

COLLEGE OF ARTS & SCIENCE

9 Campus Drive
Saskatoon SK S7N 5A5
Phone: (306)966-4231 - General Inquiries
Phone: (306)966-4245 - Records
Fax: (306)966-8839
Email: info@arts.usask.ca
http://arts.usask.ca

FACULTY AND ACADEMIC STAFF

R. P. MacKinnon, President
M. Atkinson, Vice-President (Academic)
A. J. Whitworth, Vice-President (Finance and Resources)
M. E. Corcoran, Vice-President (Research)
M. D. Evered, Acting Associate Vice-President (Academic)
V. Pezer, Associate Vice-President (Student Affairs and Services)
T. B. Wishart, Acting Dean of Arts and Science
B. R. Neal, Associate Dean of Arts and Science (Academic)
Associate Dean of Arts and Science (Academic), T.B.A.
W. A. Skrapek, Associate Dean of Arts and Science (Undergraduate Affairs)
R. G. Kachanoski, Dean of Graduate Studies and Research
Rev. G. Smith, President of St. Thomas More College
W. B. Denis, Dean of St. Thomas More College
F. Winter, Director of Libraries
University Secretary, T.B.A.
K. M. Smith, Registrar

DEPARTMENT OF ANTHROPOLOGY AND ARCHAEOLOGY

Professor and Head

D. Meyer

Professors

A. M. Ervin, E. G. Walker

Associate Professors

M. A. Kennedy, U. Linnamae,
A. D. Maignon, S. P. Sharma

Associate Members

C. M. Foley, M. Marino, J. B. Waldram

Sessional Lecturers*

S. Fedorak, N. Friesen, E. Hulse, A. Ramsay,
D. Russell, R. G. Williamson, B. Zeman

Adjunct Professors*

N. Braroe, I. G. Dyck, T. Gibson, M. Hanna,
R. W. Heber, P. Martin-McGuire, R. E. Morlan,
D. Morrison, B. Nicholson, S. Vincent

ST. THOMAS MORE COLLEGE

Associate Professor

C. M. Foley

DEPARTMENT OF ART AND ART HISTORY

Professor and Head

L. S. Bell

Professors

K. T. M. Bell, W. P. C. Hamilton,
C. O. Ringness, P. Traer

Associate Professors

G. Fowler, B. Pelkey, P. A. C. Purdue,
S. Shantz

Assistant Professor

T. Nowlin

Sessional Lecturers*

T. Billings, J. Borsa, M. Brokop, L. Duvall,
G. Glenn, L. Henderson, C. Hunker,
D. Larson, M. Lyons, G. McConnell,
F. Robson, N. Semenoff, A. Wasfy, R. Welsh

DEPARTMENT OF BIOLOGY

Professor and Head

L. C. Fowke

Professors

G. R. Bortolotti, T. H. J. Gilmour,
T. C. Lacalli, D. M. Lehmkühl, F. Messier,
B. R. Neal, M. A. Ramsay, G. H. Rank,
V. K. Sawhney, J. W. Sheard

Rawson Professor

J. King

*This professorship, assigned to a senior member of the Department for distinguished service, is named in honour of D. S. Rawson, Ph.D., F.R.S.C. (1905-1961), a member of the Department 1929-1961 and Head of the Department 1949-1961.

Associate Professors

P. C. Bonham-Smith, A. R. Davis,
T. A. Marchant, R. L. Randell,
B. M. Rever-DuWors

Assistant Professors

D. P. Chivers, S.G.W. Kaminskyj,
K. L. Wiebe, Y. Wei

Associate Members

J. F. Basinger, P. F. Flood, L. Polley

Sessional Lecturers*

S. Halpin, S. Horne, V. Murawsky, J. Neal,
D. Smith, J. P. Stevens, F. Thornton

Adjunct Professors*

R. T. Alisaukas, R. G. Clark, W. Crosby,
J. Culp, M. S. Evans, P. Pobert,
K. A. Hobson, R. Marles, S. M. Swanson,
J. Taylor, H. Wang

DEPARTMENT OF CHEMISTRY

Professor and Head

R. G. Sutherland

Thorvaldson Professor

W. L. Waltz

This professorship, assigned to a senior member of the Department for distinguished service, is named in honour of T. Thorvaldson, Ph.D., F.R.S.C. (1883-1965), a member of the Department 1914-1948 and Head of the Department 1919-1948.

Professors

A. S. Baranski, M. Majewski, P. G. Mezey,
M.S.C. Pedras, J. W. Quail, R. P. Steer,
R. G. Sutherland, R. E. Verrall, D. E. Ward

Associate Professor

R. S. Reid

Assistant Professors

H. -B. Kraatz, D. R. J. Palmer, R. Silerova,
M. P. Singh, S. G. Urquhart

Sessional Lecturers*

R. Catton, E. Mead, P. D. Walker, R. Zee,
Z. Zimpel

Adjunct Professors*

S. R. Abrams, S. Arimoto, G. M. Bancroft,
J. O. Boisson, P. A. Hackett, B. E. Robertson

Professional Research Associates*

Y. Gai, Z. Zimpel

DEPARTMENT OF CLASSICS

The Department status is currently under review. Disposition of faculty and programs are pending.

DEPARTMENT OF COMPUTER SCIENCE

Professor and Head

D. L. Eager

Professors

R. B. Bunt, J. E. Cooke, W. K. Grassmann,
J. E. Greer, J. M. Keil, A. Kusalik,
G. I. McCalla, C. D. McCrosky, E. Neufeld,
J. P. Tremblay, C. L. Williamson, H. Y. Yang

