman, MaxArts
 Gutowitz, SolomonArts
 Halpern, Isaac B.Arts
 Hankin, HenrySc.
 Harrer, John A.Arts

Hauser, Edwin T.Arts
 Himowich, Harold E.Sc.
 Hirsch, George D.Arts
 Hirschberg, Abraham A.Arts
 Hoffman, Samuel D.Arts
 Hood, Everett D.Arts
 Hopkins, Carleton R.Arts
 Horowitz, MorrisSc.
 Isaacs, HymanArts
 Isaacson, IsidorSc.
 Jacobson, Jacob A.Arts
 Jaffe, BenjaminSc.
 Kanner, SamuelArts
 Kanter, EmanuelSc.
 Kassenbroch, Christopher G. Sc.
 Klein, NelsonArts
 Kosloff, Alexander H.Arts
 Krinowsky, Daniel G.Sc.
 Kuenstler, ArmenSc.
 Landy, AbrahamSc.
 Leikin, RoyalSc.
 Levine, Samuel Z.Arts
 Levy, AbrahamSc.
 Levy, MaxSc.
 Logie, Quentin R.Sc.
 Manz, Henry A.Arts
 Marcus, S. T.Arts
 McAusland, R. J., Jr.Sc.
 McGill, James V.Arts
 Moerchen, Helmuth A.Arts
 Muldofsky, SamuelArts
 Mullen, George J.Sc.
 Nelson, George A., Jr.Sc.
 O'Connell, Augustus A.Arts
 Pasvolksy, LeoArts
 Pels, HerbertSc.
 Popkin, MaxwellSc.
 Reiman, HarryArts
 Rogoff, Abraham M.Arts
 Rosenstein, DavidSc.
 Samuels, Louis H.Arts
 Samuelson, Sidney E.Sc.
 Scarlata, Joseph, Jr.Arts
 Schneider, AbrahamArts
 Schwartz, Louis G.Arts
 Schwartz, OttoArts
 Shauer, Melville A.Sc.

Shulman, Gilbert	Arts
Siegel, Isaac	Arts
Silverstein, Morris	Arts
Sindeband, Max M.	Arts
Singer, Nathan	Arts
Smith, Frank	Arts
Spier, Leslie	Sc.
Stark, Irving W.	Arts
Strumpf, David L.	Sc.
Tabor, Otto V.	Arts
VandeVort, Stuart L.	Arts
Weil, Walter L.	Arts
Weiss, Charles	Sc.
Wikoff, Alan G.	Sc.
Wilchins, Moses	Arts
Wodrzaka, Jacob, Jr.	Arts
Wolfe, Bertram D.	Arts
Wolk, Irving	Arts
Wright, Harold	Arts
Yarmolinsky, Abraham	Arts
Zimmerman, Julius	Sc.

Total 95

UPPER JUNIOR CLASS.

Ackman, Benjamin	Sc.
Archer, Benjamin	Arts
Austin, Harold W.	Sc.
Babor, Joseph A.	Sc.
Barash, Louis	Arts
Bracken, James J.	Sc.
Bronner, Frank	Arts
Bushnell, Charles W.	Arts
Ciaccio, Paul	Sc.
Clendenin, Thomas P.	Sc.
Cohen, Abraham	Sc.
Cohen, Harry	Sc.
Cohen, Samuel	Sc.
Colin, David H.	Sc.
Colish, Nathan H.	Arts
Connolly, John M.	Arts
Daschavsky, Peter	Sc.
Delman, David	Arts
Delman, Zachary M.	Sc.
Deutsch, Max	Arts
Douglas, Jesse	Sc.
Drake, Joseph W.	Arts
Eichel, David	Arts
Ellenbogen, Henry D.	Arts
Feigenbaum, Isidore	Arts
Fidler, Peter Z.	Sc.
Fiedler, J. LeRoy	Arts
Fielder, Wilbur	Sc.
Friedman, Abraham	Arts
Friedman, Solomon	Sc.
Frutkin, Louis	Arts
Fuchs, Joseph	Sc.
Funk, Samuel T.	Arts
Ginsberg, Benjamin	Arts
Goldfarb, Isidor	Arts
Goldsmith, Jack B.	Arts
Goldstein, Louis E.	Sc.
Golubock, Henry	Sc.
Grablowsky, Herman A.	Arts
Gramet, Charles A.	Sc.
Greenberg, Max E.	Arts
Gross, Frank S.	Sc.
Hagan, Edward R.	Sc.
Harap, Henry	Sc.
Harris, Emanuel	Arts
Henck, Robert	Arts
Iger, Morris L.	Arts
Kaback, Abraham	Arts
Kaplan, Benjamin D.	Arts
Kaplan, Isaac F.	Arts
Kimmelman, Max	Sc.
Kosloff, Meyer L.	Arts
Kraft, William M.	Arts
Kramer, Felix	Sc.
Lamm, Lucian	Arts
Leikin, Samuel	Sc.
Lerner, Nathan A.	Arts
Levy, Louis	Sc.
Lichtenstein, Michael	Arts
Lyons, John J.	Sc.
Marder, Frank	Sc.
Marrs, Aubrey R.	Sc.
Meister, Morris	Sc.
Metz, Solomon	Arts
Mitchell, Max	Sc.
Montero, Harry E.	Sc.
Moskovitz, Herman	Arts
Moskovitz, Morris A.	Arts

North, Solomon	Sc.	Bondy, Alfred R.	Sc.
O'Neil, Alexander J.	Arts	Borchers, Fred W.	Sc.
Plessner, Benjamin	Sc.	Brönowitz, Benjamin	Arts
Rabinowitz, Joshua	Sc.	Brotherton, John	Sc.
Rosenzweig, Charles L.	Sc.	Caro, Alexander	Arts
Salit, Norman	Arts	Cohen, Lewis	Sc.
Salzman, Alex	Arts	Cohen, William	Arts
Schachter, Harry	Arts	Cohn, David	Arts
Schaffer, Harry E.	Sc.	Cohn, Nathan	Arts
Schulich, Reuben	Sc.	Comon, Charles M.	Arts
Schulman, Jacob J.	Arts	Conlan, Vincent F.	Sc.
Schultz, Henry	Arts	Corrigan, Louis	Arts
Schwalje, Walter	Arts	Cowen, Abraham	Arts
Seikowitz, Louis	Sc.	Coyne, Howard L.	Sc.
Shapiro, Philip	Arts	Cunningham, Harold F.	Arts
Silver, Samuel	Sc.	DeGroot, Archibald	Sc.
Solomon, Joseph E.	Arts	Dick, Abraham H.	Sc.
Stich, Herman J.	Arts	Dombrow, Simon	Arts
Stickney, George J.	Arts	Durstenfeld, David	Arts
Studley, William H. S.	Sc.	Edelman, Isidore A.	Sc.
Thurm, Maxwell	Sc.	Farber, Samuel	Arts
Tinsley, Theodore A.	Arts	Feingold, Philip	Sc.
Turner, Egbert M.	Arts	Feinstein, Simon	Sc.
Viscardi, John	Arts	Filfuss, Julian	Sc.
Waldheim, Franklin	Arts	Fineman, Abraham A.	Sc.
Wechsler, Ralph	Sc.	Foster, Walter L.	Sc.
Weinfeld, Benjamin D.	Sc.	Friedman, Benjamin	Sc.
Wolf, Solomon	Sc.	Friedman, Maurice	Arts
Wolf, Samuel	Sc.	Friedman, Samuel H.	Arts
Zuckerman, William A.	Sc.	Friedrich, Samuel E.	Arts

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LOWER JUNIOR CLASS.

Ackerman, Herbert R.	Arts	Ginsberg, William	Arts
Adlerblum, David	Arts	Gitelson, Moses H.	Sc.
Arnold, Frank C.	Arts	Glicksberg, Louis	Sc.
Austein, William E.	Sc.	Glicksberg, Martin J.	Sc.
Barach, Alvan L.	Arts	Goldberg, Benjamin	Sc.
Becker, Abram	Sc.	Goldberg, Harry	Sc.
Benjamin, Herbert B.	Arts	Goldberg, Jacob	Arts
Berg, Benjamin N.	Arts	Goldberger, Elias	Arts
Berman, Reuben P.	Arts	Goldsmith, Julius	Arts
Birnn, Roland	Sc.	Goldstein, Abraham	Sc.
Bloch, Isadore	Sc.	Goldstein, Charles	Arts
Bloom, Samuel	Sc.	Goodfriend, Milton J.	Arts
		Goodman, Edward	Arts
		Gotterer, Abraham	Sc.

Granat, Edward	Arts	Overin, Sturtevant	Arts
Granich, Alfred M.	Sc.	Phillips, Arthur N.	Arts
Greenbaum, Theodore	Arts	Pike, Morris	Sc.
Greenstein, Meyer	Sc.	Rayved, Herman	Arts
Guinness, Ralph B.	Arts	Redler, Leo	Sc.
Halpern, Emanuel	Arts	Robin, Bernard	Sc.
Halpern, Robert A.	Sc.	Rogin, Isidor	Arts
Harber, Abraham	Sc.	Rosen, Ambrose	Sc.
Herzenberg, Herbert	Arts	Rudinsky, Edward	Arts
Hicks, Daniel A.	Arts	Saposnekow, Jacob	Sc.
Hirshberg, Bernard	Arts	Schachter, Harry W.	Arts
Hummel, Adolph	Arts	Schattman, Milton E.	Arts
Imperato, Pasquale J., Jr.	Sc.	Schevitz, Jules	Sc.
Jaffe, Bernard	Sc.	Schoeler, Herman R.	Arts
Jaller, Alexander E.	Sc.	Schreyer, Milton P.	Arts
Katz, Hyman	Arts	Schuler, George H.	Sc.
Kaufman, Samuel	Sc.	Schussheim, Morris	Sc.
Kennedy, Harold M.	Arts	Schwartz, Max	Arts
Kessler, Abraham E.	Arts	Seligman, Louis	Sc.
Klein, Edward	Sc.	Shafer, William	Arts
Korminsky, Abraham	Sc.	Shapiro, Isidor	Arts
Kurdelski, Henry	Sc.	Simon, Julian	Arts
Lasker, Morris	Arts	Smith, Jacob	Sc.
Lease, Raymond E.	Arts	Sobel, Nathan	Sc.
Lefkowitz, Max	Arts	Speel, Abraham B.	Arts
Lenowitz, Herman	Sc.	Stadler, Frank B.	Arts
Lerner, Julius	Sc.	Stahl, Fisher	Arts
Licht, Herbert	Arts	Starbuck, Leonard M.	Sc.
Lightcap, Joseph L.	Arts	Steiner, Marcus	Sc.
Lindenbaum, Abraham	Sc.	Steirman, Jacob	Sc.
Linder, Edward	Arts	Summerfield, David W.	Sc.
Liskofsky, Max	Sc.	Tabor, Samuel	Sc.
Livingston, Jacob H.	Arts	Tanz, Jacob	Sc.
Magrath, James W., Jr.	Arts	Trigger, Raymond	Sc.
Mannheimer, Albert	Arts	Vogel, Nathan	Sc.
Mannix, Henry M. J.	Arts	Wacker, Arthur A.	Sc.
Mantinband, Charles X.	Sc.	Weberman, Benjamin	Arts
Marcus, David	Sc.	Weberpals, Fred C.	Arts
McGee, James V.	Arts	Wechsler, David	Arts
Melico, Meyer	Sc.	Weeks, Frederick T.	Arts
Mendelsohn, Morris	Arts	Weinstein, Jacob	Arts
Méras, Edmond A.	Arts	Weissman, Harry	Sc.
Miner, Thomas	Arts	Williamson, Elliott F.	Sc.
Nebel, Gustav T.	Arts	Windman, Raphael	Arts
Neuwirth, Benjamin	Arts	Wolfson, Abraham	Arts
Orbach, Harry	Sc.	Yachnowitz, Samuel	Sc.
Ornstein, Israel G.	Arts	Zagat, Arthur L.	Sc.

Zankel, MichaelArts
Zucker, Samuel L.Arts

Total 155

UPPER SOPHOMORE CLASS.

Almour, RalphArts
Alpern, HymenArts
Ammer, PhilipArts
Anopol, GeorgeSc.
Armore, Anthony J.Arts
Aronowitz, MaxArts
Auerbach, NathanSc.
Balsler, Bernard C.Arts
Barasz, MosesArts
Baum, Samuel M.Sc.
Belsky, MaxSc.
Berliner, Alexander L.Arts
Berman, MeyerArts
Bernstein, AltonSc.
Bernstein, Solon S.Arts
Beskind, LouisSc.
Bier, SamuelSc.
Bierman, Samuel D.Sc.
Brodie, Melvin M.Sc.
Brodinsky, NathanSc.
Bronstein, JulienSc.
Buchbinder, MosesSc.
Busch, Henry M.Arts
Cisar, JaroslavSc.
Cohen, Edward E.Sc.
Cohen, IsraelArts
Cohen, JacobArts
Cohen, WilliamSc.
Cole, JacobSc.
Conover, AllanArts
Conroy, EdwinSc.
Coombes, DonaldsonArts
Cotellessa, GuiseppeSc.
Cox, Harold C.Sc.
Deutsch, Sylvan D.Arts
Drescher, CharlesArts
Edelman, DavidSc.
Epstein, HymanArts
Esnitz, HermanSc.
Feldman, AaronSc.

