Executive Secretary
UNIVERSITY OF WESTERN ONTARIO
LONDON, CANADA

WESTERN UNIVERSITY

LONDON, CANADA

COLLEGES OF ARTS

UNIVERSITY COLLEGE
ASSUMPTION COLLEGE
URSULINE COLLEGE

ANNOUNCEMENT 1922-1923

WESTERN UNIVERSITY

LONDON, CANADA

COLLEGES OF ARTS

UNIVERSITY COLLEGE
ASSUMPTION COLLEGE
URSULINE COLLEGE

ANNOUNCEMENT 1922-1923

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1922

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CALENDAR OF COLLEGES OF ARTS

1922.

September 16, Saturday ....Last day for receiving applications for ~~removal of conditions~~. Supplemental examinations

September 25, Monday.....Examinations for removal of conditions, College of Arts, begin.

September 29, Friday .....Examinations for removal of conditions in the Medical School.

October 2, Monday .....Registration Day.

October 3, Tuesday.....Lectures begin.

~~Statutory meeting of the Committee on Academic Standing.~~

October 4, Wednesday .....Last day for registration except on penalty of one dollar.

~~October 11, Wednesday~~ .....Last day for registration except on penalty of two dollars.

October 16, Monday .....Last day of registration for all except Special Students in the Colleges of Arts.

Thanksgiving Day, Monday .....Holiday.

December 20, 5 p.m. ..... Wednesday, Christmas vacation begins.

1923.

January 2, 8 a.m., Tuesday .....Lectures resume.

Last day for submitting outline of M. A. Theses.

January 22, Monday.....Examinations, first term, begin.

January 27, Saturday .....First term ends.

January 29, Monday.....Second term begins.

January 29, Monday.....Last day for payment of second term fees.

March 28, Wednesday .....Easter vacation begins.

April 5, Thursday.....Lectures resumed in College of Arts.

May 5, Saturday .....Lectures for the second term in the College of Arts close.

May 7, Monday.....Examinations for the second term in the College of Arts begin.

May 19, Saturday.....Interscholastic athletic meet.

May 25, Friday,.....Convocation.

OFFICERS OF LEGISLATION

The Board of Governors

MAJOR A. T. LITTLE, Chairman
THE CHANCELLOR, *ex officio*
THE PRESIDENT, *ex officio*
HIS WORSHIP THE MAYOR, *ex officio*

SIR ADAM BECK, LL. D.	MR. PHILIP POCOCK
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MAJOR GORDON INGRAM	MR. A. W. WHITE

MAJOR T. J. MURPHY, K.C.

The Senate

THE PRESIDENT, Chairman, *ex officio.*
THE REGISTRAR, Secretary, *ex officio.*

	Representative of
DEAN W. S. FOX,	*Faculty of College of Arts.*
PROFESSOR N. C. JAMES,	"
PROFESSOR W. J. PATTERSON,	"
PROFESSOR A. D. ROBERTSON,	"
PROFESSOR W. F. TAMBLYN,	"
DEAN P. S. MCKIBBEN,	*Faculty of Medical School.*
DR. J. W. CRANE,	"
DR. G. C. HALE,	"
DR. F. R. MILLER,	"
DR. E. HODGINS,	"
DEAN H. W. HILL,	*Institute of Public Health.*
DR. A. J. SLACK,	"
DR. R. C. DEARLE,	"
DR. F. W. LUNEY,	"
DR. K. P. R. NEVILLE,	"
RT. REV. DAVID WILLIAMS,	*Council of Huron College.*
MR. J. K. H. POPE,	"
PRESIDENT J. T. MUCKLE,	*Assumption College.*
PROFESSOR W. C. SHARPE,	"
REV. H. POCOCK,	*Ursuline College.*
Rev. A. P. MAHONEY,	"
MR. F. LANDON,	*Graduates of College of Arts.*
DR. R. FERGUSON,	*Graduates of Medical School.*
REV. S. P. IRWIN,	*Graduates of Huron College.*
REV. D. C. MCGREGOR,	*Board of Governors.*
MR. H. B. ARCHER,	"

PRINCIPAL W. H. T. MOONEY	*London Board of Education*
REV. M. A. BRISSON,	*London Separate School Board*
DR. F. R. ECCLES,	*City Council of London.*
PRINCIPAL J. DEARNESS,	" "
MR. W. E. MCKEOUGH,	" *Chatham.*
DR. FRED GUEST,	" *St. Thomas.*
JUDGE J. A. BARRON,	" *Stratford.*
REV. D. W. COLLINS,	" *Windsor.*
MR. J. L. ROBSON,	*County Council of Middlesex.*
JUDGE C. W. COLTER,	" *Elgin.*
DR. D. A. MAXWELL,	" *Essex.*
MR. W. LANE,	" *Huron.*
MR. J. H. SMITH	" *Kent.*
REV. J. J. PATERSON,	" *Lambton.*
MR. N. E.BIRTCH,	" *Oxford.*
MR. A. A. COLQUHOUN,	" *Perth.*

OFFICERS OF ADMINISTRATION

Chancellor
THE HONORABLE WILLIAM J. ROCHE, M.D., LL.D., M.P.

President
No Appointment.

Executive Secretary
LT.-COL. W. J. BROWN, B.S.A., LL.M.

Executive Committee
DEAN FOX, DEAN MCKIBBEN, DEAN HILL.

Registrar
K. P. R. NEVILLE, M.A., PH.D.

Bursar
WILLIAM WAUGH, M.D., LL.D.

Librarian
MARJORIE ROSS, B.A.

Curator Barnett Library
J. DAVIS BARNETT, C.E., LL.D.

OFFICERS OF INSTRUCTION

(The year of first appointment to present professorial position is given. A in brackets after a name indicates the staff of Assumption College, M, the Medical School, PH, the Faculty of Public Health, U, the staff of Ursuline College and W, the staff of the College of Arts of Western University.)

President.

REV. LOUIS J. BONDY (A), *Professor of French.*
B.A., Toronto, 1919. 1919

H. HAYS BULLARD (M), *Professor of Pathology.*
877 Waterloo St.
A.B., University of Missouri, 1908; A.M., *ibid*, 1909; Ph.D., Tulane University, 1912; M.D., Johns Hopkins, 1916; Chief of the Department of Pathology. 1920.

REV. CHARLES COUGHLIN (A), *Professor of Psychology.*
Lecturer in English Literature.
B.A., Toronto, 1911. 1919

JAMES WELLINGTON CRANE (W), *Professor of Pharmacology.*
871 Hellmuth Ave.
M.B., Toronto, 1898; F. A. C. P., 1919; Head of the Department of Pharmacology. 1914

RAYMOND COMPTON DEARLE (W), *Professor of Physics.*
205 Wortley Rd.
B.A., Toronto, 1914; M.A., *ibid*, 1915; Ph.D., *ibid*, 1919. 1919

ROBERT FERGUSON (M), *Professor and Chief Department of Obstetrics and Gynecology.*
B.A., Toronto; M.D., Western, 1890. 1913

REV. DANIEL L. FORESTELL (A), *Professor of English.*
Lecturer in German.
B.A., Toronto, 1918. 1919

WILLIAM SHERWOOD FOX (W), *Professor in Classics.*
270 Regent St.
B.A., McMaster, 1900; M.A., *ibid*, 1906; Ph.D., Johns Hopkins, 1911; F.R.S.C., 1922, Dean of University College of Arts. 1917

HIBBERT WINSLOW HILL (PH), *Professor of Public Health.*
24 Belgrave Place.
M.B., Toronto, 1893; M.D., *ibid*, 1899; D.P.H., *ibid*, 1911; Dean of the Faculty of Public Health; Professor of Public Health in the Medical School. 1920

NATHANIEL CHAMNEY JAMES (W), *Professor of German.*
159 St. James St.
B. A. Toronto, 1883; Ph.D., Halle, 1893. 1896

HAROLD REYNOLDS KINGSTON (W),
Professor of Mathematics.
287 Oxford St.
M.A., Queen's, 1908; Ph.D., Chicago, 1914. 1921

JOHN A. MACGREGOR (M), *Professor of Medicine.*
496 Waterloo St.
M.D., Western, 1892; F.A.C.P., 1919; Chief of Department of Medicine. 192-

PAUL STILWELL MCKIBBEN (M), *Professor of Anatomy.*
645 Waterloo St.
B.S., Denison, 1904; Ph.D., Chicago, 1911; F.R.S.C., 1921; Chief of the Department of Anatomy. Dean of the Medical School. 1913

CHARLES CLIFFORD MACKLIN (M),
Professor of Histology and Embryology.
37 Gerrard St.
M.B., Toronto, 1914; M.D., *ibid*, 1918. 1921

GEORGE MCNEILL (M), *Professor of Radiology.*
245 Queen's Ave.
M.D., Western, 1902. 1913

FREDERICK ROBERT MILLER (M), *Professor of Physiology.*
288 Dufferin Ave.
B.A., Toronto, 1903; M.B., *ibid*, 1910; M.D., Munchen, 1911; F.R.S.C., 1922; Chief of Department of Physiology. 1914

VERY REV. J. T. MUCKLE (A), *Professor of Greek.*
M.A., Catholic University of America, 1916; President of Assumption College. 1919

KENNETH PERCIVAL RUTHERFORD NEVILLE (W),
Professor of Classics.
190 Bridport St.
B.A., Queen's, 1896; M.A., *ibid*, 1897; B.A., Harvard, 1898; M.A., *ibid*, 1899; Ph.D., Cornell, 1901; F. A. G. S., 1921; Registrar of the University. 1908

WILLIAM JOHN PATTERSON (W), *Professor of Mathematics.*
856 Hellmuth Ave.
B.A., Queen's, 1888; M.A., *ibid*, 1895; Post Graduate, Clark 1901-3. 1906

REV. J. C. PLOMER (A), *Professor of Ethics and Religious Knowledge.*
1919

REV. E. T. PLOURDE (A), *Professor of Religious Knowledge.*

ALBERT DUNCAN ROBERTSON (W), *Professor of Biology.*
454 St. James St.
B.A., Toronto, 1910. 1915

REV. WILLIAM G. ROGERS (A), *Professor of Mathematics.*
B.A., Western, 1921. 1921

MOTHER M. ST. ANNE (U), *Professor of French.*
Brescia Hall.
B.A., Queen's, 1909, M.A., Columbia, 1922. 1919

MOTHER M. ST. MICHAEL (U), *Professor of English.*
Brescia Hall.
B.A., Liverpool, 1907; M.A., Western, 1920. 1919

LEWIS PIAGET SHANKS (W), *Professor of Romance Languages.*
694 Talbot St.
Ph.B., Cornell, 1899; M.A., Columbia, 1904; Ph.D., Cornell, 1908. 1919

REV. WILFRID SHARPE (A), *Professor of Latin.*
Lecturer in Greek Philosophy.
B.A., Toronto, 1914; B.D., Catholic University of America, 1915; M.A., *ibid*, 1915. 1919

ALBERT JOSIAH SLACK (PH,W), *Professor of Chemistry.*
Institute of Public Health.
Ph.C., Massachusetts College of Pharmacy, 1904; M.D., Western, 1920; Chief of the Division of Chemistry. 1910

WILLIAM FERGUSON TAMBLYN (W),
Professor of English Literature.
318 Grosvenor St.
B.A., Toronto, 1895; Ph.D., Columbia, 1900. 1902

SEPTIMUS THOMPSON (M), *Professor of Ophthalmology, Otology, Rhinology and Laryngology.*
464 Clarence St.
M.D., Western, 1900. 1913

REV. EDWARD JEROME TIGHE(A), *Professor of Metaphysics.*
B.A., Western, 1920. 1921

WILLIAM JOSEPH TILLMAN (M), *Professor of Pediatrics.*
612 Richmond St.
M.D., Western, 1898. 1913

CHARLES CAMERON WALLER (W), *Professor of Hebrew.*
Huron College.
B.A., Cambridge, 1890; M.A., *ibid*, 1902; M.A., McGill, 1906; D.D., Western, 1915; Principal of Huron College. 1908

REV. EMIL JEROME WELTY(A), *Professor of Psychology and German.*
B.A. Western, 1920. 1921

HADLEY WILLIAMS (M), *Professor of Surgery.*
441 Park Ave.
M.D., Western, 1883; F.R.C.S., England; F.A.C.S.; Chief of the Department of Surgery. 1913

LOUIS AUBREY WOOD (W), *Professor of Economics.*
296 Princess Ave.
B.A., Toronto, 1905; B.D., Montreal Presbyterian College, 1908; M.A., Ph.D., Heidleberg, 1911. 1915

HENRY WILLIAM AUDEN (W), *Associate Professor of Classics.*
236 St. George St.
B.A., Cambridge, 1889; M.A., *ibid*, 1893. 1919

SEDLEY NELSON BEST (PH), *Associate Professor of Chemistry.*
Institute of Public Health.
Pharm.D., Massachusetts College of Pharmacy, 1911; Ph.C., *ibid*, 1912. 1913

JAMES ROY NELSON CHILDS (M), *Associate Professor of Medicine.*
M.D., Western, 1909. 1913

ARTHUR GARRATT DORLAND (W),
Associate Professor of History.
914 Colborne St.
B.A., Queen's, 1910; M.A., Yale, 1911. 1920

REV. CHARLES DONOVAN (A),
Associate Professor of Metaphysics and English.
B.A., Toronto. 1919

JOHN EVERETT GORDON (M),
Associate Professor of Bacteriology.
15 Tecumseh Ave.
B.Sc., Chicago; Ph.D., *ibid*, 1921. 1921

GEORGE CARLETON HALE (M),
Associate Professor of Medicine.
718 Waterloo St.
M.D., C.M., McGill. 1919

NELSON COLLINS HART (W), *Associate Professor of Botany.*
321 Central Ave.
B.A., Toronto, 1915; M.A., *ibid*, 1916. 1919

EMERSON LEROY HODGINS (M),
Associate Professor of Surgery.
312 Oxford St.
M.B., Toronto, 1903. 1913

FREDERICK WINNETT LUNEY (M, PH),
Associate Professor of Pathology.
Institute of Public Health.
M.D., Western, 1914; Chief of Division of Pathology in Institute of Public Health. 1917

WILLIAM J. ROBINSON (M),
Associate Professor of Psychiatry.
M.B., Toronto, 1883. 1913

JOHN WILLIAM RUSSELL (W), *Associate Professor of Geology.*
178 St. George St.
B.A., McMaster, 1895; M.A., *ibid*, 1899. 1920

EARL GROVER STURDEVANT (W),
Associate Professor of Chemistry.
15 Picton St.
A.B., Indiana, 1915; A.M., *ibid*, 1916; Ph.D., Michigan, 1920. 1920

ELRID GORDON YOUNG (M),
Associate Professor of Physiological Chemistry.
321 Central Ave.
B.A., McGill, 1916; M.Sc., *ibid*, 1919; Ph.D., Cambridge, 1921. 1921

H. HOMER BLACK (M), *Assistant Professor of Obstetrics and Gynecology.*
469 King St.
Phm.B., Toronto; M.D., Western, 1906. 1913

JOHN D. DETWILER (W), *Assistant Professor of Biology.*
693 Queen's Ave.
B.A., Queen's, 1912; M.A., *ibid*, 1913; Ph.D., Cornell, 1921. 1921

OSCAR FREDERICK WILLIAM ELLIS (W),
Assistant Professor of Romance Languages.
231 Hyman St.
B.A., Toronto, 1911; M.A., Harvard, 1918. 1921

JOHN IRWIN FERGUSON (M),
Assistant Professor of Pediatrics.
141 Wortley Rd.
M.D., Western, 1900. 1919

JOHN C. LINDSAY (M), *Assistant Professor of Pediatrics.*
719 Dundas St.
M.B., Toronto, 1898; F.A.C.P., 1919. 1913

JAMES ROBERT LETOUZEL (M),
Assistant Professor of Pharmacology.
M.D., C.M., McGill. 1920

EDMOND A. MERAS (W), *Assistant Professor of Romance Languages.*
580 Talbot St.
B.A., College of City of New York, 1917. 1919

JAMES ALBERT SPENCELEY (W),
Assistant Professor of English.
149 Sydenham St.
B.A., Toronto, 1905; M.A., *ibid*, 1909; M.A., Harvard, 1920. 1921

WILLIAM JOHN STEVENSON (M), *Assistant Professor of Obstetrics and Gynecology.*
389 Dundas St.
M.D., Western, 1896. 1913

ERNEST LEWIS WILLIAMS (M), *Assistant Professor of Obstetrics and Gynecology.*
363 Queen's Ave.
M.D., Western, 1899. 1913

ELNORA EVELYN KELLY ALBRIGHT (W), *Instructor in English.*
709 Colborne St.
B.A., Toronto, 1912; Barrister-at-Law, Alberta, 1919. 1920

RAY LEROI ALLEN (W), *Instructor in Physics.*
548 Waterloo St.
B.A., Mt. Allison, 1917; M.A., *ibid*, 1919. 1921

WILLIAM FRANCIS BABB (M), *Lecturer in Ophthalmology.*
455 Waterloo St.
M.D., Western, 1903. 1919

ELLIOTT NICHOL BALLANTYNE (M), *Instructor in Pathology.*
B.A., Western, 1916; M.D., *ibid*, 1917. 1920

SAMUEL JAMES THOMAS BEAN (M), *Instructor in Medicine.*
229 Wharncliffe Rd.
M.D., Western, 1914. 1918

CHARLES JAMES BELL (W), *Lecturer in Commercial Economics.*
Hayman Court.
1921

MERVYN LLELLWYN BLAKE, *Supervisor of Athletics.*
860 Richmond St.
1921

CAROLINE BLAMPIN (W), *Instructor in Physics.*
4 Cartwright St.
B.A., Bishop's, 1910; M.A., McGill, 1920. 1921

J. THORNLEY BOWMAN (M), *Instructor in Medicine.*
183 Wortley Rd.
M.D., Western, 1913. 1918

WILLIAM JOHN BROWN (M), *Instructor in Ophthalmology, etc.*
472 Clarence St.
M.D.C.M., McGill. 1921

FREDERICK JOHN HENRY CAMPBELL (M), *Instructor in Anatomy and Medicine.*
B.A., Western, 1912; M.D., *ibid*, 1917. 1917

FRANK ROBERT CLEGG (M), *Instructor in Obstetrics and Gynecology.*
405 Dundas St.
M.D., Western, 1912. 1916

FRANK HARTLEY CURRAN (W), *Lecturer in Commercial Economics.*
327 St. James St.
B.A., Western, 1917; LL.B., *ibid*, 1921; Osgoode Hall, 1921. 1921

WILMER LLOYD DENNEY (M), *Instructor in Pediatrics.*
260 Queen's Ave.
M.D., Western, 1917. 1920

WALTER SEYMOUR DOWNHAM (M), *Lecturer in Public Health.*
149 Oxford St.
M.D., Western, 1912. 1918

BATEMAN EDWARDS (W), *Instructor in Romance Languages.*
234 Hyman St.
B.A., Dalhousie, 1919. 1920

C. S. ESTEVES (A), *Lecturer in Spanish.*
A.B., University of Michigan. 1921

STUART M. FISHER (M), *Instructor in Clinical Medicine.*
M.D., Western, 1909. 1919

ALFRED JAMES GRANT (M), *Instructor in Surgery.*
Hayman Court.
M.D., Western, 1901. 1920

*ROBERT HANNAH (W), *Lecturer in Public Speaking.*
367 Princess Ave.
B.A., Western, 1918; Post Graduate, University of Chicago, 1919. 1919

CHARLES AUGUSTUS HARRIS (M), *Instructor in Medicine.*
421 Dundas St.
M.D., Western, 1913. 1913

JOHN G. HUNT (M), *Lecturer in Otology, Rhinology and Laryngology.*
M.D., Toronto. 1919

GEORGE LEIGH JEPSON (M), *Lecturer in Materia Medica and Instructor in Medicine.*
M.D., Western, 1910. 1913

FRED LANDON (W), *Lecturer in History.*
76 Bruce St.
B.A., Western, 1906; M.A., *ibid*, 1919. 1917

NELLES B. LAUGHTON (M), *Instructor in Physiology.*
321 Central Ave.
B.A., Toronto, 1918. 1921

REV. A. P. MAHONEY (U), *Instructor in Philosophy.*
St. Peter's Seminary.
1920

MARGARET ANNE MCINTOSH (W), *Instructor in Biology.*
826 King St.
B.A., Western, 1921. 1921

NEIL SINCLAIR MCKECHNIE (W), *Lecturer in Philosophy.*
24 Askin St.
B.A., McMaster, 1908; B.Th., *ibid*, 1910. 1921

C. P. MCTAGUE (A), *Lecturer in English.*
B.A., Toronto. 1921

REV. J. H. POCOCK (U), *Instructor in Philosophy.*
St. Peter's Seminary.
B.A., Toronto, 1915. 1920

JEAN THOMPSON NEVILLE (W), *Lecturer in English.*
190 Bridport St.
B.A., Western, 1910. 1921

FINLEY E. PERRIN (W), *Lecturer in Economics.*
227 Grand Ave.
B.A., Toronto, 1892; Barrister-at-Law, 1898. 1915

FRANK HARTON PRATTEN (M),
Instructor in Medicine (Tuberculosis).
Queen Alexandra Sanitorium.
M.B., Toronto, 1911. 1921

GEORGE A. RAMSAY (M), *Instructor in Surgery.*
443 Clarence St.
M.D., Western, 1910. 1919

MARJORIE ROSS (W), *Instructor in Library Science.*
124 Albert St.
B.A., Toronto, 1916. 1918

GEORGE BLOOMFIELD SAGE (W), *Lecturer in Philosophy.*
225 Wharncliffe Rd.
B.A., Trinity, 1880; B.D., *ibid*, 1887; M.A., *ibid*, 1910; D.D., Western, 1909. 1908

HERMAN E. SCHAEF (M), *Instructor in Anatomy.*
1225 Dundas St.
M.D., Western, 1905. 1913

REV. J. J. SHERIDAN (A), *Lecturer in History.*
M.A., Catholic Univ. of America. 1919

REV. THOMAS ALEXANDER SYMINGTON (W), *Lecturer in Philosophy.*
87 Bruce St.
B.A., Toronto, 1907; M.A., *ibid*, 1909. 1921

W. P. TEW (M), *Instructor in Obstetrics and Gynecology.*
385 Waterloo St.
M.D., Toronto, 1917. 1920

JEAN ISABEL WALKER (W), *Lecturer in Public Speaking.*
411 King St.
L.C.M. 1920

JAMES WILLIAM WESTERVELT, JR. (W), *Lecturer in Accountancy.*
C.A., Institute of Chartered Accountants. 1920

JOHN CAMERON WILSON (M), *Instructor in Surgery.*
M.D., Western, 1910. 1919

ARTHUR WOODS (W), *Instructor in Mathematics.*
231 Hyman St.
B.A., Queen's, 1911; M.A., *ibid*, 1915. 1920

MARY M. MCLEAN (PH), *Assistant in Chemistry.*
544 Waterloo St.
B.A., Western, 1919. 1919

GRACE MOORE (PH), *Assistant in Bacteriology.*
B.A., Toronto, 1918.

IDA GERTRUDE ROWNTREE (W), *Assistant in Chemistry.*
60 Stanley St.
B.A., Western, 1919. 1920

OTHER OFFICIALS.

~~F. VARCOE R. BATESON, *Student Assistant in Biology.*~~
HELEN BATTLE, *Student Assistant in Biology*
HARRY A. CAVE, *Student Assistant in Biology.*
~~WILLIAM JOHN HODDER, " *Assistant in Library.*~~
JOHN G. JOSE, *Student Assistant in Biology.*
CLAUDE MACCALLUM, *Student Assistant in Biology.*
DONA WALLER, " *Assistant in Library.*
~~JESSIE WHITTLE, " *Assistant in Library.*~~

MARGARET BURNS, *Secretary to Dean of the Medical School.*
9 Dundas St.
EDITH CARR, *Assistant, Medical School Library.*
FREDERIC W. CLAASSENS, *Technician in Biology.*

LE ROY W. CROCKER, *Laboratory Assistant, Anatomy.*
158 Victoria St.

KATE M. GILLESPIE, *Assistant in Library.*
164 Albert St.
B.A., McGill, 1921.

MABEL HYND, *Secretary to the President.*
234 St. George St.

WINNIFRED PEARSON, *Assistant in Library.*
132 Central Ave.
B.A., Western, 1920.

MARGARET ELSIE PICKLES, *Secretary to the Registrar.*
336 Ridout St. South

ETHEL SULLIVAN, *Librarian, Medical School.*

GENERAL INFORMATION

Western University is composed of three units, the College of Arts, the Medical School and the Institute of Public Health; affiliated with the University are two colleges teaching Arts courses, viz., Assumption College at Sandwich and Ursuline College, London; also one theological college, Huron, of London.

By the 1908 amendments to the act incorporating Western University, it was stipulated that the government of the University should be absolutely undenominational and be under public, municipal, or provincial control or any or all of these.

THE LIBRARIES

The libraries of the Arts Department of Western University total about 50,000 volumes, with several thousand pamphlets. The main portion of the library, the Barnett collection, is located temporarily at 313 Cheapside Street in charge of Dr. J. Davis Barnett, who formed the collection and presented it to Western University in 1918. The general library is located in the University Annex on St. James Street with small collections in the departments of biology and classics.

With few exceptions any book in the University libraries may be borrowed and taken from the library. This privilege is extended to other than faculty and students under some light restrictions. In the Barnett collection are many exceedingly rare volumes, not to be found elsewhere in Canada. The Shakespeariana number about 1,500 volumes and several thousand pamphlets. The Barnett collection also includes

a large collection of rare items in Canadian and American history with extensive selections in folklore, English literature, European history, the drama, church history and other fields.

In addition to the University libraries, faculty and students have the use of the book collections of the London Public Library, numbering about 40,000 volumes, and well supplied with works of reference. Other smaller collections in London that may be used by students bring the total library resources up to about 100,000 volumes. For special use rare volumes are secured from other libraries as loans.

The management of the University libraries is in the hands of a library committee composed of representatives from the various faculties and affiliated colleges. Extensive additions are being made to the book collections yearly, and during the past two years generous gifts of valuable books have also been received.

General Librarian: Miss M. Ross.

Curator Barnett Library: J. Davis Barnett.

Assistants: Mr. W. J. Hodder, Miss W. Pearson, Miss D. Waller, Miss K. Gillespie, Miss J. Whittle.

DEGREES

By its charter Western University may confer degrees in Arts, Medicine, Science, Agriculture, Law, Education and Theology, upon persons who, having complied with the requirements prescribed, are admitted to such degrees by the Senate.

The degrees at present conferred by the University are:

1. Honorary Degrees: *Doctor of Divinity; Doctor of Science; Doctor of Laws.
2. Degrees by examination: Bachelor of Arts (B.A.); *Bachelor of Divinity (B.D.); Bachelor of Laws (LL.B.); Master of Arts (M.A.); Doctor of Medicine (M.D.); *Doctor of Divinity (D.D.).

*The degrees so indicated can be conferred by the University only on the recommendation of an affiliated theological college. The last degree, Doctor of Divinity by examination, is under the jurisdiction of the Board of Theological Colleges of the Church of England in Canada.

ACADEMIC COSTUME

The degrees have their distinctive costume as follows:

Gowns

For Bachelor's degree, Cambridge shape with long, pointed sleeves, of black worsted stuff, untrimmed, open or closed. For Master's degree, Cambridge shape with long closed sleeves, of black worsted stuff or silk, untrimmed, open or closed. For Doctor's degree, Cambridge shape with round open sleeves, of black worsted stuff or silk, open, with facing down the front of black velvet, with three bars of black velvet across each sleeve; or with the facing and bars of the color of velvet that by convention pertains to the faculty in which the degree has been obtained, viz.:

Arts—white.
Medicine—dark green.
Science—gold yellow.
Laws—purple.
Theology—scarlet.

Hoods

Hoods shall be of the usual pattern, same material as the gown, black, length proportioned to the figure, maximum being three feet long for Bachelors, four for Masters and Doctors; the latter also have panels at the sides.

The edging or binding shall be of velvet of the color distinctive of the faculty granting the degree. (See above under gowns).

The lining of the hood shall be of silk of the official colors of the University, purple and white, arranged thus: purple background with two chevrons of white.

Caps

Caps shall be mortar-boards, black, of serge or broadcloth, with black tassel. The Doctor's cap may be of velvet. The tassel on the Doctor's cap may be altogether or half of gold thread.

RELATION TO OTHER UNIVERSITIES

The Council of the Senate of Cambridge University has recommended that Western University be adopted as an institution affiliated with the University of Cambridge and

that graduates in Arts of Western University be entitled to be admitted to the privileges of affiliation provided that they have attended classes in that University for a period of at least two years and that in one or more of the examinations held by the University for the Degree of Bachelor of Arts they have satisfied the examiners in one language in addition to Latin and English and in Mathematics.

Western University College of Arts is recognized as a "Standard College" by Columbia University, New York; Cornell University, Ithaca, New York, and by the regents of the College of the State of New York.