Associate Professors

J. A. Carter Jr., G. A. Cheston, C. Gutwin

Assistant Professor

A. Deters, J. Vassileva

Associate Members

R. J. Bolton, D. E. Dodds, G. Links

Sessional Lecturers*

C. Coupal, G. Koehn, D. K. McIlmoyl,
T. Roebuck, M. Shukla

Adjunct Professors*

M. H. Abd-El-Barr, A. DeVito, M. I. Jones,
K. E. Sailor

DEPARTMENT OF DRAMA

Associate Professor and Head

D. S. Brenna

Associate Professors

M. Day, P. M. Haig Bartley, S. Wade

Assistant Professor

D. Cotteau

Associate Member

L. Forsyth

Sessional Lecturers*

G. Burgess, M. Kyle, R. Hunt, J. Longworth,
R. Montalbetti, P. Shedden, M. von Eschen,
M. L. Wittlin

DEPARTMENT OF ECONOMICS

Professor and Head

M. Altman

Professors

R. G. Beck, D. O. Cushman, P. C. Dooley,
E. C. Howe, R. F. Lucas, L. V. St. Lous

Associate Professors

W. D. Bishopp, E. C. Echevarria,
D. A. Gilchrist, M. M. Huq,
A. Paus-Jenssen, K. C. Tran

Assistant Professor

J. Bruneau

Sessional Lecturers*

C. Casey, H. Chartrand, A. Cheung, W. Doell,
M. Khakbazan, K. Lal, S. Olubobokun

ST. THOMAS MORE COLLEGE

Instructor

S. Coggins

DEPARTMENT OF ENGLISH

Assistant Professor and Head

P. M. Bidwell

Professors

R. L. Calder, W. P. Denham, L. M. Findlay,
S. Gingell, A. J. Harding, R. L. Harris,
J. R. Henderson, D. C. Kerr, R. N. G. Marken,
T. J. Matheson, C. W. Slights, W. W. E.
Slights, R. A. Stephanson, R. P. Stoicheff,
F. A. Zichy

Associate Professors

H. A. Clark, R. W. Cooley, P. J. Hynes,
A. C. Morrell, D. J. Parkinson, J. A. Taylor,
D. J. Thorpe, L. Vargo

Assistant Professors

W. M. Bartley, S. Birkwood,
K. James-Cavan, J. Lavery

Sessional Lecturers*

R. Anderson, M. Bakshi, R. Clark,
I. M. Findlay, M. Kennedy, C. Lipscomb,
R. Matlock, M. A. McDonald, D. Myall,
M. Nordick, M. G. Osachoff, J. Park,
S. Porter, W. Robertson, M. Romanets

ST. THOMAS MORE COLLEGE

Associate Professors

E. Glazov-Corrigan, D. Kelly, P. J. Kelly

Visiting Professor*

G. Vanderhaeghe

Sessional Lecturers*

D. Friel-Hipperson, E. Froese, Rev. E. Heidt,
M. Nordick, B. Popowich, E. Swift,
L. Voitkovska

DEPARTMENT OF GEOGRAPHY

Associate Professor and Head

J. E. Randall

Professors

A. Akkerman, O. W. Archibold, K. I. Fung,
L. W. Martz, J. A. Pooler

Associate Professors

A. E. Aitken, D. H. de Boer

Assistant Professor

A. M. Williams

Lecturer

D. Martz

Sessional Lecturers*

J. E. Carter, R. Johnson, D. Koning,
P. MacTavish, G. Viaud, B. Weichel

Adjunct Professors*

A. Barr, M. Brugman, P. Marsh,
E. E. Wheaton

DEPARTMENT OF GEOLOGICAL SCIENCES

Professor and Head

J. F. Basinger

ARTS & SCIENCE

Cameco-NSERC Research Professor

M. J. Hendry

The holder of the Cameco-NSERC Chair is an internationally known geoscientist. The Chair was endowed by Cameco Corporation to facilitate research in environmental and aqueous geochemistry.

George J. McLeod Professor

R. W. Kerrich

The holder of the George J. McLeod Chair in Geology is an internationally known geoscientist. The Chair was endowed by the Noble Foundation of Ardmore, Oklahoma, in honour of George J. McLeod, a 1951 Honours graduate of the Department of Geological Sciences.

Professors

D. J. Gendzwill, Z. Hajnal, J. B. Merriam, B. R. Pratt, M. J. Reeves, R. W. Renaut, W. A. S. Sarjeant, M. R. Stauffer

Associate Professors

K. M. Ansdell, C. Holmden, Y. Pan

Assistant Professor

D. Milne

Associate Members

A. E. Aitken, E. G. Walker

Sessional Lecturer*

T. Skwara

Adjunct Professors*

H. Bryant, W. G. E. Caldwell, P. J. Currie, C. M. R. Fowler, T. K. Kyser, E. E. McIver, A. F. Prugger, L. A. Quinn, D. Stead, J. E. Storer, L. I. Wassenaar, D. A. Wyman

Professional Research Associate*

B. Pandit

Professional Affiliates*

S. P. Fowler, D. A. Spalding

DEPARTMENT OF HISTORY

Professor and Head

L. Stewart

Professors

P. Burnell, B. T. Fairbairn, J. Handy, J. M. Hayden, C. A. Kent, J. R. Miller, D. B. Miquelon, W. A. Waiser

Associate Professors

D. De Brou, G. R. DesBrisay, R. C. Grogin, L. Kitzan, V. J. Korinek, M.-K. Leung, J. C. Potter

Assistant Professors

M. Cottrell, A. Kalinowski, J. Pekacz, M. Smith

Sessional Lecturers*

C. Burlingham, C. Cottrell, K. Jantzen, A. Popoff

Adjunct Professor*

R. D. Sider

ST. THOMAS MORE COLLEGE

Professor

T. B. Deutscher

Associate Professor

A. Reese

DEPARTMENT OF LANGUAGES AND LINGUISTICS

Professor and Head

N. M. Senior

Professors

D. J. Bond, D. B. Edney, A. A. Sokalski

Associate Professors

L. M. Jaeck, M. Marino, T. B. Mildare

Assistant Professors

M.-D. Clarke, H. Da Silva

Associate Member

L. Forsyth

Sessional Lecturers*

A. Gersher, I. MacKay, L. McLeod, G. Piche, P. Theriault, C. Torres de la Hoz, L. Voitkovska, H. Wagg

ST. THOMAS MORE COLLEGE

Associate Professors

C. Souloire, M. R. Tobin

DEPARTMENT OF MATHEMATICS AND STATISTICS

Associate Professor and Head

M. G. Bickis

Professors

S. Berman, J. A. Brooke, P. J. Browne, A. Chigogidze, G. J. Griffith, M. A. Marshall, J. R. Martin, M. J. Miket, C. E. Soteros, J. W. Stephenson, J. Szmigielski, K. F. Taylor, E. D. Tymchatyn

Associate Professors

M. Bremner, B. Friberg, M. Khoshkam, F.-V. Kuhlmann, S. Kuhlmann, W. H. Laverty, D. W. MacLean, C. D. O'Shaughnessy, G. W. Patrick, W. A. Skrapek, R. Srinivasan,