Fischer, Harry S.Arts
Fleischmann, BertholdSc.
Frank, Henry J.Sc.
Fried, HarrySc.
Friedman, LouisArts
Friedman, SamuelSc.
Gawronsky, Philip P.Sc.
Gill, Bennington P.Arts
Gliboff, HermanSc.
Goldberg, David S.Arts
Goldblatt, DavidSc.
Gollomp, LouisSc.
Golub, Jacob S.Arts
Gottlieb, JacobArts
Greenfield, Samuel H.Arts
Greenfield, Solomon C.Sc.
Gross, JosephSc.
Harris, Ben R.Sc.
Himber, IsidoreArts
Hoffberg, IsraelSc.
Hoffman, Hyman A.Arts
Hoffman, IsraelSc.
Horwitz, LouisArts
Hutchinson, Harold W.Sc.
Jacklowitz, JosephArts
Jaffe, JohnArts
Jampel, HermanArts
Joachim, JosephArts
Johnson, Clarence A.Arts
Jones, WilliamSc.
Kaplan, JuliusSc.
Kasanof, DavidSc.
Kassner, PhilipArts
Kaufman, Abraham M.Arts
Kaufman, CharlesSc.
Kavaler, SamuelSc.
Kazinsky, HarrySc.
Kesselovitz, MaxSc.
Kislik, Louis K.Sc.
Klinko, August A.Arts
Konowitz, Isidor M.Arts
Kriegel, AbrahamSc.
Kugelmass, IsidoreSc.
Lawrence, Joseph E., Jr.Sc.
Lear, Carl A. O.Sc.
Leibowitz, LouisSc.
Lessler, SimonSc.

Alderman, Morris	Sc.	Eisenstein, Lewis	Sc.
Arzt, Max	Sc.	Eiten, Irving J.	Arts
Asurowitz, Sol	Sc.	Emerson, Harold C.	Arts
Auslander, Bernard	Sc.	Engel, Morris A.	Arts
Babcock, Edwin M.	Sc.	Erpf-Lefkovics, Armand G.	Arts
Barban, Charles	Sc.	Esterson, Israel	Arts
Bauer, Benjamin	Sc.	Feinsot, Joseph E.	Arts
Becker, Isidor	Arts	Feldman, Robert A.	Arts
Berk, David	Sc.	Fierman, Harold	Arts
Berkman, William J.	Sc.	Fine, George	Sc.
Berkowitz, Sigmund	Sc.	Fine, Joseph H.	Arts
Berson, George J.	Sc.	Flax, Nathan	Arts
Bisgeier, Max	Sc.	Frank, Herbert P.	Sc.
Blanch, Isidor A.	Sc.	Freeman, Jacob	Arts
Blau, Benjamin L.	Sc.	Fried, Jacob	Sc.
Blinne, Fred	Sc.	Fried, Josef D.	Sc.
Bluestone, Moses A.	Sc.	Friedenthal, Bernard	Arts
Blum, Max D.	Sc.	Frost, Max	Arts
Boschen, John H., Jr.	Sc.	Fuchs, Samuel H.	Sc.
Brillstein, Louis	Sc.	Gallagher, Walter J.	Sc.
Brody, Benjamin N.	Sc.	Gehan, John J., Jr.	Arts
Brolles, John E.	Sc.	German, Abraham	Arts
Broomer, David	Arts	Gerstenfeld, Emanuel M.	Arts
Brophy, John M.	Arts	Gittleson, Mitchell	Sc.
Buda, Mario A.	Arts	Gold, Benjamin	Sc.
Burchell, Samuel C.	Arts	Goldberg, Alexander	Sc.
Castelli, Ignatius	Arts	Goldberg, Hyman	Sc.
Chertcoff, Moses	Sc.	Goldberg, Moses	Sc.
Closkie, Stanley J.	Arts	Goldberg, Samuel	Arts
Cohen, Abraham	Sc.	Goldenthal, Isidore	Arts
Cohen, Benjamin	Arts	Goldman, David	Sc.
Cohen, Joseph	Arts	Goldstein, Abraham	Sc.
Cohen, Max	Sc.	Goldstein, Harold	Arts
Cohen, Max	Arts	Gray, George T.	Arts
Cohen, Morris	Sc.	Grayzel, Abraham	Arts
Cohen, Morris A.	Sc.	Grayzel, Solomon	Arts
Cohen, Peter	Arts	Green, Jerome	Sc.
Cohen, Philip	Arts	Groff, Benjamin	Sc.
Cohen, William F.	Sc.	Grünzweig, Armand	Arts
Cornman, Morris I.	Sc.	Gutesville, Isadore L.	Arts
Donaldson, J. Howland	Arts	Haber, Joseph	Sc.
Drachman, Albert	Sc.	Hallberg, Harry C.	Arts
Dreher, Carl	Sc.	Herschkowitz, Charles	Arts
Duhl, Louis	Sc.	Heshion, Martin F.	Arts
Eagle, Max	Sc.	Heyman, Edward	Arts
Eilert, John K.	Arts	Hochberg, Isador	Sc.
Eisen, Leo	Arts	Horowitz, Max	Sc.

Horowitz, Saul	Arts	Lubell, Albert J.	Arts
Hurwitz, Leon J.	Arts	Lublin, Emil	Sc.
Hutoryansky, Godel	Sc.	Lucenti, Santos B.	Sc.
Iacuzzi, Alfred	Arts	Mabel, Isidor	Sc.
Isaacs, Julius	Arts	Mackeown, Samuel S.	Sc.
Jacobs, Louis	Sc.	Malmberg, Axel O.	Arts
Jakira, Abram	Sc.	Mantel, Charles	Arts
Jicha, Jaroslav	Sc.	Mapes, William P.	Arts
Joffe, Louis	Sc.	Marcus, Daniel	Arts
Josephson, Isidor	Sc.	Margaretten, David	Arts
Kantro, Bryan E.	Arts	Margolin, Joseph B.	Arts
Kaplan, Abraham	Sc.	Margolis, Benjamin	Arts
Kaplan, Max	Sc.	Mascolo, Richard	Arts
Kaplan, Morris	Arts	Matlaw, Udell	Arts
Karsten, Edward H.	Arts	Mayer, Harry I.	Arts
Kasper, Harry W.	Sc.	Mayer, Richard B.	Sc.
Kastenbaum, Paul S.	Arts	Meltzer, Louis H.	Sc.
Katz, Samuel J.	Sc.	Mendelson, James	Sc.
Kayser, Herbert	Sc.	Messina, Joseph M.	Arts
Kear, Francis V.	Arts	Mintz, Benjamin	Arts
Kennedy, Robert H.	Arts	Nachmanowitz, Joseph	Sc.
Kerekes, Frank	Sc.	Nemirofsky, Andrew	Sc.
King, Frederick D., Jr.	Arts	Newman, Morris B.	Sc.
King, Gordon C.	Sc.	Nirenberg, Harry	Arts
Kirsch, Jacques	Sc.	O'Brien, William	Arts
Klein, Morris N.	Sc.	Opalskar, Louis J.	Sc.
Kleinfeld, Louis	Sc.	Paley, George	Sc.
Knopf, Max	Arts	Pelelsky, Isidore A.	Sc.
Koplin, David	Arts	Phillips, Sidney D.	Arts
Kosok, Paul	Sc.	Pincus, Joseph	Sc.
Kowalsky, Louis	Arts	Pinroshnikoff, Joseph	Sc.
Kraft, Rudolf L.	Sc.	Platt, Maurice	Sc.
Krancer, David	Sc.	Plotkin, Benjamin	Arts
Kraus, Joseph H.	Arts	Post, Emil L.	Sc.
Kronick, Jacob	Sc.	Price, William G. F.	Sc.
Landau, Hyman J.	Arts	Raab, Abraham	Sc.
Langer, Isaac	Sc.	Rabinowitz, Paul	Sc.
Lapedos, Samuel J.	Arts	Rappoport, Morris	Arts
Lehner, Bernard	Sc.	Reich, William	Arts
Lehrman, Alexander	Sc.	Reichel, Morris H.	Arts
Leibowitz, Isaac	Sc.	Reichert, Philip	Arts
Lieberman, Simon	Arts	Rice, Louis	Arts
Lifschitz, Harry	Sc.	Richman, Harry	Arts
Lilienthal, Abraham	Arts	Rimbach, Richard	Sc.
Lilley, Ernest R.	Sc.	Rinkoff, Solomon	Sc.
Lippman, Herman	Sc.	Rivlin, Solomon	Arts
Loebel, Robert O.	Arts	Rodgers, Walter I., Jr.	Sc.

Barwick, Arthur R.	Sc.	Cohn, Benno	Sc.
Baumeister, Theodore, Jr.	Sc.	Colbeth, I. Milton	Sc.
Bazar, David	Sc.	Cooper, Lester J.	Arts
Bent, Walter W. C.	Arts	Cording, Harry	Arts
Bergman, Meyer W.	Sc.	Cortazzo, Angelo	Sc.
Bergoffen, Julian I.	Arts	Crawford, John	Sc.
Berkowitz, Joseph J.	Sc.	Crowley, Robert	Sc.
Berkson, Harry	Sc.	Cruse, Creighton	Sc.
Berliner, Meyer	Sc.	D'Andrea, Albert P.	Arts
Berman, Francis J.	Arts	Degnan, Lester G.	Sc.
Berman, Louis	Arts	Dettloff, Adolph	Arts
Bernstein, Philip	Arts	Dickey, Edward T.	Sc.
Bernstein, Samuel L.	Arts	Divinsky, Jacob G.	Arts
Bierman, Isidore L.	Arts	Donovan, Ignatius	Arts
Birman, Milton	Arts	Doragoff, Nathan	Sc.
Birinsky, Mordchay	Sc.	Doshefsky, Louis	Arts
Bjorck, Hans M.	Sc.	Dubnau, Isadore	Sc.
Blau, Albert	Arts	Eichel, Adolph	Sc.
Blechman, Elias	Arts	Eichel, Isidore	Arts
Blutreich, Arthur P.	Arts	Eisenberg, Jacob	Sc.
Bonfield, Louis	Sc.	Elk, Benjamin	Sc.
Bornemann, Herman J.	Arts	Ellenbogen, Joseph	Sc.
Borochow, Solomon	Sc.	Eller, Abraham	Sc.
Bosch, Frederick H., Jr.	Sc.	Emanuel, Obert	Sc.
Braunstein, Louis	Sc.	Epstein, Herman	Sc.
Brilliant, Nathan	Sc.	Epstein, Samuel	Sc.
Brody, Abraham	Sc.	Farrell, Raymond	Arts
Brook, Alexander	Sc.	Feinberg, Albert	Sc.
Brosterman, Abraham	Arts	Feinsilber, David	Sc.
Brown, Stanley M.	Arts	Feinstein, Isidor	Arts
Burger, Edward	Sc.	Feinstein, Max	Sc.
Cairns, William K., Jr.	Sc.	Fialkoff, Abraham I.	Sc.
Calarco, Stephen	Arts	Finegan, Louis A.	Sc.
Campbell, Gordon	Sc.	Fishberg, Max I.	Sc.
Carey, William J., Jr.	Sc.	Floeting, Charles	Sc.
Cerchiara, Camillo	Sc.	Frankel, Sidney M.	Arts
Chambers, Edward H.	Arts	Franklin, Philip	Sc.
Chambers, Leonard	Sc.	Freiberg, Isidore	Sc.
Cheitman, Philip	Arts	Fried, Isidor B.	Arts
Cobban, George	Sc.	Fried, Max	Sc.
Cohen, David	Sc.	Friedlander, Nathan	Sc.
Cohen, Edward M.	Sc.	Friedman, Leonard	Arts
Cohen, Harry A.	Arts	Friedman, Robert P.	Arts
Cohen, Henry	Sc.	Friedman, Sol	Sc.
Cohen, Joseph	Sc.	Funke, Rudolph	Sc.
Cohen, Julius N.	Sc.	Gabler, David	Sc.
Cohen, Ralph	Sc.	Gehan, Edmund A.	Arts

Ginsberg, Isadore	Arts	Jenkins, Arthur B.	Sc.
Girsdansky, William	Sc.	Joffe, Bernhard	Sc.
Gladstone, Sidney	Arts	Johnson, Walter A.	Sc.
Glennen, James F.	Sc.	Johnson, Wesley E.	Arts
Glück, George	Sc.	Jones, Loring P.	Arts
Gluckstein, Isidor	Arts	Jones, William H.	Sc.
Godnick, Irving	Arts	Kahn, Louis	Sc.
Goldberg, Benjamin	Arts	Kaiser, Abraham	Sc.
Goldberg, Hyman T.	Arts	Kaplan, David	Sc.
Goldstein, Israel	Sc.	Kaplan, Harry	Sc.
Goldstein, Jacob	Sc.	Kasdan, Harry	Sc.
Golob, Nathan	Sc.	Kaskel, Isadore	Sc.
Goodman, Max	Sc.	Katz, Fred	Sc.
Gordon, Edward	Arts	Katz, Jerome S.	Sc.
Gordon, Harry	Sc.	Katzin, Max	Arts
Gottesman, Meyer	Sc.	Kehoe, Raymond F.	Arts
Gottlieb, Bernhardt	Arts	Keshenofsky, Moe R.	Sc.
Greenbaum, Otto	Sc.	Kirk, Emanuel F.	Arts
Grier, David	Sc.	Kirschbaum, Joseph	Sc.
Gross, David	Arts	Klansky, Jacob J.	Arts
Grossman, Joseph	Sc.	Kleiman, Isidore	Arts
Grossman, Lazer	Arts	Klemes, Isadore S.	Sc.
Guinane, Joseph E.	Sc.	Konowitz, Mordecai	Arts
Guttman, Nathan	Sc.	Koransky, Isidor	Sc.
Haar, Morris	Arts	Koshman, Frank	Arts
Hach, William	Sc.	Krackov, Herman L.	Sc.
Hadas, Gershon	Arts	Kraft, Herbert G.	Arts
Hader, Frank R.	Arts	Kreger, Meyer	Arts
Hanson, Alfred H.	Arts	Kreisberg, Maurice J.	Arts
Harrigan, George J.	Arts	Krichesky, Israel J.	Sc.
Hays, Mortimer	Arts	Kubicek, Emil R.	Sc.
Hecht, David	Arts	Kuhlman, Henry W., Jr. ...	Arts
Heilman, Jacob	Arts	Kulik, Irving I.	Sc.
Hirshfeld, Solomon	Arts	Laitin, Harry	Arts
Hoffman, Harry E.	Arts	Lasky, Solomon	Sc.
Horowitz, Benjamin, Jr. ...	Arts	Lasner, Samuel	Sc.
Horowitz, Nathan	Arts	Lazarovich, Doushan	Sc.
Howay, Johannes E.	Sc.	Leffler, Albert	Arts
Hyman, Benjamin	Arts	Lehman, John J.	Arts
Hymowitz, Charles	Arts	Levi, Leslie	Arts
Isaacs, Jackson S.	Sc.	Lesselroth, Louis	Arts
Isler, Benjamin	Sc.	Levine, David	Arts
Ivry, Morris	Arts	Levine, Isaac	Sc.
Jacobs, Julius	Arts	Levinson, Simon A.	Arts
Jaffe, Philip J.	Sc.	Levinson, William	Arts
Javer, Irving	Sc.	Levy, Edward H.	Arts
Javitz, Isidore	Arts	Levy, Gustave	Sc.