Colleges of Arts

University College

President
Vacant

Dean
WILLIAM SHERWOOD FOX, PH.D., F.R.S.C.

Secretary
A. WOODS, M.A.

Chairman of Committee on Academic Standing
K. P. R. NEVILLE, PH.D.

Representative on the University Library Board
W. F. TAMBLYN, PH.D.

Representative on the Athletic Board
N. C. HART, M.A.

Officers of Instruction

RAYMOND C. DEARLE, M.A., PH.D.,
Professor of Physics.

WILLIAM SHERWOOD FOX, M.A., PH.D., F.R.S.C.
Professor of Classics.

NATHANIEL CHAMNEY JAMES, B.A., PH.D.,
Professor of German.

HAROLD R. KINGSTON, PH.D.,
Professor of Mathematics.

K. P. R. NEVILLE, M.A., PH.D.,
Professor of Classics.

WILLIAM JOHN PATTERSON, M.A.,
Professor of Mathematics.

ALBERT DUNCAN ROBERTSON, B.A.,
Professor of Biology.

LEWIS PIAGET SHANKS, PH.D.,
Professor of Romance Languages.

ALBERT J. SLACK, PH.C., M.D.,
Professor of Chemistry.

WILLIAM FERGUSON TAMBLYN, B.A., PHD.,
Professor of English Literature.

CHARLES CAMERON WALLER, M.A., D.D.,
Professor of Hebrew.

LOUIS AUBREY WOOD, M.A., B.D., PH.D.,
Professor of Political Economy.

HENRY W. AUDEN, M.A.,
Associate Professor of Classics.

SEDLEY NELSON BEST, PHARM.D., PH.C.,
Associate Professor of Chemistry.

ARTHUR G. DORLAND, M.A.,
Associate Professor of History.

NELSON C. HART, M.A.,
Associate Professor of Biology.

J. W. RUSSELL, M.A.,
Associate Professor of Geology.

EARL G. STURDEVANT, PH.D.,
Associate Professor of Chemistry.

JOHN D. DETWILER, PH.D.,
Assistant Professor of Biology.

OSCAR F. W. ELLIS, M.A.,
Assistant Professor of Romance Languages.

†EDMOND A. MERAS, M.A.,
Assistant Professor of Romance Languages.

JAMES A. SPENCELEY, M.A.,
Assistant Professor in English.

E. EVELYN ALBRIGHT, B.A.,
†*Instructor in English.*

RAY LEROI ALLEN, M.A.,
Instructor in Physics.

CHARLES JAMES BELL,
Lecturer in Commercial Economics.

~~MERWIN BLAKE,~~
~~*Director of Physical Training.*~~

~~CAROLINE BLAMPIN, M.A.,~~
~~*Instructor in Physics.*~~

FRANK H. CURRAN, B.A., LL.B.,
Lecturer in Commercial Economics.

BATEMAN EDWARDS, B.A.,
Instructor in Romance Languages.

*ROBERT HANNAH, B.A.,
Lecturer in Public Speaking.

H. W. HILL, M.D., D.P.H.,
Lecturer in Public Health.

FRED LANDON, M.A.,
Lecturer in History.

MARGARET MCINTOSH, B.A.,
Instructor in Biology.

N. S. MCKECHNIE, B.A., B.TH.,
Lecturer in Philosophy.

JEAN T. NEVILLE, B.A.,
Lecturer in English.

FINLEY E. PERRIN, B.A.,
Lecturer in Political Economy (Law).

EDYTHE PRYCE,
Instructor in Physical Training.

IDA GERTRUDE ROWNTREE, B.A.,
Lecturer in Chemistry.

GEORGE BLOOMFIELD SAGE, M.A., D.D.,
Lecturer in Psychology and Ethics.

THOMAS A. SYMINGTON, M.A.,
Lecturer in Philosophy.

JEAN I. WALKER,
Lecturer in Public Speaking.

JAMES W. WESTERVELT, JR., C.A.,
Lecturer in Accounting.

ARTHUR S. WOODS, M.A.,
Instructor in Mathematics.

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*On leave of absence, 1921-22.

†Instructor is a title given in the University College of Arts to one who gives full time to the work of instruction in Western University. The lecturer is of the same grade as the instructor but gives only part time to the work of instruction.

Assumption College

President
VERY REV. J. T. MUCKLE, M.A.

Registrar
REV. W. C. SHARPE, M.A., B.D.

Bursar
REV. J. J. SHERIDAN, M.A.

Officers of Instruction

REV. LOUIS J. BONDY, B.A.
Professor of French.

REV. CHARLES COUGHLIN, B.A.,
Professor of Psychology.
Lecturer in English Literature.

REV. DANIEL L. FORESTELL, B.A.,
Professor of English.
Lecturer in German.

VERY REV. J. T. MUCKLE, M.A.,
Professor of Greek.

REV. J. C. PLOMER,
Professor of Religious Knowledge.

REV. E. J. PLOURDE,
Professor of Religious Knowledge.

REV. W. C. SHARPE, M.A., B.D.
Professor of Latin.
Lecturer in Greek Philosophy.

REV. E. TIGHE, B.A.
Professor of Metaphysics.

REV. W. G. ROGERS, B. A.
Professor of Mathematics.

REV. CHARLES DONOVAN, B. A.,
Associate Professor of English and Metaphysics.

MR. C. S. ESTEVES, B. A.,
Lecturer in Spanish.

MR. C. P. MCTAGUE, B. A.,
Lecturer in English.

REV. J. J. SHERIDAN, M. A.,
Lecturer in History.

Ursuline College

(Brescia Hall)

Dean

M. M. ST. ANNE, M.A.

Registrar

M. M. ST. MICHAEL, M.A.

Officers of Instruction

M. M. ST. ANNE, M.A.,
Professor of French.

M. M. ST. MICHAEL, M.A.,
Professor of English and History.

REV. A. P. MAHONEY,
Lecturer in Religious Knowledge.

REV. J. H. POCOCK, B.A.,
Lecturer in Philosophy.

REGULATIONS

MATRICULATION

Subjects: Pass Junior

A candidate for Pass Matriculation must write upon the examinations conducted by the Department of Education of Ontario in the following subjects of the Middle School:

Latin (Authors, one paper; Composition, one paper).
English (Literature, one paper; Composition, one paper).
History (British, one paper; Ancient, one paper).
Mathematics (Algebra, one paper; Geometry, one paper).
Any two of:
Greek (Authors, one paper; Composition, one paper).
French (Authors, one paper; Composition, one paper).
German (Authors, one paper; Composition, one paper).
Spanish (Authors, one paper; Composition, one paper).

or

Italian (Authors, one paper; Composition, one paper).
Experimental Science (Physics, one paper; Chemistry, one paper).

or

Agriculture (Part I, one paper; Part II, one paper).

In certain cases foreign students may present themselves for examination in their language instead of Greek or French or German or Spanish or Italian when the language and the curriculum in that language have been approved by the Senate. The examination in an approved language consists of two papers similar in character to those in English.

NOTE:—Students registered with theological bodies may present First year Hebrew in lieu of one optional subject.

Subjects: Honor

A candidate for Honour Matriculation must write upon the examinations conducted by the Department of Education of Ontario in one or more of the following subjects of the Upper School:

Greek (Authors, one paper; Composition, one paper).
Latin (Authors, one paper; Composition, one paper).
English (Literature, one paper; Composition, one paper)
French (Authors, one paper; Composition, one paper).
German (Authors, one paper; Composition, one paper).
Spanish (Authors, one paper; Composition, one paper).
History (one paper).
Mathematics (Algebra, one paper; Geometry, one paper; Trigonometry, one paper).
Physics (one paper).
Chemistry (one paper).
Biology (Botany, one paper; Zoology, one paper).

These examinations, both Pass and Honour, are conducted by the Department at various centres throughout the Province of Ontario in June and September of each year.

Percentage Pass Junior

A candidate for Pass Matriculation will be allowed to write on one or more papers at a time in any order, and on obtaining at least fifty per cent. of the marks assigned to any paper will be given credit for having passed in such paper, and will receive a certificate of such standing.

A candidate for Honour Matriculation will be allowed to write on one or more papers at a time in any order.

Percentages Honor

In order to secure First Class Honors in a subject a candidate must obtain at one examination at least seventy-five per cent. of the marks assigned to that subject and at least fifty per cent. in each paper on that subject.

In order to secure Second Class Honors in a subject a candidate must obtain at one examination at least sixty-six per cent. of the marks assigned to that subject and at least fifty per cent. in each paper of that subject.

In order to secure Third Class Honors in a subject a candidate must obtain at one examination at least sixty per cent. of the marks assigned to that subject and at least fifty per cent. in each paper of that subject.

A candidate who fails to obtain First, Second or Third Class Honors in a subject under the above regulations, may secure credit for the subject, by obtaining at least fifty per cent. on each paper of the subject, not necessarily at one examination.

Such credit in a subject will be accepted by the University as covering the Honor Matriculation requirements with respect to that subject for admission to any faculty.

Equivalent Certificates

8 (a) Equivalents *pro tanto* of Junior Matriculation are:

Ontario	Entrance to Normal School.
Prince Edward Island	Second Class
Nova Scotia	Grade XI.
New Brunswick	Second Class
	Academy Grade III.
Quebec	University School AA.
	Model School Diploma (75%)
Manitoba	Grade XI.
Alberta	Grade XI.

Saskatchewan	Grade XI.
British Columbia	Intermediate
Newfoundland	Intermediate (50% required).

(b) Equivalents of Honor Junior Matriculation are:

Ontario	First Class Entrance to Normal Schools
Prince Edward Island	First Class
Nova Scotia	Grade XII.
New Brunswick	First Class
Saskatchewan	Grade XII.
Alberta	Grade XII.
British Columbia	Senior Academic
Manitoba	Grade XII.
Newfoundland	Associate (75%: but allowance on Associate examinations will be given only in English, Latin, Greek and French).

ADMISSION

General Course

In 1922 candidates will be admitted to the General Course in Arts if they present certificates of complete Pass Junior Matriculation or the equivalent as outlined above.

In 1923, and thereafter, in addition to complete Pass Junior Matriculation, candidates must present certificates showing one of the three qualifications enumerated below:—

(a) Credit (50%) in any two subjects of the Upper School except History.

(b) (75%) in any four papers of the Middle School examination.

(c) (66%) in any six papers of the Middle School examination.

Candidates who present complete Pass Junior Matriculation and a successful completion of the second class professional work at one of the Normal Schools of the Province of Ontario will be considered to have satisfied the requirements demanded above for admission.

Honor Courses: By Honor Matriculation

Candidates presenting Upper School Certificates or the equivalent in at least four subjects together with Pass Junior Matriculation in the remaining subjects will be admitted to the Honor Course of the First Year in the Departments in the subjects of which their certificates

show that they have obtained at least third class honors (60%) ~~in each subject~~.

Honor Courses: by First Year General Course.

Students who have completed the first year of the General Course and who have obtained at least 60% of the aggregate marks in the work of that year may enter upon the first year of an Honor Course in any Department in which they have obtained 66% of the aggregate marks in the work of that Department. Candidates who wish to enter the honor course in Mathematics and Physics must have obtained 66% in Trigonometry of the second year as well as satisfied the above requirements.

Students who have obtained 60% of the aggregate marks in the work of the first year of the General Course will be admitted to the Honor Courses in Political Science or Philosophy and may complete the course in three years.

Honor Courses: By First and Second Years General Course.

Students who have completed the first and second years of the General Course and who have obtained 60% of the aggregate marks in each year may enter upon the second year of an Honor Course in any subject in which they have obtained 66% of the aggregate marks in that subject in the first and second years except in the courses in Mathematics and the Sciences.

Candidates asking admission on certificates other than those mentioned above must present the official evidence of their academic standing to the Registrar at least two weeks before the opening of the session that they wish to attend.

Length of Courses

The General Course is a four year course from Pass Junior Matriculation but it can be completed in three years of satisfactory work by a student who presents Upper School Certificates that will secure 12 credits toward graduation. The Honor Courses, except as mentioned below, are five year courses from complete Pass Junior Matriculation or four year courses from Honor Matriculation in four subjects. The Honor Courses in Philosophy or Political Science ~~and Commercial Economics~~ require four years from complete ~~Pass Junior Matriculation~~.

All intending students of Western University must secure application blanks for entrance sufficiently early to enable them to return the blanks and their qualifying certificates to the registrar not later than Sept. 20th.

ADVANCED STANDING

From Collegiates

Candidates presenting Upper School Certificates in one or more subjects or the recognized equivalents may be credited with the first year in the General Course in the subjects corresponding to the Certificates except in the case of the ~~Laboratory~~ Sciences (~~for which see below~~). Not more than ~~12~~ credits towards graduation can be secured for Upper School Certificates.

Candidates with Upper School certificates in the laboratory Sciences may be credited with those sciences in the first year of the General Course upon recommendation of the head of the department concerned providing:—

(a) Notebooks are submitted in which their practical laboratory work has been recorded.

(b) A certificate from the Principal of the High School or Collegiate Institute is submitted stating that the notebooks and records are the result of the student's own work and that the work performed and described represents, in the case of each Science, at least 100 hours of laboratory instruction and practical work in the Upper School.

From Universities

All applications for advanced standing, except on certificates indicated above, must be accompanied by official certificates from the institution where previous work has been done. These official documents must include certificate of honorable dismissal from the institution last attended. No student can register in Western University if he cannot re-register in the institution from which he wishes to transfer.

SPECIAL STUDENTS

Students who are over 21 years of age, though they may not be able to present qualifications for admission to candidacy for degrees, may be admitted to classes in the University, if in the opinion of the professor in charge, they are qualified to pursue satisfactorily the courses chosen. Such special students must satisfy the professors in regard to regular attendance and attention to the work of their classes. They will not be allowed to advance from year to year in a department without taking the regular examinations. Special students will not be admitted to more than 12 credits of work in any year.

The special student who has satisfactorily completed the work of the first year in the General Course will be

considered to have secured standing sufficient to permit his proceeding to a degree on the same terms as one who at entrance presents Honor Matriculation or Upper School standing in at least four subjects.

EXAMINATIONS

Regular examinations will be held for the General Arts Course in January and in May. The student must obtain the required percentage, at least 40%, both for the first and second term's work in each course. *General Course*

In all subjects of the General Course, except the Sciences, the ratio of term work marks to examination marks will be as 50 to 100. To pass a student must obtain 40% on the whole of a subject with 40% in term work and 40% in examination. In the Sciences the ratio of term work marks to examination marks is determined by the teaching staff in each subject.

Term work in a course will not be credited to a student beyond the year in which the course is taken.

Students in the General Course in Arts shall be ranked in order of merit in each subject in three grades, A, B, C. The minimum for grade A shall be 70% of the marks; for grade B, 55%; all who secure less than 55% but not less than 40%, the minimum for pass, will be placed in grade C.

No student will be admitted to the degree of Bachelor of Arts in the General Course who has not obtained grade C on all the prescribed and elective work of his course and who has not obtained grade B on at least one-half the credits required for his degree and grade B on one half the credits of the senior year.

The regular examinations for the Honor Courses will be held in May; but where an Honor Course or a definite portion of an Honor Course has been completed by the end of the fall term the instructor may set a final examination on that portion of the work. This examination is to be held during the regular January examination period. *Honor Courses*

In Honor Courses the ratio of term work marks to examination marks is determined by the teaching staff in the subjects involved.

Candidates in the Honor Courses in any department will be ranked in order of merit in that department in ~~three~~ four

classes; those obtaining 75% or over of the total number of marks will be placed in class I; those obtaining 66% and less than 75% will be placed in class II; those who obtain 50% and less than 66% will be placed in class III.

SUPPLEMENTALS

Examinations will be held in May for those who failed in the first term, in September for those who have failed in the second term or in the work of the whole year in any course.

Supplemental examinations will not be allowed any one student in more than six credits of work.

Students conditioned at the May examination will be expected to attempt to remove their conditions at the supplemental examinations of the September following such failure.

No supplemental examination will be allowed in Honor subjects except in cases where Honor subjects are offered by General Course students to complete the necessary credit requirements for their course.

FAILURES

Students who fail to obtain 40% in the regular or supplemental examinations in a course will not be eligible for re-examination without a further year's attendance on the lectures in the course in which they have failed. Provision must be made by the student to take such course the year after failure no matter what subject or subjects must be postponed to make this possible.

In subjects where each year's work depends directly upon that of a preceding year no student who has failed may take up the work of the following year. The interpretation and application of this rule rests with the Committee on Academic Standing.

A student, who at the close of the September supplemental, has not obtained standing in at least two-thirds of the credits of his year will not rank as a student of the following year.

A student, who for two consecutive years has failed to obtain credit in one-half the work for which he has registered each year, will be automatically dropped from the University.

A student who has not been granted complete first year standing may not enter upon any work of the third year; a student who has not been granted complete second year standing may not enter upon any work of the fourth year.

A candidate who fails to obtain standing in an Honor Course may, on application to the Committee on Academic Standing, receive credit in the General Course, subject to such conditions and limitations as the Committee may impose. A candidate who competes for Honors at the examination for the Degree of Bachelor of Arts and fails to obtain the requisite percent to entitle him to be classed in Honors may, on the recommendation of the Committee on Academic Standing, be awarded a Degree in the General Course, it being the option of the candidate to accept the award of such Degree or at a subsequent examination compete again for a Degree in Honors.

ATTENDANCE AT LECTURES

Students who have attended less than 90% of the lectures in a course for the term shall be debarred from taking the regular examinations on that course.

GENERAL

When a student begins a foreign language in the University, no credit towards a degree will be given for the first year of that language unless that year is followed by a second year in the same language.

Preparatory Greek is offered as an option in the first year of the General Course for students who present for entrance complete Pass Junior Matriculation without Greek. Credit towards a Degree for this preparatory Greek will not be given unless it is supplemented by three years of College Greek, one-half of which, however, may be New Testament or Patristic Greek.

No course that is an optional course need be given unless it is elected by at least five students.

THE B. A. EXTRAMURAL COURSE

An extramural course is one which a student may pursue without attendance upon classes (except as provided below), and in which he may write the examinations at the periods prescribed for resident students. The conditions for admission to such courses are the same as those required

for admission to the intramural pass courses (see page 33).

No extramural student is eligible for a degree, unless he has attended classes in this University at least for one academic year or for four summer sessions.

Extramural courses are of two kinds (a) complementary extramural courses and (b) pure extramural courses.

(a) Complementary Extramural Courses

1. A complementary extramural course is the extramural complement of one summer term course and must be completed at the May examinations of the winter term following the summer term attended. Only by fulfilling this condition may a student proceed to the more advanced courses offered in the summer term or winter terms.

2. Each summer term course together with its complementary extramural course is equal in credit hours to the subject of the B.A. General Course that corresponds to it in prerequisites and in difficulty.

3. Students are eligible to begin a complementary extramural course who have passed the examination of the summer term course of which it is the complement.

4. A complementary extramural course has been completed when the student has submitted to the instructor in charge the prescribed exercises, essays, etc., has obtained satisfactory standing therein and has passed the final examination of the course for that year.

(b) Pure Extramural Courses

Pure extramural courses are independent of attendance on classes and are open only to students who have completed four summer terms or their equivalent in the B.A. General Course. Courses in the Sciences, in Mathematics and in the elements of any foreign language may not be included among these courses. Students pursuing pure extramural courses are subject to the same regulations in regard to exercises, essays, examinations, etc., as those pursuing complementary extramural courses.

The Department of Education of Ontario approves of a degree in this course as academic qualification for an ordinary High School Assistant's certificate.

SUMMER SCHOOL

1. Each year the College of Arts offers a summer session in addition to the winter session. This opens in the first or second week in July and continues thereafter for six weeks, classes being held each day of the week from Monday to Friday inclusive. The curriculum of each subject offered in the Summer Session is, according to the nature of the subject, either one-third or one-half of the curriculum of the same subject as offered in the winter session (see paragraphs 5 and 6).

2. The Summer School is organized especially in the interest of:

I. Teachers who wish to improve their scholarship.

II. Extramural students who find it difficult to give up a whole year at any one time to satisfy the residence requirement for a degree.

III. Students who have received conditions on the regular university work the preceding session; this is the only exception to the rule that no work in the Summer School will be accepted in lieu of any or all of any year's work in an extramural course.

3. Admission to the Summer School is granted on exactly the same terms as to any winter session.

4. Students who are not candidates for degrees may be admitted to certain courses if they are qualified to pursue these courses profitably. They are expected to conform to the same rules of attendance and of application to the work of the class as are laid down for students who are seeking credit.

5. Each summer term course together with its complementary extramural course is equal in content and credit hours to the subject of the B. A. General Course that corresponds to it in prerequisites and in difficulty. With the exception noted in the next paragraph the work of the summer session in each course counts as one-third of the requirements for the whole year in that course.

6. Since no extramural work is offered in the Sciences and since the extramural courses in Mathematics comprise not more than one-half of the total prescription, a student desiring to obtain the equivalent of one year's work of the

B. A. General Course in either Science or Mathematics must attend two summer sessions.

7. A student who attends four summer sessions and obtains twelve credits for work taken therein will be considered to have satisfied the residence requirement exacted of extramural students of this University and, if possessed of proper entrance qualifications, may proceed to the degree of B. A. in an extramural course without further attendance.

For complete information concerning the Summer School one must consult the Summer School Announcement; this may be had by applying to the Director or to the Registrar of the University.

THE M.A. COURSE

Academic Qualification Candidates must be graduates in Arts of this or some other accredited university with not lower than Second Class Honors (66%) in the Third and Fourth Years of a full Honor Course, or must have attained to the standing in the General Course indicated in the section below.

Graduates in Arts of this University who in the work of the last two years of the General Course obtained sixty per cent. of the aggregate possible marks, who did not fall below ~~fifty-five~~ per cent. in more than 6 credits and who obtained Grade A rank in at least 27 credits, of which ~~18~~ lie in the College of Arts, may be admitted as candidates for the Degree of Master of Arts.

Graduates of accredited universities who are candidates for the Degree of Master of Arts in this University must furnish official evidence that they have obtained the Degree of B.A., and that their standing in the Third and Fourth Years of their course corresponds to the standard of the two sections above.

Attendance All candidates must be in registered attendance in the University College of Arts for at least one academic year though the work may be spread over two academic years at the option of the candidate.

Standards All candidates must take a prescribed course, pass an examination therein and obtain at least Second Class Honors (66%) in it, if it lie in an Honor Department, or seventy-five per cent. if it lie in the General Course.

A candidate who passes the examinations of the Third and Fourth Years of the major subject or subjects of an

Honor Course other than that in which he obtained Honors at graduation, and who obtains Second Class Honors (66%) therein and whose thesis is satisfactory, may be granted the Master's Degree ~~under section 40.~~

A candidate who at graduation obtained First Class Honors in each of the Third and Fourth Years of his Honor Course, whose thesis is satisfactory and who obtains First Class Honor standing in the examination on the prescribed course, may be granted the Degree of Master of Arts with Honors.

All candidates shall present theses embodying the result of their own investigation in some department of study approved by the Faculty of the College of Arts. *Thesis*

The subject of the thesis must lie in the College of Arts and in that part of his course in which the candidate obtained at least sixty-six per cent. if in an Honor course, or Grade A rank if in the General Course, in each of the Third and Fourth Years of his course.

~~The~~ candidates must register not later than October 17th and submit to the Faculty of the College of Arts, through the Registrar, an outline of the proposed thesis, not later than January 1.

If the subject proposed and the outline submitted be adjudged satisfactory, the candidate shall be placed under the guidance of two of the professors in whose departments the subject of the thesis lies, who shall be responsible for conducting the examination and for reporting to the Faculty upon the character of the thesis and the result of the examination. The examination shall be given during the annual May examinations.

A type-written or printed copy of the completed thesis, bound in some permanent form, must be in the hands of the Registrar not later than ~~April~~ 1, and must be accompanied with the fee of **Twenty Dollars; ten dollars** of which will be returned to the candidate if unsuccessful.

Upon being approved, the thesis shall become the property of the University.

THE LL.B. COURSE

The Degree of Bachelor of Laws will be conferred on candidates who present the following academic standing, and pay the fees pertaining to the course:

(a) An Honor Degree in the department of Political Science from Western or some other acceptable University or College.
(b) A certificate of graduation from Osgoode Hall and of admission to the practice of law in the Province of Ontario or equivalent certificates.
(c) Examinations taken on a course of reading in the following: Domestic Relations, Medical Jurisprudence, Theory of Obligations, Contracts.
(d) An approved thesis, on an assigned subject.

MEDALS, SCHOLARSHIPS AND PRIZES

I. UNIVERSITY

University gold medals for competition in the fourth year of the Honor Courses offered by the University College of Arts:—

Honor Botany.
Honor Chemistry.
Honor Commercial Economics.
Honor English.
Honor French.
Honor Geology.
Honor German.
Honor Greek.
Honor History.
Honor Latin.
Honor Physics.
Honor Political Economy.
Honor Spanish.
Honor Zoology.

U. A. Buchner Gold Medal, Fourth Year Honor Mathematics.

Governor-General's Medal, Fourth Year General Course.

Typographical Union Medal, Second Year English Composition.

University Scholarships, Seventy-five dollars each in

First Year Honor Science,
English and History.
Biology.
English and a Foreign Language.
Romance Languages.
Mathematics and Physics.

Second Year Honor Science,
English and History.
Biology.
English and a Foreign Language.
Chemistry.
Commercial Economics.
Mathematics and Physics.

Third Year Honor English and History.
English and a Foreign Language.
Biology.
Chemistry.
Commercial Economics.
Romance Languages.
Mathematics and Physics.

University Scholarships, Fifty-dollars each in
General Proficiency, First Year.
General Proficiency, Third Year.

Alumnae Scholarship. Fifty dollars to the woman student of the third year who secures the highest standing.

Blake Scholarship, No. 1. Seventy-five dollars, Honor Political Economy Course Fourth Year.

Blake Scholarship No. 2. Fifty dollars, Honor Political Economy Course, Third Year.

Blake Scholarship, No. 3. Twenty-five dollars, Honor Political Economy Course Second Year.

Jewell Scholarship. General Proficiency, Second Year.

Khaki University Scholarship. Seventy-five dollars for the highest average obtained by an ex-service man in any year of any course in the University College of Arts.

Nicholas Wilson Chapter, I. O. D. E. Scholarship. Twenty-five dollars, First Year Honor Commercial Economics Course.

Dean's Prize. Fifteen dollars, First Year Latin.

W. W. Tamblyn Prize. Twelve dollars, First Year Public Speaking.

University Prizes, Ten dollars each in

History, 40, 42, 43.
English, 30.
History, 30.
French, 30.
Philosophy, 30.
English, 20.
Latin, 20.
French, 20.
English, 10.
Mathematics, 10, 12.
Physics, 10.
Biology, 10.
Chemistry, 10.

Except in the case of fourth year awards these scholarships will be paid only to students who are in actual attendance and carrying a full year's work in the University during the year following the award.

I. O. D. E. Post-Graduate Overseas Scholarship.

This scholarship was founded by the Imperial Order, Daughters of the Empire, as part of the War Memorial of the Order. It is of the value of $1400, tenable for one year in any British University, the subjects of study being specified as British and Imperial History, the Economics and Government of the Empire and Dominion, or any subject vital to the interests of the Empire. The scholarship is open to men or women, British subjects, unmarried, graduates of a Canadian university or in the last year of a course leading to a degree.

Federal Scholarship.

Value, one thousand dollars: the scholarship of the Federation of the University women in Canada, available for study or research work, open to any woman holding a degree from a Canadian University. Preference will be given to candidates who have completed at least one or two years of graduate study and have a definite research in preparation. The award is based on evidence of character

and ability of the candidate and the promise of success in the subject to which she is devoting herself. Applications must be received not later than Feb. 1st, each year.

For the details regarding applications for these two scholarships consult the Registrar.

II. MATRICULATION

I. O. D. E. War Memorial Bursary.

Two hundred and fifty dollars a year for four years.

Founded by the Imperial Order, Daughters of the Empire, as part of its war Memorial.

Awarded to the candidate in either the Junior or Honor Matriculation examinations who in the judgment of the Committee best meets the purpose in view in the foundation of the Bursary. The candidate must be the son or daughter of a killed or permanently disabled soldier, sailor, or member of the Air Force. It is tenable at any university in Ontario. The holder of the Bursary is granted exemption from tuition fees up to $25 a year for four years.

In awarding the scholarship, the Committee of selection will take into consideration the war service of the candidate and of members of his or her family, and, other things being equal, will give the preference to a returned man, his sister, or his child.

This scholarship will next be awarded to a candidate from Ontario in 1923. Application must be made by October, 1922.

Pass Junior Matriculation Scholarships.

Two scholarships of the value of $100 each will be awarded for competition in Pass Junior Matriculation. The winners will receive free tuition for two years in ~~the~~ College ~~of Arts of the University~~; total value of scholarship, $200.

Honor Matriculation Scholarships.

Three scholarships of $100 each will be awarded on Honor Matriculation as follows:

(a) English, Latin, Greek and any other one subject.
(b) English, History, French and any other one subject.
(c) English, Mathematics, Physics and any other one subject.