Associate Members

W. K. Grassmann, P. G. Mezey

Sessional Lecturers*

J. Bliss, D. Lorier, J. Tavalkoli

DEPARTMENT OF MUSIC

Associate Professor and Head

G. Gable

Professors

M. Eckroth, W. K. Kreyszig

Associate Professors

G. Csapó, D. I. Harris, K. Solose

Assistant Professor

G. Langner, D. McNeill

Sessional Lecturers*

N. Archer, S. C. Bischoff, D. Bueckert, Currie, A. Dokken, J. Encinas-Veszi, P. England, N. Friesen, K. Gable, P. Gravlin, A. P. Kashap, C. Kelly, B. Longstaff, J. McAllister, B. Montalbetti, J. Nelson, R. Nelson, B. Nicholson, J. Patterson, B. Schenslead, D. Schmidt, G. Schulte, C. Simonot, D. Slusar, M. Wilson

Adjunct Professor*

J. Halmo

DEPARTMENT OF NATIVE STUDIES

Professor and Head

J. B. Waldram

Professor

P. Monture Angus

Assistant Professor

R. Laliberte, B. Macdougall

Associate Members

M. Battiste, J. Y. Henderson, E. G. Walker

Sessional Lecturers*

J. Acoose, V. Beisel, S. Cardinal, J. G. Lavoie, K. Makela, L. McBain, B. McLeod, D. McConney, R. Pino, H. Ross, J. Thornton

Adjunct Professors*

P. Martin McGuire, W. L. Stevenson, F. Tough

DEPARTMENT OF PHILOSOPHY

Professor and Head

K. Pfeifer

Professors

D. J. Crossley, E. B. Dayton

Associate Professors

P. M. Dwyer

Assistant Professor

S. Hoffman

Sessional Lecturers*

M. L. Day

ST. THOMAS MORE COLLEGE

Professors

K. Corrigan, M. M. Pomedli

Assistant Professors

R. Jenkins, C. Still, B. Wiebe

DEPARTMENT OF PHYSICS AND ENGINEERING PHYSICS

Professor and Head

A. Hirose

Professors

H. S. Caplan, G. R. Davis, E. J. Llewellyn, A. H. Manson, R. E. Pywell, C. Rangacharyulu, G. J. Sofko T. G. Steele

Associate Professors

N. R. Kolb, A. V. Koustov, A. I. Smolyakov, C. Xiao

Assistant Professors

D. A. Degenstein, G. C. Hussey

Associate Member

J. B. Merriam

Sessional Lecturers*

K. Mark, A. Ortlepp, S. Shadick, B. Zulkoskey

Adjunct Professors*

J. Asai, B. Benmerrouche, G. D. Conway, R. L. Gattinger, C. S. Huang, D. M. McDiarmid, W. E. Norum, N. Sidhu, Y. Shin, D. Steele

Professional Research Associates*

D. André, M. Benmerrouche, C. Huang, I. Khabibrakhmanov, C. Meek, N. Lloyd, G. A. Retzlaff

DEPARTMENT OF POLITICAL STUDIES

Professor and Head

D. E. Smith

Professors

M. Atkinson, J. C. Courtney, H. J. Michelmann, J. M. Porter, D. S. Spafford, J. S. Steeves

Associate Professors

J. Garcea, D. C. Story, R. C. Wheeler

Assistant Professors

C. de Clercy, K. Deonandan, P. Ferguson, P. Kopas

Professional Research Associate*

G. Barnhart, A. Hubbartz, R. B. Shepard

Sessional Lecturer*

R. Schwab

ST. THOMAS MORE COLLEGE

Associate Professor

B. Kordan

Assistant Professor

A. R. MacLeod

Sessional Lecturer*

K. Kawchuk

DEPARTMENT OF PSYCHOLOGY

Professor and Head

L. M. McMullen

Professors

C. S. Bernhardtson, J. Campbell, J. B. Conway, M. Corcoran, R. J. Fisher, P. R. Grant, C. L. von Baeyer, T. B. Wishart

Associate Professors

L. R. Alexitch, R. Borowsky, J. Cheesman, M. F. O. Crossley, M. K. McKim, D. A. Scott, L. F. Shepel, V. A. Thompson

Assistant Professors

L. Elias, J. Mantler, K. Noels, V. Pezer, L. Sippola

Associate Members

C. D'Arcy, A. M. Ervin, D. H. Saklofske, E. H. Scissons, N. J. Stewart

Sessional Lecturers*

P. Doerkson, S. Falconer, T. Greenough, D. Jackson, D. Jurgens, P. McDougall, C. Murphy, R. Padwal, J. S. Patersen, L. Pressé, D. Savage, L. Shepel

Adjunct Professors*

K. Arbutnot, L. Carroll, D. Hay, R. Katz, J. Nanson, L. Pressé, M. I. Vrbancic, S. Wong

Professional Affiliates*

A. Adams, W. J. Arnold, R. Bell, S. Boechler, H. Brenneman, W. Clark, R. B. Gordon, D. Jackson, R. Kinzel, D. Lake, G. Pancyr, J. Zemore

ST. THOMAS MORE COLLEGE

Associate Professors

B. M. Chartier, G. R. Farthing, A. E. M. Jastrebske, T. Marche

Assistant Professor

P. McDougall

DEPARTMENT OF RELIGIOUS STUDIES

Assistant Professor and Head

J. G. Mullens

Professor

B. M. Sinha

Associate Professor

T. Selover

Associate Members

A. B. Anderson, M. Frascati-Lockhead,
D. Jobling, J. W. Kleiner, M. K. Leung,
W. Richards, S. P. Sharma

Sessional Lecturers*

C. Beish, S. Dunbar, G. Li,
L. MacDonald-Hicks, L. Nahachewsky,
S. Saini, E. Shia, M. Tai

ST. THOMAS MORE COLLEGE**Associate Professor**

Rev. D. McLeod, Rev. M. Tataryn

Assistant Professors

M. A. Beavis

Sessional Lecturers*

M. Miller, R. Pavey, Rev. I. Wilson

DEPARTMENT OF SOCIOLOGY**Professor and Head**

T. L. Wotherspoon

Professors

A. B. Anderson, G. S. Basran, B. S. Bolaria,
H. D. Dickinson, P. S. Li, R. Russell,
B. Schissel, S. P. Wakil

Associate Professors

P. Elabor-Idemudia, D. A. Hay,
L. M. Samuelson, L. Zong

Assistant Professor

M. E. Gertler

Associate Member

J. G. Mullens

Sessional Lecturers*

J. Bantjes, J. Barak, P. Blain, C. Brooks,
K. Cram, W. De Keseredy, L. Doerkson,
A. Graumans, G. Jangula, R. Langer,
N. Poon, B. Puk, S. Robertson,
B. L. Strelloff, W. Wilson, J. Worrell