Levy, Irving	Arts	Poliakoff, Samuel J.	Sc.
Levy, Joseph	Sc.	Rabinowitz, Maurice	Arts
Lichtman, Solomon	Arts	Rabinowitz, Max S.	Sc.
Lifflander, Joel	Arts	Rabinowitz, Samuel	Arts
Lipinsky, Alex	Arts	Radnitz, Fred S.	Sc.
Lippmann, Max	Sc.	Randazzo, Thomas	Arts
Litzky, Leon	Sc.	Redfield, Henry C.	Sc.
Liverant, Max	Arts	Reich, Frederick C.	Sc.
Livingstone, Andrew	Arts	Resnick, Harry	Sc.
Lowenthal, Julius	Arts	Rettenberg, Milton J.	Arts
Lowenthal, Siegfried	Sc.	Ringel, Abraham	Sc.
Lucas, Albert	Sc.	Ritz, Joel	Arts
Lurio, Meyer	Sc.	Roberts, Carl F., Jr.	Sc.
MacMullen, Arthur H. J.	Sc.	Rogatz, Julian L.	Sc.
Mahler, Harry	Sc.	Roller, Jacob	Sc.
Marino, Raphael	Sc.	Rosenbaum, Abraham	Sc.
Markowitz, Morris	Arts	Rosenberg, Solomon	Sc.
Mazer, Jacob	Sc.	Rosenzweig, Isidore	Arts
Mei, Chenk-shang	Sc.	Rosenzweig, Morris	Arts
Merolla, Harold	Sc.	Rothberg, Sidney	Arts
Milne, Cyrus	Arts	Rothstein, Jacob L.	Arts
Mishell, Edward E.	Sc.	Rubin, Jacob	Sc.
Moskovitz, Louis J.	Arts	Rubin, Leo A.	Arts
Müller, Edwin A.	Sc.	Rubin, Walter	Sc.
Muller, George W.	Sc.	Safier, Isidor	Sc.
Mumford, Lewis C.	Arts	Saiewitz, Louis S.	Arts
Nadler, Reuben	Arts	Saltaformaggio, James	Sc.
Namowitz, Louis	Arts	Salzer, George	Sc.
Navias, Louis	Sc.	Samson, Leon	Arts
Nerenstone, Samuel H.	Arts	Sanf, Louis	Sc.
Neufeld, Samuel B.	Sc.	Sappoe, Peter	Sc.
Neuhaus, Solomon L.	Arts	Savage, Walter J.	Arts
Neulander, Arthur H.	Arts	Scharnikow, Charles H.	Arts
Newfield, Samuel H.	Sc.	Scheinerman, Max	Sc.
Newman, Irving	Arts	Scherer, Paul	Sc.
Newmark, Edward H.	Sc.	Schermann, Bert A.	Sc.
Notkin, Louis	Arts	Schleifer, Jacob	Sc.
O'Grady, John B.	Arts	Schlesinger, Donald	Arts
Ogus, Louis	Arts	Schmidt, Daniel	Sc.
Ornitz, Nathaniel	Sc.	Schneider, Charles	Sc.
Oxhandler, Samuel	Sc.	Schneider, Harry	Sc.
Pasner, Samuel D.	Arts	Schroeder, Lloyd H.	Sc.
Pearlman, Max	Arts	Schussheim, Solomon	Sc.
Penn, Jacob	Arts	Schwamenfeld, Max	Sc.
Perlberg, David	Arts	Schwartz, Emil	Sc.
Persky, Meyer	Arts	Schwartz, Irving	Sc.
Piedmonte, Charles F. P.	Arts	Schwartzberg, Nathan	Arts

Berg, Louis J.	Arts	Coyle, Felix	Sc.
Berger, Arthur I.	Sc.	Damiano, John	Sc.
Berger, Morris	Sc.	Danishefsky, David	Arts
Berlinski, Benjamin	Arts	Dansky, Bernard	Sc.
Berres, Alexander	Sc.	Davidoff, Max	Arts
Beurman, George K.	Arts	Davidow, Henry	Arts
Biegeleisen, Charles	Sc.	Debes, Roman L.	Sc.
Blair, Richard W.	Sc.	Delman, J. David	Sc.
Bleich, Joseph S.	Arts	Dembe, Alexander	Arts
Bodansky, Meyer	Sc.	Deutsch, Joseph	Arts
Bonanno, Anthony	Arts	Deutsch, Joseph	Sc.
Bosworth, David C.	Arts	DeWitt, Justus	Arts
Brandstein, Joseph	Sc.	Dezer, Charles N.	Sc.
Bricks, Abraham	Sc.	Dombro, Samuel	Sc.
Bridgewater, Charles N.	Sc.	Donaldson, J. Shearman ...	Sc.
Brill, Harry H.	Arts	Donne, Leonard R.	Arts
Browd, Victor L.	Sc.	Drogin, Joseph	Sc.
Brown, William	Sc.	Dubin, Ralph	Arts
Brown, William J., Jr.	Sc.	Duncan, Abraham	Arts
Budner, David L.	Sc.	Dunne, John B.	Sc.
Cahen, Leon R.	Arts	Ehrlich, Herman C.	Arts
Cahill, Harold M.	Arts	Ehrlich, Philip	Arts
Caidin, Reuben	Arts	Eilperin, George	Arts
Cathcart, Donald R.	Sc.	Einwohner, Samuel	Sc.
Cheron, Samuel	Arts	Elkins, Herman	Arts
Callahan, Clifford	Sc.	Emeson, Hyman	Arts
Clyburn, Alan L.	Arts	Engelmann, William O.	Sc.
Carpinello, Edward	Arts	Engler, William	Sc.
Castellano, Thomas A.	Arts	Erickson, Edward A.	Sc.
Christatos, Constantine	Arts	Esser, Abraham	Sc.
Cicatelli, James	Arts	Fanning, Harold J.	Arts
Cohan, Jay	Arts	Farola, Leon A.	Sc.
Cohen, Abraham B.	Arts	Feldman, Hyman I.	Sc.
Cohen, Abraham I.	Sc.	Felshin, Simon M.	Arts
Cohen, Edward N.	Arts	Feman, Harry	Sc.
Cohen, Emanuel	Arts	Ferester, Alexander	Sc.
Cohen, Harry	Arts	Fickler, Edward	Sc.
Cohen, Harry I.	Sc.	Find, John	Arts
Cohen, Henry	Sc.	Fine, Adolph	Sc.
Cohen, Seymour H.	Arts	Fink, Isidore	Sc.
Cohn, Adolph	Sc.	Finnell, John F., Jr.	Arts
Cohn, Marius S.	Sc.	Firstenberg, Morris	Arts
Cole, Hugh B.	Sc.	Fisch, Hyman	Arts
Collins, Charles A.	Arts	Fishberg, Arthur M.	Sc.
Cotterell, Wesley M.	Arts	Fisher, Robert C.	Arts
Courtenay, Arthur D.	Arts	Fitzpatrick, William J.	Arts
Cox, Joseph A.	Arts	Forgione, Louis D.	Arts

Forman, Charles	Arts	Greenwald, Willard F.	Sc.
Forshleiser, Charles	Arts	Gross, Morris	Sc.
Francis, Harry M.	Arts	Grossman, Abraham A.	Arts
Franco, Joseph	Sc.	Grossman, Bernard	Sc.
Freed, Abraham	Arts	Grossman, Martin B.	Sc.
Freedman, Max	Sc.	Grossman, Max	Sc.
Freedman, Monroe	Arts	Gulick, Henry B.	Sc.
Friedberg, Ben	Sc.	Guttmann, Alfred D.	Arts
Friedberg, Martin C.	Arts	Haas, Isaac	Arts
Friedman, Nathan	Sc.	Haas, Saul	Arts
Friedman, Sidney	Arts	Haddock, Ambrose J.	Arts
Frimel, Frederick	Sc.	Hamilton, Erwin H.	Sc.
Furth, David	Arts	Hammerstein, James	Sc.
Fury, Garibaldi I.	Arts	Hayes, Cornelius	Arts
Gallin, James	Sc.	Heller, Meyer	Sc.
Gansberg, Herman	Sc.	Henderson, Hervey E. B.	Sc.
Gartenlaub, Rudolph J.	Arts	Henkel, Ralph A.	Sc.
Gellman, Jacob	Arts	Henschel, Joseph	Arts
Genstein, Edgar S.	Sc.	Herbstman, Joseph	Sc.
Gershvin, Isidor	Sc.	Herman, Harry	Arts
Gersten, Julius	Arts	Herrmann, Ernest	Sc.
Gilbert, David	Sc.	Herschdorfer, Manuel L.	Sc.
Gilchrist, Ralph A.	Arts	Hershfield, Harold	Arts
Ginsberg, Benjamin S.	Arts	Hervey, David	Arts
Gladstone, Louis	Arts	Heslin, Eugene P.	Arts
Glucksman, Dennis	Arts	Heuchel, Harry J.	Sc.
Goenner, Robert A.	Sc.	Heyen, George B.	Sc.
Gold, Herman	Sc.	Hirsch, Joseph	Sc.
Goldbaum, Jacob	Arts	Hoff, James D.	Sc.
Goldberg, Arthur H.	Sc.	Hoffnung, Charles	Sc.
Goldberg, David D.	Sc.	Holman, Morris	Arts
Goldberg, David U.	Sc.	Holófchiner, Ben	Arts
Golden, Max	Arts	Horovitz, Murray S.	Sc.
Goldman, Harry M.	Arts	Horowitz, Abraham	Sc.
Goldman, Jacob	Arts	Horowitz, Reuben	Arts
Goldsmith, George	Arts	Hraba, John	Arts
Goldstein, Hyman	Arts	Isaacs, Jacob I.	Sc.
Goldstein, Isidore	Sc.	Isaacs, Michael	Sc.
Goodman, Isadore	Arts	Ish-Kishor, Nehemiah	Sc.
Goodman, Joseph S.	Arts	Jacobs, Isidore	Arts
Gootner, Meyer	Sc.	Jacobstat, Fred M.	Sc.
Gordon, George B.	Sc.	Jaffe, Henry	Sc.
Gordon, Isidore	Sc.	Jaffe, William	Arts
Gottlieb, Albert J.	Sc.	Jahr, Alfred D.	Sc.
Greenberger, Harry	Sc.	Jahrling, Robert	Arts
Greenblatt, Harry A.	Arts	Jeffrey, Arthur G.	Arts
Greenstein, Nathan	Arts	Jereski, Meyer	Sc.

Joachim, Paul	Arts	Levine, Joseph	Arts
Josephson, Alexander	Sc.	Levine, Leon	Sc.
Kalison, Robert	Sc.	Levitt, Albien M.	Sc.
Kallman, George	Arts	Levy, Louis W.	Sc.
Kaminsky, Samuel	Arts	Lewenthal, Roland R.	Arts
Kantor, Abraham	Arts	Lewis, C. Roy	Sc.
Kaplan, Bernard	Arts	Lichtenstein, Samuel	Arts
Kaplan, Irving	Sc.	Lichter, Samuel	Sc.
Kaplan, Meyer	Sc.	Lichtman, Theodore	Arts
Kasak, Samuel	Sc.	Lieb, Marion C.	Sc.
Katzen, Joseph	Sc.	Liebowitz, Nathan	Sc.
Keilly, John E.	Sc.	Liebstein, Jacob	Arts
Kelly, Richmond	Arts	Lilling, Emanuel	Arts
Kenigsberg, Morris P.	Sc.	Lindenbaum, William	Arts
Keogh, Thomas F.	Arts	Lipner, Harry	Sc.
Kertes, Nandor	Sc.	Lippman, Abraham	Sc.
Kessner, Bernard H.	Arts	Lipstein, Leo	Sc.
Kirshner, Max	Sc.	Lunney, Robert L.	Arts
Kisitnick, Harry	Sc.	Lusskin, Israel	Sc.
Klees, Albert L.	Sc.	Lustig, Max	Sc.
Korobow, Albert	Arts	Lynch, David J.	Sc.
Korotofsky, Frank	Sc.	Macpherson, C. Wesley.....	Arts
Kossin, Leon	Sc.	Madansky, Edward K.....	Sc.
Kossoff, Joseph	Arts	Maharam, Joseph	Sc.
Krahe, Lester A.	Sc.	Maidman, Samuel	Arts
Kramer, Leon	Arts	Maller, Moses	Arts
Krasnoff, Isidore	Sc.	Mangione, John	Arts
Krassner, Louis	Arts	Manheimer, Jacob S.	Arts
Kraysler, Emanuel	Arts	Manley, John P.	Sc.
Kraysler, Frank	Arts	Manus, Charles	Arts
Kreizel, Samuel	Sc.	Manus, Jesse	Sc.
Krengel, David	Sc.	Marcus, Kalmon	Sc.
Kroffsky, Hyman	Sc.	Margolies, Benjamin	Arts
Kweit, Harry	Arts	Marks, Norman L.	Arts
Labenow, Max	Sc.	Marschat, Richard A.	Arts
Lachowski, Sergius	Sc.	Maryanov, Abraham I.	Sc.
Landis, Ellsworth	Arts	Mastrov, William	Arts
Landman, Jacob	Arts	Matlaw, Isaac S.	Arts
Landsman, Ned	Sc.	Matthews, Samuel J.	Arts
Leder, Frank	Sc.	Matveenkoff, John J.	Arts
Lefkowitz, Barney	Sc.	Mazzei, John B.	Arts
Lefkowitz, Joseph	Arts	McCordock, Stanley	Arts
Lefrak, Paul B.	Sc.	McGeown, Francis J.	Arts
Lehrman, George	Sc.	McGrath, William J.	Sc.
Leiman, Isaac	Sc.	Meinhold, Louis	Sc.
Lennon, Robert F.	Arts	Merkelson, Ernest	Arts
Lerner, Saul C.	Sc.	Merrill, Dudley R.	Arts