Free tuition for two years in the College ~~of Arts~~ will be granted the winners; total value $200 each.

Candidates must notify **Western University** by May 15th, 1921, on forms provided on request, of intention to compete for these scholarships.

None of these scholarships will be awarded to any candidate who obtains an average of less than 75 per cent. on all the papers for which the scholarship is offered.

FEES

The following fees are payable to the Executive Secretary:

First registration (for all students on entering)	$ 5.00
Tuition, full course, including examination, one payment	50.00
Tuition, full course, including examination, two payments	52.00
Tuition Commercial Economics, each year, one payment	60.00
Tuition Commercial Economics, each year, two payments	62.00
Tuition, each major, including examination	12.00
Tuition, each minor, including examination	6.00
Physical Training, each year	5.00
Students' Council Fee, each year	4.00
Caution Money, each year	5.00
Supplemental Examination, each paper, May or Sept.	2.00
University Examination at dates other than January, May and September	10.00
Examination at a local centre	10.00
Change of Faculty	5.00
Change of Registration	1.00
Admission *ad eundem statum*	5.00
Certificate of Standing	2.00
Extramural Registration, annual	10.00
Extramural examinations, annual	5.00
Extramural Correspondence Fee, annual	2.00
Degree of B.A.	10.00
Degree of M.A.	20.00
" " LL.B.	20.00
" " B.D.	24.00

NOTE—(1) A supplemental examination is an examination set on work in which a student has failed. Supplementals in May will be offered for those who failed in January; in September for those who failed in May. No special supplemental examination will be given within three months of failure.

(2) A major subject is a subject for which at least two credits are given; a minor one credit. English Composition (English 12, 22) by exception is a major subject.

(3) Caution money, minus deduction for breakage, etc., will be returned at end of year.

Tuition fees in full may be paid on Registration Day. If paid in two instalments, ~~$25.00~~ will be payable Registration Day; ~~$27.00~~ on or before first day of second term. This same principle will be applied to bills for less than full course tuition. Students must register and pay the fee for examination before presenting themselves for any papers.

Half the tuition and all the other fees will be payable ... January 6th

the second half of the tuition, plus 2%,

ACADEMIC STANDING FOR HIGH SCHOOL ASSISTANTS' CERTIFICATES.

I. ORDINARY CERTIFICATES

The academic standing for admission to the course leading to an Ordinary High School Assistant's Certificate is a degree in Arts from a British University based upon courses approved by the Minister of Education.

II. SPECIALISTS' CERTIFICATES

Subject to the conditions specified below, the academic standing for admission to the courses leading to High School Specialists' Certificates in Classics, English and French, English and German or Spanish, French and German or Spanish, English and History, Mathematics and Physics, Science and Household Science is an Honor degree in Arts from any one of the University of Toronto, Queen's University, McMaster University, and the Western University.

1. The courses in the departments specified above shall be the Honor courses as defined in the calendars of the respective Universities for the year 1920-21. After due notice from any one of the four Universities, the Minister may accept modifications of its courses for Specialist standing.

2. Honor degrees in Arts from other British Universities on courses which are deemed to be the equivalent of those prescribed in the calendars of the four Ontario Universities may be accepted for Specialist standing.

3. The courses shall extend over at least five years from Pass Matriculation or, as may be determined under the regulations of the University concerned, over four years from Honor Matriculation.

4. Candidates shall attend for at least two full academic years. Under the direction of the University they may substitute for one of those years, at least two Summer Sessions.

5. The standard for each year shall be that prescribed by the University for candidates taking Honor courses with the additional provision that in the final Honor work of the department in which Specialist standing is sought, the standard shall be at least Second Class Honors (66%).

6. The Minister shall have authority to deal with any case not covered under the above. Each University shall submit to the Minister a recommendation on any case whose merits justify special consideration.

REQUIREMENTS FOR DEGREES

The system of numbering employed in the designation of courses in this Announcement is this: a course that is usually given to students in the first year of the General Course is numbered somewhere between 10 and 19; courses for second year students in the General Course fall between numbers 20 and 29; for third year students in the General Course between 30 and 39 and for fourth year students in the General Course between 40 and 49. Courses usually given for first year students in an Honor Course are numbered somewhere between 100 and 199; for second year students in an Honor Course between 200 and 299; for third year between 300 and 399 and for fourth year between 400 and 499. A course given in the first term only is designated by the letter 'a' following the number; in the second term only by 'b' following the number; a number followed by S indicates that that course is offered in the summer session. Courses numbered from 1 to 9 are preparatory courses offered in a few subjects for which adequate provision for beginning work is not made in the Collegiates and High Schools of Ontario. Courses indicated by a number followed by 'G' are especially designed to meet the needs of candidates for the degree of Master of Arts. Courses indicated by a number followed by 'E' are for Extramural candidates for degrees. Thus German 30a means a course for third year students and offered in the first term only; Physics 400 is an honor course in Physics open to the fourth year Honor students. Latin 12S is a course offered in the summer session for those with first year qualifications.

B. A. GENERAL COURSE

The Department of Education of Ontario approves of a degree in this course as academic qualification for an ordinary High School Assistant's certificate.

All candidates for degrees must obtain at least 3 credits in Science in the first two years.

First Year

Subject	Hours Per Week	Credits
English 10	2	2
English 11	1	1
English 12	1	1
Latin 10	3	3
Mathematics 10a, 12b	3	3
Public Health and Bacteriology 10	1	1
Library Science 10a	1	½
Physical Training 10 or 11 or 12	2	1
And any ~~six~~ Three credits from the following:		
French 10	3	3
German 10	3	3
Greek 10	3	3
Hebrew 10	3	3
Botany 10, Zoology 10	6	4
Chemistry 10	6	4
Physics 10	5	3
Italian 100	3	3
Spanish 100	3	3

Second Year

English 20	2	2
English 21	1	1
English 22	1	1
Latin 20	3	3
Physical Training 20 or 21 or 22	2	1
and any ~~twelve~~ nine credits from the following:		
History 20	3	3
Mathematics 20, 23b, 25a	3	3
Mathematics 25a and 25b	2	2
French 20	3	3
German 20	3	3

	Hours Per Week	Credits
Greek 20	3	3
Hebrew 20	3	3
Botany 20, Zoology 20	6	4
Chemistry 20	6	4
Physics 20	5	3
Geology 20	4	3
Political Economy 20	2	2
Philosophy 20	1	1
Philosophy 21	1	1
Italian 200	3	3
Spanish 200	3	3
*French 10	3	3
*German 10	3	3
*Greek 10	3	3
*Hebrew 10	3	3
*Botany 10, Zoology 10	6	4
*Chemistry 10	6	4
*Physics 10	5	3
*Italian 100	3	3
*Spanish 100	3	3

Third Year

English 30	3	3
History 30	3	3
Philosophy 30	2	2
Philosophy 31	1	1
and any nine credits from the following:		
French 30	3	3
German 30	3	3
Greek 30 or 40	3	3
Hebrew 30	3	3
Latin 30 or 31 or 40	3	3
Political Economy 30	2	2
Botany 30, Zoology 30	5	3
Chemistry 30	5	3
Physics 30 or 40	5	3
Italian 300	3	3
Spanish 300	3	3
Geology 30	5	3
English 31	2	2
*History 20	3	3
*Mathematics, 20, 23b, 25a	3	3
*Mathematics 25a, 25b	2	2
*French 20	3	3
*German 20	3	3
*Greek 20	3	3
*Hebrew 20	3	3
*Botany 20, Zoology 20	6	4
*Chemistry 20	6	4
*Physics 20	5	3
*Geology 20	5	3

*All courses so indicated are options open only to those who have not already received credit for them.

	Hours Per Week	Credits
*Political Economy 20	2	2
*Philosophy 20	1	1
*Philosophy 21	1	1
*Italian 200	3	3
*Spanish 200	3	3
Fourth Year		
English 40, 41, 42	3	3
History 40a, 40b	3	3
History 42, 43	3	3
and any nine credits from the following:		
French 40	3	3
German 40	3	3
Greek 40 or 30	3	3
Latin 40 or 30 or 31	3	3
Hebrew 40	3	3
Italian 400	3	3
Spanish 400	3	3
History 44	2	2
Political Economy 40	2	2
Geology 40	5	3
Chemistry 40	5	3
Botany 40, Zoology 40	5	3
Physics 40	5	3
Philosophy 40	2	2
*French 30	3	3
*German 30	3	3
*Hebrew 30	3	3
*Political Economy 30	2	2
*Botany 30, Zoology 30	5	3
*Chemistry 30	5	3
*Physics 30	5	3
*Spanish 300	3	3
*Italian 300	3	3
*Geology 30	5	3
*English 31	2	2

*All courses so indicated are options open only to those who have not already received credit for them.

THEOLOGICAL OPTIONS

Theological students in affiliated colleges pursuing the General Course are restricted in their choice of options as follows:

Second Year—History 20 and Philosophy 20 must be taken.

Third Year—Theism or Evidences and Philosophy 21 must be taken for one of the options.

Biblical Greek (Greek 35) may be substituted for Greek 30 or 40.

Fourth Year—Biblical Greek (Greek 45) may be substituted for Greek 40 or 30.

Church History and Biblical Literature may be substituted for six optional credits.

NOTE—Church History calls for a course of lectures with mid-year and final examinations in the period of early church history (one hour a week) and either the earlier or the later period of English Church History (not less than two hours a week).

Theism, two hours a week. Lectures, essays and examinations.

Biblical Literature. Lectures two hours a week for two sessions (total, four hours) and examinations.

THE B A. HONOR COURSES

Department of Biology.

Requirements for Admission.—Honor Matriculation in four subjects, viz. English, Mathematics (Algebra, Geometry and Trigonometry), one of French or German, and one of Physics, Biology or Chemistry.

This course satisfies the academic requirements for the Science Specialist's certificate of the Department of Education of Ontario. For conditions see page 43.

First Year

	Hours Per Week	Credits
Library Science 10a	1	½
English 11	1	1
French 10 or German 10 (one not previously taken)	3	3
Botany 100 and Zoology 100	6	4
Chemistry 100	5	3
Geology 100	4	3
Physics 100	5	3
Physical Training 10 or 11 or 12	2	1

Second Year

English 20	2	2
English 22	1	1
German 10 or 20 (Authors only)	2	2
Botany 200 and Zoology 200	9	6
Chemistry 200	5	3
Geology 200	5	3
Physics 201	9	2
Physical Training 20 or 21 or 22	2	1

Third Year

~~French, Scientific~~	~~1~~	~~1~~
~~German, Scientific~~	~~1~~	~~1~~
Biology 300a, b	9	6
Biology 301a, b	6	4
Biology 302a, b		
Chemistry 300	5	3
~~Mineralogy 300~~	5	3
~~Physics 303~~	5	3
Chemistry 303a	6	2

Fourth Year

~~French, Scientific~~	~~1~~	~~1~~
~~German, Scientific~~	~~1~~	~~1~~
History	3	3
Biology 400	2	2
" 401a, b	6	4
" 402a, b	6	4
" 404	6	4
" 405	6	4

Department of Chemistry Courses III Entrance requirements (p 28)

Requirements for Admission.—~~Complete Pass Junior Matriculation~~ with Honor Matriculation in English, Chemistry, Physics and Mathematics.

NOTE —If Biology 100a, 100b, 200a and 200b are substituted for Geology 200a, 200b and 300, this course will be accepted by the Ontario Department of Education for the Science Specialists' Certificate.

First Year

	Hours Per Week	*Credits*
English 11	1	1
French 10 or German 10	3	3
Library Science 10a	1	½
Mathematics 102	1½	1½
Mathematics 104	1	1
Chemistry 101	2	2
Chemistry 102	6	3
Physics 100	5	3
Physical Training 10 or 11 or 12	2	1
Geology 100	4	3

Second Year

English 20	2	2
English 22	1	1
French 20 or German 20	3	3
Mathematics 204	2	2
Chemistry 201	9	5
Chemistry 300	5	3
Physics 201 (Sound and Light only)	5	2
Physical Training, 20 or 21 or 22	2	1

Third Year

Scientific French or German	1	1
Political Economy 20	2	2
Geology 200a and 200b	5	3
Physics 201 (Electricity and Magnetism)	4	3
Chemistry 301	2	2
Chemistry 302	6	3
Chemistry 304	4	4

Fourth Year

~~Scientific French or German~~	~~1~~	~~1~~
Economics 30 or 40	2	2
History 40 or 30	3	3
Geology 300	5	3
Chemistry 401	9	4
Chemistry 403	6	3
Chemistry 404a, 404b	2	2

Department of Classics

Requirements for Admission.—Complete ~~Pass Junior Matriculation with at least third class Honors (50%) in Honor~~ Matriculation Latin and Greek, English and Mathematics.

This course satisfies the academic requirements for the Classics Specialist's Certificate of the Department of Education of Ontario. For conditions see page 43.

First Year

	Hours Per Week	*Credits*
Library Science 10a	1	½
English 11	1	1
Botany 10, Zoology 10	6	4
French 10 or German 10 or Hebrew 10	3	3
Physical Training 10 or 11 or 12	2	1
Latin 100	4	4
Greek 100	4	4

Second Year

English, 20 21, 22	4	4
French 20 or German 20 or Hebrew 20	3	3
Physical Training 20 or 21 or 22	2	1
Latin 200 (including Roman History)	5	5
Greek 200 (including Greek History)	5	5

Third Year

English 30	3	3
Philosophy 30a	2	1
Latin 300	6	6
Greek 300	6	6

Fourth Year

History 42, 43	3	3
Latin 400	6	6
Greek 400	6	6

Department of Commercial Economics

Admission Requirements.—Pass Junior Matriculation complete or its equivalent.

A student who has Honor Junior Matriculation in English, Mathematics, one language and one science may reasonably expect to complete this course in three years from first registration.

In order that a student may pass from year to year of this course, third class honor standing (50%) in each of the courses in Economics and Commerce is demanded.

Each student may take four years of one language (modern) or two languages for two years each. No other combination is permitted.

First Year

English 10, 11, 12	4	4
Mathematics 10a, 12b	3	3
Public Health 10	1	1
Library Science 10a	1	½
Physical Training 10 or 11 or 12	2	1

	Hours Per Week	Credits
One of:		
Latin 10		
Greek 10		
French 10		
German 10		
Spanish 100	3	3
One of:		
Botany 10, Zoology 10		
Physics 10		
Chemistry 10	6	4
Mathematics 17	1	1
Commerce 10	3	3
Second Year		
Philosophy 21	1	1
English 20, 21, 22	4	4
Physical Training 20 or 21 or 22	2	1
One of:		
Latin 20		
Greek 20		
French 20		
German 20		
Spanish 200	3	3
One of:		
Botany 20, Zoology 20	6	4
Physics 20	5	3
Chemistry 20	6	4
Geology 20a, b	4	3
Mathematics 20, 23b, 25a	3	3
History 20	3	3
Mathematics 27	1	1
Commerce 20	3	3
Economics 200	2	2
Economics 201a	2	1
Economics 202b	2	1
Third Year		
English 30	3	3
History 30	3	3
One of:		
French 30		
German 30		
Spanish 300		
*French 10		
*German 10		
*Spanish 100	3	3
One of:		
Botany 30, Zoology 30	5	3
Physics 30	5	3
Chemistry 30	5	3
Geology 30a, b	5	3
Mathematics 30	3	3
Economics 300	2	2
Economics 301	2	2
Commerce, 30, 31, 32	3	3

Fourth Year

	Hours Per Week	Credits
English, 40, 41, 42	3	3
History 40	3	3
History 42, 43	3	3
One of:		
French 40		
German 40		
Spanish 400		
*French 20		
*German 20		
*Spanish 200	3	3
Economics 400	3	3
Economics 401b	3	1½
Economics 402a	3	1½
Economics 403b	2	1
Economics 404b	2	1
Commerce 40a	2	1
Commerce 41b	2	1
Commerce 42a	2	1
Commerce 43b	2	1

*For those who have not already received credit for them.

Department of English and History.

Requirements for Admission.—Complete ~~Pass Junior Matriculation~~ with Honor Matriculation, ~~at least third class (50%)~~, in English ~~and History~~, Mathematics ~~and Latin~~.

This course satisfies the academic requirements in English and History for the Specialists' Certificate of the Department of Education of Ontario, except that for this purpose Hebrew may not be chosen as one of the minor honor subjects. French 10 must be elected by those who do not choose French as an honor subject, and Latin 10 by those who do not choose Latin as an honor subject. For conditions see page 43.

First Year

	Hours Per Week	Credits
Library Science 10a	1	½
Physical Training 10 or 11 or 12	2	1
Botany 10, Zoology 10, or Chemistry 10 or Physics 10	6	4
~~Or, of French 10, German 10, Greek 10, Hebrew 10, Latin 10, Spanish 10, one of the languages not chosen as an honor option~~	~~3~~	~~3~~
English ~~100~~	~~4~~	~~4~~
History 100	2	2
Any two of:		
French 100	3	3
German 100 or Spanish 100	3	3
Greek 100	4	4
Latin 100	4	4
Hebrew 100	4	4

Second Year

	Hours Per Week	Credits
Physical Training 20 or 21 or 22	2	1
Political Economy 20, Philosophy 21	3	3
Or, of French 20, German 20, Greek 20, Hebrew 20, Latin 20, Spanish 20, the pass language elected in the first year	3	3
English 200, 201, 202	5	5
History 200	3	3
Any two of:		
French 200	3	3
German 200 or Spanish 200	3	3
Greek 200	5	5
Latin 200	5	5
Hebrew 200	4	4

Third Year

Political Economy 20 or 30	2	2
English 300, 301	6	6
History 300, 301	4	4
Any one of:		
French 300	3	3
German 300 or Spanish 300	3	3
Greek 301	3	3
Latin 301	3	3
Hebrew 300	4	4

Fourth Year

History 42, 43	3	3
English 400, 401, 402, 403	7	7
History 400, 401, 404	6	6
One of:		
French 400	3	3
German 400 or Spanish 400	3	3
Greek 401	3	3
Latin 401	3	3
Hebrew 400	4	4

English and Latin

Admission Requirements.—Complete Pass Junior Matriculation with Honor Matriculation (at least 50%) in English, Mathematics, Latin and any other subject of Honor Matriculation.

First Year

Botany 10 and Zoology 10, or Chemistry 10 or Physics 10	6	4
Physical Training 10 or 11 or 12	2	1
Library Science 10a	1	½
French 10 or German 10	3	3
Greek 1	3	3
English 100	4	4
Latin 100	4	4

Second Year

	Hours Per Week	Credits
French 20 or German 20	3	3
Physical Training 20 or 21 or 22	2	1
History 20	3	3
Greek 10	3	3
English 200, 201, 202	5	5
Latin 200	5	5

Third Year

Greek 20	3	3
Philosophy 30	2	2
History 30	3	3
English 300, 301	6	6
Latin 300	6	6

Fourth Year

History 40	3	3
English 400, 401, 402, 403	7	7
Latin 400	~~6~~	~~6~~

Department of English and French. complete Entrance requirements with 2nd honor matriculation in English mathematics alpha and one French German or Spanish & science

Requirements for Admission. ~~Honor matriculation or the equivalent in English, French, Mathematics and German or any other subject of Honor Matriculation.~~

This course is accepted by the Department of Education of Ontario as academic qualification for a Specialist's Certificate in English and French. For conditions see page 43.

First Year

Library Science 10a	1	½
Latin 10	3	3
Botany 10 and Zoology 10, or Physics 10 or Chemistry 10	6	4
Physical Training 10 or 11 or 12	2	1
French 100	3	3
English 100	~~5~~ 4	~~5~~ 4
German 100 or Spanish 100	3	3

Second Year

Latin 20	3	3
Physical Training 20 or 21 or 22	2	1
French 200	3	3
German 200 or Spanish 200	3	3
English 200, 201, 202	5	5
History 200	3	3

Third Year

French 301	1	1
French 300	3	3
German 300 or Spanish 300	3	3
English 300, 301	6	6
History 300, 301	4	4

Fourth Year

French 400	~~4~~ 3	~~4~~ 3
English 400, 401, 402, 403	7	7
History 400, ~~402~~, 404	6	6

Complete Entrance requirements (p 28) and Honor matriculation in English, Mathematics (Algebra and Geometry), French, German or Spanish or a language, Science.

Department of English and German or Spanish.

Requirements for Admission.—Honor matriculation (or the equivalent) in English, Mathematics, French, German or any other subject of Honor Matriculation.

This course is accepted by the Department of Education of Ontario as academic qualification for a Specialist's Certificate in English and German or Spanish. For conditions see page 43.

First Year

	Hours Per Week	*Credits*
Library Science 10a	1	½
Latin 10	3	3
Botany 10 and Zoology 10, or Physics 10 or Chemistry 10	6	4
Physical Training 10 or 11 or 12	2	1
German 100 or Spanish 100	3	3
English 100	4	4
French 100	3	3

Second Year

Latin 20	3	3
Physical Training 20 or 21 or 22	2	1
French 200	3	3
German 200 or Spanish 200	3	3
English 200, 201, 202	5	5
History 200	3	3

Third Year

French 300	3	3
German 300 or Spanish 300	3	3
English 300, 301	6	6
History 300, 301	4	4

Fourth Year

German 400 or Spanish 400	3	3
English 400, 401, 402, 403	7	7
History 400, 401, 404	6	6

Department of French and German or Spanish.

Requirements for Admission.—Complete Pass Junior Matriculation with Honor Matriculation in English, French, Mathematics and German or any other subject of Honor Matriculation.

This course is accepted by the Department of Education of Ontario as academic qualification for a Specialist's Certificate in French and German or Spanish. For conditions see page 43.

First Year

Library Science 10a	1	½
Latin 10	3	3
Botany 10 and Zoology 10, or Physics 10 or Chemistry 10	6	4
Physical Training 10 or 11 or 12	2	1
English 100	4	4
French 100	3	3
German 100 or Spanish 100	3	3

Second Year

	Hours Per Week	Credits
Latin 20	3	3
History 30	3	3
Physical Training 20 or 21 or 22	2	1
English 200, 201, 202	5	5
French 200	3	3
German 200 or Spanish 200	3	3

Third Year

History 40	3	3
Philosophy 30	2	2
French 300	3	3
French 301	1	1
German 300 or Spanish 300	3	3
English 300, 301	6	6

Fourth Year

French 400,	3	3
German 400 or 401, Spanish 400	4	4
English 400, 401, 402, 403	7	7

Department of French and Latin.

Requirements for Admission.—Complete Pass Junior Matriculation with Honor Matriculation (at least 50%) in Latin, French, English and Mathematics.

First Year

English, 11	1	1
Botany 10 and Zoology 10, or Physics 10 or Chem. 10	6	4
Library Science 10a	1	½
Physical Training 10 or 11 or 12	2	1
German 10 or Greek 1	3	3
English 20, 22	3	3
Latin 100	4	4
French 100	3	3

Second Year

Physical Training 20 or 21 or 22	2	1
History 100	2	2
German 20 or Greek 10	3	3
English 30	3	3
Latin 200	5	5
French 200	3	3

Third Year

History 30	3	3
Philosophy 30	2	2
German 30 or Greek 20	3	3
French 300, 301	4	4
Latin 300	7	7

Fourth Year

History 40	3	3
English 40	3	3
Freneh 400, 401	4	4
Latin 400	7	7

Department of Geology

Requirements for Admission.—Junior Pass Matriculation with Honors in English, Mathematics (Algebra, Geometry and Trigonometry); either German or French, one Science (Physics, Biology or Chemistry).

This course satisfies the academic requirements for the Science Specialist's Certificate of the Department of Education of Ontario. For conditions see page 43.

First Year

	Hours Per Week	*Credits*
English 11	1	1
Library Science 10a	1	½
French 10 or German 10 (one not previously taken)	3	3
Chemistry 100	6	4
Physics 100	5	3
Biology 100a, b	6	4
Geology 100	4	3

Second Year

English 20	2	2
English 22	1	1
German 20 (Authors only)	2	2
Chemistry 200	5	3
Physics 201	9	5
Biology 200a, 200b	9	6
Geology 200a, 200b	5	3

Third Year

French 35	1	1
German 35	1	1
Physics 303	5	3
Mathematics 25a, 25b	2	2
Geology 300	4	3
Geology 301	3	2
Geology 302	3	3
Geology 303	2	2

Fourth Year

French 45	1	1
German 45	1	1
History 40	3	3
Geology 400	20	12

Department of Mathematics and Physics

Requirements for Admission.—Complete Pass Junior Matriculation with Honor Matriculation in English, Physics and Mathematics, and in any other one subject (either Latin or Chemistry or Biology).

This course leads to the Mathematics and Physics Specialists' Certificate of the Department of Education of Ontario. For conditions see page 43.

First Year

Library Science 10a	1	½
English 11	1	1
Physical Training 10 or 11 or 12	2	1

	Hours Per Week	Credits
Latin 10	3	3
French 1 or German 1 (the one not taken at Matriculation)	3	3
Chemistry 10, or Botany 10 and Zoology 10	6	4
Physics 100	5	3
Physics 101	3	1
Mathematics 100	1½	1½
Mathematics 101b	2	1
Mathematics 102	1½	1½
Mathematics 103	1	1
Mathematics 104	1	1
Mathematics 107b (optional)	2	1

Second Year

English 20	2	2
English 22	1	1
Physical Training 20 or 21 or 22	2	1
Physics 200	2	2
Physics 201	8½	4½
Mathematics 200	2	2
Mathematics 201a	1	1
Mathematics 202b	2	1
Mathematics 204	2	2
Mathematics 206	1	1

Third Year

Candidates will take either Group I or Group II. Those wishing to specialize in Mathematics will take Group I; those in Physics, Group II.

GROUP I.

English 30	3	3
Physics 303	5	3
Physics 304	1	1
Mathematics 303a	2	1
Mathematics 304	2	2
Mathematics 305a	2	1
Mathematics 305b	2	1
Mathematics 306	2	2
Mathematics 308b	2	1

GROUP II.

English 30	3	3
Mathematics 304	2	2
Physics 300	2	2
Physics 301	5	3
Physics 302	1	1
Physics 303	5	3
Physics 304	1	1

Fourth Year

Candidates will take either Group I or Group II. Those wishing to specialize in Mathematics will take Group I; those in Physics, Group II.

GROUP I.	*Hours Per Week*	*Credits*
History 42, 43	3	3
Physics 400 or 402	2	2
Mathematics 400a	2	1
Mathematics 401b	2	1
Mathematics 402	1	1
Mathematics 403	2	2
Mathematics 404b (optional with 407b)	2	1
Mathematics 407a	2	1
Mathematics 407b	2	1
Mathematics 408	1	1

GROUP II.		
History 42, 43	3	3
Mathematics 400a	2	1
Physics 400	2	2
Physics 401	2	2
Physics 402	2	2
Physics 404	9	3
Physics 405	1	1

Department of Philosophy.

This course is at present open only to students of Assumption College.

First Year

See page 29.

Second Year

English 20	2	2
English 22	1	1
Latin 20	3	3
Religious Knowledge 20	1	1
Physical Training 20 or 21 or 22	2	1
Philosophy 200	3	3
Philosophy 220	2	2
Philosophy 230	2	2
Six credits from:		
History 20	3	3
Mathematics 20, 23b, 25a	3	3
French 20	3	3
German 20	3	3
Greek 20	3	3
1 Science 20	6	4

Third Year

	Hours Per Week	Credits
English 30	3	3
Philosophy 300, 330	3	3
Philosophy 320	3	3
Philosophy 340	3	3
Six credits from:		
French 30	3	3
Greek 30	3	3
German 30	3	3
History 30	3	3
Latin 30	3	3
Religious Knowledge 30	3	3
1 Science 30	5	3
Political Economy 20	2	2

Fourth Year

English 40, 41, 42	3	3
Philosophy 400, 410	3	3
Philosophy 420	3	3
Philosophy 430	3	3
Six credits from:		
French 40	3	3
Latin 40	3	3
Greek 40	3	3
German 40	3	3
History 40	3	3
Religious Knowledge 40	3	3
Political Economy 30 or 40	2	2
1 Science 40	5	3

Department of Physics.

See Department of Mathematics and Physics, pages 56ff.

Department of Political Science.

First Year

See page 29.

Second Year

English 20	2	2
English 21, 22	2	2
Philosophy 21	1	1
Physical Training 20 or 21 or 22	2	1
Political Economy 200, 201, 202	4	4
History 200	3	3
Any two of:		
French 20	3	3
German 20	3	3
Latin 20	3	3
Greek 20	3	3
Hebrew 20	3	3
Chemistry 20	5	3

Third Year	Hours Per Week	Credits
English 30	3	3
Political Economy 300, 301	4	4
History 300, 301	4	4
Government and Law 305, 306, 307	3	3
Any one of:		
French 30	3	3
German 30	3	3
Latin 30	3	3
Greek 30 or 40	3	3
Hebrew 30	3	3
Fourth Year		
History 42, 43	3	3
English 40, 41, 42	3	3
Political Economy 400, 401, 402	4½	4½
Political Economy 403, 404	2	2
History 400, 401, 404	6	6
Government and Law 405, 406, 407, 408	4	4

Department of Political Science.