ST. THOMAS MORE COLLEGE**Professors**

W. B. Denis, J. R. Thompson

Assistant Professors

Rev. R. J. Griffin, L. Valenzuela

Instructor

W. Wilson

Sessional Lecturers*

J. Butler, L. Eisler, E. Kempthorne,
R. Langer, F. Lee, G. Yellend

**DEPARTMENT OF WOMEN'S
AND GENDER STUDIES****Associate Professor and Head**

C. L. Biggs

Professors

L. Forsyth, D. Relke

Associate Professor

P. J. Downe

Associate Members

H. A. Clark, M. Day, S. Gingell, A. Harding,
R. Russell, L. Sippola

Sessional Lecturer*

R. Langer, F. Omorodion, W. Schissel,
K. Wilson, W. Wilson

**INTERDISCIPLINARY
PROGRAMS ADMINISTRATIVE
COMMITTEES**

Faculty members on these Committees are listed at the beginning of each program description for the following programs:

Ancient History and Classical Culture
Classical and Near Eastern Archaeology
Environmental Earth Sciences
Food Science
International Studies
Land Use and Environmental Studies
Linguistics (see Department of Languages and Linguistics)
Mathematical Physics
Palaeobiology
Public Administration
Regional and Urban Development

**MEMBERS FROM OTHER
FACULTIES****COLLEGE OF COMMERCE**

V. L. Pearson, Dean

L. Hammond Ketilson, Associate Dean,
Director of the Centre for International
Business Studies and Associate Professor
of Management and Marketing

A. Renny, Assistant Dean and Assistant
Professor of Accounting

C. Boyd, Professor and Head of
Management and Marketing

J. R. Edmonds, Associate Professor and
Head of Industrial Relations and
Organizational Behaviour

R. M. Lindsay, Professor and Head of
Accounting

G. F. Tannous, Professor and Head of
Finance and Management Science

COLLEGE OF EDUCATION

K. G. Jacknicke, Dean and Professor of
Curriculum Studies

V. J. Hajnal, Associate Dean and Associate
Professor of Educational Administration

Assistant Dean (Undergraduate Programs),
T.B.A.

T. J. Gambell, Assistant Dean (Student
Affairs) and Professor of Curriculum
Studies

D.B. Cochrane, Professor and Head of
Educational Foundations

W. Pawlovich, Professor and Head of
Educational Psychology and Special
Education

R. D. Fram, Associate Professor and Head
of Curriculum Studies

COLLEGE OF KINESIOLOGY

R. A. Faulkner, Dean and Professor

D. A. P. Fry, Associate Dean and Associate
Professor

COLLEGE OF LAW

T.B.A.

**COLLEGE OF PHARMACY AND
NUTRITION**

J. R. Dimmock, Professor

FULL-TIME FACULTY

Department of Anatomy and Cell Biology
Department of Biochemistry
Department of Microbiology and Immunology
Department of Physiology

*Denotes non-members of faculty.

GENERAL INFORMATION

The College of Arts and Science is the largest college on campus, with an enrolment of over 6900 students. It is also the most diverse, composed of 23 departments, and 4 affiliated departments. Its faculty at one time or another teaches most of the student body of the University of Saskatchewan. The College of Arts and Science offers a variety of undergraduate Bachelors' programs, designed to give students the opportunity to learn, analyze, reason, and communicate effectively through the study of literature, language, society and nature.

IMPORTANT DATES**September 19**

Last day for making changes in registration for first-term classes and classes extending over both terms.

November 15*

Last day for withdrawing from first-term classes without academic penalty.

January 16

Last day for making changes in registration for second-term classes.

February 15*

Last day for withdrawing from classes extending over two terms without academic penalty.

March 15*

Last day for withdrawing from second-term classes without academic penalty.

*Withdrawing from a class after these dates means the College will assign a grade of Withdraw/Fail (WF) in the class and the grade will be calculated as 30%.

ADMISSION

The general procedures for application and the requirements for admission to the College of Arts and Science are outlined under the Admission and Application Procedure in the General Information section of the *Calendar*.

Applicants who have been admitted with a subject deficiency must remove the deficiency before they can proceed to the second year. The deficiency may be waived if the student achieves a CPA of 65% in the first 30 credit units of study, unless the deficient course is required as a prerequisite to university courses. Such applicants should contact the Office of the Dean during their first year of study.

ACCURACY OF REGISTRATION

All students should confirm their course numbers, sections and laboratories through U-STAR. Students are responsible for ensuring that they have the necessary prerequisites and are attending the correct course, number, section and term for which they have registered.

Students are responsible for ensuring that they meet degree and program requirements. Students are cautioned, therefore, to check all regulations with respect to degree requirements by consulting the *Calendar*. They can also choose to meet with an academic advisor in the Dean's Office and are strongly encouraged to see an advisor in the department of their major during March of each year.

AVAILABILITY OF PROGRAMS

The College of Arts and Science is committed to delivering its courses to all qualified applicants admitted to the College to the extent that resources allow. For example, depending on resources, departments may have to restrict access to senior courses. Any such restrictions will be discussed with students during the Faculty Advising period in March or will be described in the *Registration Guide*.

**DATE OF COMMENCEMENT OF A
PROGRAM**

Students must comply with the regulations and degree requirements in effect at the time of their first registration in a course which credits toward their major in Arts and Science.

Students in Unclassified Studies who have not been admitted to any college are considered to be admitted to a particular program in the College of Arts and Science in the academic year during which a cumulative total of 18 credit units of Arts and Science courses are successfully completed. Arts and Science courses include those courses taught in other colleges for which credit is routinely granted by the College.

Students have the option to meet revised requirements subsequently approved by the College. Students in programs which require courses no longer taught by the department must consult with the department about how to complete degree requirements.

It is expected that students will complete their degree programs within 10 years of their first registration. Students taking more than 10 years to complete their programs will usually be required to meet current degree and graduation requirements.

Once a student has received an Arts and Science degree, any subsequent degree or certificate program commences in the first academic session in which study begins for the second degree or certificate alone.

ABORIGINAL STUDENT SERVICES

It is important for Aboriginal applicants to identify themselves by including a self-identification letter with their application for

ARTS & SCIENCE

admission and annually on their registration information sheet, so that they can be informed about the various support services and registration assistance offered by the College and the University.

The Co-ordinator of Academic Programs for Aboriginal Students In the College of Arts and Science invites and encourages all Aboriginal students, Affirmative Action and other Regular or Special (Mature) Admission applicants, to utilize the services offered by this office. All contact with students is confidential and will in no way affect academic standing. Students have access to academic counselling, program advising, funding agency information, support programs and networking with other Aboriginal students. The office works in partnership with other groups to establish methods to promote the successful completion of academic programs by Aboriginal students.