Meyer, Dudley	Sc.	Reichert, Victor	Arts
Meyer, Martin	Sc.	Reiner, Samuel	Arts
Meyersohn, Mitchel	Sc.	Rendini, Michael	Arts
Michaelis, Walter H. A.	Sc.	Richman, Louis	Arts
Miller, Jacob	Arts	Roberts, Donald A.	Arts
Miron, Fred M.	Arts	Robinson, William	Sc.
Mirsky, Alex	Sc.	Roeser, Elmer C.	Arts
Mohayssin, Mohamed	Arts	Rogers, Herbert M.	Arts
Molner, Abraham	Sc.	Rosen, James	Sc.
Morris, Abraham	Sc.	Rosen, Martin W.	Arts
Mortensen, Leroy	Sc.	Rosen, William R.	Arts
Moscowitz, Benjamin	Sc.	Rosenbaum, Louis	Arts
Müller, Alfred J.	Arts	Rosenblum, Benjamin	Arts
Munves, A. Abraham	Sc.	Rosenblum, Howard	Arts
Murray, Arthur	Sc.	Rosenthal, Benjamin C.	Sc.
Nathan, Benjamin	Arts	Rosenthal, Elkan	Arts
Nelson, Joseph	Arts	Rothman, Samuel R.	Sc.
Neuburger, Max	Sc.	Rubinfeld, Isidore	Sc.
Neufeld, Israel	Sc.	Rubin, Abraham	Arts
Neustadter, Max	Arts	Russo, Louis A.	Sc.
Newman, Carl F.	Sc.	Ryan, Herbert J.	Arts
Nicholls, Robert H.	Sc.	Safren, Bernard	Sc.
Nicolai, G. E. Fritz	Sc.	Salpeter, Harry	Arts
Niedenstein, Frederick H.	Sc.	Salwen, Louis	Arts
Oakman, Henry J.	Sc.	Salzberg, Abraham	Sc.
O'Connor, Edward H.	Arts	Samnick, Samuel	Arts
Okin, Nathan	Sc.	Sandroni, Dennison	Arts
Packer, Abraham	Sc.	Santacroce, Charles	Sc.
Panaro, Louis	Arts	Santangelo, Paul E.	Arts
Pantusco, Frank	Sc.	Satzkin, Abraham	Arts
Papish, Harry	Sc.	Schnacht, Otto F.	Arts
Pelunis, Rudolph	Arts	Schanger, Jacob	Sc.
Perlmutter, Camillo H.	Arts	Schapiro, Moe A.	Sc.
Perman, Louis W.	Sc.	Schein, Louis	Sc.
Pick, William	Arts	Scheuer, Sidney F.	Arts
Polinsky, William	Sc.	Schickler, Harold H.	Sc.
Poosner, Samuel	Sc.	Schiff, Jack M.	Arts
Posner, Abraham C.	Sc.	Schmerz, Leo	Sc.
Pressman, Louis	Sc.	Schoen, Harry	Sc.
Price, Aaron E.	Arts	Schoenfeld, Harry	Sc.
Proctor, George M.	Arts	Schultz, Abraham M.	Arts
Prudowsky, Isidor B.	Sc.	Schwartz, Joseph	Arts
Rabinowitz, Israel	Arts	Schwartz, Pincus	Sc.
Rahmann, Robert R.	Sc.	Schwarz, Barton E.	Arts
Rappaport, Louis	Sc.	Schweitzer, Jerome	Arts
Rattner, Irving N.	Sc.	Seidel, Morton	Sc.
Reiber, Samuel A.	Arts	Seif, Joseph B.	Sc.

- Bond, William M., A. B.
(Lafayette).
- Bradley, Harold T.
- Brandstadter, Simon, B. S.
(C. C. N. Y.)
- Broido, Benjamin
- Bruslavsky, Ruvin
- Cameron, Alfred L.
- Cohen, Abraham, B. S.
(Teachers' College.)
- Couhill, Walter C.
- Dargan, Andrew R., A. B.
(Fordham.)
- Demirjan, S. Suria
- Denslow, Roy R., B. S.,
(C. C. N. Y.)
- de Poto, Amedeo A.
- Donoghue, James W., A. B.
(C. C. N. Y.)
- Ewers, Carle P.
- Fenigstein, Wolf
- Finkelstein, Samuel, B. S.
(C. C. N. Y.)
- Folkoff, Meyer C.
- Gahagan, William
- Glancy, William J.
- Goldberg, Samuel
- Goldblatt, David
- Goldstein, Abraham M.
- Goodman, Ezra
- Gordon, Benedict, B. S.
(C. C. N. Y.)
- Gordon, Augustine F., B ès L.
(Université de Haiti.)
- Greenberg, Joseph, B. S.
(C. C. N. Y.)
- Greenberg, Max
- Harris, Meyer M., B. S.
(C. C. N. Y.)
- Holahan, Joseph V., A. B.
(Fordham.)
- Horwitz, Israel, B. S.
(Cornell.)
- Howe, John B.
- Hughes, James P., A. B.
(Mt. St. Mary's College, Emmits-
burg, Md.)
- Hyatt, Judson
- Jacobson, Israel
- Johnstone, David J., B. C. S.
(N. Y. U.)
- Kettling, Walter C.
- Kinney, Norman B.
- Koster, F. William, B. S.
(C. C. N. Y.)
- Krikorian, Mardiros A.
- Kümmerle, Harrison M., B. S.
(C. C. N. Y.)
- Leichtman, Max, A. B.
(C. C. N. Y.)
- Lenzer, Louis J.
- Levin, Emanuel
- Levine, Meyer
- Levitt, Benjamin
- Levy, David
- Liberman, Maurice
- Machol, Arthur M.
- Maney, Charles S.
- Marcus, Emanuel
- Markowitz, Alexander, B. S.
(C. C. N. Y.)
- Masini, Frank
- Mayerson, Israel, B. S.
(C. C. N. Y.)
- Merlis, Isidore
- Molina, Enrique
- Mones, Leon, A. B.
(C. C. N. Y.)
- Nag, Robindu C.
- Napoliello, Vincent
- Odachi, Taka
- Phillips, Julius, A. B.
(Syracuse.)
- Riaboy, Naftull-Hertz
- Rosenfeld, Harry, A. B.
(Cornell.)
- Rosenthal, Abraham S.
- Ross, Frank N.
- Russomanno, Raphael
- Salerno, Mark A.
- Salzman, Nathan
- Sasserath, Ira A., B. S.
(C. C. N. Y.)
- Schneider, Chayim

Schwarzbarth, Max, B. S.
(C. C. N. Y.)
Schwenning, Gustav
Seldon, Benjamin F.
Setna, Jehanguir A.
Shapiro, Alexander, B. S.
(C. C. N. Y.)
Sicklick, George C.
Stern, David
Sternfeld, Harry
Tademian, Levon
Tendler, Alexander
Terry, Leon
Tzampertides, Apostolos
Wallack, Hyman
Walrath, William C.

Wanderer, Henry
Wengrzynek, Maximilian F.
Wheeler, Frederick R.
Williams, Joseph T., B. A.
(Washington University, St.
Louis), Ph.D (Teachers' Col-
lege.)
Yewseroff, Jacob
Zajac, Hirsch M., B. S.
(C. C. N. Y.)
Zickerman, Emil M.
Zinberg, George
Zinner, Jacob, B. S.
(C. C. N. Y.)

Total 106

EVENING SESSION STUDENTS.

Aaronson, Ira I.
Abelow, Joshua
Abrams, Wm. C.
Acker, Aaron
Adolph, Seymour
Aldridge, John T., Jr.
Alexander, Morris
Almuty, William R.
Alstat, Philip
Altman, Curt
Altschuler, Frank
Amster, Solomon
Ansell, Herman R.
Anthony, Sidney
Angrist, Frank
Arison, S. B.
Armb, Lorenzo V.
Armstrong, Wm. E.
Arnold, Jacob
Aronin, Isidor
Ascher, Alexander
Ashkenazy, Max

Ashley, Percy
Azzoni, Arthur
Back, Wm. A.
Bagdanoff, Morris
Bahr, Jacob
Baker, Herbert
Baker, Samuel
Balenzweig, Irwin
Balkind Max
Barewitz, Harry
Barr, James
Barrett, Edward F.
Barsky, Boris
Basescu, Samuel
Becache, George
Behan, Wm. C.
Behrman, Irvin
Beinowitsch, Hirsch
Benenson, Louis
Bennett, Frederick
Benjamin, Abraham E.
Benvenza, Felix C.

Berger, Jacob
Berger, Joseph
Bergren, Alfred
Berman, G. Shanley
Berman, Louis
Bernfeld, Lupesca
Bernhard, Adolph
Bernstein, Harry
Bernstein, Irving M.
Bernstein, Leo
Bicks, Nathan
Bierman, Harry
Birman, Philip
Blackman, Harry
Blecker, Julius
Blum, Herbert
Blum, Louis
Blumenthal, Barnett
Blumenthal, Jefferson
Bodnar, Bartholomew J.
Boehm, Frank
Bogen, David

Bonnick, Chris. R.	Cardo, Michael	Crownshield, Chas. A.
Boriello, Henry	Carey, Henry	Cunningham, Aloyinis
Borrok, Nathan T.	Carey, William	Cunningham, Rich'd L.
Bowie, Letham	Carlin, Edward	Cusick, John
Boynton, Howard W.	Caroe, Edward	Cutler, Solomon
Bradie, Abraham B.	Carpentier, Emile	Daino, George
Brandshaft, Alter	Carroll, Thos. F.	Daly, Joseph P.
Brandstadter, Simon	Case, Ralph E.	Daniels, Chas. W.
Branson, Joseph H. F.	Caserta, Herman	Dariff, George
Breiner, Louis L.	Cassidy, Patrick	David, Isidore
Brenstrups, Knud	Catinella, Frank P.	Davidon, Jacob
Breslow, Noah	Cavanaugh, Stephen E.	Davidson, Alexander G.
Breuer, Nathan	Chaims, Charles W.	Davidson, Benj. W.
Briggs, Arthur V.	Chercass, David	Davidson, Jos.
Brin, Cyres	Cherr, George	Davidson, Louis L.
Brittain, Wm. R.	Cherk, William	Davison, Roland A.
Broches, Louis	Christie, David E.	Degen, Robert F.
Brodoski, Alexander	Chrystall, Harry	Demachovsky, Jacob
Brody, Wm. S.	Clark, Clarence L.	De Venoge, Harry
Bronstein, Milton M.	Clinton, Chas. H.	Devery, John J.
Brooks, Clinton	Coffin, Robert C.	De Vito, Angelo
Brosnan, J. J.	Cohen, Abraham A.	Devlin, Jas. J.
Brotherton, Robert S.	Cohen, Bernard D.	Di Giacomo, James
Brout, Henry	Cohen, Harold	di Girolamo, James
Brown, James D.	Cohen, Harry I.	Di Somma, Gizio F.
Brown, Lester M.	Cohen, Henry B.	Dlyn, Harry L.
Brown, Philip	Cohen, Isidore	Doak, R. P.
Brown, Richard	Cohen, Jacob M.	Dolan, Thomas
Brown, Sidney	Cohen, Joseph	Dolgenas, Samuel
Brown, William	Cohen, Lewis A.	Donnelly, Roswell
Brydee, James L.	Cohen, Samuel K.	Donnelly, Warren C.
Burke, Frank W.	Cohen, Sidney	Donovan, John C.
Burke, Elmer	Cohen, Sol L.	Dorfmueller, Joseph
Burnet, Monroe	Colen, Bernard D.	Doyle, John
Burstein, Emanuel	Colleye, Edward	Dowd, John H.
Buxbaum, Sol	Collins, Joseph	Drabkin, Abraham L.
Cagney, W. Oakley	Conkling, Roscoe F.	Duncan, Fred B.
Cahill, Peter G.	Connelly, Vincent F.	Dunne, Jos. J.
Caidin, Reuben	Connor, John J.	Dyer, Bion E.
Callahan, Cornelius	Conway, Edward J.	Edelman, Abner N.
Calman, William	Conway, Maurice A.	Ehlers, Harry
Campbell, Alexander	Corbett, Edward P.	Ehrenreich, Bernard
Cantales, Vincent	Corcoran, Anthony	Ehrman, David
Cantor, Herman S.	Corcoran, Michael J.	Eichel, Isidore
Cantor, Isaac J.	Craw, James	Einangler, Abraham
Caplow, Samuel N.	Crawberg, Hyman	Einsel, Philip
Capper, George	Crooks, Benjamin	Einstein, Alfred S.