This second course is open only to those students who are registered with some recognized Theological body as candidates for the Christian ministry.

A student who presents Honor Matriculation in English, Mathematics, Latin and Greek may reasonably expect to complete this course in three years.

First Year		
English 10, 11, 12	4	4
Latin 10	3	3
Mathematics 10, 12	3	3
Public Health and Bacteriology 10	1	1
Library Science 10a	1	½
Physical Training 11 or 12	2	1
Greek 1 or 10	3	3
History 20	3	3
Second Year		
English 20	2	2
English 21, 22	2	2
Philosophy 21	1	1
Physical Training 20 or 21 or 22	2	1
Political Economy 200, 201, 202	4	4
History 200	3	3
Greek 10 or 20	3	3
Hebrew 10	3	3
Third Year		
English 30	3	3
History 42, 43	3	3
Political Economy 300, 301	4	4
History 300, 301	4	4
Philosophy 20	1	1
Theism or Evidences	2	2
Greek 35 or 20a and 35b	3	3

Fourth Year	Hours Per Week	Credits
English 40, 41, 42	3	3
Political Economy 400, 401, 402	4½	4½
Eccl. History	2	2
English Church History 1 or 2	4	2
Bible Literature	4	2
Greek 45	3	3

Department of Romance Languages.

Requirements for Admission.—Complete Pass Junior Matriculation with Honor Matriculation in English, Mathematics, French and any one other subject.

Under the conditions specified on page 43 this course satisfies the academic requirements for the French and Spanish Specialist's Certificate of the Department of Education.

First Year		
Latin 10	3	3
English 11	1	1
Library Science 10a	½	½
Botany 10 and Zoology 10, or Chemistry 10, or Physics 10	6	4
Physical Training 10 or 11 or 12	2	1
French 100	3	3
Italian 100	3	3
Spanish 100	3	3

Second Year		
Latin 20	3	3
English 20	2	2
English 21, 22	2	2
Physical Training 20 or 21 or 22	2	1
French 200	3	3
Spanish 200	3	3
Italian 200	3	3

Third Year		
Latin 30	3	3
History 30	3	3
Philosophy 30	2	2
French 300, 301	4	4
Spanish 300	3	3
Italian 300	3	3

Fourth Year		
Latin 40	3	3
History 42, 43	2	2
History 40	3	3
French 400	3	3
Italian 400	3	3
Spanish 400	3	3

Department of General Science.

Requirements for Admission.—Complete Pass Junior Matriculation and Honor Matriculation in Mathematics, English, one of French, German; one of Physics, Biology, Chemistry.

This course qualifies for the Science Specialist's Certificate of the Ontario Department of Education. For conditions see page 43.

	Hours Per Week	Credits
First Year		
Latin 10	3	3
English 11	1	1
French 10 or German 10	3	3
Library Science 10a	1	½
Mathematics 104	1	1
Physical Training 10 or 11 or 12	2	1
Biology 100a, 100b	6	4
Chemistry 100	5	3
Physics 100	5	3
Geology 100	3	3
Second Year		
English 20	2	2
English 22	1	1
French 20 or German 20 (Authors only)	2	2
Mathematics 102	2	2
Physical Training 20 or 21 or 22	2	1
Biology 200a, 200b	9	5
Chemistry 200	5	3
Physics 201	8	5
Third Year		
History 30	3	3
Geology 200	5	3
Biology 300a, 300b	9	6
Chemistry 300	5	3
Physics 200, 305	4	4
Fourth Year		
History 40	3	3
Biology 400, 400a and b, or 401a and b, or 402a and b	8	5½
Chemistry 400	6	3
Physics 401, 403	13	8

The B.A., M.D. Course.

Admission Requirements.—Honor Matriculation in English and Mathematics, in either French or German; and in one of Physics, Biology, Chemistry.

In order to obtain the degree of B.A. at the end of the fourth year of this course, each student must obtain 50% on each Honor Science subject, and an average of at least 60% on the Sciences combined of each year.

First Year		
English 11	1	1
Library Science 10a	1	½
German 1 or French 1 (language not previously taken)	3	3
Mathematics 104	1	1

	Hours Per Week	Credits
Physical Training 10 or 11 or 12	2	1
Physics 100	5	3
Biology 100	5	3
Chemistry 100	5	3
Geology 100	5	3
Second Year		
English 20	2	2
English 21, 22	2	2
German 10 or 20 (authors only) or French 10 or 20 (authors)	2	2
Physical Training 20 or 21 or 22	2	1
Physics 200	5	3
Biology 200	6	4
Chemistry 200	6	4
Third Year		
English 30	3	3
Scientific French and German	2	2
History 42, 43	3	3
Biology 300, 400	8	6
Chemistry 300	6	4

Fourth Year

First year of the Four Year Medical Course.

PREMEDICAL COURSE

Students who purpose entering Western Medical School must offer the following preliminary educational qualifications. Registration in these Premedical years will begin in 1922.

Students who have completed these two years may enter the first year in Medicine and proceed to the degree of M.D., or into the third year in the General Course Arts and proceed to the degree of B.A.

First Year		
Library Science 10a	1	½
English 10, 11, 12	4	4
Mathematics 14	2	2
French 1 or German 1 (language not previously taken)	3	3
Physical Training 10 or 11 or 12	2	1
Physics 10	5	3
Chemistry 10	6	4
Biology 10a, 20b	6	4
Second Year		
English 20, 21, 22	4	4
French 10	3	3
German 10	3	3
Physical Training 20 or 21 or 22	2	1
Physics 20	5	3
Chemistry 20	6	4
Biology 21	6	4

DESCRIPTION OF COURSES

Department of Botany

N. C. HART.....Associate Professor
MARGARET A. MCINTOSH ..... Instructor

Students taking work in this department will be required to make a deposit of two dollars with the Head of the Department to cover supplies and breakages. A refund of any surplus will be made at the end of the course.

10. **Introductory Botany** for General Course, and Medical students; a course dealing with the general principles of Botany.

2 lectures and 4 laboratory hours per week; 2 credits. Prerequisite: Junior Matriculation.

Text-book: Bergen and Caldwell, *Introduction to Botany.*
References Kerner and Oliver, *Natural History of Plants.*
Gager, *Fundamentals of Botany.*
Cavers, *Plant Biology.*
Ganong, *The Living Plant.*

20. **Phanerogamic Botany** for General Course students; a course dealing with the morphology and classification of selected groups of the Seed Plants.

2 lectures and 4 laboratory hours per week: 2 credits.

Prerequisite: Botany 10, or Honor Matriculation in Biology with laboratory work in Botany, approved by the Head of the Department.

Text-book: Coulter, Barnes and Cowles, *Text-book of Botany, Vol. I.*
References: Coulter, *Morphology of Gymnosperms.*
Morphology of Angiosperms.
Strasburger, *Text-book of Botany.*
Gray, *New Manual of Botany.*
Britton and Brown, *Illustrated Flora.*
Jeffery, *Anatomy of Woody Plants.*

30. **Cryptogamic Botany** for General Course students; a course dealing with the Algae, Mosses, and Ferns.

2 lectures and 4 laboratory hours per week; 2 credits, Prerequisite: Botany 20.

Text-book: Coulter, Barnes and Cowles; *Text-book of Botany. Vol. I.*
References Strasburger, *Text-book of Botany.*
Grout, *Mosses.*
Marshall, *Mosses and Lichens.*
Campbell, *Mosses and Ferns.*

40. **Ecology and Economic Botany** for General Course students; a course dealing with the classification, ecology, and economic importance of Canadian plants. Special emphasis is placed on the economic Fungi.

2 lectures and 4 laboratory hours per week; 2 credits.

Prerequisite: Botany 30.

Text-books: Coulter, Barnes and Cowles; *Text-book of Botany. Vol. I.*
Text-book of Botany. Vol. II.
References, Duggar, *Fungous Diseases of Plants.*
Conn, *Bacteria, Yeasts and Molds in the Home.*
Schimper, *Plant Geography.*
Harshberger, *A Text-book of Mycology and Plant Pathology.*

Honor Courses

100. **Introductory Botany** for Honor Biology, Honor Science, and B.A., M.D. students; a course dealing with the general principles of Botany illustrated by selections from the whole plant kingdom.

2 lectures and 4 hours laboratory work per week; 2 credits.

Prerequisites: full entrance requirements for the Honor Biology, Honor Science, or B.A., M.D. course.

Text-book: Gager, *Fundamentals of Botany.*
References: Bergen and Davis, *Principles of Botany*
Kerner and Oliver, *Natural History of Plants.*
Coulter, Barnes and Cowles; *Text-book of Botany.*
Strasburger, *Text-book of Botany.*
Ganong, *The Living Plant.*
Bower, *Botany of the Living Plant.*

200. **Phanerogamic Botany** for students in the Honor Biology and Honor Science Courses; a course dealing with the evolution, external morphology, and anatomy of the Spermatophyta.

2 lectures and 6 laboratory hours per week; 2½ credits.

Prerequisite: Botany 100 and Zoology 100.

Text book: Coulter, Barnes and Cowles, *Text-book of Botany.*
Gray, *New Manual of Botany.*
References: Coulter, *Morphology of Gymnosperms.*
Morphology of Angiosperms.
Strasburger, *Text-book of Botany.*
Goebel, *Organography of Plants.*
Chamberlain, *The Living Cycads.*
Jeffery, *Anatomy of Woody Plants.*

300. **Cryptogamic Botany** for students in Honor Biology; and the Honor Sciences; a course dealing with the morphology, classification, and evolution of the Cryptogams.

2 lectures and 6 laboratory hours per week; 2½ credits.
Prerequisite: Botany 200 and Zoology 200.

Text-book Coulter, Barnes and Cowles, *Text-book of Botany.*
Strasburger, *Text-book of Botany.*
References: Campbell, *Mosses and Ferns.*
Bower, *Origin of a Land Flora.*
Tilden, *Minnesota Algae—Myxophyceae.*
Setchel and Gardner, *Algae of the Pacific Coast.*
Collins, *Fresh Water Algae of North America.*
Marshall, *Mosses and Lichens.*

301. **Ecology and Taxonomy** for Honor Biology and Honor Science students; a course dealing with the principles of Ecology, and the Classification of the Spermatophyta.

2 lectures and 4 laboratory hours per week; 2 credits.
Prerequisite: Botany 200, Zoology 200, Botany 302.

Text-book: Gray, *New Manual of Botany.*
Coulter, Barnes and Cowles, *Text-book of Botany, Vol.* 2.
References Britton & Brown, *Illustrated Flora.*
Bailey, *Cyclopedia of Horticulture.*
Engler and Prantl, *Pflanzenfamilien.*
Warming, *Oecology of Plants.*
Schimper, *Plant Geography.*
Sargent, *Plants and their Uses.*
Kraemer, *Applied and Economic Botany.*
Brown, *Forest Products, Their Manufacture and Use.*
Reports of special investigations.

305. **Phanerogamic Collection** for students in Honor Biology and Honor Science; before entering on course 301 students shall make a collection of at least one hundred Spermatophytes. Particulars on application to the Head of the Department.

A maximum of 2 credits will be allowed.

Text Book: Gray, *New Manual of Botany.*
References: See 301 above.

400. **Historical Biology.** See Zoology 400.

401. **Plant Physiology** for students in Honor Biology and Honor Science; a course dealing with the Physiology of plants.

2 lectures and 6 laboratory hours per week; 2½ credits.
Prerequisite: Botany 300 or 301 and Zoology 300.

Text-book: Livingston, *Palladin's Plant Physiology.*
References: Jost, *Plant Physiology.*
Pfeffer, *Physiology of Plants.*
MacDougall, *Plant Physiology.*
Detmer-Moor, *Practical Plant Physiology.*
Clements, *Plant Physiology and Ecology.*
Green, *Vegetable Physiology.*
Sorauer, *A Treatise on the Physiology of Plants.*
Reports of special investigations.

402. **Phytopathology and Mycology** for Honor Biology and Honor Science students; a course dealing with plant diseases and the classification, morphology and structure of Fungi.

2 lectures and 4 laboratory hours per week; 2 credits.

Text-book: Coulter, Barnes and Cowles, *Text-book of Botany.*
Dugger, *Fungous Diseases of Plants.*
References: Marshall, *The Mushroom Book.*
Atkinson, *Mushrooms and Toadstools.*
Harshberger, *Mycology and Plant Pathology.*
Smith, *Bacterial Diseases of Plants.*
Conn, *Bacteria Yeasts and Molds.*
Bulletins of Departments of Agriculture.
McIlvaine and Macadam, *One Thousand American Fungi.*
Lister, *Mycetozoa.*
Jordan, *General Bactertology.*

405. **Cryptogamic Collection** for students in Honor Biology and Honor Science courses; before entering on Botany 401 students shall make a collection of at least fifty cryptogams from selected groups.

Consult with the Head of the Department for further particulars.

A maximum of 2 credits is allowed for a superior collection.

For Text-Books and References see Botany 300 and 401.

404. **Cytology and Histology** for Honor Biology students; a course dealing with the cytology and anatomy of the Pteridophyta and Spermatophyta.

2 lectures and 4 laboratory hours per week; 2 credits.

Text-book: Jeffery, *Anatomy of Woody Plants.*
References: Sharp, *An Introduction to Cytology.*
Stevens, *Plant Anatomy.*
Scott, *Structural Botany.*
Hanausek, *Microscopy of Technical Products.*
Winton, *Microscopy of Vegetable Foods.*
Goebel, *Organography of Plants.*
Reports of Special Investigations.

Department of Chemistry

A. J. SLACK	Professor
E. G. STURDEVANT,	Associate Professor
S. N. BEST,	Associate Professor
H. D. JACKSON,	Assistant Professor
MISS M. MCLEAN,	Assistant
MISS G. ROWNTREE,	Assistant
C. W. CHAPMAN,	Student Assistant

10. **General Chemistry,** a course of experimental lectures and laboratory work upon the metallic and non-metallic elements and their principal compounds, and an

introduction to the fundamental laws of chemistry. The laboratory work consists of experiments covering the principles discussed and demonstrated in the lectures. Elementary Qualitative and Quantitative Analysis. Prescribed for all first year Premedical students and optional for first year General Course Arts students.

2 lectures and 4 laboratory hours per week; 4 credits.

Text-books: Alexander Smith, *General Chemistry for Colleges.*
Alexander Smith, *Laboratory Manual.*
Prescott & Johnson, *Qualitative Chemical Analysis.*
Blasdale, *Principles of Quantitative Analysis.*
Sutton, *Volumetric Analysis.*
Treadwell & Hall, *Quantitative Analysis.*

20. **Qualitative and Quantitative Analysis;** optional for second year students in the General Course. This is a laboratory course covering the principles of Qualitative and Quantitative analysis; the laboratory work is largely individual in character, each student being required to work out a sufficient number of unknown compounds to ensure a working knowledge of the subject.

6 hours per week; 3 credits.

Prerequisite: Chemistry 10.

Text-books: Prescott and Johnson, *Qualitative Chemical Analysis.*
Blasdale, *Principles of Quantitative Analysis.*
Sutton, *Volumetric Analysis.*
Treadwell and Hall, *Quantitative Analysis.*

21a. **Organic Chemistry** for second year Medical students.

3 lectures and 5 laboratory hours per week during first term.

Text-book: Perkin and Kipping, *Organic Chemistry.*

30. **Organic Chemistry;** optional for third year students in the General Course. A course of lectures and demonstrations on the fatty hydrocarbons and their derivatives; the carbohydrates, proteins, and alkaloids. Labora-

tory work consists of the preparation, identification and estimation of the simpler organic compounds, organic acids, alkaloids, etc.

2 lectures and 3 laboratory hours per week; 3 credits.

Prerequisite: Chemistry 10 and 20.

Text-book: Perkin and Kipping, *Organic Chemistry.*

40. A course of lectures upon **Physical Chemistry** with advanced laboratory work in Quantitative Analysis, and Physico-Chemical Measurements. Optional for fourth year students in the General Course.

2 lectures and 3 laboratory hours per week; 3 credits.

Prerequisites: Chemistry 10, 20, 30.

Text-books: Treadwell and Hall, *Quantitative Analysis.*
Lincoln, *Physical Chemistry.*
Findlay, *Practical Physical Chemistry.*

Honor Courses

100. **Inorganic Chemistry;** for Honor Biology, Honor Science and B.A., M.D., students.

An advanced course of experimental lectures in General Chemistry with a laboratory course on General Chemistry and Qualitative Analysis.

2 lectures and 3 laboratory hours per week; 3 credits.

Prerequisites: Chemistry 10 or Upper School Chemistry.

101. **Inorganic Chemistry,** for Honor Chemistry students. Lecture course only in Advanced Inorganic Chemistry with Chemistry 100.

2 lectures per week; 2 credits.

102. **Laboratory Course:** Advanced Inorganic Chemistry and Qualitative Analysis, for Honor Chemistry students.

1 lecture, 5 hours laboratory per week; 3 credits.

200. **Elementary Quantitative Analysis,** for Honor Biology, Honor Science and B.A., M.D. students.

1 lecture and 8 laboratory hours per week during first term; 3 credits.

201. **Elementary and Advanced Quantitative Analysis,** for Honor Chemistry students.

1 lecture, 8 laboratory hours per week; 5 credits.

300. **Organic Chemistry;** for Honor Biology, Honor Science, B.A., M.D. and Honor Chemistry students, (second year) the hydrocarbons and their derivatives; the carbohydrates, etc.; laboratory course upon organic preparations, identification, etc.

2 lectures and 3 laboratory hours per week; 3 credits.
Prerequisite: Chemistry 100, 200.

301. **Advanced Organic Chemistry** for Honor Chemistry students.

2 lectures per week; 2 credits.

302. **Advanced Organic Chemistry Laboratory;** for Honor Chemistry students.

6 hours laboratory per week; 3 credits.
Text-book: Gatterman.

303b **Physiological Chemistry;** the chemistry of carbohydrates, fats, proteins, salivary, gastric and intestinal digestion; bile, muscular and nervous tissue; blood, milk, urine, metabolism.

2 lectures and 4 laboratory hours per week; second term; 2 credits.

Prerequisites: Biology 200 and 200b, Chemistry 100, 200.

304 **Physical and Electro Chemistry.**
4 lectures per week; 4 credits.

400 **Elementary Physical Chemistry;** for Honor Science students; laboratory course in Quantitative Analysis during first term; Physico-chemical and Electro-chemical measurements during second term.

2 lectures and 3 laboratory hours per week; 3 credits.
Prerequisite: Chemistry 300.

401 **Physico-chemical Measurements.**
9 laboratory hours per week; 4 credits.

402 **Applied Chemistry.**
1 lecture per week; 1 credit.

403 **Special Problems in Chemistry.**
6 hours laboratory per week; 3 credits.

404a **Phase Rule.**
2 lectures per week during first term; 1 credit.

404b **History of Chemistry.**
2 lectures per week during second term; 1 credit.

Department of Classics

University College of Arts.

DEAN W. S. FOX, Professor
K. P. R. NEVILLE, Professor
H. W. AUDEN, Associate Professor

Assumption College

PRESIDENT J. T. MUCKLE, Professor
Rev. WILFRID SHARPE, Professor

Huron College

PRINCIPAL C. C. WALLER, Professor
REV. F. ANDERSON Professor

It is the aim of the instructors of this department to present the classical literatures as interpretations of ancient Greek and Roman life and thought, as portrayals of a civilization of which our own is but a later phase, and as comprising the sources and models of the various departments of modern literature. A thorough knowledge of the grammar and syntax of Greek and Latin will be required on the ground that they are indispensable instruments for the adequate comprehension of the literature, and the correct writing of prose will be insisted upon as the best means of obtaining a command of these instruments. Great stress will be laid upon the student's power to read the classical literature independently and to produce accurate and finished translation. Much Latin and Greek will be read at sight in the exercises of the classroom, and where the standard allows, fifty per cent. of the marks obtainable on each examination of the pass courses in classics will be allotted to the translation of sight passages.

LATIN

Each student in any of the Latin courses is required to have at least one of the following Latin grammars: Bennett, Allyn and Bacon, Boston; Allen and Greenough, Ginn and Company, New York; Gildersleeve and Lodge, Heath and Co., Boston; and An Elementary Latin Dictionary, American Book Co.

10 Caesar, *De Bello Civili I*, Cicero *In Catilinam I, III*; Horace, *Odes*, I, 1, 2, 4, 5, 9, 10, 14, 22, 24, 31, 38; II, 3, 10, 14, 15, 16, 17, 18, 20; III, 1, 2, 8, 9, 13, 18, 21, 23, 29, 30; IV, 3, 5, 7, 12, 15; composition; sight translation.

3 hours per week; 3 credits.

Prerequisite: Middle School Latin.

PROFESSORS FOX, SHARPE AND AUDEN.

Texts: Moberly, *Caesar, Civil War I* (Oxford).
Auden, *Cicero, In Catilinam* (Blackwood).
Page, *Horace, Odes* (Macmillan Elementary Classics).
Bennett, *New Latin Composition* (Allyn and Bacon).

20 Livy *XXI-XXX*; Virgil, *Aeneid VI*; selected Latin poetry; composition; sight translation.

3 hours per week; 3 credits.

Prerequisites: Latin 10, or Upper School Latin.

PROFESSORS SHARPE AND AUDEN.

Texts: Papillon and Haigh, *Virgil, Aeneid IV-VI* (Oxford).
Freeman, *A Selection of Latin Poetry* (Oxford).
North and Hillard, *Latin Composition* (Copp, Clark).

30 Literature of the Early Empire. Ovid, Horace, Seneca, Tacitus, Pliny the Younger, Juvenal, Martial, Petronius; lectures on the literature and the history of the Empire; composition; sight translation. (To be given in 1923-24).

3 hours per week; 3 credits.

Prerequisite: Latin 20.

PROFESSORS SHARPE AND AUDEN.

Texts: A. C. B. Brown, *Selections from the Latin Literature of the Early Empire* (Oxford).
North and Hillard, *Latin Composition* (Copp, Clark).

31 Plautus, *Rudens;* Terence, *Andria;* Catullus; Cicero, *De Amicitia, De Senectute;* lectures on the literature and the history of the Republic; composition; sight translation. (To be given 1924-25).

3 hours per week; 3 credits.

Prerequisite: Latin 20.

PROFESSORS SHARPE AND AUDEN.

Texts: E. A. Sonnenschein, *T. Macci Plauti Rudens* (Oxford).
E. H. Sturtevant, *P. Terenti Afri Andria* (American).
F. P. Simpson, *Select Poems of Catullus* (Macmillan).
E. W. Bowen, *Cicero's De Amicitia* (Heath).
E. W. Bowen, *Cicero's De Senectute* (Heath).
North and Hillard, *Latin Composition* (Copp, Clark).

40 Cicero, *Letters;* Pliny, *Letters;* Tacitus, *Annals I;* Sallust, *Bellum Catilinae;* Virgil, selections from the *Bucolics* and *Georgics;* lectures on the literature of the Ciceronian and Augustan periods; composition; sight translation. (To be given in 1922-23).

3 hours per week; 3 credits.

Prerequisite: Latin 20.

PROFESSOR AUDEN

Texts: J. W. Scudder, *Sallusti Catilina* (Allyn and Bacon).
W. F. Allen, *Tacitus, Annals* 1-6 (Ginn).
C. S. Jerram, *Virgil, Bucolics and Georgics* (Oxford).
North and Hillard, *Latin Composition* (Copp, Clark).

45 St. Augustine, *De Fide;* with the consent of the instructors concerned, theological students in affiliated colleges may substitute the above for an equivalent amount of the prescribed authors in Latin 30 or 31 or 40.

1 hour per week, 1 term; ½ credit.

PRINCIPAL WALLER.

Honor Courses

100 Livy *XXI-XXX;* Sallust, *Jugurtha;* Virgil, *Aeneid VI*; Ovid, *Metamorphoses III;* selected Latin poetry; composition; sight translation.

4 hours per week; 4 credits.

Prerequisite: Latin 10 (66%), or Honor Matriculation or Upper School Latin.

PROFESSOR AUDEN.

Texts: W. C. Summers, *C. Sallusti Crispi, Iugurtha* (Cambridge).
M. Cartwright, *Ovid, Metamorphoses III* (Oxford).
Freeman, *A Selection of Latin Poetry* (Oxford).
North and Hillard, *Latin Composition.*

200 Elegiac Poets; Horace, *Epistles;* Catullus; Cicero, *De Amicitia, De Senectute;* Pliny, *Letters;* sight translation; composition; Roman literature; history in detail to 272 B.C. (one hour per week, first term).

5 hours per week; 5 credits.

Prerequisite: Latin 100.

PROFESSOR AUDEN.

Texts: K. P. Harrington, *The Roman Elegiac Poets* (American).
E. P. Morris, *Horace Satires and Epistles* (American).
E. W. Bowen, *Cicero's De Amicitia* (Heath).
E. W. Bowen, *Cicero's De Senectute* (Heath).
J. H. Westcott, *Selections from Pliny's Letters* (Allyn and Bacon).
North and Hillard, *Latin Composition* (Copp, Clark).

300 Horace, *Satires;* Juvenal, *Satires;* Persius, *Satires;* Plautus, six comedies; Terence, complete; sight translation; composition; philology; epigraphy; private life of the Romans; Roman literature; history in detail from 272 B.C, to 14 A.D. (one hour per week, first term).

6 hours per week; 6 credits.

Prerequisite: Latin 200.

PROFESSOR AUDEN.

Texts: E. P. Morris, *Horace, Satires* (American).
H. L. Wilson, *Juvenal* (Health).
Nettleship-Conington, *Persius, Satires* (Oxford).
Plauti Comoediae (Oxford).
S. G. Ashmore, *The Comedies of Terence* (Oxford).
J. C. Egbert, *Introduction to the Study of Latin Inscriptions* (American).
P. Giles, *Manual of Comparative Philology* (Macmillan).
J. M. Edmonds, *Comparative Philology* (Cambridge).

301 Plautus, two comedies; Terence, two comedies; Horace, *Satires;* Juvenal, *Satires;* history of the literature of the Republic; history of the Republic to the time of

Sulla. For minor honors in the department of English and History (see p. 51.)

3 hours per week; 3 credits.

Prerequisite: Latin 200.

PROFESSOR NEVILLE.

Texts: *Plauti Comoediae* (Oxford).
S. G. Ashmore, *The Comedies of Terence* (Oxford).
E. P. Morris, *Horace, Satires* (American).
H. L. Wilson, *Juvenal* (Heath).

400 Sallust, *Bellum Catilinae;* Tacitus, *Annals I-VI;* Suetonius, *Augustus, Tiberius;* Cicero, *De Officiis, Tusculans I;* Virgil, selections from the *Bucolics, Georgics,* and *Aeneid VII-XII;* Lucretius *III, V;* sight translation; composition; Roman public life; Roman Literature; history in detail from 14 A.D. to 476 A.D. (one hour per week, first term).

7 hours per week; 7 credits.

Prerequisite: Latin 300.

PROFESSOR AUDEN.

Texts: J. W. Scudder, *Sallust's Catiline* (Allyn and Bacon).
W. F. Allen, *Tacitus, Annals I-VI* (Ginn).
H. T. Peck, *Suetonius* (Holt).
H. A. Holden, *Cicero, De Officiis* (Cambridge).
F. E. Rockwood, *Cicero, Tusculan Disputations I* (Ginn).
C. S. Jerram, *Virgil, Bucolics and Georgics* (Oxford).
T. E. Page, *Virgil, The Aeneid VII-XII* (Macmillan).
J. H. W. Lee, *Lucretius, De Rerum Natura I-III* (Macmillan).
W. D. Lowe, *Lucretius, De Rerum Natura V* (Oxford).

401 Caesar, *De Bello Civili* and selections from *De Bello Gallico;* Cornelius Nepos; Sallust, *Bellum Catilinae;* Cicero, *In Catilinam;* Tacitus, *Annals I, II;* Suetonius, *Augustus;* history of the literature of the Empire; detailed history of the last years of the Republic, and of the Empire down to 220 A.D. For minor honors in the Department of English and History (see p. 51.)

3 hours per week; 3 credits.

Prerequisite: Latin 301.

PROFESSOR NEVILLE.

Texts: C. E. Moberly, *Caesar's Civil War* (Oxford).
T. Rice Holmes, *Caesar's The Gallic War* (Oxford).
Inge-Browning, *Nepos, Lives* (Oxford).
J. W. Scudder, *Sallust's Catiline* (Allyn and Bacon).
E. A. Upcott, *Cicero, Catilinarian Orations* (Oxford).
C. D. Fisher, *Tacitus, Annals I-VI* (Oxford).
H. T. Peck, *Suetonius* (Holt).

GREEK

Each student in any of the Greek courses is required to have one or other of the following two Greek grammars: W. W. Goodwin, Ginn and Co., New York; H.W. Smyth, American Book Co., New York; and either the unabridged or the abridged edition of Liddell and Scott's Greek Lexicon (Oxford).