AFFIRMATIVE ACTION

The College of Arts and Science has been granted permission by the Saskatchewan Human Rights Commission to exempt students of Aboriginal descent from the Regular and Special (Mature) Admission quotas. Applicants who have complete secondary level standing (24 credits) or equivalent with a minimum overall average of 65% in the required subjects and those who qualify for Special (Mature) Admission are encouraged to apply for admission to the College.

INTERNATIONAL APPLICANTS

See Admission Requirements in the General Information section of the *Calendar*.

CONFIDENTIALITY

See Freedom of Information and Protection of Privacy in the General Information section of the *Calendar*.

ARTS AND SCIENCE PROGRAMS

The College of Arts and Science offers three programs leading to the degrees of Bachelor of Arts (B.A.) and Bachelor of Science (B.Sc.):

- (1) A four-year (120 credit unit) program leading to the B.A. or B.Sc. Four-year.
- (2) A three-year (90 credit unit) program leading to the B.A. or B.Sc. Three-year.
- (3) A four-year (120 credit unit) program leading to the B.A. Honours or B.Sc. Honours.

The College also offers:

- (4) A four-year (132 credit unit) program leading to the Bachelor of Music degree.
- (5) Four-year (120 credit unit plus exhibition) program leading to the Bachelor of Fine Arts degree in studio art.
- (6) Four-year (120 credit unit) program leading to the Bachelor of Fine Arts in drama.
- (7) Advanced Certificates and Honours Certificates available to students who have already received a B.A. or B.Sc. Four-year or Honours degree.

(8) Post Degree Specialization Certificate, for students who have already completed a recognized degree. (Please note that the only PDSC programs presently available are in Computer Science and Economics).

(9) Second Degree Programs leading to the degree of Bachelor of Arts or Bachelor of Science and a professional degree.

(10) Courses preparatory to professional study in:

Dentistry
Education
Journalism
Law
Medicine
Nutrition
Occupational Therapy
Optometry
Pharmacy
Physical Therapy
Social Work
Theology
Veterinary Medicine

PROGRAM TYPES FOR ACADEMIC MAJORS

Students in the B.A. or B.Sc. degree programs follow one of the following Program Types:

Program Type A - for students majoring in a subject in the area of Humanities.

Program Type B - for students majoring in a subject in the area of Social Sciences.

Program Type C - for students majoring in a subject in the area of Natural Science.

Program Type D - for students majoring in a subject in the area of Fine Arts.

The degree requirements for each of these programs require students to complete courses which introduce students to the fundamentals of one or more disciplines in each of the required areas. These requirements provide students with the broad education implied by a Bachelor's degree.

PROGRAM TYPES FOR INTERDISCIPLINARY PROGRAM MAJORS

An Interdisciplinary Program is an academic program which permits students to study beyond the boundaries of traditional disciplines or disciplinary programs, to explore in depth the relationship among disciplines and to integrate the knowledge gained into a central theme.

Students may elect to follow one of several Interdisciplinary Programs. These programs require students to take a variety of prescribed and elective courses from several disciplines.

Ancient History and Classical Culture - Humanities (Type A)

Biochemistry and Biotechnology - Natural Sciences (Type C)

Biology and Biotechnology - Natural Sciences (Type C)

Cell Biology and Biotechnology - Natural Sciences (Type C)

Classical and Near Eastern Archaeology - Humanities (Type A)

Environmental Earth Sciences - Natural Sciences (Type C)

Food Science - Natural Sciences (Type C)

International Studies - Humanities (Type A) or Social Sciences (Type B)

Land Use and Environmental Studies - Social Sciences (Type B) or Natural Sciences (Type C)

Linguistics - Humanities (Type A) or Social Sciences (Type B)

Mathematical Physics - Natural Sciences (Type C)

Microbiology and Biotechnology - Natural Sciences (Type C)

Palaeobiology - Natural Sciences (Type C)

Public Administration - Social Sciences (Type B)

Regional and Urban Development - Social Sciences (Type B)

Sociology of Biotechnology - Social Sciences (Type B)

MINOR AND RECOGNITION PROGRAMS

Minors in many disciplines are available, on completion of 18 to 24 credit units as specified by the department. Not all disciplines offer minors. Refer to the specific subject in the *Calendar* for further information.

Recognition in a Language is available in French, German, Russian, Spanish and Ukrainian upon completion of 18 credit units as specified by the Department of Languages and Linguistics.

The minor or Recognition must be completed in conjunction with a major in a different subject or an interdisciplinary program, and must be completed at the time of graduation with an Arts and Science degree.

OTHER COURSES OFFERED

Courses are offered in Aramaic, Chinese, Cree, Hebrew, Literature, Pharmacology and Sanskrit although not in sufficient number to make up a major or minor, and these courses may not be offered annually. Courses in these subjects may be taken as electives. See the appropriate section of the *Calendar*.

SELECTION OF COURSES

CREDIT UNIT

The credit unit is the number associated with the course which indicates the course's relative weight. Normally, courses completed in one term which require approximately 39 hours in lectures have a weight of 3 credit units, e.g. ANTH 111.3 while courses completed over two terms or which require approximately 78 hours in lectures have a weight of 6 credit units, e.g. ENG 110.6.

PREREQUISITES

Students enrolled in courses for credit are required to have satisfied the stated prerequisites or, in exceptional cases, to have obtained a prerequisite waiver approved by the instructor, Department Head and the Office of the Dean in the College of Arts and Science. Students who

do not have the prerequisites or prerequisite waivers may have their registration cancelled at any time. These students may not receive credit regardless of whether they successfully complete the course.

FIRST-YEAR STUDENTS

See the General Information section of the *Calendar* for registration details.

(1) Please refer to the departmental section of the *Calendar* for information on major requirements. For example, a student intending to major or honour in biology should see the section of the Department of Biology.

(2) A first-year student should not register in more than 30 credit units (15 credit units per term) in the Regular Session (September to April), with the exception of students in the Bachelor of Music program. Students in this program take 33 credit units in each of their four years.

(3) First-year students usually register only in junior courses (100-level) in their first term (September to December). Depending on prerequisite requirements, some senior courses are open to first-year students in the second term (January to April), such as 200-level CHEM courses, some STATS courses, etc. Students may register only in the courses for which prerequisites have been satisfied. For example, students must complete Chemistry 30 before registering in CHEM 111. High school prerequisites for university courses are listed in the course descriptions.