Eisenberg, Edward	Flynn, John G.	Giles, Henry
Eleston, Joseph	Fogerty, Charles	Gillroy, Bernard
Elkind, Benjamin	Foley, Edward J.	Gini, Alfred
Ellenoff, George	Foley, John J.	Ginsberg, Samuel
Ellis, Herbert	Forbes, George	Ginsberg, Solomon
Engel, Martin	Fordrung, Wm. J.	Ginsberg, William
Englander, Julius	Forer, Samuel M.	Glaser, Samuel J.
Engler, William	Forman, Louis S.	Glassen, Samuel
Enterlin, Ferdinand	Foster, Hugh M.	Glaubach, Samuel
Epstein, Herbert L.	Frank, Jacob	Gleberman, Harry
Erhorn, Philip E.	Franke, Charles	Gloster, Jacob J.
Esser, Harry L.	Franken, Otto	Gluck, Harry J.
Essner, Joseph	Frankel, Jesse	Gold, Michael
Ettelson, Michael	Freed, Meyer	Goldberg, Abraham S.
Etzkowitz, Daniel	Freudenfels, Walter S.	Goldberg, Morris A.
Exel, Harry	Fried, Charles	Goldfarb, Irving I.
Falconetti, Mattes	Fried, Henry S.	Goldfine, Abraham
Fanning, Wm.	Fried, Joseph	Goldfuss, Max A.
Farrell, Edward J., Jr.	Friedman, Osias L.	Goldson, Elias Elihu
Farrell, Morgan	Friedman, Philip M.	Goldstein, Henry I.
Farrier, Albert M.	Friederick, Charles	Goldstein, Henry R.
Farrington, Michael	Fuchs, Benjamin	Goldstein, Jacob L.
Fay, William F.	Fuchs, Richard	Goldstein, Leo
Feier, Richard	Futterman, Harry	Goldstein, Walter
Feinberg, Samuel	Gabriel, G. Stanley	Goldstein, Samuel
Feinberg, Clement	Gadow, Lazarus	Goncalves, D. R.
Feinstein, Aaron	Gaffney, Joseph B.	Goodman, Benj.
Felberg, Aaron	Galenson, Louis P.	Goodman, Isidore
Ferber, Paul E.	Gallo, Antonio R.	Gootner, Meyer B.
Field, Allan	Gamso, Joseph J.	Gordon, Alexander S.
Fillat, Gustav D.	Garrecht, Arthur	Gordon, Edward F.
Finberg, Elmer M.	Garvey, J. J.	Gotse, Egvind
Fine, George	Gavis, Walter J.	Gotthelf, Abraham
Fine, Jacob	Gaughan, John J.	Gottlieb, Jacob
Fine, Samuel	Gelband, Sol. L.	Gottlober, Sigmund
Finger, Edward	Gelgor, David	Grabkowitz, Emanuel
Finkelstein, Martin	Gellert, Charles	Grady, Charles
Finkelstein, Morris	Gelles, Bernhard	Graham, Thos. J.
Fish, Leo	Gelsky, Samuel	Grane, Morris R.
Fisher, Benjamin	Genton, Maurice	Grau Wandemayer, Alexander
Fishman, Reuben	Gershvin, Isidor	Greenberg, Abner
Fitch, Franklyn E.	Gershezwits, Joseph	Greenberg, Abraham
Flaherty, Gladstone	Gerstenfeld, Maurice	Greenberg, Albert
Flanagan, Charles	Gerstenzang, Henry	Greenberg, Irving H.
Flanagan, James	Gerstle, Justin	Greenberg, Samuel
Fleischman, Ernest M.	Getzelson, Julius	Greenberg, Victor W.
Fliesler, Joseph	Gibbs, Maxwell N.	

Greenberger, Morris
 Greene, Thos. J.
 Greenfield, Jacob
 Greenstone, Joseph
 Greenwald, Milton
 Greif, Louis
 Greif, Nathan
 Grieco, Victor
 Grey, Schuyler E.
 Groff, Benjamin
 Groff, Morris
 Groopman, Henry
 Gropper, Nathaniel W.
 Grosfeld, William J.
 Gross, Jos.
 Gross, Rudolph A.
 Grossman, Bernard A.
 Grossman, Leonard M.
 Grossman, Morris H.
 Gruenberg, Abraham
 Grumbrechte, Kurt
 Grupelli, Hector
 Gunther, Oscar B.
 Haar, Selby
 Haas, Joseph
 Haas, Morris
 Haas, Saul
 Hackes, Fred
 Hackes, John R.
 Haehnlen, Edgar
 Halabof, Jacob
 Hall-Davis, Archibald
 Hamburger, Frank
 Hammond, Jacob
 Hammond, Simion
 Hanauer, M. B.
 Handilman, Jacob
 Hanft, Irma, Jr.
 Hanley, Walter F.
 Hansen, Aage
 Hardy, Nathaniel W.
 Harris, Archibald
 Harris, Frank
 Hartman, John J.
 Hartung, Charles E.
 Haveman, Ernest H.
 Hayes, Joseph
 Hazlitt, Henry
 Heiman, Samuel
 Heit, Theodore I.
 Helfand, Nathan J.
 Helfand, Joseph
 Heller, Max
 Henchy, Martin J. A.
 Henderson, John D.
 Hendricks, Montague
 Henschel, Abraham L.
 Herman, Jos. E.
 HERNON, Gerard
 Herrmann, Harold M.
 Herrman, Sidney
 Hersch, Philip
 Heschels, Max
 Herzstein, Joseph
 Heuser, Leonard
 Heyman, Nathan
 Hickey, Daniel Michael
 Hill, George W.
 Hill, James
 Hillman, Reuben
 Hillman, Wm. P.
 Hirsch, Joseph
 Hirschauer, Anton
 Hirschensohn, Benj.
 Hirschowitz, Isaac
 Hivlett, Mason
 Hoffman, Henry E.
 Hoffman, Joseph
 Hogan, John T.
 Holstein, David
 Holzman, Jacob C.
 Hopf, Frederick
 Horan, John P.
 Horn, Harry
 Horowitz, Edward
 Houtman, Joseph
 Huber, Leslie V.
 Hueber, Theodore
 Hughes, Thomas
 Hunt, Roy
 Huppenbauer, Edwin
 Hurley, Denis F.
 Hussenius, Frederick
 Hyatt, Judson C.
 Hyman, Harry
 Hyman, Jacob S.
 Hynes, John H.
 Isaac, Irvin
 Isaacs, Max
 Isaacson, Abraham
 Isenberg, William
 Ish-Kishor, Nehemiah
 Isquith, Jacob
 Isquith, Solomon
 Jacobowitz, Harry
 Jacobsen, Emanuel I.
 Jacobson, Jacob
 Jacobson, Louis
 Jacobsohn, Meyer
 Jaller, Alexander
 Janover, Isidor
 Japhe, Emnauel I.
 Jarcho, Isaiah
 Jeans, Charles
 Jellinek, Edward M.
 Joffe, Robert
 Joseph, Harmon
 Joseph, Irving
 Joseph, Monroe J.
 Josias, Samuel
 Kahan, Maurice
 Kahn, Arthur Kahn
 Kahn, Edward M.
 Kantrowitz, Max L.
 Kahr, Morris
 Kalish, Samuel
 Kantrowitz, George
 Kantrowitz, Max
 Kaplan, Abraham
 Kaplan, Henry M.
 Kaplan, Samuel
 Karnof, Henry
 Karper, Abraham
 Kasak, Samuel
 Kassell, Morris B.
 Katz, Israel
 Katzenburg, Samuel K.
 Kaufman, Isidore E.
 Karvaler, Max
 Kayser, Paul G.

Keane, Arthur
 Kearney, Michael
 Keenan, James
 Keeney, George
 Kehoe, Chas. C.
 Kellogg, Dwight
 Keevery, George
 Keilhauer, Karl J.
 Kelly, John J.
 Kerling, George
 Kerner, Abraham N.
 Kerski, Max O.
 Kincaid, James
 King, H. Mac G.
 Kissane, Thomas
 Kissel, David
 Kirschuer, Charles
 Kirshner, Max
 Kiwul, Charles
 Klein, Adolph
 Klein, Anthony H.
 Klein, John J.
 Klein, Calvin
 Kleindienst, Theo. H.
 Klug, Carl T.
 Knoring, Abraham J.
 Kobshinsky, Isidor
 Kohn, Lawrence
 Kohn, Ignatz
 Kommel, Alexander
 Kommel, Simion
 Kopp, Christian
 Kopzucker, Henry
 Korn, Martin
 Korman, Felix
 Kosseff, Benjamin
 Kostelak, Robert
 Kramer, Solomon
 Kranis, Solomon
 Krapohl, Wm.
 Krauss, Samuel
 Kraut, Harry
 Krawitz, Alexander
 Kreisl, Max
 Krichefsky, Israel
 Krieg, John J.
 Krieger, George W., Jr.

Krug, George
 Kruglov, Louis
 Kruman, Morris
 Krumdieck, Henry
 Kübler, Wolfram B.
 Kummerle, Harrison
 Kuttner, Sigmund
 Lachenbruch, Jerome
 Lamm, George C.
 Landowne, Julius
 Landsman, Joseph
 Landsman, William
 Lane, Ray F.
 Langsner, Adolf
 Lanham, Edward
 Lannan, James
 Lanning, George M.
 Leahy, John
 Lebrecht, Joseph
 Lee, Thos. H.
 Lees, Abraham
 Lefkowitz, David
 Lefkowitz, Emanuel
 Lefkowitz, Jacob
 Lefkowitz, Joseph A.
 Lefkowitz, Jacob C.
 Lehman, Barthold
 Lenahan, Joseph A.
 Lenck, Chas. A.
 Levenson, Seymour J.
 Levin, Benj.
 Levin, Meyer
 Levine, David
 Levine, George
 Levine, Benj. J.
 Levine, Isidor
 Levine, Louis H.
 Levinton, Abraham
 Levisohn, Edwin
 Levit, Harry
 Levy, Alfred K.
 Levy, H. Howard
 Levy, Jerome
 Levy, Max
 Levy, Samuel
 Lewis, Ira
 Lewis, Kassel O.

Lewis, Samuel Jr.
 Lewis, William A.
 Liberoff, Jacob
 Licht, Benj. H.
 Lichtenstein, Louis
 Lichtenstein, Michael
 Lichtenstein, Samuel
 Lichtman, Abraham
 Lieberman, Philip
 Lieberson, Joseph
 Liebhaber, Max E.
 Liebman, Louis
 Linsky, Abraham J.
 Lippman, Samuel
 Littman, Isidore
 Livant, Louis
 Loehrsen, George
 Loewy, Maurice
 Lohr, Fred I.
 Louis, Jesse
 Lovely, Thomas
 Lowenberg, Robert
 Lowenthal, Alfred
 Lowman, Albert
 Luftschitz, Samuel
 Lurie, William
 Lustgarten, Maximilian
 J.
 Lux, August
 Lyman, William B.
 Lynch, David J.
 Maak, Otto J.
 MacKay, Charles W.
 Mackler, Harry S.
 MacLennon, Frank
 Madigan, James C.
 Magee, Meyer
 Magelefsky, Bernard
 Magnier, Daniel J.
 Magnier, David A.
 Mahnken, Harry C.
 Malachoff, Hyman
 Maney, Charles S.
 Mankin, Isaac
 Manning, Wm. P.
 Marans, Hileil
 Marcus, Kalmon

Marcuse, Max F.
 Markowitz, Arnold
 Marks, Julian J.
 Marshall, Chas. E.
 Martin, Frank J.
 Martin, John B.
 Marty, Fred C.
 Martz, Nicholas
 Masin, Hyman
 Masson, Harry
 Matter, Albert
 May, G. Earl
 Mazur, Chas.
 McAllister, Edward T.
 McBride, Bernard
 McCarney, John R.
 McCarthy, Thos. J.
 McCarthy, William D.
 Jr.
 McCormack, Harry
 McCrudden, James
 McDonell, Frank W.
 McDonnell, Roger A.
 McGlone, Charles A.
 McGraw, Walter
 McHugh, William W.
 McKay, Chas. W.
 McLoughlin, Joseph M.
 McNally, Chas. F.
 McNamara, George A.
 McQuade, John H.
 Megahy, James K. C.
 Mellor, Charles E.
 Meltzer, Joseph
 Mendelewich, Morris
 Mendels, George D.
 Mendes, Norman
 Menkin, Leonidas
 Merwin, Henry
 Meseritz, Michael
 Meyer, Harry A.
 Meyersohn, Mitchell
 Michels, Solomon
 Michiaki, Nojima
 Miller, Benj.
 Miller, George
 Miller, Max
 Minnick, James J.
 Minster, Harry
 Mintz, Leo
 Mintz, Samuel
 Minzesheimer, Philip J.
 Mitter, Charles
 Moesel, George E.
 Moltz, Solomon
 Mooney, John A.
 Moore, Edward
 Moore, Glenn E.
 Moran, James M. P.
 Moretti, Frank A.
 Morgenstern, David A.
 Morris, John C.
 Morris, Walter F.
 Morse, Louis
 Morton, George M.
 Mowbray, Paul F.
 Muldavin, Albert
 Mullen, Geo. J.
 Mulqueen, William
 Munger, Van Vechten
 Munves, Irving
 Murphy, Martin
 Murphy, Timothy
 Murphy, Robert J.
 Mutscheller, Arthur
 Nadelman, Aaron
 Nakahara, Sato G.
 Natelson, Hyman
 Nelke, Frank J.
 Nemetz, Juda
 Nesbitt, J. Francis
 Neubau, Wm. Morris
 Neuwirth, Isaac
 Newman, Jesse L.
 Newman, Max A.
 Newman, Oscar
 Newmark, Samuel
 Nicolai, G. E. Fritz
 Niederhoffer, Martin
 Norchi, C. H.
 Norman, Jess J.
 Norris, Harry
 Northup, Lloyd A.
 Noska, Clarence E.
 Novick, Philips
 Nugent, James D.
 Oachs, Milford H.
 O'Brien, James H.
 O'Brien, Philip J.
 O'Connor, Hugh
 O'Connor, Philip J.
 O'Donnell, William J.
 O'Dwyer, Victor
 Ognio, Eugene
 O'Keefe, John P.
 O'Keefe, William
 Olcott, John N.
 O'Leary, G. F.
 O'Loughlin, John
 Olsen, Harold
 O'Mara, Arthur A.
 Orlans, Abraham S.
 Orthey, Geo. W.
 Orvis, William L.
 Osberg, Arthur
 Osh, Abraham
 Oshman, Louis
 Otto, Henry E.
 Palais, Isidor
 Parker, Frank S.
 Parton, Joseph
 Pasta, James
 Pastor, Harry
 Pasvolksy, Leo
 Peller, Philip
 Pepper, Louis
 Perkiss, Meyer
 Perlman, Joseph
 Perlmutter, Abraham
 Perrigo, Harlan S., Jr.
 Pertsch, C. Fred
 Peters, Hallam B.
 Peterson, Edmund N.
 Petrowsky, John Fred
 Pettit, Claudius
 Phillips, Charles
 Plager, Sigmund
 Platt, J. Nathan
 Plotkin, David A.
 Podell, Max
 Podolsky, Morris