1 **Elementary Greek.** A course designed for those wishing to begin the study of the language after entering the University.

In order that this course may count for credit toward a degree, Greek must be pursued for four years, the last one and a half of which may be devoted to New Testament and Patristic Greek, *i. e.*, theological students may substitute Greek 35b, or 45b, or the equivalent, for Greek 20b, and 45 or 35 (whichever has not yet been taken) for 30.

3 hours per week; 3 credits.

Prerequisite: Complete Junior Matriculation certificate without Greek.

PRESIDENT MUCKLE, PRINCIPAL WALLER.

10 Xenophon, *Hellenica;* Homer, *Iliad I, 1-350*; *III, 121, 244*; *VI, 66, 118, 257-529*; *Odyssey VI, IX;* composition; sight translation.

3 hours per week; 3 credits.

Prerequisite: Junior Matriculation Greek or Greek 1.

PROFESSORS MUCKLE, FOX AND AUDEN.

Texts: J. S. Phillpotts, *Selections adapted from Xenophon* (Oxford).
Leaf and Bayfield, *Homer, Iliad I-XII* (Macmillan).
W. W. Merry, *Homer's Odyssey I-XII* (Oxford).
North and Hillard, *Greek Prose Composition.*

20 Plato, *Apology;* Thucydides *IV;* Herodotus *VII;* composition; sight translation.

3 hours per week; 3 credits.

Prerequisite: Greek 10, or Honor Matriculation Greek.

PROFESSORS MUCKLE AND AUDEN.

Texts: G. Stock, *Plato, Apology and Crito* (Oxford).
C.E. Graves, *Thucydides IV* (Macmillan).
A. F. Butler, *Herodotus VII* (Macmillan).
A. Sidgwick, *Greek Prose Composition* (Ginn).

30 Euripides, *Medea;* Sophocles, *Antigone;* Aeschylus, *Prometheus Vinctus;* Lucian, *Vera Historia;* lectures on the theatre and the development of the drama; composition; sight translation.

3 hours per week; 3 credits.

Prerequisite: Greek 20.

PROFESSORS FOX, MUCKLE AND AUDEN.

Texts: Moore-Allen, *The Medea of Euripides* (Ginn).
Campbell and Abbott, *Sophocles, Antigone* (Oxford).
Allen-Wecklein, *Aeschylus, Prometheus* (Ginn).
C. S. Jerram, *Luciani Vera Historia* (Oxford).
A. Sidgwick, *Greek Prose Composition* (Ginn).

35 **Biblical Greek,** *St. Luke* and *Hebrews;* grammar and composition; an option for Greek 30 or 40 for theological students in affiliated colleges.

3 hours per week; 3 credits.

Prerequisite: Greek 20.

PRINCIPAL WALLER AND PROFESSOR ANDERSON.

Texts: Scrivener, *Greek Testament* (4th ed).
Volumes in *Cambridge Greek Testament Series.*
Nunn, *Syntax of New Testament Greek.*

40 Sophocles, *Ajax;* Euripides, *Iphigenia in Tauris;* Aristophanes, *Clouds;* Demosthenes, *De Corona;* lectures on the social, religious and political life of Athens in the age of Pericles; composition; sight translation.

3 hours per week; 3 credits.

Prerequisite: Greek 20.

PROFESSOR FOX.

Texts: Campbell and Abbott, *Sophocles, Ajax* (Oxford).
C. S. Jerram, *Euripides, Iphigenia in Tauris* (Oxford).
W. W. Merry, *Aristophanes, Clouds* (Oxford).
M. W. Humphreys, *Demosthenes, On the Crown* (American).
A. Sidgwick, *Greek Prose Composition* (Ginn).

45 **Biblical Greek,** *St. Mark* and *I Corinthians;* grammar and composition; text criticism. For either *St. Mark* or *I Corinthians,* Clement's *Epistle to the Corinthians* may be substituted with the permission of the instructor. An option for Greek 40 or 30 for theological students in affiliated colleges.

3 hours per week; 3 credits.

Prerequisite: Greek 20 and 35.

PRINCIPAL WALLER, PROFESSOR ANDERSON.

Text-books: See Greek 35.
Reference: Kenyon, *Handbook to the Textual Criticism of the New Testament* (Macmillan).

Honor Courses

100 Plato, *Apology* and *Crito;* Thucydides *IV;* Herodotus *VII;* Euripides, *Hippolytus;* composition; sight translation.

4 hours per week; 4 credits.

Prerequisite: Greek 10 (66%), or Honor Matriculation Greek.

PROFESSOR FOX.

Texts: G. Stock, *Plato, Apology and Crito* (Oxford).
C. E. Graves, *Thucydides IV* (Macmillan).
A. F. Butler, *Herodotus VII* (Macmillan).
A. Sidgwick, *Greek Prose Composition* (Ginn).

200 Euripides, *Medea;* Aeschylus, *Prometheus Vinctus;* Lucian, *Vera Historia;* Thucydides *I;* Homer, *Iliad IX, XVIII, XXII;* sight translation; composition; history of Greek literature; history of Greece to 431 B.C. (one hour per week, second term).

5 hours per week; 5 credits.

Prerequisite: Greek 100.

PROFESSOR AUDEN.

Texts: Moore-Allen, *The Medea of Euripides* (Ginn).
Allen-Wecklein, *Aeschylus, Prometheus* (Ginn).
C. S. Jerram, *Luciani Vera Historia* (Oxford).
E. C. Marchant, *Thucydides I* (Macmillan).
J. H. Pratt, *Homer, Iliad IX* (Macmillan).
D. B. Monro, *Homer's Iliad XII-XXIV* (Oxford).
A. Sidgwick, *Greek Prose Composition* (Ginn).

300 Euripides, *Alcestis;* Sophocles, *Antigone, Oedipus Tyrannus;* Aristophanes, *Clouds;* Homer, *Odyssey I-XII;* Plato, *Republic I-V;* Thucydides *II;* sight translation; composition; philology; private life of the Greeks; Greek literature; history of Greece in detail from 431 to 323 B.C. (one hour per week, second term).

6 hours per week; 6 credits.

Prerequisite: Greek 200.

PROFESSORS FOX AND AUDEN.

Texts: Bayfield, *Euripides, Alcestis* (Macmillan).
Campbell and Abbott, *Sophocles, Antigone* (Oxford).
Campbell and Abbott, *Sophocles, Oedipus Tyrannus* (Oxford).
W. W. Merry, *Aristophanes, Clouds* (Oxford).
Merry and Riddell, *Homer's Odyssey I-XII* (Oxford).
T. H. Warren, *Plato, The Republic I-V* (Macmillan).
P. Giles, *Manual of Comparative Philology* (Macmillan).
J. M. Edmonds, *Comparative Philology* (Cambridge).

301 Thucydides, *I, II;* Plato, *Republic I-IV;* development of the literature of Athens with special reference to poetry; special study of the period of the Athenian Empire. For minor honors in the department of English and History.

3 hours per week; 3 credits.

Prerequisite: Greek 200.

PROFESSOR NEVILLE.

Texts: E. C. Marchant, *Thucydides I* (Macmillan).
E. C. Marchant, *Thucydides II* (Macmillan).
T. H. Warren, *Plato, The Republic I-V* (Macmillan).

400 Aeschylus, *Agamemnon;* Sophocles, *Oedipus Coloneus;* Plato, *Republic VI-X; Phaedo;* Thucydides *III, IV;* Lysias; Aeschines; Demosthenes, *De Corona;* sight translation; composition; monuments and topography of

Greece; Greek literature; history of Greece in detail from 323 to 31 B.C. (one hour per week, second term).

7 hours per week; 7 credits.

Prerequisite: Greek 300.

PROFESSORS FOX AND AUDEN.

Texts: P. Shorey, *Aeschylus, Agamemnon* (American).
Campbell and Abbott, *Sophocles, Oedipus Coloneus* (Oxford).
J. Burnet, *Plato, Respublica* (Oxford).
B. Bosanquet, *A Companion to Plato's Republic* (Macmillan).
J. Burnet, *Plato's Phaedo* (Oxford).
E. C. Marchant, *Thucydides III* (Macmillan).
C. E. Graves, *Thucydides IV* (Macmillan).
E. S. Shuckburgh, *Lysiae Orationes XVI* (Macmillan).
M. V. Humphreys, *Demosthenes, On the Crown* (American).
Gwatkin and Shuckburgh, *Aeschines, In Ctesiphontem* (Macmillan).

401 Thucydides *III* and *The Sicilian Expedition;* Lysias; Demosthenes, *De Corona;* Aeschines; the literary history of Athens in special reference to prose; special study of the history of the Hellenistic Period. For minor honors in the department of English and History.

3 hours per week; 3 credits.

Prerequisite: Greek 301.

PROFESSOR NEVILLE.

Texts: E. C. Marchant, *Thucydides III* (Macmillan).
P. Frost, *Thucydides VI, VII* (Macmillan).
E. S. Shuckburgh, *Lysiae Orationes XVI* (Macmillan).
M. V. Humphreys, *Demosthenes, On the Crown* (American).
Gwatkin and Shuckburgh, *Aeschines, In Ctesiphontem* (Macmillan).

Department of Commerce

10. **Elementary Accounting:** the principles underlying modern bookkeeping and accounting; books of original entry; financial statements, supporting schedules and ledger closing; single entry, double entry; business paper; synoptic and other forms of general and petty cash books; reserve and reserve funds; depreciation, amortization and sinking funds; corporation and cost records; fire loss; branch accounting; shipping and consignment, authorized trustee and executor's accounts; statements and schedules of executives administering the affairs of a manufacturing or merchandizing concern, of a trustee administering matters of trust.

3 hours per week; 3 credits.

MR. WESTERVELT.

20. **Advanced Accounting,** auditing, accounting problems. For all students in second year of Honor course in Commercial Economics.
3 hours per week; 3 credits.
MR. WESTERVELT.

30 **Commercial Law.**
1 hour per week; 1 credit.
MR. CURRAN.

31 **Business Organization.**
1 hour per week; 1 credit.

32 **Efficiency.**
1 hour per week; 1 credit.

40a **Principles of Advertising.**
2 hours per week, first term; 1 credit.
MR. BELL.

41b **Buying and Marketing.**
2 hours per week, second term; 1 credit.

42a **Credits and Collections.**
2 hours per week, first term; 1 credit.

43b **Theory and Practice of Banking.**
2 hours per week, second term; 1 credit.
MR. CURRAN.

Department of English

University College.

W. F. TAMBLYN, PH.D.,	Professor.
J. A. SPENCELEY, M.A.,	Assistant Professor.
MRS. E. K. ALBRIGHT, B.A.,	Instructor
MISS JEAN I. WALKER,	Lecturer.
MRS. JEAN NEVILLE, B. A.,	Lecturer.

Assumption College.

REV. D. L. FORESTELL, B.A.,	Professor.
REV. CHAS. COUGHLIN, B.A.,	Associate Professor.
C. P. MCTAGUE, B.A.	Lecturer.

Ursuline College

M. M. St. MICHAEL, M. A.,	Professor.

10 First Term:—Discussion of the difference between poetry and prose, various forms of metre, and such term

as epic, ballad, lyric, sonnet, pastoral, elegy, ode. Outline of the growth of the novel to Scott, and of literary history to Gray.

Poems for special study:

Sir Patrick Spens.
Spenser, *Sonnet, One Day.*
Sidney, *Sonnet on Sleep.*
Marlowe, *The Passionate Shepherd.*
Jonson, *To the Memory of Shakespeare*; *Song, To Cynthia.*
Shakespeare, *Sonnet, When to the sessions.*
Herbert, *The Pulley.*
Lovelace, *To Lucasta.*
Herrick, *Gather ye rosebuds To Daffodils.*
Milton, *Il Penseroso, L'Allegro, Epitaph on Shakespeare*; four sonnets.
Dryden, *Song for St. Cecilia's Day, Absalom and Achitophel.*
Collins, *To Evening.*
Gray, *Elegy.*

For rapid reading:—

Pope, *Rape of the Lock.*
Thomson, *Autumn,* from *The Seasons.*
Gray, *Prospect of Eton College, The Fatal Sisters.*
Bunyan, *Pilgrim's Progress, Vol. I.*
Scott, *The Antiquary.*

Second Term:—Outline of literary history from Blake to Arnold.

Poems for special study:—

Blake, *To the Muses, To the Evening Star, Introduction to Songs of Innocence, The Lamb.*
Burns, *The Cotter's Saturday Night, To a Mountain Daisy, Banks of Doon, O wert thou in the cauld blast.*
Wordsworth, *Tintern Abbey, The Solitary Reaper, Sonnets.*
Coleridge, *The Ancient Mariner, Kubla Khan.*
Scott, *O listen lords and ladies gay, Edmund's Song, County Guy.*
Byron, *Childe Harold, canto iv.*
Shelley, *The Cloud, Skylark.*
Keats, *Eve of St. Agnes, To Autumn.*
Tennyson, *Locksley Hall, In Memoriam, Crossing the Bar.*

Browning, *My Last Duchess, The Guardian Angel, Song* from *Pippa Passes.*
Arnold, *Self-Dependence, Shakespeare.*

For rapid reading:—
Chatterton, *The Minstrel's Roundelay.*
Cowper, *The Winter's Walk at Noon,* from *The Task.*
Burns, *Tam O'Shanter.*
Thackeray, *Henry Esmond.*
Essays by Cowper, Carlyle, Stevenson.

This course is prescribed for students of the first year in the General Course.

2 hours per week; 2 credits.

PROFESSORS FORESTELL, ST. MICHAEL, DONOVAN, SPENCELEY AND MRS. ALBRIGHT.

Texts: Pancoast, *Standard English Poems* (Holt).
Selected English Essays (Oxford).
A. T. Strong, *Short History of English Literature* (Oxford), or W. J. Long, *English Literature* (Ginn).
References: J. W. Hales, *Longer English Poems* (Macmillan).
Palgrave, *Golden Treasury* (ed. Wheeler, Oxford).
W. J. Rolfe, *Milton's Minor Poems.*
Byron, *Poems* (ed. Coleridge, Scribners).
Tennyson, *Poems* (with author's notes, Macmillan).
Browning, *Select Poems* (ed. W. T. Young, Cambridge University Press).

11. **Public Speaking:** In this course the aim is to show the speaker how to affect a given audience, in a given way, in a given time. The ends of speech such as clearness, belief, impressiveness, action and entertainment are shown as determining the selection and arrangement of material. The speech is considered objectively in the light of its effect on an audience rather than subjectively. Exercises will be given to test the speaker's ability to gather, select, arrange and present material effectively.

1 hour per week; 1 credit. MISS WALKER.

Text: A. E. Phillips, *Effective Speaking* (Newton Company).

12. **Composition and Rhetoric:** exercises in class, and four essays on subjects prescribed; lectures and reading. Prescribed for all those in the first year.

1 hour per week; 1 credit.

PROFESSORS SPENCELEY, FORESTELL, ST. MICHAEL, AND MRS. ALBRIGHT.

20. **Shakespeare:**—First Term:—*Romeo and Juliet; Henry VI, parts I* and *II.* Selections from Bacon and Addison.

Second Term:—*Hamlet* and *The Tempest.* Selections from Swift and Johnson; selections from Boswell's *Life of Johnson.*

Prescribed for all students in the second year of the General Course.

2 hours per week; 2 credits.

PROFESSORS TAMBLYN, SPENCELEY, ST. MICHAEL, AND FORESTELL.

Text-books: *Selected English Essays* (Oxford).
New Hudson Shakespeare (Ginn).
W. Raleigh, *Shakespeare*.
E. A. J. Marsh, *Selections from Boswell's Life of Johnson* (Bell).
Long or Strong, *English Literature*.

21. **Advanced Public Speaking.** A further development of effective speech and thought following the preceding principles and methods set forth in English 11; also theoretical analysis of model speeches and debate.

Prerequisite: English 11.

1 hour per week; 1 credit.

MISS WALKER.

22. **Composition and Rhetoric:** Class exercises, four essays, lectures, and study of L. W. Smith, *The Mechanism of English Style.*

1 hour per week; 1 credit.

PROFESSORS TAMBLYN, ST. MICHAEL, MRS. NEVILLE, AND MR. MCTAGUE.

30. An outline of nineteenth century literature with a special study of the following:—

First Term:—

Blake, *Piping down the valleys wild, On Another's Sorrow, The Clod and the Pebble, The Tiger, A Poison Tree, Auguries of Innocence, Two Kinds of Riches, The Two Songs, Love's Secret, My silks and fine array, How sweet I roamed from field to field, The Little Black Boy, The Chimney Sweeper, Holy Thursday, Proverbs.*

Wordsworth, *Michael, "My heart leaps up", Lines composed above Tintern Abbey, Resolution and Independence, To my Sister, Expostulation and Reply, The Tables Turned, "She dwelt, etc.," "Three years she grew," "A slumber," At the Grave of Burns, The Solitary Reaper, Stepping Westward, Intimations of Immortality, To the Cuckoo, "She was a phantom of delight," "I wandered lonely as a cloud," Ode to Duty, To a Skylark (Ethereal minstrel), Elegiac Stanzas, French Revolution, September* 1819, *Extempore Effusion, Yarrow*

Unvisited, "*It is a beauteous evening*," *Toussaint, Written in London, September* 1802; *London* 1802; "*It is not to be thought of*," "*The world is too much with us*," "*Nuns fret not*," *Personal Talk*, "*The unremitting voice of nightly streams.*"

Coleridge, *Christabel, Frost at Midnight, Love, Dejection, Youth and Age.*

Scott, *Marmion* (except the introductions), *The Maid of Neidpath, Coronach* (*He is gone on the mountain*), *Jock of Hazeldean, Pibroch of Donald Dhu*, "*The sun upon the Weirdlaw Hill*," *Proud Maisie.*

Byron, *Sennacherib*, "*She walks in beauty*," *Childe Harold, Canto III; Don Juan, Dedication, Canto I*, stanzas 212-218; *Canto II*, stanzas 49-53; *Canto III*, stanzas 86-111; *Canto XI*,

Essays will be required during the session on subjects connected with the literature read in this course. Prescribed for all third year students in General Course.

3 hours per week; 3 credits.

PROFESSORS ST. MICHAEL, FORESTELL AND MRS. ALBRIGHT.

Text-books: *British Poets of the Nineteenth Century* (Sanborn).
Selected English Essays (Oxford).
C. H. Herford, *Age of Wordsworth* (Bell).
H. Walker, *Age of Tennyson* (Bell).

References: O. Elton, *Survey of English Literature* 1780-1830; 1830-1880.
Andrew Lang, *Letters to Dead Authors.*
Poems of Blake ed. Sir W. Raleigh (Oxford), *Preface.*
T. Seccombe, *Age of Johnson—Blake.*
G. M. Harper, *Life of Wordsworth.*
Sir W. Watson, *Wordsworth's Grave.*
Shelley, *Letter to Maria Gisborne, To Coleridge.*
F. Thompson, *Shelley.*
Sidney Colvin, *Life of Keats.*
Mrs. A. T. Orr, *Handbook to Browning.*
Sherman, *Arnold, How to Know Him.*
L. Stephen, *Studies of a Biographer.*

Stevenson, *The Master of Ballantrae.*
—Conrad, *The Nigger of the Narcissus.*
2 hours per week; 2 credits.

PROFESSOR SPENCELEY.

Reference Works: Cross, *The Development of the English Novel.*
Raleigh, *The English Novel.*
Sherman, *On Contemporary Literature* (Holt).

40. **English Poetical Literature** since Tennyson; a critical reading and discussion of the following:—

First Term:—

The Oxford Book of Victorian Verse: Nos. 170, 175, 198, 205, 206, 213, 214, 221, 230, 241, 244, 245, 270, 274-5, 277, 290, 294, 297, 298, 304, 322, 324-7 329, 399-401, 405, 426, 433-4, 455, 481, 493-4, 499, 508, 526, 544-9, 583-4, 591, 595, 598.

Poems of to-day: *An Anthology* (McClelland & Stewart): The selections from Meredith, Stevenson, Bridges and Watson.

G. K. Chesterton, *The Victorian Age in Literature.*

Hugh Walker, *Literature of the Victorian Era* (Cambridge University Press).

O. Elton, *Survey of English Literature* 1830-1880 (Arnold).

References: H. Williams, *Modern English Writers* (Sidgwick and Jackson).
S. A. Brooke, *Four Poets* (Duckworth).
Ward's *English Poets* Vol. 5 (Macmillan).
Meredith, *Letters* (Scribner).
Lamborn, *Rudiments of Criticism.*

Second Term:—

The Oxford Book of Victorian Verse: Nos. 601-2, 616, 619, 623-6, 643-5, 662-3, 666, 670, 674-9, 689, 691, 706-7, 709, 723, 726-7, 730, 738-9, 745-7, 751, 753-65, 770, 771, 776-9.

Poems of Today: The selections from A. E., Brooke, Flecker, De la Mare, Graves, Hodgson, Kipling, Masefield, Moore, Newbolt, Nichols, Sassoon, Squire, Thompson, Trench and Yeats.

Georgian Poetry, 1913-15, 1916-17: the selections from the same authors as above.

Georgian Poetry, 1911-12, pp. 3--72, 87-89, 106-110, 119-127, 193.

W. D. Lighthall, *Canadian Poems and Lays* (Scott Pub. Co.), ten selections.

References: Walker, Elton & Williams (See first term).
M. Sturgeon, *Studies of Contemporary Poets* (Dodd, Mead).
R. Lynd, *Old and New Masters* (Dent), *The Art of Letters* (Unwin).
J. Cappon, *Roberts* (Ryerson Press).
R. Scott-James, *Personality in Literature* (Secker).
B. Matthews, *Study of Versification* (Houghton).

Prescribed with 41, 42 for all students in General Course.

1 hour per week; 1 credit.

PROFESSORS TAMBLYN, FORESTELL AND ST. MICHAEL.

41. **English Prose Literature** since Ruskin; a study of the following:—

First Term:—

R. L. Stevenson, *Talk and Talkers* (ed. Phelps), *Aes Triplex, Lantern-Bearers, Pulvis et Umbra, The English Admirals, Pan's Pipes.*
A. Birrell, *Obiter Dicta* (first series), selections.
G. B. Shaw, *You never can tell.*
T. Hardy, *Wessex Tales.*
Walker and Williams (see under 40).
H. Child, *Thomas Hardy* (Holt).

References: L. Abercrombie, *Thomas Hardy* (Kennerley).
J. Freeman, *The Moderns* (Robert Scott).

Second Term:—

A. C. Bradley, *Poetry for Poetry's Sake* (Macmillan)
H. G. Wells, *The Undying Fire* (Macmillan).
J. D. Beresford, *Wells* (Holt).
(See also under 40).

1 hour per week; 1 credit.

PROFESSORS TAMBLYN, FORESTELL AND ST. MICHAEL.

42. A short study of the period culminating in Chaucer, with special study of:—

First Term:—

Geoffrey of Monmouth (I-III, IX-X), in translation.
Gotfried von Strassburg, Tristan and Iseult, in translation.
Dante, *Inferno*, Cantos 1, 3, 5, 8-10, 16 (ll. 91-136), 19, 21, 22, 26 (ll. 88-142), 28 (ll. 118-142), 32, 33; *Purgatorio*, Cantos 1, 28-33; *Paradiso*, cantos 1, 33.
Gummere, *Ballads* (Selections).
Perle, Gawain and the Green Knight (Modernized).

Second Term:—

Chaucer, *Former Age, Parlement of Foules, Troilus and Criseyde V, Balades, Canterbury Tales (Prologues, framework, tales of the knight, prioress, Sir Thopas, the nonne preest, the pardoner).*

References: *Cambridge History of English Literature*, Vols. I, II.
Saintsbury, *Periods of European Literature*, Vols. I, II.
Snell, *Age of Chaucer* and *Age of Transition* (Bell).

1 hour per week, 1 credit.

PROFESSORS TAMBLYN, FORESTELL AND ST. MICHAEL.

100. The work prescribed for the General Course in English 20 and 12; 3 hours per week, 3 credits;

and in addition:

Jonson, *To the Memory of Shakespeare.*
Milton, *L'Allegro, Il Penseroso, Epitaph on Shakespeare, Lycidas.*
Dryden, *Absalom and Achitophel I.*
Pope, *Rape of the Lock.*
Gray, *Eton College, Elegy, Progress of Poesy.*
Collins, *Evening.*
Goldsmith, *Retaliation.*
Cowper, *Table Talk*, 544-739; *Retirement*, 1-98, 219-278, 365-452, 559-602, 677-779; *I am Monarch, etc.; Winter Evening*, 429-552, 691-779; *My Mother's Picture; The Colubriad*; *The Retired Cat; To Mary.*
Crabbe, *The Village I; Peter Grimes.*
Blake, as in English 10, with additions.
Burns, as in English 10, with additions.
Coleridge, *The Ancient Mariner, Kubla Khan.*
Byron, *Vision of Judgement.*
Keats, as in English 10.
Tennyson, *Locksley Hall, Oenone.*
Browning, *My Last Duchess, Fra Lippo, Andrea, Caliban.*
The selections from Steele to Stevenson in *Selected English Essays.*
Johnson, *Preface to Shakespeare, Life of Savage.*

Prescribed for first year students in the Honor English and History course.

2 hours per week; 2 credits.

MRS. ALBRIGHT.

Texts: *The English Parnassus* (Oxford).
Selected English Essays (Oxford).

200. A study of the following texts:

Spenser, *Faerie Queene V.*
Wordsworth, *Prelude.*
Tennyson, *In Memoriam.*
Browning, *Bishop Blougram's Apology.*
Austen, *Pride and Prejudice.*
Scott, *Old Mortality.*
Thackeray, *Henry Esmond.*

Prescribed with 201 and 202 for second year students in the Honor English and History course.

2 hours a week; 2 credits.

PROFESSOR SPENCELEY.

Texts: *The English Parnassus* (Oxford).
Selected English Essays (Oxford).

201. Anglo-Saxon and the History of the English Language.

First Term:—

Anglo-Saxon Grammar; Translation of the following passages from Bright's Anglo-Saxon Reader: Selections, I, III, V, VI, VIII, XII, XVI, XX. XXI, XXIII.

Second Term:—

The History of the English Language.

The object of this course is to give a systematic presentation of the development of the English Language from the earliest records to the present, with special reference to the historical explanations of living forms.

2 hours per week; 2 credits.

PROFESSOR SPENCELEY.

Reference-books: See the various histories of the English Language by O. F. Emerson. J. P. Smith, O. Jespersen, Lounsbury, Wyld, Krapp, and Sweet

202. **Composition**:—See English 22.

1 hour a week; 1 credit.

300. The subjects of courses 30 and 42 in the General Course; an extra hour in Chaucer will be given to the Honor students throughout the year. Prescribed with 301 for third year students in the Honor English and History and Honor Modern Languages courses.

5 hours per week; 5 credits.

Prerequisites: English 200, 201, 202.

301. **Anglo-Saxon Poetry** including Beowulf. In this course Anglo-Saxon Poetry from the earliest times to the Norman Conquest will be reviewed and the following poems from Cook and Tinker's *Select Translations from Old English Poetry* will be read: Widsith, *Deor's Lament, The Battle of Maldon, The Seafarer, The Wanderer, Gnomic Verses, Riddles, Charms, Genesis A, The Christ, The Dream of the Rood, The Andreas, Judith.*

Beowulf will be read with due attention to metre, literary history and antiquities and the following sections of the original will be translated in the class: lines 710-836; 1321-1491; 2694-2820; 3137-3180.

One hour per week; 1 credit.

PROFESSOR SPENCELEY.

Text-books: *Beowulf* (Wyatt's, Edition).
Tinker, *Translations from Old English Poetry.*
References: Brooke, *English Literature from the Beginning to the Norman Conquest.*
Long, *English Literature, ch. II.*

400. The subjects of 40 and 41 in the General Course. Prescribed with 401, 402, 403 for fourth year students in the Honor English and History course.

2 hours per week; 2 credits.

Prerequisites: English 300, 301.

401. **The Elizabethan Drama:** The aim of this course is to trace the rise of English Drama, and to study Shakespeare as a dramatist. The following plays will be read carefully:

Noah's Flood; Sacrifice of Isaac; Secunda Pastorum.
Heywood, *The Four PP.*
Udall, *Ralph Royster Doyster.*
Sackville and Norton, *Gorboduc.*
Lyly, *Endymion.*
Greene, *Friar Bacan and Friar Bungay.*
Kyd, *The Spanish Tragedy.*
Marlowe, *Tamburlaine, Part I; Edward II.*
Dekker, *The Shoemakers' Holiday.*
Jonson, *Every Man in his Humour.*
Beaumont and Fletcher, *The Knight of the Burning Pestle.*
Webster, *The Duchess of Malfi.*
Shakespeare, *Othello, Antony and Cleopatra, Tempest*: (critically) *Midsummer Night's Dream, King Lear, Coriolanus.*

2 hours per week; 2 credits.

PROFESSOR SPENCELEY.