(4) See the College of Arts and Science booklet *How to Register for First-Year Students* for advice on registering in first year. This guide is included in the registration package sent to all first-year students from the Office of the Registrar.

UPPER-YEAR STUDENTS

An upper-year student is one who has successfully completed 18 or more credit units which are acceptable to a program in the College of Arts and Science.

Students who intend to return for the next Regular Session should consult an advisor in the department of their major concerning their program of study and choice of courses for the next year during the second term (usually in March).

Department Advising: The last three weeks of March and the month of April are designated each year as a time for students to participate in Department Advising in the department of their anticipated major. Students may go to more than one department if they have not yet decided on a major. The procedures for advising are announced during classes. Students pick up a copy of their transcript at the Office of the Dean (Records Office), then visit the department for advice on courses to be selected for the following year.

For specific information on major requirements and on other cognate courses required or recommended for upper year students, consult the department advisor and refer to the departmental section of the *Calendar*. For example, a student intending to major in biology should consult an

advisor in the Biology department and should read the Biology section of the *Calendar*.

Students who attended during the last Regular Session and are eligible to return, and those accepted to upper year studies in the College of Arts and Science, will receive registration materials and procedures in late June. Students who received a degree at Spring or Fall Convocation must reapply for admission if they intend to take additional courses.

MAXIMUM NUMBER OF CREDIT UNITS PER TERM

Normally students register in 30 credit units (15 credit units per term) in a Regular Session. However, upper-year students with a Cumulative Percentage Average (C.P.A.) of at least 70% on a minimum of 30 credit units completed previously, can receive permission from the Office of the Dean (Records Office) to add a maximum of 6 additional credit units to their program.

JUNIOR AND SENIOR COURSES

Junior courses are numbered in the 100's. Senior courses are numbered 200 or higher. Depending on the subject, there may be limitations to the number of junior credit units allowed. If a department offers more than 6 credit units in 100-level courses, students should see "Description of Courses and Programs" to determine whether they will be allowed credit for additional courses.

B.A. AND B.SC. DEGREE REQUIREMENTS

Degree requirements are the arrangement of courses which the College requires each student to successfully complete before the student can be awarded a B.A. or B.Sc. degree. Refer to the *Degree Requirements Chart* on the following page to find the desired major, then follow that Program Type to choose courses. Program types for Interdisciplinary Programs are listed above.

REQUIREMENTS 1 TO 5 (Distribution Requirements)

Courses to meet Requirements 1 to 4 in the Programs Type A, B, and C, and Requirements 1 to 5 in Program Type D must be selected from the following list.

- (1) A maximum of 6 credit units of 100-level courses in one subject may be credited toward these Requirements. For example, no more than 6 credit units in 100-level History courses can be used.
- (2) No more than 6 credit units in one subject may be credited toward these Requirements. For example, if you use ENG 110 for the Language Requirement, no other course in English could be used for the Humanities Requirement.
- (3) No course may be used twice to satisfy two distribution Requirements. For example, ENG 110 can be used for either the Humanities or the Language Requirement, but not both.

Humanities

Only the following courses meet the Humanities Requirement in Programs A, B, C, and D:

CLASS 110.3, 111.3; HIST 110.3, 111.3, 113.6, 114.6, 120.6, 121.3, 122.3, 140.6, 148.6, 150.6, 151.3, 152.3, 170.6, 180.3; PHIL 110.6, 120.3, 133.3, 140.3; RELST 110.6; ARAM 201.6; CHIN 111.6; CREE 101.6, 120.6; ENG 110.6, 111.3, 112.3, 113.3, 114.3; FR 103.3, 106.3, 121.3 (or 122.3), 125.3, 128.3, 181.3, 186.3; GERM 115.6; GREEK 112.3, 113.3; HEB 111.6; LATIN 112.3, 113.3; LIT 100.6; RUSS 115.6; SANSK 101.6; SPAN 115.6; UKR 115.6; WGST 110.6 or any approved senior-level humanities course provided that not more than 6 credit units in one subject is used for the Humanities or Languages Requirements.

Languages

Only the following courses meet the Language Requirement in Programs A, B, C, and D:

ARAM 201.6; CHIN 111.6; CREE 101.6, 120.6; ENG 110.6, 111.3, 112.3, 113.3, 114.3; FR 103.3, 106.3, 121.3 (or 122.3), 125.3, 128.3; GERM 115.6; GREEK 112.3, 113.3; HEB 111.6; LATIN 112.3, 113.3; LIT 100.6; RUSS 115.6; SANSK 101.6; SPAN 115.6; UKR 115.6 or any approved senior-level language course provided that not more than 6 credit units in one subject is used for the Humanities or Languages Requirement.

Social Sciences

Only the following courses meet the Social Science Requirement in Programs A, B, C, and D:

ANTH 111.3; ARCH 112.3, 116.3; ECON 111.3, 114.3; GEOG* 113.3, 114.3; LING 111.3, 112.3; NATST 110.6; POLST 110.6; PSY 110.6; SOC 110.6; WGST 110.6 or any approved senior-level social science course provided that not more than 6 credit units in one subject is used for the Social Science Requirement. Statistics courses in social sciences cannot be used for credit toward the Social Science Requirement (eg. ECON 204, PSY 233 and 234, SOC 240, etc.).

Natural Sciences

Only the following courses meet the Natural Science Requirement in Programs A, B, and D. **Only the courses in bold, italic type meet the Natural Science Requirement in Program C:**

ASTRO 101.6; BIOL 107.6, **110.6**; **CHEM 111.3**; **CMPT 100.3**, 101.3, **111.3** or **112.3**, **115.3**; **GEOG*** 101.3, 102.3, **111.3**, **112.3**; **GEOL** 108.3, 109.3, **121.3**, **122.3**; **MATH 101.3**, **110.3**, **112.3**, or **116.3**; **PHYS 111.6**, **121.6**, **128.3**; **STATS 103.3** or any approved senior-level natural science course provided that not more than 6 credit units in one subject is used for the Natural Science Requirement. Students may use only 6 credit units in mathematics and statistics toward the Natural Science Requirement.

*Students may use only 6 credit units in Geography in total, whether toward the Natural Science requirement or Social Science requirement.

Fine Arts

Only the following courses meet the Fine Arts Requirement in Program D:

ART 111.6, 112.6, 113.6, 115.6, 120.3, 121.3, 136.3, 141.3, 161.3; DRAMA 100.6, 104.6, 110.3, 113.3, 116.3, 117.3; MUSIC 101.3, 103.3, 105.3, 113.2, 114.2, 117.1, 119.1, 140.3, 141.3 or any approved senior-level fine arts course provided that not more than 6 credit units in one subject is used for the Fine Arts Requirement.