Pollachy, Selig
 Pologe, Benjamin
 Ponch, Frank
 Popkin, Louis
 Popper, Abraham L.
 Poritsky, Abraham
 Potolowsky, Fred
 Powers, James F.
 Praeger, Leopold
 Prager, Charles
 Price, Ralph G.
 Proksch, William
 Prozora, Emil
 Purver, George M.
 Quinn, John J.
 Rabin, Samuel
 Rackoff, Irwin I.
 Rader, Adolph
 Rafalowsky, Nathan
 Randolph, Asa
 Raphael, Jacob
 Raphael, Roland
 Raska, Francis
 Rattner, Moses
 Rau, Thorwaldsen A.
 Raus, Joseph F.
 Rebafka, Erwin
 Rees, B. L. G.
 Reeves, Solomon M.
 Regala, Albert S.
 Regnes, Chas.
 Reich, Morris
 Reichett, Victor H.
 Reichert, Robert J.
 Reynes, Chas.
 Richards, Gragg
 Richter, Henry
 Ries, Willy
 Riesner, Jos. L.
 Rigal, Peter
 Rinkoff, Solomon
 Ritchie, Edmond W.
 Roberts, Le Roy C.
 Robertson, Wm. J.
 Robinson, Chas. B.
 Roche, James A.
 Rodier, Wm. J.
 Rodman, Philip
 Roeser, Frederick
 Rogaro, William
 Romm, Nehemiah
 Rose, Arthur H.
 Rose, William M.
 Rosenbach, Joseph B.
 Rosenblatt, Meyer
 Rosenblith, Herman
 Rosendale, Iver
 Rosenfeld, Bela
 Rosenfeld, Harry
 Rosenfeld, Jesse B.
 Rosenfeld, Joseph H.
 Rosenfelder, Ernest
 Rosenthal, Abraham S.
 Rosenthal, Samuel
 Rosenzweig, Maxwell
 Rosner, Oscar S.
 Rosoff, George
 Ross, Reuben
 Rossman, Henry
 Rubin, George
 Ruderman, Sidney
 Rudich, Emil
 Rudich, Jack
 Rudich, Leopold
 Rudich, Max
 Rudinsky, Samuel
 Rubin, George
 Russell, James C.
 Russo, Rocco D.
 Ryan, John F.
 Ryan, Wm. J.
 Sack, Louis J.
 Sack, Solomon
 Sakol, Emanuel
 Salpeter, Charles
 Salzberg, Abraham
 Salzer, Martin A.
 Santacroce, Charles
 Sanyal, J. M.
 Sarensky, Louis
 Sarris, Christopher
 Schachtel, Herbert
 Schader, Jos. E.
 Schaefer, Leo
 Schaffer, Benjamin
 Schechter, Isidore
 Scheer, Alexander
 Scheer, William
 Schehr, Spencer
 Scheinberg, Harold H.
 Scheuer, Sidney F.
 Scheve, Jos. C.
 Schickler, Harold H.
 Schiff, Jack M.
 Schiffer, Rudolph
 Schifman, Frank
 Schile, George
 Schilling, Alexander C.
 Schlam, Joseph
 Schlessinger, Max
 Schmidt, Gustav
 Schneck, Max
 Schneider, Francis A.
 Schneider, Louis S.
 Schneider, Wm. L.
 Schnitzler, Geo.
 Schnur, Irwin I.
 Schamm, Otto
 Schutz, Frank J.
 Schulman, Isidor
 Schwaid, David
 Schwartz, Aaron
 Schwartz, Ernest
 Schwartz, Jacob Wm.
 Schwartz, Philip
 Schwartz, Pincus
 Schwartz, Samuel
 Scott, George
 Seideman, Max H.
 Seifer, Isidore
 Seitz, Gustave
 Seklir, A. W.
 Sendach, Jacob
 Seplowin, Samuel
 Sesitzky, Isaac
 Setna, Jehanguir
 Shai, Milton
 Shapiro, Abraham J.
 Shapiro, Abraham
 Shapiro, Abram J.
 Shapiro, Harry

Shapiro, Joseph
 Shary, William
 Shavelson, Abraham B.
 Shaw, Thomas A.
 Shea, Harold C.
 Sheehan, Arthur B.
 Shepherd, Wm. R.
 Sher, Nathan
 Sherman, Geo.
 Sholl, Walter S.
 Sidran, Morris
 Siegel, Harry
 Silaski, Dushan
 Silber, Abraham
 Silizky, Gabriel
 Silletti, Francesco
 Silverman, Morris
 Silverstein, Harold
 Silverstein, Ralph
 Simon, Julian
 Simon, Louis
 Simonoff, Abraham
 Sinai, Jerome
 Sinclair, George E.
 Sindeband, Max M.
 Siskind, S. Sol
 Slattery, Daniel A.
 Slavsky, Samuel R.
 Slayton, Maxmilian
 Slutsky, Albert
 Smilowitz, Benjamin
 Smith, Alonzo De Grote
 Smith, Charles F.
 Smith, Irwin
 Smyth, Raphael J.
 Snyder, Percy
 Solomon, Leo M.
 Solomon, Harry A.
 Sommerville, Geo.
 Sorrentino, Pasquale
 Spence, Peter
 Spier, Leslie
 Spitz, Leo
 Stabile, Vincent J.
 Stahl, Louis
 Stanton, Leonard
 Stapleton, Wm. J.
 Stashin, Israel
 Steffens, Chas.
 Steffens, Harry
 Steigman, Philip
 Stein, Benjamin
 Steinberg, Benjamin
 Stellwagen, John H.
 Stern, Harry
 Sternschuss, Solomonn
 Stickle, Samuel
 Stieber, Herman L.
 Strauss, Albert
 Strear, Irving
 Strear, Isidor
 Strom, Frank E.
 Strulowitz, Bennet A.
 Strom, Frank
 Strum, Jacob
 Strumer, Samuel
 Stueka, Fritz
 Sweeney, John
 Swezey, Burdette S.
 Tapeey, Harold W.
 Taub, Harvey
 Tauszig, Adolph
 Tauszig, David
 Thomas, S. Percy
 Thomas, William
 Thompson, Gustave R.
 Thompson, John W.
 Thomson, Frederick C.
 Thornton, William L.,
 Jr.
 Tietzel, Albert M.
 Titunik, Abraham
 Toorans, Morris
 Townsend, Jos. W.
 Traub, Edward M.
 Tschenn, Camille
 Tunney, Vincent W.
 Turck, Wm. B.
 Turchinsky, George
 Tucker, John, Jr.
 Twersky, Morris
 Ulick, Simon
 Unger, Solomon
 Van Cleef, Duncan K.
 Van Kleef, Isaac
 Vigour, Harry
 Visanska, Asher S.
 Voderberg, Helmuth
 M.
 Vogel, Herman
 Vollenweider, Paul
 Von der Goltz, Eric
 Wachs, Murray A.
 Wagner, Max
 Wahl, Samuel
 Wakil, Basil
 Wainwright, Reginald
 Wald, Nathan
 Walder, Paul
 Wallace, Arthur B.
 Wallant, Murray F.
 Walsh, James E.
 Walsh, Jos. V.
 Walsh, Walter V.
 Warshaw, Irving
 Wasserman, Chas. W.
 Watkins, Clifton B.
 Weber, Milton
 Weckmann, Fritz
 Wechsler, Samuel
 Wehrly, Charles S.
 Weil, Maurice
 Weilerskein, B. Reuben
 Weiner, Simon
 Weinstein, Joseph
 Weinstein, Jacob
 Weinstein, Louis
 Weinstein, Norman K.
 Weinstein, Perry
 Weintraub, Isidor
 Weiss, Benjamin
 Weiss, Harold
 Weiss, Isador
 Weiss, Moses
 Weissel, Samuel
 Weisser, Bernard S.
 Wender, Harold H.
 Wexler, Maxwell
 Winston, Charles N.
 Whitestone, Benjamin
 Whitney, Arthur

Whyte, Lincoln D.	Wolfram, L. J.	Zametkin, Joel M.
Wickes, Edward M.	Wolfsan, Benjamin	Zeigher, Max
Wieler, H. J.	Wolfsheimer, Eugene	Zeisler, Alexander S.
Wiener, Harry	Wolgin, Herbert	Zimmerman, Oscar
Wikul, Paul	Wood, Allan B.	Zimmerman, Max
Williams, Jos. T.	Woods, George R.	Zinn, Armand L.
Wisan, Jacob	Wooley, Edwin	Zuckerman, Julius M.
Wiseltier, Bernard	Wray, Clive	Zuckerman, Solomon
Wisotsky, Reuben	Wunsch, Joseph W.	Zusman, Samuel
Wittal, J. Julius	Yamada, Shinikichi	Zwenig, Isidor
Wolf, Samuel	Yonans, K. Abraham	
Wohlstetter, Isidor	Yasselli, Emilo	Total 1086

SUMMARY.

Upper Senior	79	Special Students	106
Lower Senior	95		—
Upper Junior	98	Total	1808
Lower Junior	155	Subtract for duplication.....	6
Upper Sophomore	173		—
Lower Sophomore	267	Day Session Students	1802
Upper Freshman	370	Evening Session Students	1084
Lower Freshman	465		

EXTENSION COURSES FOR TEACHERS.

In order to assist the teachers of the city to extend their culture and to secure the additional knowledge and skill necessary to obtain higher licenses, the Department of Education of the College organized in September, 1908, a complete system of Extension Courses. The courses were submitted to the State Department of Education and were accepted and registered by it. They were then submitted to the Board of Examiners of the City Department of Education and were granted full credit toward partial fulfilment of the requirements for license as assistant teacher in the high schools, teacher of a graduating class in elementary schools, and principal and assistant to principal of elementary schools.

Each course is given in thirty sessions and to obtain credit for any course the matriculant must be present at twenty-six sessions and must be successful at the final examination. No course is given unless twenty-five teachers choose it, and courses may be discontinued at the discretion of the Director. Sessions are held daily after school hours, at 4.15 p. m., and on Saturdays, at 10 a. m. and 11 a. m.

SUBJECTS OFFERED DURING THE YEAR 1914-1915.

ART.

APPRECIATION OF MODERN ART.

Mr. Weinberg.

A course of thirty lectures on the history and appreciation of art. There will be ten lectures on the older masters as introduction to a series on the art of the nineteenth century, Beginning with the work of Giotto, the course of painting will be traced from the masterpieces of the Italian Renaissance through the art of Dürer and Holbein in Germany, Velasquez in Spain, to the art of Flanders in the Seventeenth century, and that of France in the Eighteenth century. In the art of the Nineteenth century, the development of style, the rapid sequence of new schools—Classical, Romantic, Realist, Historical, Pre-Raphaelite, Impressionist, Post-Impressionist and Futurist—will be considered both as to their principle and practice. It will be the object of the course to help explain the technical and aesthetic aspects of

painting, and to aid towards its appreciation as a parallel expression along with the other arts of the life and character of the periods which produced them.

There will be a detailed syllabus. The lectures will be illustrated by stereopticon slides.

In the effort to make this course a center for a larger interest in current exhibitions in the city, there will be a series of talks on American Art so designed as to enable the members of the class to personally follow the careers of the younger painters. At the beginning of each period there will be a brief consideration of the most interesting art activities of the week.

The authorities of the Metropolitan Museum of Art have kindly offered to give an opportunity for more intimate acquaintance with the works of art mentioned in the lectures. For the furtherance of this an officer of the Museum will accompany groups (limited to fifteen) at regular intervals.

OBJECT DRAWING.

Mr. Neus.

This course is designed to develop ability to draw from objects, such as type solids, still life and casts. Elementary principles of perspective will be deduced from these type solids. Methods of teaching Object Drawing will receive due attention. This course will be limited to 50.

EDUCATION.

HISTORY OF EDUCATION.

Professor Duggan.

The aim of the course is, first, to describe the systems of education by which the principal culture nations of the world have attempted to realize their social ideals; and, second, to criticise educational theories and practices from the standpoint of the educational principles now accepted as sound.

In addition to studying Monroe's History of Education as a text-book, those taking this course will be required to read the following educational classics: Rousseau's "Emile," Pestalozzi's "Leonard and Gertrude," and Spencer's "Education."

PRINCIPLES OF EDUCATION.

Professor Klapper.