402. **Elizabethan and Caroline Literature.**

The English Parnassus (Oxford) and *Pageant of English Poetry* (Oxford), from Sackville to Vaughan; Palgrave, *Golden Treasury of Songs and Lyrics, Bks. I and II* (Oxford); Milton, *Ode on the Nativity, Comus, Arcades, Samson Agonistes, Paradise Lost, Books I, II, IV;* Hakluyt, *Voyages of Gilbert and Drake;* Browne, *Religio Medici;* selections from Holland and North.

2 hours per week; 2 credits.

PROFESSOR TAMBLYN.

403. **Nineteenth Century Prose.** Lectures, critical reading and discussion of:

(A) Thought:
J. S. Mill, *Utilitarianism, Liberty.*
T. Carlyle, *Past and Present.*
J. Ruskin, *Unto This Last.*
M. Arnold, *Culture and Anarchy, Democracy.*
T. Huxley, *The Physical Basis of Life.*
C. Darwin, *Mental Powers of Men and Animals.*
A. R. Wallace, *The Importance of Dust.*
L. Stephen, *An Agnostic's Apology.*
(B) Criticism:
W. Wordsworth, *Preface to the Lyrical Ballads.*
S. T. Coleridge, *Biographia Literaria* 17-18.
M. Arnold, *Literature and Science, The Function of Criticism, The Study of Poetry.*
W. Pater, *Charles Lamb.*
L. Stephen, *Sir Thomas Browne.*
J. M. Robertson, *Ruskin.*
R. L. Stevenson, *Gossip on Romance.*
J. A. M. Whistler, *Ten o'Clock.*
G. Meredith, *Essay on Comedy.*

One hour per week; 1 credit.

MRS. ALBRIGHT.

Texts: Roe and Elliott, *English Prose* (Longmans).
E. D. Jones, *English Critical Essays* (XIX Cent.) (Oxford).

Department of Geology

PROFESSOR RUSSELL.

20. **Physiography and Meteorology:** A course of lectures with field trips, dealing with the Earth's surface, atmosphere, climate and its relation to the other heavenly bodies.

2 lectures and 2 laboratory hours per week; 3 credits.

Text: Salisbury, *Physiography* (Holt).
Reference: Norton, *Elements of Geology* (Ginn).
Grabau, *Text Book of Geology* Part I (Heath).
Milham, *Meteorology* (Macmillan).

30a **Dynamic and Structural Geology:** A course dealing with the structure and formation of the earth's crust.

2 lectures and 2 laboratory hours per week; 1½ credits.

Prerequisites: Geology 20.

Text: Grabau, *Text Book of Geology*: Part I (Heath).
Reference Pirsson and Schuchert, *Text Book of Geology*, Part I.
Chamberlin and Salisbury, *Geology*, Vol. I.

30b **Historical Geology:** A course of lectures on the earth's history, with laboratory work on fossils and field trips.

2 lectures and 2 laboratory hours per week, 1½ credits.

Prerequisites: Geology 20; Biology 10a, 10b.

Text: Grabau, *Text Book of Geology*, Part II (Heath.)
Reference: Pirsson and Schuchert, *Text Book of Geology*, Part II.
Chamberlin and Salisbury, *Geology*, Vols. II and III.

40 **Mineralogy.** Lectures on descriptive mineralogy with laboratory work on blow pipe analysis and determination of minerals.

1 lecture and 2 laboratory hours per week; 2 credits.

Texts: Ford, Dana's *Manual of Mineralogy* (Wiley).
Lewis, *Determinative Mineralogy* (Wiley).
Reference: Dana, *Text Book of Mineralogy* (New Edition).

Honor Courses

100. **Physiography and Meteorology:** A course of lectures dealing with the earth's physiography and climate.

2 lectures and 2 laboratory hours or field trips per week; 3 credits.

Text: Salisbury, *Physiography* (Holt).
Reference: Norton, *Elements of Geology* (Ginn).
Milham, *Meteorology* (Macmillan).

200a **Dynamic and Structural Geology:** A course dealing with the formation and structure of the earth's crust. Laboratory work on rock and rock minerals. Field trips.

2 lectures and 2 hours laboratory work, or field trips per week; 1½ credits.

Prerequisites: Geology 100.

Text: Grabau, *Text Book of Geology*, Part I (Heath).
Reference: Pirsson and Schuchert, *Text Book of Geology*, Part I (Wiley).
Chamberlin and Salisbury, *Geology*, Vol. I.

200b **Historical Geology:** A course dealing with the earth's history, with special reference to North America. Laboratory work on fossils and field trips.

2 lectures and 2 hours laboratory work or field trips; 1½ credits.

Prerequisites: Geology 200a and Biology 100a and 100b.

Text: Grabau, *Text Book of Geology*, Part II (Heath).
Reference: Pirsson and Schuchert, *Text Book of Geology*, Part II (Wiley).
Chamberlin and Salisbury, *Geology*, Vols, II and III.

300 **Mineralogy:** Lectures in descriptive Mineralogy, with blow pipe analysis, and the determination of the common minerals.

2 lectures and 2 laboratory hours per week; 3 credits.

Texts: Ford, Dana's *Manual of Mineralogy* (Wiley).
Lewis, *Determinative Mineralogy* (Wiley).
Reference: Dana, *Text Book of Mineralogy* (Wiley).

301. **Crystallography.** Lectures and laboratory work in crystallography and optical mineralogy. Open to students who have taken or are taking Geology 300.

1 lecture, 2 hours laboratory; 2 credits.

Text: Iddings, *Rock Minerals* (Wiley).

302. **Regional Geology of Canada:** A course of lectures and reading on the physiography, historical geology and economic geology of Canada.

2 lectures per week with assigned work and essays; 3 credits.

Prerequisites: Geology 200a, 200b.

303. **History of Geology:** A course of lectures dealing with the development of the geological sciences.

2 lectures per week; 2 credits.

400. **Economic Geology:** A course of lectures and reading, with laboratory work, on economic geology with special reference to Canadian deposits.

3 lectures and 2 laboratory hours per week with assigned reading and essays; 5 credits.

Text: Lindgren, *Mineral Deposits* (McGraw-Hill).

401. **Geological Research:** Work upon some geologic problem designed to give practice in methods of Scientific Research. Nature of work, time required and credits to be determined for each student individually.

Department of German Language and Literature

University College

N. C. JAMES, PH.D., Professor.

Assumption College

D. L. FORESTELL, B.A., Lecturer.

10 Grammar, pronunciation, translation from English into German, translation at sight from easy modern German prose.

3 hours per week; 3 credits.

Text: Stern, *Geschichten von deutschen Städten* (Vol. I).

20 Grammar, conversation, translation into German, translation from modern German.

3 hours per week; 3 credits.

Prerequisite: German 10.

Texts: Stern, *Geschichten von deutschen Städten* (Vol. II).
Hatfield, *German Lyrics and Ballads*, *Nos.* 1, 6 to 9, 14, 20, 25, 27, 28, 31, 37, 42, 43, 46, 47, 49, 50, 53, 61, 62, 67, 68, 71, 72, 83, 84, 88, 89, 103, 107, 108, 115.

30 Grammar, translation into German, outline of German literature to 1740.

3 hours per week; 3 credits.

Prerequisite: German 20.

Texts: Heine, *Prosa* (Colbeck's edition, Macmillan) pp. 1-100.
Lessing, *Minna von Barnhelm*.

35 Scientific German.

1 hour per week; 1 credit.

40 Grammar, translation into German, outlines of the history of German literature, 1740 to the present.
3 hours per week; 3 credits.
Prerequisite: German 30.
Texts: Freitag, *Journalisten.*
Schiller, *Jungfrau von Orleans.*
Goethe, *Iphigenie.*

45 Scientific German.
1 hour per week; 1 credit.

Honor Courses

100 Grammar, pronunciation, translation into German, translation from modern German, outlines of the history of German literature to 1500.
3 hours per week; 3 credits.
Prerequisite: Honor Matriculation German.
Texts: Stern, *Geschichten von deutschen Städten* (Vol. II).
Freitag, *Die Journalisten.*

200 Grammar, conversation, translation from English to German; outlines of the history of German literature, in 1500-1740.
3 hours per week; 3 credits.
Prerequisite: German 100.
Texts: Schiller, *Wilhelm Tell.*
Hatfield, *German Lyrics and Ballads* (as in 20).
Scheffel, *Ekkehard.*

300 Grammar, translation into German, a general acquaintance with German literature from Gottsched to the death of Schiller.
3 hours per week; 3 credits.
Prerequisite: German 200.
Texts: Lessing, *Minna von Barnhelm.*
Goethe, *Hermann und Dorothea.*
Goethe, *Iphigenie.*
Heine, *Prosa,* pp. 1-140 (Colbeck).

400 Grammar, translation into German, a general acquaintance with German literature in the 19th century.
3 hours per week; 3 credits.
Prerequisite: German 300.
Texts: Schiller, *Jungfrau von Orleans.*
Klenze, *Deutsche Gedichte,* p. 131 to end.
Goethe, *Faust, Parts I and II.*
Grillparzer, *Sappho.*
Ludwig, *Die Makkabäer.*
Sudermann, *Der Katzensteg.*

401 Elements of Middle High German Grammar; History of Middle High German Literature.
1 hour per week; 1 credit.
Text: Nibelungenlied, Avv, 1, 5, 16, 29, 39.

Department of Hebrew

PROFESSOR WALLER.

The object of the course in Hebrew is chiefly to provide instruction for intending theological students to enable them to read the Hebrew Bible with a thorough knowledge of grammar, pointing and a general acquaintance with the Old Testament literature as a foundation for more advanced study of Semitic languages; but any student desiring a fuller acquaintance with the Old Testament is at liberty to choose the Hebrew options.

Every student must provide himself with a *Hebrew Bible*, Bagster's *Hebrew-English Lexicon* and Davidson's *Hebrew Grammar*, twentieth edition, revised by McFayden; earlier editions will not be permitted in the classroom. Third-year students must have Davidson's *Hebrew Syntax*; advanced students are recommended to provide themselves with the *Oxford Hebrew Lexicon*.

The Professor reserves the right to rearrange or change the prescription of authors in any year of the pass and honor courses for the intramural students.

General Courses

10 Grammar, selections and exercises in translation from English to Hebrew and from Hebrew to English; translation of *Exodus* 1-4, *I Samuel* 17; grammatical analysis, parsing and vocabulary.

3 hours per week; 3 credits.

20 Grammar; exercises in translation from Hebrew to English and from English into Hebrew; pointing of simple passages; translation of *Genesis* 1-4, 37, 40-45; *I Kings*, 17-19; *II Kings*, 2, 17.

3 hours per week; 3 credits.

Prerequisite: Hebrew 10.

30 Grammar and syntax; exercises in translation from Hebrew into English and from English into Hebrew; pointing; introduction to prophetic writings; *Amos; Isaiah* 1-6, 40, 50-55; *Jeremiah* 7, *Ezekiel* 14.

3 hours per week; 3 credits.

Prerequisite: Hebrew 20.

40 Grammar, syntax, pointing, exercises in translation from English into Hebrew and from Hebrew into English; introduction to poetical writings; principles of Hebrew poetry; *Numbers* 23, 24; *Psalms* 1, 2, 8, 16, 19, 23, 24, 29, 37, 45, 50, 51, 80, 84, 110, 121-127; *Ecclesiastes* 12, *Proverbs* 1-4, 8; *Job* 28.

3 hours per week; 3 credits.

Prerequisite: Hebrew 30.

Minor Honor Courses

100 Grammar; exercises in translation of Hebrew into English and English into Hebrew. Davidson pp. 1-126; 208-221. Translation of *Exodus* 1-4, *I Samuel* 17, *I Kings* 17-19, *II Kings* 2, 17; grammatical analysis, parsing and vocabulary.

4 hours per week; 4 credits.

200 Grammar; exercises in translation of Hebrew into English and of English into Hebrew; pointing of simple passages; translation of *Genesis* 1-4; 37, 40-45; introduction to prophetic writings; *Amos*; *Isaiah* 1-6, 40, 50-55; *Jeremiah* 7; *Ezekiel* 14.

4 hours per week; 4 credits.

Prerequisite: Hebrew 100.

300 Grammar, syntax, pointing, composition; introduction to poetical writings; principles of Hebrew poetry; *Numbers* 23, 24; *Psalms* 1, 2, 8, 16, 19, 23, 24, 29, 37, 45, 50, 51, 80, 84, 110, 121-127; *Ecclesiastes* 12; *Proverbs* 1-4, 8; *Job* 28.

4 hours per week; 4 credits.

Prerequisite: Hebrew 200.

400 Exercises in grammar, syntax, pointing and composition; the *Psalms* not read in Hebrew 300.

3 hours per week; 3 credits.

Prerequisites: Hebrew 300.

401 Aramaic; Brown, *Aramaic Method*, parts I, II; exercises, grammar, syntax, pointing, composition.

3 hours per week; 3 credits.

Prerequisite: Hebrew 300.

Department of History

University College

A. G. DORLAND, M.A. — Associate Professor
K. P. R. NEVILLE, PH.D. — Professor
F. LANDON, M.A. — Lecturer

Assumption College.

REV. J. J. SHERIDAN, M.A. — Lecturer

Ursuline College

M. M. ST. MICHAEL, M.A. — Professor

20 **Ancient Civilizations**; Early Egyptian, Babylonian, Hebrew History; Greece; Rome to 220 A.D. Lectures, readings and essays.

3 hours per week; 3 credits.

PROFESSORS NEVILLE AND ST. MICHAEL, MR. SHERIDAN.

Text-book: Breasted, *Ancient Times* (Ginn).

30a **Mediaeval History**; 476-1122 A.D. Lectures, prescribed reading and essays.

3 hours per week; first term; 1½ credits.

PROFESSOR DORLAND.

Text-books: Thorndike, *History of Mediaeval Europe* (Houghton Mifflin).
Robinson, *Readings in European History, Vol. I.*

30b **Mediaeval History**; 1122-1492 A.D. Lectures, prescribed reading and essays.

3 hours per week, second term; 1½ credits.,

PROFESSOR DORLAND.

Text-books: Thorndike, *History of Mediaeval Europe.*
Robinson, *Readings in European History, Vol. II.*

40a **Modern History**; 1713-1815. Lectures prescribed reading and essays.

3 hours per week, first term; 1½ credits.

Prerequisite: History 30a, 30b or an equivalent.

PROFESSOR DORLAND.

Text-books: Seeley, *Expansion of England.*
Rose, *Revolutionary and Napoleonic Era.*
Robinson and Beard, *Readings in Modern European History, Vol. I.*

40b **Modern History**; 1815-1915. Lectures, prescribed reading and essays.

3 hours per week, second term; 1½ credits.

Prerequisite: History 30a, 30b or an equivalent.

PROFESSOR DORLAND.

Text-books: Hayes, *A Political and Social History of Modern Europe*, 1815-1915 (Macmillan).
Robinson and Beard, *Readings in Modern European History, Vol. II.*

41 **The Foundations of Modern Europe;** prescribed reading and essays. The following topics will be studied: The reaction of the Italian Renaissance on Northern Europe; the Continental Reformation; the Reformation in England and in Scotland; the Counter Reformation; the Ascendency of Spain and its downfall; the Wars of Religion in France; the Thirty Years War; the Triumph of Parliamentary Government in England; the Puritan Revolt; the Restoration; the Glorious Revolution of 1688; Colonial Expansion and World Rivalry in the 17th Century down to the Treaty of Utrecht 1713. Offered in 1922-23 to extramural students only.

3 hours per week, first term; 1½ credits.

Prerequisite: History 30a, 30b

PROFESSOR DORLAND.

Text-books: Hayes, *A Political and Social History of Modern Europe*, 1500-1815, *Vol. I* (Macmillan).
Robinson, *Readings in European History, Vol. II.*

42 **The Constitutional History of England.** Lectures' prescribed reading and essays. The following topics will be studied: Anglo-Saxon and Norman Institutions; the development of the Judicature; Magna Charta; the growth of Parliament; the Lancastrian Experiment in Constitutional Government; the development of Constitutional Monarchy.

3 hours per week, first term; second term for extramural students; 1½ credits.

Prerequisite: History 30a, 30b.

PROFESSOR DORLAND.

Text-books: Masterman, *History of the British Constitution.*
Adams and Stephens, *Select Documents of English Constitutional History.*
Maitland, *Constitutional History of England.*
References: Stubbs, *Constitutional History of England.*
Taswell-Langmead, *English Constitutional History.*
Hunt-Poole, *Political History of England.*

43 **The Development of Colonial Self-Government in the British Empire.** Lectures, prescribed reading and essays. The lectures will be grouped under the following heads: British Colonial Policy at the beginning of the 19th century; the development of self-government in Canada,

Australia and South Africa; the Constitution of the Australian Commonwealth; the partition of Africa; the Boer War; the Union of South Africa.

3 hours per week; second term, 1½ credits.

Prerequisite: History 30a, 30b.

PROFESSOR DORLAND.

Text-books: Barnard, *The Expansion of Anglo-Saxon Nations.*
Currey, *British Colonial Policy.*
Egerton, *Federations and Unions in the British Empire.*
Scott, *Short History of Australia.*
Fairbridge, *History of South Africa.*
References: Egerton, *Short History of British Colonial Policy.*
Lucas, *History of South Africa, Part I, II.*
Henderson, *Life of Sir George Grey.*
Select Speeches of Sir William Molesworth, edited by Egerton.

44 **History of the United States.** The period down to the Civil War will be covered in the first, and the later period in the second term. Lectures and prescribed readings. Optional for students of the fourth year in the general course.

2 hours per week; 2 credits.

Prerequisite: History 30a and 30b.

MR. LANDON.

Text-books: Smith, *The United States.*
Farrand, *Development of the United States.*
Bassett, *Short History of the United States.*

Honor Courses

100 **History of Greece and Rome.** First term: political and constitutional history of Greece. Second term: political and constitutional history of Rome. Lectures, prescribed readings and reports.

2 hours per week; 2 credits.

PROFESSOR NEVILLE

Text-books: Botsford, *History of Greece.*
Botsford, *History of Rome.*
Breasted, *History of Ancient Times.*

200a **Mediaeval History;** 476-1122 A.D. Lectures, prescribed reading and essays.

3 hours per week, first term; 1½ credits.

Prerequisite: History 100.

PROFESSOR DORLAND.

Text-books: Thorndike, *History of Mediaeval Europe* (Houghton Mifflin Co.)
Robinson, *Readings in European History, Vol. I.*
References: Sergeant, *The Franks.*
Orton, *Outlines of Mediaeval History.*
Gibbon, *Decline and Fall of Roman Empire.*
Milman, *History of Latin Christianity.*
Oman, *The Dark Ages.*
Cambridge, *Mediaeval History.*
Bryce, *Holy Roman Empire.*

200b **Mediaeval History**; 1122-1492. Lectures, prescribed reading and essays.
3 hours per week, second term; 1½ credits.
Prerequisite: History 100.

PROFESSOR DORLAND.

Text-books: Thorndike, *History of Mediaeval Europe.*
Robinson, *Readings in European History, Vol. II.*
References: Thatcher and McNeal, *Source Book of Mediaeval History.*
Milman, *History of Latin Christianity.*
Fisher, *Mediaeval Empire.*
Munro and Sellery, *Mediaeval Civilization.*
Tout, *Empire and the Papacy.*
Vickers, *England in the later Middle Ages.*

300a **Modern History**; 1713-1815. Lectures, prescribed reading and essays.
3 hours per week, first term; 1½ credits.
Prerequisite: History 200a, 200b.

PROFESSOR DORLAND.

Text-books: Seeley, *Expansion of England.*
Rose, *Revolutionary and Napoleonic Era.*
Robinson and Beard, *Readings in Modern European History, Vol. I.*
References: Lecky, *History of England in the 18th Century.*
Kitchin, *History of France.*
Young, *Travels in France.*
Lowel, *Eve of the Revolution.*
Fisher, *Napoleon.*
Henderson, *Short History of Germany.*

300b **Modern History**; 1815-1915. Lectures, prescribed reading and essays.
3 hours per week, second term; 1½ credits.
Prerequisite: History 300a.

PROFESSOR DORLAND.

Text-books: Hayes, *A Political and Social History of Modern Europe* 1815-1915 (Macmillan).
Robinson and Beard, *Readings in Modern European History, Vol. II.*
References: Gooch, *History of our Time.*
King, *Life of Mazzini.*
Von Bulow, *Imperial Germany.*
Marriott, *England since Waterloo.*
Muir, *Expansion of Europe.*
Rose, *Development of Modern European Nations.*

301 **History of Canada** from 1820 to 1867.
1 hour per week; 1 credit.
Prerequisite: History 200a and 200b.

MR. LANDON.

References: *Canada and its Provinces, Vol. V.*
Chronicles of Canada, selected parts.
Morrison, *British Supremacy and Canadian Self-Government.*
Dent, *The Last Forty Years.*

400 **British Political Parties.** A reading and lecture course conducted in connection with weekly seminars. Fourth year honor intramural students only admitted to this course. Lectures and discussions will be grouped

around the following topics: The Rise of the Tory and Whig Parties; the Revolution of 1688; the Tory Reaction in the Reign of Anne; the "Reign of the Whigs"; the experiment in personal government of George III; the Disruption of the old Whig Party; the new Tory Party under Pitt; the Growth of Parliamentary Reform and Free Trade; Peel and Liberal Conservatism; Disraeli and Democratic Toryism; Gladstone and Modern Liberalism; the Irish Parliamentary Party; the Unionist Party.

3 hours per week; 3 credits.

PROFESSOR DORLAND.

Text-books: Traill, *Shaftesbury*.
Morley, *Walpole*.
Macaulay, *Essay on Pitt*.
Morley, *Burke*.
Trevelyan, *Early History of Charles James Fox*.
Rosebery, *Pitt*.
Thursfield, *Peel*.
Morley, *Cobden*.
Froude, *Beaconsfield*.
Morley, *Life of Gladstone*.

References: Hunt-Poole, *Political History of England*.
Letters of Queen Victoria.
Monypenny and Buckle, *Life and Letters of Benjamin Disraeli*.
Basil Williams, *Life of William Pitt*.
Trevelyan, *Life of John Bright*.

401 **History of Canada since Confederation:** not given in 1922-23.

1 hour per week; 1 credit.

Prerequisite: History 300a and 300b.

MR. LANDON.

References: *Canada and its Provinces* (selections).
Willison, *Sir Wilfrid Laurier and the Liberal Party*.
Skelton, *Life and Letters of Laurier*.
Bryce, *Short History of the Canadian People*.

404 **History of the United States.** (For details see History 44.) Prescribed for students of the fourth year in the Honor course in English and History.

2 hours per week; 2 credits.

MR. LANDON.

Department of Law

MR. PERRIN

500 **Domestic Relations,** Eversley, substituting the Canadian Statues for the English sections in the Text-book. The parts to be read are: Part I: ch. 1 to 11, (in 10 leave out

Statutes and read our Married Womans' Property Act); ch. 13 to page 278, ch. 16 and 17 to page 454; Part II: ch. 1 to 6, inclusive; Part III: ch. 1 to 7, inclusive: Part IV: ch. 1 to 3 inclusive, and ch. 7; Part V: ch. 1 to 4, inclusive, and ch. 7.
Text: Eversley, *Domestic Relations.*

501 **Corporations.** The following of the text named below: Part I: ch. 1 to 4, inclusive; Part II: ch. 1 to 5, inclusive; Part II: ch. 2 to 3 to page 235, ch. 4 to 13, inclusive; Part IV: ch. 1 and 2 from page 545, ch. 3 to page 729; Part V: ch. 1 to 6, inclusive; Part VI: ch. 1 to 6, inclusive.
Text: Brice, *Ultra Vires*, 2nd edition.

502 **Medical Jurisprudence;** the following portions will be read from the text named below: ch. 1 to 5, inclusive; ch. 23 to 39, inclusive; ch. 44 to 54, inclusive: ch. 59 to 67, inclusive.
Text-book: Reece, *Medical Jurisprudence.*

503 **Theory of Obligation;** Institutes of Justinian.
Book I: Titles 1, 2, 3.
Book III: Titles 13-29, inclusive.
Book IV: Title 1.

504 **Thesis.**

Department of Library Science

MISS ROSS

10a A course of instruction in the use of books and libraries, prescribed for all students in the first year. Classification and arrangement of books in the university library; the card catalogue; the most common reference books; bibliography.

1 hour a week, first term; ½ credit.

Department of Mathematics and Astronomy

University College

H. R. KINGSTON, M.A., PH.D. — Professor
W. J. PATTERSON, M.A. — Professor
ARTHUR WOODS, M.A. — Instructor.

Assumption College

W. G. ROGERS, B.A. — Professor.

10a **Algebra:** Variables, linear and quadratic functions of two variables, graphs, maximum and minimum values of quadratic functions of a single variable; linear and quadratic equations of two and three unknowns; elementary theory of quadratic equations; solutions of higher equations by means of quadratic equations; ratio and proportion; variation; inequalities; arithmetical, geometrical, and harmonical progressions; interest forms and annuities.

3 hours per week, first term; 1½ credits.

Prerequisites: Pass Matriculation in Mathematics.

Text: DeLury, *An Intermediate Algebra* (Copp Clark).

12b **Analytic Geometry:** The analytical geometry of the point, straight line, circle, parabola, ellipse and hyperbola to page 106 of text.

3 hours per week, second term: 1½ credits.

Prerequisites: Pass Matriculation in Mathematics.

Text: Crawley and Evans, *Analytical Geometry.*

14 **General Mathematics** (for Medical Students): Graphs and interpretation of statistics; review of equations; ratio and proportion; arithmetic and geometric progressions; application to compound interest, annuities and life insurance; trigonometric ratios of 30°, 45° and 60°; applications to simple problems in heights and distances; selected portions of the analytical geometry of the point, straight line, circle, parabola and ellipse. (To be given in 1922-23)

2 hours per week; 2 credits.

Prerequisites: Pass Matriculation in Mathematics.

Text: To be announced later.

17 **Business Arithmetic;** decimals, interest, discount, annuities, bond values, mensuration, etc.

1 hour per week; 1 credit.

MR. WESTERVELT.

Text: McIntosh and Norman, *New Method Arithmetic.*

20 **Algebra:** Sums of squares and of cubes of natural numbers, applications; scales of notation; simultaneous quadratic and cubic equations in two and three unknowns; imaginaries; maximum and minimum values of functions; elimination; permutations and combinations; binomial theorem with applications.

1 hour per week; 1 credit.

Prerequisites: Mathematics 10a and 12b.

MR. WOODS.

Text: Hall and Knight, *Higher Algebra*, pp.50-186 (Macmillan).

23b **Trigonometry:** Trigonometrical ratios and their relations; values of ratios of common angles; formulas of circular measure; applications; ratios of the sum and difference of two angles with derived formulae; logarithms; solution of triangles with derivation of the necessary formulae; radii of inscribed, escribed and circumscribed circles to a triangle; perimeters and areas of inscribed and circumscribed regular polygons to a circle.

2 hours per week; second term; 1 credit.

Prerequisites: Mathematics 10a and 12b.

MR. WOODS.

Text: Hall and Knight, *Elementary Trigonometry* (Macmillan).

25 **Descriptive Astronomy:** The constellations; systems of co-ordinates; shape, size and motions of the earth; the moon; eclipses; time; the solar system; the planets; comets and meteors; the sun; evolution of solar system; the stellar universe. The lectures will be illustrated with lantern slides.

2 hours per week; 2 credits.

PROFESSOR KINGSTON.

Text: Moulton, *Introduction to Astronomy* (Macmillan).

27 **Introduction to Statistics.** This course is intended to familiarize students with the elementary principles of statistics as methods of scientific study and interpretation of economic and social phenomena. The topics considered include the general characteristics of the statistical method, the definition of statistical terms and units, the sources and collection of statistical data, accuracy and approximation, the nature and causes of error, classification, frequency distributions, the several forms of average and their appropriate uses, rates and percentages, index numbers and business barometers, and the tabular and graphic presentation of statistical results. The course concludes with a

brief examination of the basis of statistical inference and the statistical criteria of association, cause and effect. The statistical methods discussed in the lectures are applied and tested in laboratory exercises.

1 hour per week; 1 credit.

Prerequisites: Mathematics 10a, 12b, 17.

PROFESSOR KINGSTON.

30 Any three credits chosen from Mathematics 100-107b.

3 hours per week; 3 credits.

Prerequisites: Mathematics 10a, 12b, 20, 23b or equivalents.

HONOR COURSES.

100 **Algebra.** Review of permutations, combinations and binomial theorem; exponential and logarithmetic series; interest and annuities; inequalities; limiting values and vanishing fractions; convergency and divergency of series; undetermined coefficients; partial fractions; recurring series; continued fractions; indeterminate equations of first degree; recurring continued fractions; summation of series.

2 hours per week, first term; 1 hour per week, second term; 1½ credits.

Prerequisites: Honor Matriculation Mathematics, or, Mathematics 10a, 12b, 23b.

MR. WOODS.

Text: Hall and Knight, *Higher Algebra*, pp. 187-340 (Macmillan).
References: C. Smith, *Treatise on Algebra* (Macmillan).
Chrystal, *Algebra* (Macmillan).