General Requirement

Students in Programs A, B, and C are required to complete 6 credit units of Arts and Science courses from an area outside their Program Type. With a few exceptions, any junior or senior course or combination of courses from the humanities, social sciences, natural sciences or fine arts, outside the program type of the major, can be used for this requirement.

CLASS 104 and 105, all statistics courses, and courses from other colleges cannot be used for the General Requirement.

REQUIREMENT 6 (MAJOR)

For a listing of the courses required for the major you have chosen see "Descriptions of Courses and Programs".

Three-year degree students may take up to 42 credit units in courses in the same subject area (at least 48 credit units must be in other courses) Four-year and Honours students* may take up to 60 credit units in courses in the same subject area (at least 60 credit units must be in other courses).

*Geology majors may take up to 72 credit units in GEOL courses; at least 48 credit units must be in other courses.

REQUIREMENT 7 (ELECTIVES)

These are courses chosen by the student because of interest, or because they will strengthen the student's understanding of the major or because they wish to complete a minor in another subject area or Recognition in a Language. Some departments require their students to take certain electives in cognate subjects to the major.

Students must ensure they have enough senior courses (200-level or higher). Three-year degree students must take at least 42 credit units in senior courses; Four-year and Honours degree students must take at least 66 credit units in senior courses.

B.A. OR B.SC. HONOURS PROGRAM

The Honours Program is intended for students who wish for more intensive training in a subject or in a combination of two subjects of special interest to them and who are able to meet the higher standards. It is especially suitable for those who plan to proceed to graduate study leading to the degrees of Master of Arts (M.A.), Master of Science (M.Sc.) and Doctor of Philosophy (Ph.D.).

To earn the degree of B.A. Honours or B.Sc. Honours a student must have credit for a minimum of 120 credit units and may be required to pass an honours examination

set by the department or departments administering the program, if such an examination is prescribed.

Every Honours Program (whether Single Honours, Double Honours or General Honours) must include Requirements 1 to 5 of Program Types A, B, C or D, whichever is appropriate, of the program leading to the B.A. or B.Sc. degree. Not more than 60 credit units of the courses comprising the program may be in any one subject*, and not more than 54 credit units may be junior credit units; at least 66 credit units must be at the senior level.

*Geology majors may take up to 72 credit units in GEOL courses.

Single Honours Programs: In the case of a Single Honours Program, in which one concentrates in a single subject, at least 48 credit units will normally be taken in this subject; other courses may be required either in the same subject or in cognate subjects on the advice of the head of the department offering the program.

Double Honours Programs: Double Honours Programs may be taken in suitable combinations of two subjects.

In the case of a Double Honours Program, in which one concentrates in two subjects, at least 36 credit units will normally be taken in each subject. The two departments together may specify up to 84 credit units.

General Honours Programs: General Honours Programs may be taken in suitable combinations of subjects.

Of the 120 credit units required for a General Honours, at least 84 will be distributed in three subjects. The student will take at least 36 and not more than 48 credit units from among the courses prescribed for Honours in one subject and select the remainder from other subjects to build an individual program which would satisfy a particular academic interest. The student will take not more than 30 credit units in each of the other subjects.

Admission to an Honours Program: A student interested in entering an Honours Program should consult the head of the department or departments concerned, if possible during the first year and preferably not later than April. In this way a program of studies for the second year may be planned in accordance with requirements of the proposed Honours Program. Formal admission to an Honours Program is considered upon application and is based on departmental recommendation and College committee approval. Application for admission to Honours is not considered until successful completion of at least 60 credit units with a cumulative percentage average of at least 70% overall and at least 70% in the subject or subjects of honours. Students who meet these averages are not guaranteed admission to an honours program.

For Arts and Science students the average is calculated from the grades obtained on all courses taken, including failures. For transfer students, the courses used in calculating the average are those that carry credit toward the B.A. or B.Sc. degree, including failures. Under certain restrictions, failures and marks below 60%

Degree Requirements

Bachelor of Arts & Bachelor of Science

Three-year degree (90 credit units) • Four-year degree (120 credit units) • Honours degree (120 credit units)