The first third of the course has to do with the philosophy of education—a consideration of the basis of educational doctrine. The biological, physiological, psychological and sociological contributions to education are studied in an attempt to determine their practical application in the class room as well as to discover the trend of modern educational thought. The remainder of the course is designed to serve as a transition from theoretical psychology to methods of teaching. The aim throughout will be

to interpret the lessons of psychology in terms of education and class-room teaching and to formulate the scientific principles underlying a sound pedagogy.

In addition to the lectures and discussions and papers on supplementary topics, special assignment will be made in various reference works for systematic study.

METHODS OF TEACHING.

Professor Klapper.

The course will begin with a very brief survey of the problems of general method and of the conduct of the recitation as determined by the basic principles of education. The more important part of the work will be the study of the methods of teaching each of the elementary school subjects. The work will be practical and designed to help the teacher in the teaching problems which arise in the course of class instruction. With this end in view model lessons will be given by the instructor and will be required of the teachers if the size of the class will permit. In addition to the lectures, special assignments will be made in each of the subjects taught in the elementary school.

EDUCATIONAL PSYCHOLOGY.

Professor Heckman.

The course is designed to give a knowledge of the nature and the activities of the mind from the standpoint of development, and with special reference to the needs of the teacher. To this end such mental processes as perception, imagination, attention, memory, apperception, judgment, reasoning, feelings and will are considered from the viewpoint of their psychological and pedagogical application to the classroom work. The prominent instincts of children as play, curiosity, imitation, emulation, etc., are considered in detail, as are likewise the processes of habit formation. Other topics as heredity, individual differences, and fatigue are also studied. In addition to the lectures reference readings are assigned on which reports are to be made. The work of the course is supplemented as far as possible with experimental demonstrations.

SCHOOL MANAGEMENT AND ADMINISTRATION.

Dr. White.

This course will deal with problems that naturally arise in the organization and management of a public school. The following are some of the topics that will be discussed: The child, his place in life and in the school; classification; gradation; examination; promotion; course of study; programs; text-books; the principal and his duties; the teacher, his co-operation with principal and parent; teachers' conferences; the school room; school hygiene; the recitation; the study period; inspection of work; school records and reports; discipline; rewards and punishments; moral training; rhetorical; school material, etc., etc.

This is a laboratory course and is planned to give instruction and practice in the various tests and measurements necessary for a thorough study of school children.

The work takes up first the anthropometric measurements, and the tests of physical and motor capacity, with comparisons between measurements upon exceptional children and normal children. This is followed by psychophysical tests, with special emphasis upon tests of those sensory capacities which may account for backwardness and retardation in the grades as well as permanent arrest. Here the student learns, in testing the visual and auditory senses, the use of test charts, test lenses, Maddox rods, the perimeter, Holmgren wool tests, the watch tests, the audiometer, acoumeter, and other apparatus. Other senses as touch, smell, taste, etc., are likewise investigated, as they may influence the child's development and education.

The third and main phase of the course consists of the study of the various mental tests, and measurements of individual differences, such as the Binet tests, the Healy tests, and various other tests of perception, memory, association, etc., in use at the present time. Students practice giving these tests to each other in the laboratory in order to secure a better introspective basis for interpreting the thoughts and feelings of others whom they may examine later, and in order to acquire correct technique in the application of tests. The tests and measurements studied in class are applied to children who come to the laboratory for this purpose. Members of the course have the privilege of bringing to the laboratory for special study children who show exceptional characteristics and for whom they desire help or advice.

The course is planned for those students who want to do work of advance character, therefore some previous knowledge of psychology is essential for registration. The course is scheduled for thirty sessions, but the actual time required for the work is about two hours each session.

PRINCIPLES AND METHODS OF TEACHING COMMERCIAL SUBJECTS.

Dr. Jos. Kahn and Dr. Jos. J. Klein.

This course attempts to study those educational principles which apply especially to the teaching of commercial subjects in commercial high schools. The course is given to a discussion of courses of study, methods of teaching bookkeeping, accountancy, stenography, typewriting, business English, etc. Students are required to do assigned readings, to bring in special papers on problems which are closely related to their work, to visit classes where commercial subjects are taught, and to report the results of their observations. This course is given for thirty sessions, two hours each session.

THE TEACHING OF MUSIC IN THE PUBLIC SCHOOLS.

Dr. Frank R. Rix.

This course is designed to help teachers of music and supervisors of music in the round of problems that come up in the course of their work. The course considers, therefore, the methods of teaching Music to children of school age, the means of attaining the values inherent in the subject. The requirement of the course of study, devices for voice culture and breathing, and such other problems as are vital in the conduct of this work, are made focal throughout the course.

ENGLISH.

THE ENGLISH DRAMA.

Professor Krowl.

This course will be devoted chiefly to the study of the Elizabethan drama, its inception, growth and decline. The plays of Shakespeare will constitute the basis of the work, especial attention being given to those that are usually studied in the elementary and in the secondary schools. The dramatic works of the eighteenth and nineteenth centuries will also be discussed, but more briefly.

Those who attend the course will be required to study the plays considered and read the assignments made by the instructor.

THE NOVEL.

Professor Horne.

This course aims to study the value of the novel as literature, to examine its laws of construction, and to trace the historical development of fiction. A second aim will be to note the progress of civilization and the development of the human mind, as shown in fiction.

Those taking the course will be required to read a selected series of the world's most celebrated works of fiction, ancient as well as modern. The text-book will be Horne's "Technique of the Novel."

ENGLISH AND AMERICAN POETS.

Professor Coleman.

The aim of this course is primarily appreciative. Beginning with Shakespeare it will pass to the chief poets of the eighteenth and nineteenth centuries studied in the elementary school, with a view to an understanding of the nature of poetic utterance—its subject-matter and its form.

While the course is not intended as a study in literary history, it will treat of the various poets in their historical order for the aid which this sequence will give in sympathetic judgment. Occasional suggestions will be made as to methods of interpreting poetry to school pupils. Conferences on the method of teaching the poems considered will follow after the lecture for those who desire to remain.

This course aims to supply practice in writing and to acquaint the student with the fundamental principles of rhetoric. Weekly themes will be required three to five pages long; during the first term these will be descriptive and narrative; during the second term, expository and argumentative. The work of the first term is intended to develop as far as practicable, observation and imagination; the second term, which deals with more matter-of-fact kinds of composition, insists upon an orderly and coherent presentation of facts. Throughout, the course furnishes drill in the choice of words, sentence structure and paragraph writing. Incidentally, the lectures suggest methods and devices in the teaching of composition. The class will have access to a reference library of the more important works and text-books dealing with composition and the teaching of composition.

Teachers who elect this course should be prepared to fulfil the requirements as to written work.

ORAL ENGLISH AND METHODS OF TEACHING READING.

Professor Robinson.

I. There will be two courses of 15 hours each.

(a) The Philosophy of Expression. The psychological and physiological bases of expression will be discussed and a theory of education applied to all oral work in the schools. Special attention will be paid to the method of teaching memory selections as prescribed in the Course of Study. The theory will be illustrated by the reading of selections.

(b) Practical Phonetics. This course will impart, in convenient form, an understanding of the nature of the sounds of the language, the physiology of their production, and methods of teaching them. Some time will be devoted to the consideration of teaching English to foreigners. This part will be of peculiar benefit to teachers of special classes, and those with a large percentage of foreigners.

(c) Correction of Speech Defects. Practical methods of correcting lisping, stuttering and other speech derangements will be given.

II. The History of Reading Methods and Analysis of Modern Methods of Teaching Reading. The general problem of teaching reading will be discussed first; then methods now being used in the schools will be analyzed in order to demonstrate their points of weakness and strength. Class-room devices to be used in connection with the methods will be presented. These lectures are arranged for Heads of Departments, in charge of primary reading, as well as for teachers.

This course aims to acquaint the student with the chief writers of prose and of poetry. The treatment is not chronological. The authors are studied in the following groups: (1) essayists, (2) poets, (3) novelists, (4) short-story writers, (5) dramatists. Little attention is given to biographical details; the purpose of the lectures is to trace the relationship of each writer to the literary, social and political movements of the century.

HISTORY.

AMERICAN HISTORY

Professor Mead.

It is the purpose of this course to trace the development of American institutions. It begins with the story of the molding of the different European nationalities and the several detached colonies into an independent and united nation, and traces the development of the nation so formed to the present time. No effort will be made to follow the mere chronological political history, but rather to trace the great forces—economic, social, intellectual and political, which have influenced the development of American nationality. Lectures, quizzes, and written reports.

COMPARATIVE MODERN HISTORY.

Dr. Schapiro.

In this course an effort will be made to examine the distinguishing features of European civilization during the nineteenth and twentieth centuries. As the emphasis will be on the larger aspects of the subject, the treatment will be topical instead of narrative. The following topics will be discussed.

I. Heritage of the French Revolution, a discussion of the ideas at the basis of modern political life.

II. Industrial Revolution; the organization of society on a new economic foundation.

III. Growth of Nationality; the development of a new national spirit among the European peoples.

IV. Advance of Democracy; enfranchisement of the working classes, woman suffrage and government and politics in the various European countries.

V. Socialism; an explanation of the aims and principles, and history of the Socialist movement in Europe.

VI. Social and Industrial Progress; a discussion of the organization of Capital and Labor, industrial development and social legislation.

VII. European Diplomacy; the Balkan Question; North African Question, Triple Alliance, Dual Alliance and double entente.

The object of giving this course is two-fold. In the first place, it is to inform the students of those great events in modern his-

tory that still exercise an effective influence; secondly, to indicate the drift of contemporary European civilization in order to get a point of view as to the study of history in general and of European history in particular.

MATHEMATICS.

FUNDAMENTALS OF MATHEMATICS.

Professor Allen.

This course seeks to give the teacher of elementary mathematics some insight into the basic principles of arithmetic, algebra and geometry, their history, and their close inter-relation, with some detailed study of the properties of numbers, functions, equations and space. Not methods of teaching, but a clear understanding of the meaning and value of the principal conceptions and theories underlying elementary mathematics will chiefly be considered.

MECHANICAL ARTS.

WOODWORK FOR "SPECIAL CLASSES."

Mr. Holton.

This course is designed to assist those who teach, or who plan to teach, "special classes." It seeks to give instruction in the use of the common bench woodworking tools, the elementary principles of construction and the best methods of presenting these to children in "special classes." The work will consist of demonstrations by the instructor, discussion by the class and the making of the model under consideration by members of the class working individually or in groups. The object of this work will be primarily to obtain an understanding of the model, the best method of making it and of directing the pupils in the use of this method; skill in the use of the tools and the completion and finishing of the model will be attempted only so far as the time of the session permits. The shop will be open an hour after each session for those who desire this additional opportunity for shop practice.

ARTS AND CRAFTS.

Mr. Jeffery.

This is an elementary course in hammered metal. The construction of bowls, boxes, trays, etc., will be taught. The coloring of metals under various conditions will be considered. Suitable designs will be furnished by the instructor, and throughout the course the artistic element of the crafts will be emphasized. This initial effort will lead to more advanced problems, and those who have had the first year's work will be allowed to construct more difficult designs, such as jewelry, chased ornament and enameled pieces. The metals used may be purchased in the class room, but special equipment must be furnished by the students at a nominal cost. This course will be limited in number.

MUSIC.

HISTORY AND APPRECIATION OF MUSIC. *Professor Baldwin.*

This course will include a comprehensive study of the growth of music as an art, the great composers and their works, and the analysis of musical forms.

The whole subject will be considered from the standpoint of those who listen to music, the purpose of the course being to give to the student an intelligent understanding and appreciation of the masterpieces of musical composition. No knowledge of music is required.

POLITICAL SCIENCE.

ECONOMICS. *Professor Clark.*

This course is designed to be a suggestive introduction to the study of Economics. Emphasis will be given to the great practical issues of the economic world. Not only will the general principles underlying the production and the distribution and the consumption of wealth be stated and illustrated, but much time will be devoted to the presentation of concrete problems connected with such topics as Immigration, Trades Unions, Corporations, Trusts, Railroads, Money, Banking, Tariff, Taxation and Socialism.

It will be the aim of the course to develop a theoretic basis of Economics, and so to suggest a number of its leading applications to actual life, that students, following the course with side readings in any good text-book, will become well grounded in this Science of Wealth.

ACADEMIC DEPARTMENT.

To every New York City boy graduating from an Elementary School there is open a college preparatory course in Townsend Harris Hall, a school maintained by the City for those who wish to prepare for admission to College and especially to the Freshman class of The College of The City of New York, which is also open without fee to residents of the City.

The sum of the work required for the completion of the preparatory course, and so for admission to College, is $14\frac{1}{2}$ units.

The emphasis is placed on the quality of the work and the capacity of the student. The individual schedule is determined by the record of the student from term to term.

This flexible program, administered under close supervision, gives every student opportunity to prepare most economically for his College studies.

The applicant for admission to Townsend Harris Hall must decide whether or not he wishes to take later the degree in Arts. If he does, then he must begin with Latin; but if he does not, then he may begin with either Latin or French. The initial choice of the Latin permits the later election of either an Arts or a Science course, but the initial choice of French restricts the applicant to the Science Course. For all students in Townsend Harris Hall an election is offered between second year Drawing and Manual Training.

The total requirements of the Townsend Harris Hall courses are as follows:

ARTS.		SCIENCE.	
Subject.	Units.	Subject.	Units.
English.....	3	English.....	3
Latin.....	3	French.....	3
Greek, French or German.....	2	German or Spanish.....	2
Mathematics.....	3	Mathematics.....	3
Physics.....	1	Physics.....	1
History.....	1	History.....	1
Drawing.....	$\frac{1}{2}$	Drawing.....	$\frac{1}{2}$
Physiology.....	$\frac{1}{2}$	Physiology.....	$\frac{1}{2}$
Additional Drawing or Manual Training.....	$\frac{1}{2}$	Additional Drawing or Manual Training.....	$\frac{1}{2}$
Oral English.....		Oral English.....	