101b **Synthetic Solid Geometry.**

2 hours per week, second term; 1 credit.

Prerequisites: As for Mathematics 100.

PROFESSOR KINGSTON.

Text: Wentworth and Hill, *Solid Geometry* (Ginn).

102 **Analytical Plane Geometry.** First term: The point, line and circle. Review of preceding work on point, line and circle; polar co-ordinates; translation of origin; rotation of axes; oblique co-ordinates; the lines $ax^2+2hxy+by^2=0$; bisectors of angle between them; invariants of $ax^2+2hxy+by^2+1$; co-axal and orthogonal circles.

Second Term: The parabola, ellipse and hyperbola; characteristic properties; laws of generation; invariants of their cartesian and polar equations.

2 hours per week, first term, 1 hour per week, second term; 1½ credits.

Prerequisites: As for Mathematics 100.

PROFESSOR PATTERSON.

Text: Grace and Rosenberg, *Co-ordinate Geometry* (Tutorial Press).
References: C. Smith, *Conic Sections* (Macmillan).
Loney, *Co-Ordinate Geometry* (Macmillan).

103 **Higher Trigonometry.**

First Term: Perimeter and area of regular polygon and circle; inscribed, escribed and circumscribed circles; pedal triangle; inverse notation; general values of inverse functions; triangulation of heights and distances; limiting forms; maximum and minimum values of trigonometric functions.

Second Term: Development of trigonometric functions in power series; applications; evaluation of π; De Moivre's Theorem; n^{th} roots of ± 1; expansion of $\sin n\theta$ and $\cos n\theta$; exponential values of $\sin\theta$ and $\cos\theta$; expansion of $(2\cos\theta)^n$ and $(2\sin\theta)^n$ in power series; factors of $x^{2n}-2x^n\cos\theta+1$; hyperbolic functions; summation of trigonometric series.

1 hour per week; 1 credit.

Prerequisites: As for Mathematics 100.

PROFESSOR PATTERSON.

Texts: Lock, *Higher Trigonometry* (Macmillan).
Hobson, *Plane Trigonometry* (Cambridge).

104 **Elementary Differential and Integral Calculus.** Functions and limits of a variable; definition of derivative and its geometrical interpretation; differentiation of elementary functions; simple geometrical applications; the indefinite integral as the inverse of the derivative; simple integrals; geometrical and physical significance of the constant of integration; the definite integral and its interpretation; simple applications to calculation of areas of plane curves and volumes of solids of revolution.

1 hour per week; 1 credit.

Prerequisite: As for Mathematics 100.

MR. WOODS.

Text: Granville, *Differential and Integral Calculus* (Ginn).

107b **The Mathematical Theory of Investment.** Interest; annuities; amortization of debts; valuation of bonds;

sinking funds and depreciation; building and loan associations.

2 hours per week, second term; 1 credit.

Prerequisite: Mathematics 100.

PROFESSOR KINGSTON.

Text: Skinner, *The Mathematical Theory of Investment* (Ginn).

200 **Algebra, Determinants and Theory of Equations.** First Term: Theory of numbers as covered by Hall and Knight; perfect numbers; the integral solutions of $x^2+y^2=z^2$; an introduction to the theory of probability; theory of determinants and applications.

Second Term: Theory of Equations as covered in text.

2 hours per week; 2 credits.

Prerequisites: Mathematics 100.

MR. WOODS.

Texts: Hall and Knight, *Higher Algebra* (Macmillan).
Burnside and Panton, *Theory of Equations*, Vol. 1 (Dublin Univ. Press).
Reference: Dickson, *First Course in the Theory of Equations* (Wiley).

201a **Modern Synthetic Geometry:** Geometric continuity; selected theorems on ranges of points and pencils of lines; collinearity and concurrence; perspectivity; inversion; poles and polars; polar reciprocation and the principle of duality; harmonic and anharmonic ratios; projection.

2 hours per week, first term; 1 credit.

Prerequisite: As for Mathematics 101b.

PROFESSOR KINGSTON.

Text: To be announced later.
References: Dupuis, *Elementary Synthetic Geometry* (Macmillan).
Durell, *Plane Geometry for Advanced Students* (Macmillan).

202b **Analytical Plane Geometry.** The circle through three points; the conic through five points; number of conditions applicable to general equation of conic; line co-ordinates and their reciprocity with point co-ordinates; equation of conic in line co-ordinates with deductions therefrom; ratios of lengths of chords, diameters and tangents drawn through a given point to a conic; homogeneous and trilinear co-ordinates; applications to the geometry of points and lines related to triangle; centre and axis of homology of two triangles; Desargue's Theorem; harmonic and anharmonic pencils; harmonic properties of complete quadrilateral; conic referred to pair of tangents and chord of contact; similar and confocal conics; orders of contact of

conics; osculating circles to conics and methods of obtaining radii of curvature; conics as plane sections of cone and interrelations therefrom; invariants of general conic.

2 hours per week, second term; 1 credit.

Prerequisite: Mathematics 102.

PROFESSOR PATTERSON.

Texts: C. Smith, *Conic Sections* (Macmillan).
Salmon, *Conic Sections* (Longmans).

204 **Differential and Integral Calculus.**

First Term: Differential Calculus: Successive differentiation; maxima and minima of f(x); points of inflexion; curve tracing; differentials; rates; change of dependent and independent variables; curvature; envelopes; evolutes; involutes; Mean Value Theorem; indeterminate forms; partial differentiation; Taylor's and Maclaurin's Series applied to expansions of functions; asymptotes; singular points; tangent planes and normal lines to surfaces; tangent lines and normal planes to twisted curves.

Second Term: Integral Calculus: Integration as inverse of differentiation and as the limit of summation; methods of integration; reduction formulae; definite integrals; applications.

2 hours per week; 2 credits.

Prerequisites: Mathematics 104.

PROFESSOR PATTERSON.

Texts: Granville, *Differential and Integral Calculus* (Ginn).
Williamson, *Integral Calculus, Elementary Treatise* (Longmans).
References: The works of Byerly, Edwards, Johnson, Williamson.

Group 3

Note.—Groups 3 and 4 will be given in alternate years, group 4 in 1922-23.

303a **Spherical Trigonometry.** The solution of the spherical triangle with applications to problems in geodesy and astronomy.

2 hours per week, first term; 1 credit.

Prerequisites: Mathematics 200, 206.

PROFESSOR KINGSTON.

Text: Dupuis and Matheson, *Spherical Trigonometry* (Uglow).
Reference: Todhunter and Leatham, *Spherical Trigonometry* (Macmillan).

304 **Differential Equations.** Differential Equations of first order; singular solutions; applications; linear equations with constant coefficients; with variable coefficients; exact

differential equations; integrations in series; equations of second order; equations with more than two variables; partial differential equations.

2 hours per week; 2 credits.

Prerequisites: Mathematics 200, 206.

PROFESSOR PATTERSON.

Text: Murray, *Differential Equations* (Longmans).
References: W. W. Johnson, *Monograph on Differential Equations* (Wiley).
W. W. Johnson, *Differential Equations* (Wiley).
Forsyth, *Differential Equations* (Macmillan).

305a **Descriptive Astronomy.** The constellations; systems of co-ordinates; shape, size and motions of the earth; the moon, eclipses; time; the solar system; the evolution of the solar system. The lectures will be illustrated with lantern slides.

2 hours per week, first term; 1 credit.

PROFESSOR KINGSTON.

Text: Moulton, *Introduction to Astronomy* (Macmillan).

305b **Mathematical Astronomy.** Time, the conversion of time; the ephemeris; corrections of observations for refraction, parallax, aberration and dip; description and working principles of astronomical instruments; errors of instruments, and how to eliminate their effects; determination of latitude, longitude, azimuth and time.

2 hours per week, second term; 1 credit.

Prerequisites: Mathematics 303a, 305a.

PROFESSOR KINGSTON.

Text: Barlow and Bryan, *Elementary Mathematical Astronomy* (Briggs and Bryan, Tutorial Series).
References: Holt, *Manual of Field Astronomy* (Wiley).
Stewart, *Notes on Practical Astronomy and Geodesy.*

306 **Analytical Solid Geometry.** Plane sections of conicoids, generating lines of conicoids; systems of conicoids; tangential equations; reciprocation; confocal conicoids; foci of conicoids; quadriplanar and tetrahedral co-ordinates; surfaces in general; twisted curves; curvature of surfaces.

2 hours per week; 2 credits.

Prerequisites: Mathematics 200-206.

PROFESSOR KINGSTON.

Text: C. Smith, *Solid Geometry* (Macmillan).
References: Salmon, *Analytical Geometry of Three Dimensions*, Vols. I and II (Longmans).
Aldis, *Solid Geometry.*

308b **Reading Course.** History of Mathematics.
2 hours per week, second term; 1 credit.
Texts: Cajori, *A History of Mathematics* (Macmillan).
Fink, *A Brief History of Elementary Mathematics* (Open Court).

Group 4

400a **Vector Analysis.**
2 hours per week, first term; 1 credit.
Prerequisite: Mathematics 200-206.

MR. WOODS.

Texts: Hyde, *Grassmann's Space Analysis* (Wiley).
Coffin, *Vector Analysis* (Wiley).
References: Hyde, *Directional Calculus.*

401b **Higher Plane Curves.** Inverse curves; pedal curves; reciprocal polars; order and class of a curve; Joachamsthal's method of investigating singularities; multiple points; tangents and pseudo-tangents; kth polars and polar k-thics; deficiency; Plucker's numbers; residuation; genesis and properties of various plane curves; roulettes.
2 hours per week, second term; 1 credit.
Prerequisites: Mathematics 200-206.

PROFESSOR PATTERSON.

Texts: Williamson, *Differential Calculus* (Appleton).
Williamson, *Integral Calculus* (Longmans).
Reference: Salmon, *Analytical Geometry* (Gauthier-Villars, Paris).

402 **Advanced Theory of Conics.** Study of conics by abridged notations; points and lines at infinity; Pascal's and Brianchon's Theorems; parametric equations of conics; envelopes; harmonic and anharmonic properties of ranges and pencils related to conics; projective properties of conics; involution; polar reciprocation; applications.
1 hour per week; 1 credit.
Prerequisites: Mathematics 200-206.

PROFESSOR PATTERSON.

Text: Salmon, *Conic Sections* (Longmans).
References: Reye (tr. Holgate) *Geometry of Posiion, Part I* (Macmillan).
Cremona, *Projective Geometry* (Macmillan).
Hatton, *Principles of Projective Geometry* (Dent).
Veblen and Young, *Projective Geometry* (Ginn).

403 **Theory of Functions of Complex Variable.**
2 hours per week; 2 credits.
Prerequisites: Mathematics 200-206.

MR. WOODS.

Texts: Townsend, *Functions of a Complex Variable* (Holt).
Fiske, *Functions of a Complex Variable* (Wiley).
References: Harkness and Morley, *Theory of Functions* (Macmillan).
Forsyth, *Theory of Functions* (Macmillan).
Goursat, *Functions of a Complex Variable* (Ginn).
Burkhardt-Rasor, *Theory of Functions of a Complex Variable* (Heath).

404b **Advanced Calculus:** Selected topics.

2 hours per week, second term; 1 credit.

Prerequisites: Mathematics 200-206.

PROFESSOR KINGSTON.

References: Williamson, *Integral Calculus* (Longmans).
Byerly, *Integral Calculus* (Ginn).
Goursat-Hedrick, *Mathematical Analysis*, Vol. I (Ginn).

407a **Finite Differences:** Fundamental difference forms; factorial expansions; Herschel's and Maclaurin's Theorems; interpolation formulae; statistical applications; mechanical quadratures; finite integration, Euler-Maclaurin sum series.

2 hours per week, first term; 1 credit.

Prerequisites: Mathematics 200-206.

PROFESSOR KINGSTON.

Text: Burn and Brown, *The Elements of Finite Differences* (Spectator).
Reference: Boole, *Finite Differences* (Macmillan).

407b **Theory of Probability in Life Insurance:** The general theory of probability; the mortality table; probabilities of life; expectations of life; survivorship probability; the law of mortality.

2 hours per week, second term; 1 credit.

Prerequisites: Mathematics 200-206.

PROFESSOR KINGSTON.

Texts: Fisher, *The Mathematical Theory of Probability* (Macmillan).
Todhunter, *Institute of Actuaries Text Book*, Part II, (Spectator).
Reference: Hall and Knight, *Higher Algebra* (Macmillan).

Courses Leading to the Degree of M. A.

A selection from the following courses will be offered from time to time to suit the qualifications of candidates:

Theory of Invariants.
Theory of Numbers.
Synthetic Projective Geometry.
Projective Differential Geometry.
Modern Analytic Geometry.
Theory of Functions of a Real Variable.
Theory of Algebraic Functions.
Elliptic Integrals.
Celestial Mechanics.
Advanced Actuarial Science.

Department of Philosophy

University College

REV. G. B. SAGE, M.A., D.D.,	Lecturer
REV. T. A. SYMINGTON, M.A.,	Lecturer.
REV. N. S. MCKECHNIE, B.A.,	Lecturer.

Assumption College

REV. C. COUGHLIN, B.A.,	Professor.
REV. J. C. PLOMER, B.A.,	Professor.
REV. E. J. PLOURDE,	Professor.
REV. E. TIGHE, B.A.,	Professor.
REV. C. DONOVAN, B.A.,	Associate Professor.
REV. W. SHARPE, M.A.,	Lecturer.

Ursuline College

REV. A. P. MAHONEY,	Lecturer.
REV. J. H. POCOCK, B.A.,	Lecturer.

20 **Logic**: Formal and Inductive; optional for students in the second year of the General Course.

1 hour per week; 1 credit.

DR. SAGE.

Text-book: Jevons, *Elementary Lessons in Logic* (Macmillan).

21 **Psychology**; Sensation, Thought, Emotion, Volition; optional for students in the second year of the General Course.

1 hour per week; 1 credit.

DR. SAGE.

Text-books: Hunter, *General Psychology* (Univ. of Chicago Press.)
Angell, *Psychology* (Holt).

30 **History of Philosophy**; prescribed for the students in the third year of the General Course; lectures, assigned readings and essays; Greek philosophy, with special reference to Socrates, Plato, Aristotle; Pre-Kantian philosophy, especially Descartes, Spinoza, Leibnitz; English philosophy with special reference to Bacon, Hobbes, Locke, Berkeley, Hume.

2 hours per week; 2 credits.

MR. MCKECHNIE.

31 **Ethics**; the history of early modern ethics up to Kant; theory of obligation; applied ethics; prescribed for

third year students in the General Course.
1 hour per week; 1 credit.

DR. SAGE.

Text-book: Mackenzie, *Manual of Ethics.*
D'Arcy, *A Short Study of Ethics.*
Dewey and Tufts, *Ethics.*
Sidgwick, *History of Ethics.*

40 **History of Modern Philosophy**; an option for students in the fourth year of the General Course; lectures, prescribed reading and essays; Kant and his immediate successors; the English Philosophers, especially Mill and Spencer; more recent philosophic theories; outstanding problems of Modern Philosophy.
2 hours per week; 2 credits.

MR. SYMINGTON.

References: Hoffding, *History of Philosophy, Vol. II.*
Cushman, *History of Philosophy.*
Seth, *English Philosophers and Philosophic Schools.*
Rand, *Classical Philosophers.*
Calkins, *Persistent Problems of Philosophy.*

Honor Courses.

200 **Elementary Psychology.**
3 hours per week; 3 credits.

PROFESSOR DONOVAN.

220. **An Introductory Course in Logic**; inductive and deductive reasoning, the syllogism.
2 hours per week; 2 credits.

PROFESSOR DONOVAN.

230 **History of Philosophy**; a course of lectures in Greek Philosophy.
2 hours per week; 2 credits.

PROFESSOR SHARPE.

300 **Metaphysics.**
3 hours per week; 3 credits.

PROFESSOR TIGHE.

320 A course in **Ethics.**
3 hours per week; 3 credits.

PROFESSOR COUGHLIN.

330 A course in **Logic.**
2 hours per week; 2 credits.

PROFESSOR TIGHE.

340 **History of Philosophy.** Patristic and Mediaeval.
3 hours per week; 3 credits.

PROFESSOR SHARPE.

400 Special Questions in **Metaphysics.**
3 hours per week; 3 credits.
PROFESSOR TIGHE.

410 Special Questions in **Psychology.**
2 hours per week; 2 credits.
PROFESSOR TIGHE.

420 A course in **Ethics.**
3 hours per week; 3 credits.
PROFESSOR COUGHLIN.

430 **History of Philosophy,** Modern.
3 hours per week; 3 credits.
PROFESSOR SHARPE.

Department of Physical and Military Training

Supervisors: MAJOR M. L. BLAKE.
MISS E. PRYCE.

Students are given a physical examination at the beginning of each session. Anthropometric charts are kept for each student. Corrective exercises will be prescribed where necessary.

10 **Physical Training for Women.** Required of all women students in the first year. Swedish gymnastics, calisthenics, simple folk and artistic dancing, basketball, swimming.
2 or 3 hours per week; 1 or 1½ credits.
Tuesday and Thursday, 4.30, Gymnasium.
MISS PRYCE.

11 **Physical Training for Men.** Required of all men in the first year. Drills and exercises, outdoor and indoor games.
2 to 3 hours per week; 1 or 1½ credits.
Monday and Wednesday at 4.30, Gymnasium.
MAJOR BLAKE.

12 **Military Training.** An alternative for Physical Training 11 for men of the first year. Squad, section, platoon and company drill.
2 or 3 hours per week; 1 or 1½ credits.
Tuesday, Thursday, Friday, 5-6, Armouries.
MAJOR BLAKE and Assistants.

20 **Physical Training for Women.** Required of all women in their second year. Swedish gymnastics, calisthenics, advanced folk and artistic dancing, basketball, swimming and fencing.

2 or 3 hours per week; 1 or 1½ credits.

Tuesday and Thursday, 4.30, Gymnasium.

MISS PRYCE.

21 **Physical Training for Men.** Required of all men in the second year. Drills and exercises, outdoor and indoor games.

2 or 3 hours per week; 1 or 1½ credits.

Monday and Wednesday at 4.30, Gymnasium.

MAJOR BLAKE.

22 **Military Training.** Optional with 21 for all men in their second year. Practice in instruction in squad, section, platoon and company drill. Preparation for the efficiency test for certificates for lieutenants in the Canadian Militia.

2 or 3 hours per week; 1 or 1½ credits.

Prerequisite: Physical and Military Training 12.

Tuesday, Thursday, Friday, 5-6, Armouries.

MAJOR BLAKE and Assistants.

30 **Advanced Physical Training for Women.** Optional for women of the third and fourth years. Open to those only who have had Physical Training 10 and 20.

2 hours per week; 1 credit.

MISS PRYCE.

32 **Military Training.** Optional for men in their third year. Practice in instruction in squad, section, platoon and company drill, as non-commissioned officers in the University contingent.

Lectures and theory of the work laid down for certificate for lieutenants in the Canadian Militia.

3 to 5 hours per week; 3 credits.

Prerequisite: Physical and Military Training 22.

42 **Military Training;** an option for men in their fourth year; practice, lectures, theory of the work laid down for captains' certificates in Canadian Militia.

5 hours per week; 3 credits.

Prerequisite: Physical and Military Training 32.

Department of Physics

R. C. DEARLE, M.A., PH.D.	Professor.
R. L. ALLEN, M.A.	Instructor.
CAROLINE BLAMPIN, M.A.	Instructor.
C. SMITH,	Student Assistant.
K. THOMSON,	Student Assistant.

All students taking laboratory work in Physics must make a deposit of five dollars with the head of the department to cover breakage, etc.

10 **Mechanics and Heat:** An elementary course covering the general principles, presented from a non-mathematical point of view. Optional for students in the General Course.

2 lectures and 3 laboratory hours per week; 3 credits.

Text-Books: Merchant and Chant, *Mechanics for the Upper School.*
Stewart and Satterly, *Senior Heat.*
Reference: Watson, *General Physics.*
Ontario High School Physics.

1 lecture, 3 laboratory hours per week in the first term, 1½ credits.

Reference: Stern and Topham, *Practical Mathematics.*

20 **Electricity, Sound and Light:** Supplementary to 10 but requiring more mathematical knowledge.

2 lectures, 3 laboratory hours per week; 3 credits.

Prerequisites: Physics 10, Mathematics 23b.

Text-books: Hadley, *Electricity and Magnetism.*
Edser, *Light for Students.*
Catchpool, *Sound.*
Reference Watson, *General Physics.*
Ontario High School Physics.

30 **Physical Measurements:** Lectures on laboratory methods and practical work with emphaiss on precision. Training is given in contracted methods of calculation, graphical solution of problems, also in some of the simpler laboratory arts, such as glass-blowing, etc.

3 laboratory hours per week; 1 credit.

Prerequisite: Physics 20.

Text-book: Goodwin, *Precision of Measurements.*
Reference: Stern & Topham, *Practical Mathematics.*

Honor Courses

100 **Mechanics and Heat:** Fundamental laws of statics and dynamics with applications to machines, elas-

ticity, periodic motion; laws of gases; surface tension; thermometry, calorimetry, conductivity, hygrometry, mechanical equivalent of heat. Prescribed for all honor students of the first year.

2 lectures, 3 laboratory hours per week, 3 credits.

Text-books: Allen and Moore, *Textbook of Practical Physics, Pts. I and IV.*
Edser, *Heat for Advanced Students.*
Reference: Watson, *Textbook of Physics.*
Poynting and Thomson, *Textbook of Physics, Vol. III.*

101 **Physical Measurements:** Similar to 30. Prescribed for students in the first year of the Mathematics and Physics course.

3 laboratory hours per week; 1 credit.

Text-book: See Physics 30.

200 **Elements of Mechanics:** A mathematical treatment of the principles of statics and dynamics with numerous applications of physical principles.

2 lectures per week; 2 credits.

Text-books: Miller and Lilley, *Analytic Mechanics.*
Reference: Jeans, *Mechanics.*

201 **Electricity, Sound and Light:** Lectures on the principles involved, including an elementary mathematical treatment of magnetic and electric fields, measuring instruments, electromagnetism, dynamos and motors, conduction through gases; reflection and refraction of light, mirrors and lenses, lens systems, dispersion, polarisation; wave-motion, propagation of sound waves, measurement of wave-length, velocity and pitch; musical scales, standards of pitch.

2 lectures, 6 laboratory hours per week, first term; 3 lectures, 6 laboratory hours per week, second term; 4½ credits.

Text-books: See Physics 20.
Reference: Watson, *Textbook of Physics.*
Poynting and Thomson, *Textbook of Physics, Vols. II, IV, V.*

300 **Particle Dynamics:** An advanced course in the dynamics of a particle making use of calculus and differential equations.

2 lectures per week; 2 credits.

Text-book: Tait and Steele, *Dynamics of a Particle.*

301. **Geometrical and Physical Optics:** A more advanced treatment of theoretical and applied optics including

an historical treatment of the development of the modern conceptions of light.

2 lectures per week, 3 laboratory hours; 3 credits.

Text-book: Houston, *Light.*
Reference: Wood, *Physical Optics.*
Drude, *Theory of Optics.*

302. **Electron Theory of Matter and Electromagnetic Theory of Light.** A study of the development of Maxwell's equations for the electromagnetic field with applications to various magneto-optical phenomena.

1 lecture per week; 1 credit.

Text-book: as for 301.
Reference: as for 301.
Also Richardson, *Electron Theory of Matter.*

303 **Properties of Matter and Heat:** A mathematical treatment of periodic motion, gravitation, elasticity, surface tension, osmosis, changes of state, laws of gases, thermometry for high and low temperatures, mechanical equivalent of heat, and heat engines.

2 lectures per week, 3 laboratory hours; 3 credits.

Text-book: Edser, *General Physics.*
Reference: Poynting and Thomson, *Textbook of Physics, Vol. I.*
Edser, *Heat for Advanced Students.*

304 **Fourier Series:** An introduction to Fourier's analysis of wave-motion with applications to the theory of heat conduction, and to the vibrations of plucked strings.

1 lecture per week; 1 credit.

Reference: Byerly, *Fourier Series and Spherical Harmonies.*
Ingersoll and Zobel, *Mathematical Theory of Heat Conduction.*

305 **Theory of Heat:** An intermediate course without extensive mathematical analysis, introducing the fundamental principles of thermodynamics, radiation and temperature measurements.

2 lectures per week; 2 credits.

Text-book:

400 **Mathematical Theory of Potential:** A mathematical treatment of the electrical field and its properties.

2 lectures, per week; 2 credits.

Text-book:
Reference:

401 **Recent Advances in Physics:** A course on selected topics with outside reading, including atomic theory, radioactivity, conduction through gases, magneto-optics, etc.

2 lectures per week; 2 credits.

Text-book:
Reference:

402 **Elementary Thermodynamics and Theory of Gases:** A treatment of the laws of thermodynamics, heat engines, reversible cycles, radiation, energy distribution;

2 lectures per week; 2 credits.

Text-book:
Reference:

404 **Laboratory Course:** designed as an accompaniment to the lecture work of the fourth year. Especial emphasis is laid upon individuality of work and resourcefulness. As far as possible training is given in research methods.

9 laboratory hours per week; 3 credits.

Reference: Current scientific magazines and periodicals.

405 **Seminar:** Preparation and reading of articles from current magazines as well as historical essays. Prescribed for fourth year students and optional for all students in the Mathematics and Physics course.

1 hour per week; 1 credit.

Department of Political Economy

PROFESSOR WOOD, MR. PERRIN

Political Economy

20 **The Elements of Political Economy:** Lectures, assigned reading; essays will be required as term work from all students.

2 hours per week; 2 credits.

PROFESSOR WOOD.

Text-books: C. Gide, *Principles of Political Economy.*
T. N. Carver, *Principles of Political Economy.*
References: F. W. Taussig, *Principles of Economics.*
C. J. Bullock, *Selected Readings in Economics.*
J. G. Bartholomew, *Advanced Economic Atlas.*
The works of Adam Smith, Ricardo, Mill, Marx, Boehm-Bawerk, Marshall, Smart, Nicholson, Ely, etc.

30 **The Theory of Money.**

The Principles of (a) Banking.
(b) Foreign Exchange.

Lectures, assigned reading; essays will be required from all students. Must be combined with 31.

2 hours per week; 2 credits.

Prerequisite: Political Economy 20.

PROFESSOR WOOD.

Text-books: J. F. Johnson, *Money and Currency.*
J. T. Holdsworth, *Money and Banking.*
References: W. S. Jevons, *Money and the Mechanism of Exchange.*
D. A. Barker, *Theory of Money.*
J. L. Laughlin, *Principles of Money.*
N. B. Anderson, *The Value of Money.*
C. A. Phillips, *Readings in Money and Banking.*
H. White, *Money and Banking.*
E. E. Agger, *Organized Banking.*
Sir David Barbour, *The Standard of Value.*
G. J. Coschen, *Theory of the Foreign Exchanges.*
H. Withers, *Meaning of Money.*
Canada and its Provinces, Volume X.

31 Must be taken along with 30.

(A) The Principles of Public Finance.

Text-book: G. C. Plehn, *Introduction to Public Finance.*
References: C. F. Bastable, *Public Finance.*
E. R. A. Seligman, *Essays on Taxation.*
J. Lyon, *Principles of Taxation.*
D. A. Wells, *Theory and Practice of Taxation.*
Y. Scheftel, *The Taxation of Land Value.*
Canada and its Provinces. (Selected portions).

(B) Rural Economics.

Text-book: H. C. Taylor, *Agricultural Economics.*
References: H. D. Harben, *The Rural Problem.*
L. D. H. Weld, *The Marketing of Farm Products.*
G. H. Powell, *Co-operation in Agriculture.*
J. A. R. Marriott, *The English Land System.*
J. B. Mormon, *The Principle of Rural Credits.*

40 **The History of Economic Theories.**

3 hours per week, first term; 1½ credits.

Prerequisite: Political Economy 30.

PROFESSOR WOOD.

Text-book: J. K. Ingram, *History of Political Economy.*
References: L. H. Haney, *History of Economic Thought.*
G. Gide, and C. Rist, *His tory of Economic Doctrines.*
W. Smart, *Economic Annals of the Nineteenth Century.*

41 Must be taken along with 40.

3 hours per week, second term; 1½ credits.

(I) Corporation Finance including a study of the Stock Markets.

Text-book: E. S. Mead, *Corporation Finance.*
References: Hastings Lyon, *Corporation Finance.*
S. S. Pratt, *The Work of Wall Street.*
W. C. Van Antwerp, *The Stock Exchange from Within.*
T. E. Burton, *Corporations and the State.*
H. Withers, *Stocks and Shares.*

(II) The Principles of Transportation.

Text-book: E. R. Johnson, *Elements of Transportation.*
References: Ray Morris, *Railroad Administration.*
H. B. Vanderblue, *Railroad Valuation.*
Cleveland and Powell, *Railroad Finance.*
D. Knoop, *Outlines of Railway Economics.*
Johnson and Huebner, *Principles of Ocean Transportation.*
B. O. Hough, *Ocean Traffic and Trade.*
P. M. Ogilvie, *International Waterways.*

200 Identical with 20.

201 **Commercial Geography.**
2 hours per week, first term; 1 credit.