For the first half-year all students take Latin or French, English, Mathematics and Drawing, each five hours a week. Thereafter the number of subjects assigned depends upon the student's capacity. Advancement throughout the course is by subject, so that the satisfactory completion of each half-year's work in a subject is necessary for its continuation. An added subject may be taken at the beginning of any half-year when the student's record for the preceding half-year indicates that he can satisfactorily pursue the additional subject. The schedule of recitations is purposely arranged to permit the student to benefit by his proficiency and in consequence thereof he may complete the course in three years.

Admission to the College courses is had upon the presentation of $14\frac{1}{2}$ units for which the courses in Townsend Harris Hall make provision. In the College the prescribed work in both Arts and Science courses covers approximately two years. The work of the remaining two years is elective under certain restrictions as to grouping. By a judicious choice of the electives offered, these groups may be made to fit the needs of the student who purposes to follow teaching, journalism, law, medicine, business, manufacturing or engineering.

ART.

T 1-2. ELEMENTARY FREEHAND DRAWING. *5 hours a week.*

The first term is devoted to Freehand Drawing from simple geometrical solids, single and in groups, with application of the elementary principles of perspective. Particular stress is laid on construction, but some attention is given to light and shade. The principles of Decorative Design are studied. In the second term casts of simple ornamental forms are introduced and their light and shade given fuller rendering; next, various articles of pottery, of plant, and other forms, involving the rendering in black and white of color values. Exercises in drawing simple solids from memory are also assigned. Decorative Design is continued, with application to familiar forms. Some attention is given to Historic Ornament and Architecture.

Prescribed: Arts and Science, Class C; two terms.

T 3-4. ADVANCED FREEHAND DRAWING AND DESIGN. *4 hours a week.*

Advanced Freehand Drawing; continuation of Decorative Design, with use of color and application to practical problems.

Elective: Arts and Sciences, Class B; two terms.

Note.—To complete the required work in Lower B and in Upper B students must choose either Art T 3 or Art T 4, or else corresponding options in Manual Training.

ENGLISH.

Prescribed: Six terms in both the Arts and Science Courses.

T 1.

5 hours a week.

Of the five hours available, three are devoted to grammar and composition. Hitchcock's *Enlarged Practice Book in English Composition* is used as a text-book. In addition to numerous short exercises, weekly and fortnightly themes are required. English grammar is systematically reviewed. Two hours each week are given to the study of Irving's *Sketch Book* and Scott's *Ivanhoe*. Selections from both are memorized.

T 2.

5 hours a week.

The time is divided as in T 1, and the same text-book is used for rhetorical drill. The work in composition is concentrated on sentence structure. The practice afforded by the exercises in the text-book is supplemented by fortnightly themes. In poetry a study is made of *The Ancient Mariner*, *The Vision of Sir Launfal*, *The Deserted Village* and Gray's *Elegy*. Some selections in verse are memorized. In prose the students read *Silas Marner* in class and *Parkman's Oregon Trail* at home.

T 3

4 hours a week.

Of the four hours available, two are devoted to rhetoric and two to literature. Part I. of Brooks and Hubbard's *Composition Rhetoric* is covered, with chief attention to the paragraph. Frequent practice is given in the methods of paragraph development, and fortnightly themes are required. The study of grammar is continued; some time is devoted to synonyms; several extracts are memorized. The study of literature includes *The Sir Roger de Coverley Papers*, *The Tale of Two Cities* and *The Merchant of Venice*.

T 4.

4 hours a week.

The division of time is the same as in T 3. The principles of Description, Narration, Exposition, and Argumentation are presented on the basis of Part II, of Brooks and Hubbards' *Composition Rhetoric*. Weekly and fortnightly themes form a part of the work. The students read three or four *Idylls of the King*, *Julius Caesar* and *A Midsummer Night's Dream*. Extracts from these works are memorized.

T 5-6.

4 hours a week.

In this year a careful critical study is made of Burke's *Speech on Conciliation*, Macaulay's *Johnson*, Milton's *L'Allegro*, *Il Penseroso* and *Comus* and Shakespeare's *Macbeth*. Composition work is frequent. Grammar and rhetoric are reviewed.

FRENCH.

Prescribed: Six terms in the Science Course.

T 11. ELEMENTARY. 5 hours a week.
Downer's *First Book in French*, through the thirty-fifth lesson.

T 12. ELEMENTARY. 5 hours a week.
Downer's *First Book in French*, through the fifty-seventh lesson. François and Giroud's *Simple French*.

T 13. ELEMENTARY. 5 hours a week.
Downer's *First Book in French*, completed. Weill's *Historical French Reader*.

T 14. ELEMENTARY. 5 hours a week.
Review in grammar. Daudet's *Neuf contes choisis*, Erckmann-Chatrian's *Madame Thérèse*.

T 15. INTERMEDIATE. 4 hours a week.
Review in grammar. Marique and Gilson's *French Composition*. Dumas' *Monte-Cristo*.

T 16. INTERMEDIATE. 4 hours a week.
A modern play is read. A piece of narrative prose from a standard author. Marique and Gilson's *French Composition*. Letter writing. Weill's *Newspaper Reader*.

Prescribed four terms in the Arts Course for those taking French as second language.

T 1. ELEMENTARY. 5 hours a week.
Downer's *First Book in French* through the forty-fifth lesson.

T 2. ELEMENTARY. 5 hours a week.
Downer's *First Book in French*, completed, Sym's *Le Chien de Brisquet*, and other stories.

T 3. ELEMENTARY. 5 hours a week.
Review in grammar. Daudet's *Neuf contes choisis* and Erckmann-Chatrian's *Madame Thérèse*.

T 4. INTERMEDIATE. 5 hours a week.
Review in grammar. Composition, letter writing. Mérimée's *Colomba*. Weill's *Newspaper Reader*.

GERMAN.

Prescribed for those taking German as a second language.

- T 1. ELEMENTARY. *5 hours a week.*
Collar's *German Lessons* through the seventeenth lesson.
- T 2. ELEMENTARY. (Continued.) *5 hours a week.*
Collar's *German Lessons* through the twenty-ninth lesson.
Joynes' *Reader*.
- T 3. ELEMENTARY. (Continued.) *5 hours a week.*
Hauff's *Karawane*, Composition, Review of the Grammar.
- T 4. ELEMENTARY. (Completed.) *5 hours a week.*
Gerstäcker's *Germelshausen*. Seidel's *Leberecht Huehnchen*.
Poems in Whitney's *Reader*, Harris's *Composition*.

GREEK.

Prescribed for those taking Greek as a second language.

- T 1-2. ELEMENTARY. *5 hours a week.*
Pronunciation, etymology and syntax are studied simultaneously. Text-book: White's *First Book*.
- T 3-4. ELEMENTARY. (Continued.) *5 hours a week.*
Translation with practice lessons in etymology and syntax. Also instruction and practice in reading at sight. Hellenica texts one hour a week. Eleven exercises each term in Greek prose composition. Text-books: Goodwin's *Anabasis*, one book the first term and three the second; Spencer's *Prose Composition*.

HISTORY.

- T 1-2. GREEK AND ROMAN HISTORY. *3 hours a week.*
A study of the old European world as far as Charlemagne's time, 800 A. D. The foundation is laid for the understanding of later national history and the influence of successive epochs upon each other. Text-book: Myer's *General History*, with assigned readings and map drawing. Two terms.
- T 3-4. AMERICAN HISTORY. *3 hours a week.*
A full course in the history of the United States, colonial and national. Preparatory, also, for special periods in the College course. Text-book: Montgomery's *Student's American History* and reference books. Readings and reports. Two terms.

LATIN.

Prescribed six terms in the Arts course.

T 1-2. ELEMENTARY.

5 hours a week.

Students begin with the Grammar, finishing the entire Etymology and the Syntax, not including the exceptions of the Prosody. Simultaneously a course of English and Latin exercises is pursued. Text-books: Allen and Greenough's *Latin Grammar*, Bennett's *Latin Lessons*, or Burke and Newton's *Latin Lessons*.

T 3-4. CAESAR.

5 hours a week.

The Grammar is reviewed and completed; four books of Caesar are read, and exercises are given in Latin Prose Composition, based on the reading in Caesar. Text-book: Kelsey's *Caesar's De Bello Gallico*.

T 5-6. CICERO.

4 hours a week.

Six orations are read with weekly exercises in Latin Prose Composition based thereon. Syntax is continued. Text-book: D'Ooge's *Cicero's Orations*.

MANUAL TRAINING.

Note—Optional with Art 3-4 in the B year.

A preparatory course in the use of wood-working tools and in the methods of forging iron is offered to the students of the B classes. This work will be of special importance to the students who intend to take up applied science, but it will be also extremely useful to any one who has to use his hands as well as his brain. It should be remembered that "the chief object of shop-and-tool instruction is mental discipline. The tools are to be intelligently used, and the methods of execution adopted are to be chosen intelligently. The concrete product is of importance only in so far as it bears witness to progress."*

The exercises chosen will introduce the use of all the principal wood-working bench tools and elementary forge work, comprising pointing, turning, flattening, bending, welding and tempering. Opportunity will be given for the development of special skill.

The laboratories are well equipped with the necessary fixed appliances and hand tools.

*Woodward, "Manual Training School," p. 30.

T 21-22. WOOD AND METAL WORKING. *4 hours a week.*

B classes for two terms; one term wood-working, one term forge work and metal-working.

MATHEMATICS.

Prescribed for six terms in both the Arts and Science Courses.

Note.—*The successful completion of every term's work is prerequisite for the following term's work.*

T 1. ELEMENTARY ALGEBRA. *5 hours a week.*

The Fundamental Operations. Factors, Fractions, Equations of the First Degree in One or Two Unknown Letters. Text-book: Wells, *Essentials of Algebra*.

T 2. PLANE GEOMETRY. *5 hours a week.*

Text-book: Durell, *Plane and Solid Geometry*.

T 3. ELEMENTARY ALGEBRA. *5 hours a week.*

Involution, Evolution, Radicals and Fractional Exponents, Equations of the Second Degree in One or Two Unknown Letters. Text-book: Wells, *Essentials of Algebra*.

T 4. PLANE AND SOLID GEOMETRY. *5 hours a week.*

Text-book: Durell, *Plane and Solid Geometry*.

T 5. TRIGONOMETRY. *4 hours a week.*

Text-book: Crawley, *Short Course in Trigonometry*.

T 6. ADVANCED ALGEBRA. *4 hours a week.*

The Theory of Quadratic Equations, Ratio, Proportion and Variation, the Progressions, Logarithms, Permutations and Combinations, the Binomial Theorem, Determinants, the Theory of Equations. Text-book: Hawkes, *Advanced Algebra*.

NATURAL HISTORY.

T 1. PHYSIOLOGY. *4 hours a week.*

This subject introduces the student to the general natural phenomena pertaining to man. It deals with the structure and functions of the body. It includes discussions on exercise, diet, use of stimulants and narcotics, and the various ways of preserving health and promoting body development.

PHYSICS.

Prescribed for two terms in both the Arts and Science Courses.

The primary facts and laws are taught by means of lectures with full demonstrations, individual laboratory exercises, and recitations and quizzes upon assigned work at home. Particular attention is given to the quantitative as well as to the qualitative relations between physical quantities, and numerous problems illustrative of these relations are solved by the students. Students are held strictly accountable for all the apparatus assigned to their use, and must replace any lost by breakage or waste through carelessness.

1. MECHANICS, HEAT AND MAGNETISM. 4 hours a week.

Text-books: Millikan and Gale, *A first Course in Physics*.
Cheston, Dean, Timmerman, *Laboratory Manual of Physics*.

The laboratory work includes the following: the measurement of mass, volume and density; the study of Hooke's law, of the law of the composition of concurrent forces, of the pendulum, the lever, the inclined plane, pulleys, and of the laws of friction; applications of Archimedes' principle, and the determination of the specific gravity of various solids and liquids; Boyle's law of gases; the fixed points of the mercury thermometer; specific heat of various solids; the heat of fusion of ice and the heat of vaporization of water.

2. SOUND, LIGHT AND ELECTRICITY. 4 hours a week

The same text-books are used as in 1.

The following exercises are performed in the laboratory; the determination of the vibration frequency of a tuning-fork; of the wave-length of its tone in air; the tones produced by vibrating strings; photometric measurement; the study of plane mirrors, curved mirrors, lenses and prisms; experiments involving the chemical batteries, electrolysis; electroplating, Ohm's law, the use of Wheatstone's bridge, electro-magnetic induction, the dynamo and motor, electric bell and telegraph.

PUBLIC SPEAKING.

A—THE CORRECTION OF SPEECH DEFECTS. 1 hour a week.

All the students entering the Class A of Townsend Harris Hall must present themselves for examination in oral English. Those who are found to have any defect of speech will be assigned to take this course. The work will consist of exercises adapted to the individual difficulties of the student and designed to habituate

him to enunciate correctly all the sounds of spoken English and to use them smoothly in continuous, idiomatic discourse.

The successful completion of this course, or relief from it by examination is a necessary entrance prerequisite for all the college courses in Public Speaking.

SPANISH.

Prescribed for those taking Spanish as a second language.

T 1. ELEMENTARY. 5 hours a week.
Hills and Ford's *Spanish Grammar* through Lesson XXV.

T 2. ELEMENTARY. 5 hours a week.
Hills and Ford's *Spanish Grammar* completed. Loiscaux's *Reader*.

T 3. ELEMENTARY. 5 hours a week.
Review of the grammar. Valera's *Pajaro Verde*. Ford's *Composition*.

T 4. ELEMENTARY. 5 hours a week.
Review of the grammar. Alarcon's *Capitan Veneno*. Ford's *Composition*.

PRESS OF
CLARENCE S. NATHAN, INC.,
NEW YORK.







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