PROFESSOR WOOD.

Text-book: E. L. Curr, *Commercial Geography.*
References: L. W. Lyde, *Commercial Geography of the World.*
Spencer Trotter, *The Geography of Commerce.*
J. D. Whelpley, *The Trade of the World.*
C. R. Toothaker, *Commercial Raw Materials.*

202 **Industrial History of Canada since Confederation.**
2 hours per week, second term; 1 credit.

PROFESSOR WOOD.

Text-books: *Canada and its Provinces, Vol.* 9, *General Economic History,* 1867-1912.
Government Reports dealing with matters of industry and tariff regulation.
References: G. Myers, *History of Canadian Wealth.*
E. Porritt, *Sixty Years of Protection in Canada.*

300 Identical with 30.

301 Identical with 31.

302 **The Industrial and Commercial History of:**
(1) Great Britain from the early Middle Ages.
(2) The Principal European Countries since 800 A.D.
(3) The United States from the Colonial Period.
2 hours per week; 2 credits.
Prerequisites: Political Economy 200, 201, 202.

PROFESSOR WOOD.

Textbooks: E. P. Cheyney, *Introduction to the Industrial and Social History of England.*
H. de B. Gibbins, *History of Commerce in Europe.*
K. Coman, *Industrial History of the United States.*
References: M. Briggs, *Economic History of England.*
E. Lipson, *Introduction to the Economic History of England.*
F. A. Ogg, *Economic Development of Modern Europe.*
Karl Buecher, *Industrial Evolution.*
Clive Day, *A History of Commerce.*
C. A. Herrick, *History of Commerce and Industry.*
E L. Bogart, *Economic History of the United States.*
I. Lippincott, *Economic Development of the United States.*
Bland, Bowman and Tawney, *English Economic History* (Select Documents).

400 Identical with 40.

401 Identical with 41.

402 (1) **Labor Conditions and Problems.**
(2) **Socialism.**
(3) **Syndicalism and Allied Theories.**

Lectures, prescribed reading.
3 hours per week, first term; 1½ credits.

PROFESSOR WOOD.

Text-books: F. T. Carlton, *History and Problems of Organized Labor.*
O. D. Skelton, *Socialism, a Critical Analysis*
J. G. Brooks, *American Syndicalism*
References: J. R. Commons, *Labor and Administration*
Adams and Summer, *Labor Problems*
G. B. H. Cole, *The World of Labour.*
C. M. Lloyd, *Trade Unionism.*
L. G. Chiozza Money, *The Future of Work.*
Thorold Rogers, *Six Centuries of Work and Wages.*
M. Hilquit, *Socialism in Theory and Practice.*
Thos. Kirkup, *A History of Socialism.*
I. B. Cross, *Essentials of Socialism.*
E. Aveling, *The Student's Marx.*
Documentary material embodying labor platforms, the manifestos of Socialism, and the policies of Syndicalism.

403 **International Trade and Tariff Systems.**
2 hours per week, second term; 1 credit.

PROFESSOR WOOD.

Text-books: C. F. Bastable, *Theory of International Trade*
G. N. Fisk, *International Commerical Policies.*
Texts of the tariff arrangements of various nations.
References: T. Percy Ashley, *Modern Tariff History.*
F. Pierce, *The Tariff and the Trusts.*
H. G. Brown, *International Trade and Exchange.*
F. W. Taussig, *Tariff History of the United States.*
D. C. Roper, *Tariff Handbook.*

404 **Problems of Distribution.**
2 hours per week, second term; 1 credit.

PROFESSOR WOOD.

Text-book: J. R. Commons, *Distribution of Wealth.*
References: Irving Fisher, *The Nature of Capital and Interest.*
J. B. Clark, *The Distribution of Wealth.*
W. Smart, *Distribution of Income.*
G. A. Kleene, *Profit and Wages*
C. G. Hoog, *Theory of Interest*

Government and Law

305 **Roman Law.** A review of the customary law of the regal period at Rome, with a short history of the law from the time of the Decemviri to the death of Justinian, giving also an account of the growth of the unwritten law, praetor's edict, the formulary system, the jus naturae, the

legislation during the Republic and under the Empire and the Justinian Code.

1 hour per week; 1 credit.

Prerequisite: Political Economy 200, 201, 202.

MR. PERRIN.

Text-book: Sandars, *The Institutes of Justinian.*

306 **English Law.** The law before the Norman Conquest, the Saxon Invasion, and the changes wrought by the Conqueror and his successors. The growth of the Feudal System, and the changes introduced by the Legislation of Henry II, Edward I and Edward III.

1 hour per week; 1 credit.

Prerequisite: Political Economy 200-202.

MR. PERRIN.

Text-books: Pollock and Maitland, *History of English Law, Vol. I.*
Storry-Deans, *Students' Legal History.*

307 **Jurisprudence.** General and Historical Jurisprudence, the analysis of law and of rights, the sources of law, a general classification of rights, adjective private law, public law and its various divisions.

1 hour per week; 1 credit.

Prerequisite: Political Economy 200-202.

MR. PERRIN.

Text-books: Holland's *Elements of Jurisprudence.*
Sir Henry Maine's *Ancient Law.*

405 **English Constitutional Law.** The law of the English Constitution, with a sketch of the two Houses of Parliament, the Prerogatives, the Conventions and Courts.

1 hour per week; 1 credit.

Prerequisite: Law 305-307.

MR. PERRIN.

Text-books: Dicey, *Law of the Constitution.*
Anson, *Law and Custom of the Constitution.*

406 **Federal Constitutional Law.** The leading features of Federal Government as exhibited in the most prominent Federal States. Constitutions of Canada, Australia, Switzerland and the United States.

1 hour per week; 1 credit.

Prerequisite: Law 305-307.

MR. PERRIN.

Text-books: Lefroy, *Federal System and Leading Cases in Federal Constitutional Law.*
Woodrow Wilson, *Congressional Government.*

407 **Colonial Constitutional Law.** The various forms of Colonial Government, with special reference to the self-governing colonies.

1 hour per week; 1 credit.

Prerequisite: Law 305-307.

MR. PERRIN.

Text-book: Todd, *Parliamentary Government in the Colonies* (to p 318).

408 **Public International Law.** The essential principles are discussed and special reference made to current illustrations.

1 hour per week; 1 credit.

Prerequisite: Law 305-07.

MR. PERRIN.

Text-book: Westlake's *International Law.*

Department of Public Health and Bacteriology

DEAN HILL AND ASSOCIATE PROFESSOR LUNEY.

10 A series of lectures and demonstrations is given to students of the first year dealing with public health, preventive medicine and hygiene, and describing the essentials of bacteriology so far as applicable to modern life. Modern methods of handling and preventing infectious diseases, the hygiene of water, milk, food, flies and contact; the physiological principles involved in and the significance of ventilation, foods and feeding, water supplies, sewage disposal, vital statistics, infant mortality, etc., are included. All subjects are so treated from a practical standpoint as to outline the principles and show the general methods based upon them. Technicalities are avoided, the aim being not to train public health specialists but to give that information which every educated person should have concerning the great advances of modern public health in order that he or she may be able to understand and fit in with them.

1 hour per week; 1 credit.

Department of Romance Languages

University College

L. P. SHANKS, PH.D., Professor.
E. A. MERAS, L. L., Assistant Professor.
O. F. W. ELLIS, M.A., Assistant Professor.
BATEMAN EDWARDS, B.A. Instructor.

Assumption College

REV. L. J. BONDY, B.A., Professor.

Ursuline College

M. M. ST. ANNE, M.A., Professor.

FRENCH

The object of the general course is to prepare the student with junior matriculation in the use of French as an instrument of study in connection with other subjects and as an instrument of culture. It aims at developing a facile and intelligible pronunciation of French, ability to understand spoken French, rapid reading, some control over the spoken language, a general view of French literature (from the reading in French of an elementary history of French Literature). The pass courses are all in charge of Mr. Méras, and are conducted entirely in French.

10 **The Modern Short Story:** grammar, dictation, conversation, translation into French, and some training in literary appreciation.

3 hours per week; 3 credits.

PROFESSOR SHANKS.
ASSISTANT PROFESSOR ELLIS.
MR. EDWARDS.

Text-books: Buffum, *French Short Stories* (Holt).
Skinner and Dow, *Contes des Romanciers Naturalistes* (Heath).
Carnahan, *French Review Grammar* (Heath).

Outside Reading: LeSage, *Gil Blas* (Holt).
Sand, *La Mare au Diable* (Heath).
France, *Le Livre de mon Ami* (Holt).
Michelet, *Extraits de l' Histoire de France* (Heath).

20 **French Literature from the Renaissance to the Revolution:** dictation, conversation and prose composition.

Prerequisite: French 10.

3 hours per week; 3 credits.

MR. EDWARDS.

Text-books: Vreeland and Michaud, *Anthology of French Authors* (Ginn), to Chénier.
Corneille, *Le Cid.*
Molière, *Le Bourgeois Gentilhomme.*
Voltaire, *Contes* (Oxford).
Levi, *French Composition.*
Beaumarchais, *Le Barbier de Séville.*

Outside Reading: Mme de Lafayette, *La Princesse de Clèves.*
Molière, *L'Avare,* or Racine, *Athalie.*
LeSage, *Turcaret.*
Marivaux, *Le Jeu de l'Amour et du Hasard.*
B. de St. Pierre, *Paul et Virginie.*
Strachey, *Landmarks in French Literature.*

30 **Modern French Literature.**
Prerequisites: French 20.
3 hours per week; 3 credits. PROFESSOR SHANKS.

Text-books: Vreeland and Michaud, *Anthology*, to end
Rousseau, Selections
Chateaubriand, *Atala*, or *Mémories d'Outre-tombe*
Hugo, *Travailleurs de la Mer*.
Balzac, *Le Curé de Tours*.
Augier, *Le Gendre de Monsieur Poirier*.
France, *Le Crime de Sylvestre Bonnard*.
Koren, *French Composition*.
Outside Reading: Hugo, *Notre-Dame*.
Lamartine, *Graziella*.
Musset, *Comedies*.
Dumas fils, *La Question d'Argent*.
Loti, *Le Roman d'un Enfant*.
Daudet, *Tartarin sur les Alpes*.
Strachey, *Landmarks in French Literature*.

40 **French Poetry and Verse-drama:** conversation and prose composition.
Prerequisite: French 30.
3 hours per week; 3 credits. PROFESSOR SHANKS.

Text-books: Canfield, *French Lyrics*.
Corneille, *Cinna*.
Racine, *Phèdre*.
Hugo, *Hernani* or *Ruy Blas*.
Bornier, *La Fille de Roland*.
Rostand, *Cyrano de Bergerac*.
Outside Reading: LaFontaine, *Fables*.
Corneille, *Polyeucte*.
Racine, *Brittanicus* or *Esther*.
Voltaire, *Zaïre*.
Musset, *A quoi rêvent les jeunes filles*.
Walch, *Anthologie des Poètes Français Contemporains*.

Honor Courses

The Honor course aims at developing in the student (1) an intelligible and facile pronunciation of French; (2) a knowledge of grammar and syntax required for teaching the elements of the language; (3) a rapid and accurate ability in reading French of various styles; (4) sufficient familiarity with the content of French literature and the terminology of criticism and literary history for beginning graduate work in Canadian or American universities. About one-third of the work is devoted to grammar and composition. The courses are conducted to a large extent in French. Notable deficiency in pronounciation at the end of the first year will bar the student from continuing the honor course.

100 **Modern French Literature.** Conversation, dictation and prose composition. Prescribed for honor courses in Modern Languages and Romance Languages, and optional for honors in English and History.
3 hours per week; 3 credits.
MR. EDWARDS.

Text-books: Buffum, *French Short Stories*.
Skinner and Dow, *Contes des Romanciers Naturalistes*.
Mérimée, *Carmen* and Other Stories.
Daudet, *Tartarin sur les Alpes*.
Outside Reading: LeSage, *Gil Blas*.
Sand, *La Mare au Diable*.
Musset, *Comedies*.
Augier, *Le Gendre de Monsieur Poirier*.
France, *Le Livre de mon Ami*.
Michelet, *Extraits de l' Histoire de France*.
B. W. Wells, *A Century of French Fiction*.

200 **The Literature of the Seventeenth Century.** Lectures, reading, conversation, dictation and prose composition. Prescribed for honors in Modern Languages, Romance Languages. Optional for Honors in English and History.

Prerequisite: Honor Matriculation French or French 100.

3 hours per week; 3 credits.

PROFESSOR SHANKS.

Text-books: Schinz and King, *Seventeenth Century French Readings*, in toto.
Corneille, *Le Cid, Horace, Cinna, Polyeucte.*
Boileau, *Art poétique.*
Racine, *Andromaque, Britannicus, Phèdre, Athalie, Esther.*
Molière, *Les Précieuses Ridicules, Les Femmes Savantes, Le Tartuffe, Le Misanthrope.*
Mme. de Lafay ette, *La Princesse de Clèves.*
Koren, *French Composition.*
References: Lanson, *Histoire de la Littérature française.*
Crane, *La Société française au 17ième Siècle.*
Strachey, Joliet or Abry-Audic-Crouzet, etc.

300 **The Literature of the Eighteenth Century.** Lectures, reading, conversation, dictation and essays in French. Prescribed for Honors in Modern Languages and Romance Languages; optional for Honors in English and History.

Prerequisite: French 200.

3 hours per week; 3 credits. MR. EDWARDS.

Text-books: Montesquieu, *Letres persanes.*
LeSage, *Turcaret, Gil Blas.*
Voltaire, *Contes*, etc.
Marivaux, *Comédies.*
Diderot, Selections.
Rousseau, Selections.
B. de St. Pierre, *Paul et Virginie.*
Beaumarchais, *Le Barbier de Séville, Le Mariage de Figaro.*
Taine, *L'Ancien Régime.*
Faguet, *Dix-huitième Siècle.*
References: Lanson, *Histoire de la Littérature française*, Petit de Julleville, etc.

400 **The Literature of the Nineteenth Century.** Lectures, reading, conversation and essays in French. Prescribed for honors in Modern Languages and Romance Languages; optional for honors in English and History.

Prerequisite: French 300.

3 hours per week; 3 credits.

PROFESSOR SHANKS.

Text-books: Henning, *French Lyrics of the Nineteenth Century.*
Chateaubriand, *Atala, René.*
Sand, *Mauprat.*
Hugo, *Hernani; Notre Dame de Paris.*
Balzac, *La Recherche de l'Absolu, Le Père Goriot.*
Gautier, Selections.
Skinner and Dow, *Contes des Romanciers Naturalistes.*
Augier, *Le Fils de Giboyer*
Dumas, *La Question d'Argent.*
Flaubert, *Salammbô.*
Zola, *La Débâcle.*
Taine, *Introduction à l' Histoire de la Littérature anglaise.*
Renan, *Souvenirs d'Enfance et de Jeunesse.*
References: Lanson, *Histoire de la Littérature française;* Petit de Julleville, Pellissier, Brandes, Brunetière, Faguet, etc.

301 **Old French.** Vowel change, Old French declension, recognition of verb forms. Prescribed for third year students in French honors.

Prerequisite: Latin 10, 20 or 100, 200; French 200.

1 hour per week; 1 credit. Not given in 1923-1924.

Text-book: *Chanson de Roland, Aucassin et Nicolette.*

ITALIAN

100 Grammar, pronunciation, conversation, dictation. Prescribed for first year students in Honor Romance Languages.

3 hours per week; 3 credits. MR. EDWARDS.

Text-books: Phelps, *Italian Grammar.*
Wilkins-Altrocchi, *Italian Short Stories.*
Dante, *Vita nuova.*
De Amicis, *Cuore.*

200 Grammar, conversation, dictation, compositions. Prescribed for honors in Romance Languages.

Prerequisite: Italian 100. Not given in 1922-1923.

3 hours per week; 3 credits.

MR. EDWARDS.

Text-books: Phelps, *Italian Grammar.*
Oxford Book of Italian Verse.
Dante, *Vita nuova, La Divina Commedia.*

300 Italian Literature during the Renaissance. Selection from Petrarch, *Le Rime;* from Boccaccio, *Il Decamerone;* from Pulci, Boiardo, Ariosto and Tasso (Ford's *Italian Romances of Chivalry*); Oxford Book of Italian Verse. Prescribed for honors in Romance Languages.

Prerequisite: Italian 200. Not given in 1922-23.

3 hours per week; 3 credits.

PROFESSOR SHANKS.

400 Modern Italian Literature. Prescribed for fourth year students in Romance Languages honors. Not given in 1922-1923.

SPANISH

100 Elementary Course, Grammar, pronunciation, dictation, conversation, collateral reading, translation from modern Spanish prose. Prescribed for first year students in Romance Honors.

Prerequisite: Junior Matriculation.

3 hours per week; 3 credits. PROFESSOR ELLIS.

Text-books: Hills and Ford, *First Spanish Course.*
Rivera and Doyle, *En España.*
M. Romera-Navarro, *América Española.*
Hills and Reinhart, *Spanish Short Stories.*
Alarcón, *El Cápitán Veneno* (Ford).
Carrión y Aza, *Zaragüeta.*

200 **The nineteenth and twentieth centuries.** History of literature, grammar, conversation, translation into Spanish, translation of Spanish novels and plays, collateral reading, lectures.

Prerequisite: Spanish 100, or its equivalent.

3 hours per week; 3 credits.

PROFESSOR ELLIS.

Text-books: Valera, *El Comendador Mendoza*, or *a Pepita Jimenez*.
Valdes, *José*, or *La Hermana San Sulpicio*.
Galdós, *Marianela*.
Tamayo y Bans, *Lo Positivo*.
Benavente, *Sin Querer*.
De Pequeñas Causas.
Los Intereses Creados.
Nuñez de Arce, *El Haz de Leña*.
Hills and Ford, *Spanish Grammar*.
Waxman, *A Trip to South America*.

Collateral Reading: Taboada, *Cuentos Alegres*.
P. A. de Alarcón, *Historietas nacionales*.
El Sombrero de Tres Picos.
Novelas cortas.

History of Literature: Ford, *Main Currents of Spanish Literature*.
Fitzmaurice-Kelly, *A History of Spanish Literature*.
Hume, *The Spanish People*.
Modern Spain.

300 History of Spanish and Spanish-American prose and poetry from the eighteenth century to the present time. Lectures, translation of Spanish textbooks, translation into Spanish, collateral reading.

Prerequisite: Spanish 200 or its equivalent.

3 hours per week; 3 credits.

PROFESSOR ELLIS.

Text-books: Ford, *A Spanish Anthology*, pages 191-333.
Moratin, *El si de las niñas*.
Rivas, *Don Alvaro*.
Espronceda, *Lyrics*, *El estudiante de Salamanca*.
Zorilla, *Don Juan Tenorio*.
Fernan Caballero, *La Gaviota*.
Hill's *Bardos Cubanos*.
Cool, *Spanish Composition*.

Collateral Reading: Isla *Lesage's Gil Blas*.
Mesonero Romanos, Selections.
(Other works to be selected.)

History of Literature: Ford, *Main Currents of Spanish Literature*.
Fitzmaurice-Kelly, *History of Spanish Literature*.
Ticknor, *Spanish Literature*.
Goldberg, *Studies in Spanish-American Literature*.
Coester, *The Literary History of Spanish America*.

For reference: Ford's *Gatherings from Spain* (Everyman).
Spain and the Spaniards (Putnam.)
Havelock Ellis, *The Soul of Spain* (Houghton Mifflin Co).
S. L. Bensusan, *Home Life in Spain* (Macmillan).
Hume, *The Spanish People*.
Modern Spain.

400 The Golden Age, and earlier literature. Translation of Spanish prose and poetry; the study of literary movements and writers, prior to the year 1700; collateral

reading; written dissertations; elements of phonology. (To be omitted in 1922-23.)

Prerequisite: Spanish 300, or its equivalent.

3 hours per week; 3 credits.

PROFESSOR ELLIS.

Text-books: Cervantes, *Don Quijote* (Ford).
Novelas ejemplares.
Lope de Vega, *Amar sin Saber á Quién.*
Tirso de Molina, *Don Gil de las calzas verdes.*
Calderón, *El Alcalde de Zalamea.*
Ruiz de Alarcón, *Las paredes oyen.*
Ford, *A Spanish Anthology*, pages 1 to 190.
Morley, *Spanish Ballads.*
For reference and study: Ford, *Main Currents of Spanish Literature.*
Fitzmaurice-Kelly, *A History of Spanish Literature.*
Ticknor, *Spanish Literature.*
Hume, *The Spanish People.*
Hume, *The Court of Philip IV* (London, 1907).
H. A. Rennert, *The Life of Lope de Vega* (Glasgow, 1904).

Department of Zoology

A. D. ROBERTSON	Professor.
J. D. DETWILER	Assistant Professor.
M. A. MCINTOSH	Instructor.
F. V. R. BATESON	Student Demonstrator.
H. BATTLE	Student Demonstrator.
H. A. CAVE	Student Demonstrator.
J. G. JOSE	Student Demonstrator.
C. MACCALLUM	Student Demonstrator.
F. W. CLAASSENS	Technician

Students taking work in this Department will be required to make a deposit of two dollars with the Head of the Department to cover supplies and breakages. A refund of any surplus will be made at the end of the course.

10 **Introductory Zoology** for General Course students; a course dealing with the general principles of Zoology.

2 lectures and 4 laboratory hours per week; 2 credits.

Prerequisites: Junior Matriculation.

PROFESSOR ROBERTSON AND ASSISTANTS.

Text-books: Shull, *Principles of Animal Biology.*
Shull, *Laboratory Directions in Principles of Animal Biology.*

20 **Invertebrate Zoology** for 2nd year General Course students (and for Medical students of the First Year), a course dealing with selected Invertebrate types from the comparative and evolutionary point of view.

2 lectures and 4 laboratory hours per week, 2 credits.

Prerequisites: For Medical students, Botany 10. For Arts students, Zoology 10 and Botany 10, or Honor Matriculation in Biology with laboratory work in Biology approved by the Heads of the Biological Departments.

PROFESSOR DETWILER.

Text-books: Kerr, *Zoology for Medical Students.*
Hegner, *College Zoology.*
Hyman, *A Laboratory Manual for Elementary Zoology.*

This course will begin for Medical students in the session of 1922-23.

21 **Chordate Zoology** for Medical students, of the second year, a course dealing with the structure and evolution of the Chordates.

2 lectures and 6 laboratory hours per week; 5 credits.

Prerequisites: Zoology 10 and Botany 10.

PROFESSOR ROBERTSON AND ASSISTANTS.

Text-books: Kingsley, *Comparative Anatomy of the Vertebrates.*
Hyman, *A Laboratory Manual of Vertebrate Zoology.*
Hyman, *A Laboratory Manual of Comparative Anatomy.*
Newman, *Vertebrate Zoology.*

This course will begin in the session of 1923-24.

30 **Chordate Zoology** for General Course students, a course dealing with selected Chordate types from the comparative and evolutionary standpoint.

2 lectures and 4 laboratory hours per week; 2 credits.

Prerequisites: Zoology 20 and Botany 20.

PROFESSOR ROBERTSON AND ASSISTANTS.

Text-books: Kingsley, *Comparative Anatomy of the Vertebrates.*
Newman, *Vertebrate Zoology.*
Hyman, *A Laboratory Manual of Vertebrate Zoology.*
Hyman, *A Laboratory Manual for Comparative Anatomy.*

40 **Animal Ecology**, a course dealing with the ecology of animals. This course will stress investigation of special phases of ecology and will involve classification and economic relations.

2 lectures and 4 laboratory hours per week; 2 credits. Prerequisites: Zoology 30 and Botany 30.

PROFESSOR DETWILER.

References: Ward and Whipple, *Fresh-Water Biology.*
Needham and Lloyd, *Life of Inland Waters.*
Shelford, *Animal Communities of Temperate America.*
Comstock, *Manual for the Study of Insects.*
Comstock, *The Spider Book.*
Jordan, *Manual of the Vertebrates.*

Honor Courses

100 **Elementary Zoology** for Honor Biology, Honor Science and B.A., M.D. students, a course dealing with the general principles of Zoology.

2 lectures and 4 laboratory hours per week; 2 credits.

Prerequisites: Full entrance requirements for the Honor Biology Course.

PROFESSOR ROBERTSON AND ASSISTANTS.

Text-books: Shull, *Principles of Animal Biology.*
Shull, *Laboratory Directions in Principles of Animal Biology.*
Hyman, *A Laboratory Manual for Elementary Zoology.*

200 **Invertebrate Zoology** for Honor Biology, Honor Science and B.A., M.D. students. The purpose of this course is to give a general idea of the important phyla leading up to the Chordates and to show from selected forms how the animal functions are carried out and what adaptations and advances are made as specialization increases.

2 lectures and 6 laboratory hours per week; 2½ credits.

Prerequisites: Zoology 100 and Botany 100.

PROFESSOR DETWILER.

Text-books: Hegner, *College Zoology.*
Petrunkevitch, *Morphology of Invertebrate Types.*
Hyman, *A Laboratory Manual for Elementary Zoology.*

300 **Chordate Zoology** for students in the Honor Biology, Honor Science and B.A., M.D. courses; a course dealing with the structure and evolution of the Chordates.

2 lectures and 6 laboratory hours per week. 5 credits.

Prerequisites: Zoology 200 and Botany 300.

PROFESSOR ROBERTSON AND ASSISTANTS.

Text-books: Kingsley, *Comparative Anatomy of the Vertebrates.*
Newman, *Vertebrate Zoology.*
Hyman, *A Labortaory Manual for Elementary Zoology.*
Hyman, *A Laboratory Manual for Comparative Anatomy.*

305 **Invertebrate Collection** for students in Honor Biology. Before entering on the Third year of the Honor

Biology Course students will be required to make a specified collection of Invertebrate forms. For particulars apply to the Professor in charge of the Invertebrate courses.

PROFESSOR DETWILER.

310 Suitable texts will be assigned in French and German in connection with the course in Chordate Zoology and students will be required to show their ability to read these texts.

400 **History and Theory of Biology** for students in the Honor or General courses, a course dealing with the history, theory and problems of Biology.

2 lectures per week; 2 credits.

Prerequisites: Zoology 300 and Botany 300 or Zoology 30 and Botany 30.

PROFESSOR ROBERTSON.

Text-books: Newman, *Readings in Evolution, Genetics and Eugenics.*
Locy, *Biology and its Makers.*
Kellogg, *Darwinism of To-day.*
Bateson, *Mendel's Principles of Heredity.*
Morgan, *Experimental Zoology.*
Osborn, *Origin and Evolution of Life.*

401 **Experimental Zoology** for students in Honor Biology, Honor Science, a course dealing with tropisms, growth, regeneration, physiology, etc., in animals.

2 lectures and 6 laboratory hours per week; 2½ credits.

Prerequisites: Zoology 300 and Botany 300.

PROFESSOR ROBERTSON AND ASSISTANTS.

References: Jennings, *Behavior of the Lower Organisms*
Schaeffer, *Ameboid Movement.*
Mast, *Light and the Behavior of Organisms.*
Loeb, *Forced Movements, Tropisms and Animal Conduct.*
Davenport, *Experimental Morphology.*
Bayliss, *Principles of General Physiology.*

402 **Animal Ecology** for Honor Biology and Honor Science students; a course dealing with the ecology of animals. In this course special problems will be assigned to individual students. This course will involve classification and economic relations.

2 lectures and 6 laboratory hours per week; 2½ credits.

Prerequisites: Zoology 300 and Botany 300.

PROFESSOR DETWILER.

References: Ward and Whipple, *Fresh-water Biology.*
Needham and Lloyd, *Life in Inland Waters.*
Shelford, *Animal Communities in Temperate America.*
Comstock, *Manual for the Study of Insects.*
Comstock, *The Spider Book.*
Jordan, *Manual of the Vertebrates.*

403 **Histology** for Honor Biology students; a course dealing with the histology and cytology of animals.

2 lectures and 6 laboratory hours per week; 2½ credits.

Prerequisites; Zoology 300 and Botany 300.

PROFESSOR ROBERTSON AND ASSISTANTS.

Text-book: Schafer, *Essentials of Histology*.

404 **Embryology** for Honor Biology students. A course dealing with the embryology of animals.

2 lectures and 6 lectures per week; 2½ credits.

Prerequisites: Zoology 300 and Botany 300.

PROFESSOR ROBERTSON AND ASSISTANTS.

Text-book: Prentiss and Arey, *Text-book of Embryology*.

405 **Vertebrate Collection** for students in Honor Biology. Before entering on the third year in the Honor Biology course, students will be required to make a specified collection of Vertebrate forms. For particulars apply the Professor in charge of the Chordate courses.

PROFESSOR ROBERTSON.

410 Suitable texts in French and German will be assigned in connection with the work of the course in Zoology of the Fourth Year Honor Biology and students of these courses will be required to show proficiency in reading Scientific French and German.

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