PROGRAM TYPES A, B, C, & D			
Type A	Type B	Type C	Type D
B.A. - Humanities - Majoring in: Classics English French German History	B.A. - Social Sciences - Majoring in: Anthropology & Archaeology Archaeology Business Economics Economics Geography (Human)	B.Sc. - Natural Sciences - Majoring in: Anatomy Archaeology Biochemistry Biology Chemistry Computer Science Geography (Physical)	B.A. - Fine Arts - Majoring in: Art (Art History or Studio Art) Drama Music
Note: Students may complete a major in Women's and Gender Studies in Program Type A, B, or D, depending on specialization chosen. See <i>Description of Programs and Courses</i> for details. Note: Students in Interdisciplinary Programs should consult the <i>Program Types for Interdisciplinary Majors</i> section.			
REQUIREMENT 1			
1 - Humanities Requirement 12 credit units from the Humanities, selected from the courses listed on the previous page (at most, 6 credit units in one subject).	1 - Social Science Requirement 12 credit units from the Social Sciences, selected from the courses listed on the previous page (at most, 6 credit units in one subject).	1 - Natural Science Requirement 18 credit units from the Natural Sciences, selected from the courses listed in bold, italic type on the previous page (at most, 6 credit units in one subject).	1 - Fine Arts Requirement 12 credit units which must be selected from two different subjects from the Fine Arts, selected from the courses listed on the previous page (at most, 6 credit units in one subject).
REQUIREMENT 2			
2 - Languages Requirement 6 credit units from the Languages, selected from the courses listed on the previous page.	2 - Humanities Requirement 6 credit units from the Humanities, selected from the courses listed on the previous page.	2 - Humanities requirement 6 credit units from the Humanities, selected from the courses listed on the previous page.	2 - Humanities Requirement 6 credit units from the Humanities, selected from the courses listed on the previous page.
REQUIREMENT 3			
3 - Natural Sciences Requirement 6 credit units from the Natural Sciences, selected from the courses listed on the previous page.	3 - Natural Sciences Requirement 6 credit units from the Natural Sciences, selected from the courses listed on the previous page.	3 - Social Science Requirement 6 credit units from the Social Sciences, selected from the courses listed on the previous page.	3 - Natural Sciences Requirement 6 credit units from the Natural Sciences, selected from the courses listed on the previous page.
REQUIREMENT 4			
4 - Social Sciences Requirement 6 credit units from the Social Sciences, selected from the courses listed on the previous page.	4 - Languages Requirement 6 credit units from the Languages, selected from the courses listed on the previous page.	4 - Languages Requirement 6 credit units from the Languages, selected from the courses listed on the previous page.	4 - Languages Requirement 6 credit units from the Languages, selected from the courses listed on the previous page.
REQUIREMENT 5			
5 - General Requirement 6 credit units from Area of Fine Arts, Area of Social Sciences or Area of Natural Sciences	5 - General Requirement 6 credit units from Area of Fine Arts, Area of Humanities or Area of Natural Sciences	5 - General Requirement 6 credit units from Area of Fine Arts, Area of Humanities or Area of Social Sciences	5 - Social Sciences Requirement 6 credit units from the Social Sciences, selected from the courses listed on the previous page.
REQUIREMENT 6			
6 - Major Requirement B.A. Four-year - 30 or more senior credit units in a subject chosen under the Humanities or Languages requirement, above. These must be selected to complete the department's requirements of a 36 or more credit unit major. B.A. Three-year - 24 or more senior credit units in a subject chosen under the Humanities or Languages requirement, above. These must be selected to complete the department's requirements of a 30 or more credit unit major. B.A. Honours - Usually 42 to 54 credit units in a subject chosen under the Humanities or Languages requirement above. See department requirements.	6 - Major Requirement B.A. Four-year - 30 or more senior credit units in a subject chosen under the Social Science requirement, above. These must be selected to complete the department's requirements of a 36 or more credit unit major. B.A. Three-year - 24 or more senior credit units in a subject chosen under the Social Science requirement, above. These must be selected to complete the department's requirements of a 30 or more credit unit major. B.A. Honours - Usually 42 to 54 credit units in a subject chosen under the Social Science requirement above. See department requirements.	6 - Major Requirement B.Sc. Four-year - 30 or more senior credit units in a subject chosen under the Natural Science requirement above. These must be selected to complete the department requirements of a 36 or more credit unit major. B.Sc. Three-year - 24 or more senior credit units in a subject chosen under the Natural Science requirement, above. These must be selected to complete the department's requirements of a 30 or more credit unit major. B.Sc. Honours - Usually 42 to 54 credit units in a subject chosen under the Natural Science requirement above. See department requirements. B.Sc. students may major in anatomy, archaeology, biochemistry, geography (physical), microbiology or physiology. See department requirements.	6 - Major Requirement B.A. Four-year - 30 or more credit units in a subject chosen under the Fine Arts requirement, above. These must be selected to complete the department's requirements of a 36 or more credit unit major. B.A. Three-year - 24 or more credit units in a subject chosen under the Fine Arts requirement, above. These must be selected to complete the department's requirements of a 30 or more credit unit major. B.A. Honours - Usually 42 to 54 credit units in a subject chosen under the Fine Arts requirement above. See department requirements.
REQUIREMENT 7			
7 - Electives Requirement B.A. Four-year & Honours - Electives as required, subject to the condition that of the 120 credit units required for the degree, not more than 60 may be in any one subject and not more than 54 may be at the junior level; at least 66 credit units must be at the senior level. B.A. Three-year - Electives as required, subject to the condition that of the 90 credit units required for the degree not more than 42 may be in any one subject and not more than 48 may be at the junior level; at least 42 credit units must be at the senior level.	7 - Electives Requirement B.A. Four-year & Honours - Electives as required, subject to the condition that of the 120 credit units required for the degree, not more than 60 may be in any one subject and not more than 54 may be at the junior level; at least 66 credit units must be at the senior level. B.A. Three-year - Electives as required, subject to the condition that of the 90 credit units required for the degree not more than 42 may be in any one subject and not more than 48 may be at the junior level; at least 42 credit units must be at the senior level.	7 - Electives Requirement B.Sc. Four-year & Honours - Electives as required, subject to the condition that of the 120 credit units required for the degree, not more than 60 may be in any one subject* and not more than 54 may be at the junior level; at least 66 credit units must be at the senior level. *Students majoring in a Four-year or Honours program in Geology may take up to 72 credit units in GEOL courses. B.Sc. Three-year - Electives as required, subject to the condition that of the 90 credit units required for the degree not more than 42 may be in any one subject and not more than 48 may be at the junior level; at least 42 credit units must be at the senior level.	7 - Electives Requirement B.A. Four-year & Honours - Electives as required, subject to the condition that of the 120 credit units required for the degree, not more than 60 may be in any one subject and not more than 54 may be at the junior level; at least 66 credit units must be at the senior level. B.A. Three-year - Electives as required, subject to the condition that of the 90 credit units required for the degree not more than 42 may be in any one subject and not more than 48 may be at the junior level; at least 42 credit units must be at the senior level.

will be excluded if these same courses have been retaken in accordance with the rules of the College. See Cumulative Percentage Average calculation below.

Application for admission is to be made on a form available at the Office of the Dean after consultation with the department or departments concerned. The deadline for application is May 31. Students will be notified by letter during the summer.

Alternative Admission Standard: Students who, with more than 60 credit units, fail to qualify for admission to an Honours Program because their cumulative percentage average is less than 70% may nevertheless be admitted, with department recommendation and committee approval, if their average on the last 60 credit units or more taken is at least 75%, and their average in the subject of honours is at least 70%.

Additional Regulations: Students who wish to pursue an Honours Program after the completion of a Four-year degree should contact the Office of the Dean. Students who meet the program and academic requirements for an Honours degree but have never been admitted to an Honours program may still be eligible to receive the Honours degree. These students should contact the Office of the Dean.

Honours Scholarships: These scholarships are awarded annually to students in the fourth year of an Honours Program. To be eligible, a student must have been formally admitted by the College to an Honours Program, must have a sessional average of at least 75% and must have completed at least 78 credit units of the 120 credit units required in the Honours Programs. A student who has completed 78 credit units and who receives an Honours Scholarship must register in at least 18 credit units in the Regular Session in which the scholarship is tenable. Applications from students are not required for Honours Scholarships.

BACHELOR OF FINE ARTS AND BACHELOR OF MUSIC

Programs are available for the Bachelor of Fine Arts (in Studio Art or Drama) and the Bachelor of Music degrees. Please consult the Art and Art History section, the Drama section or the Music section for details of these program requirements.

POST DEGREE SPECIALIZATION CERTIFICATE

This program is available only to students who have already completed another degree. At present, the PDSC is available in Computer Science and Economics. The requirements are basically the same as for the Four-year program in a major, but students do not have to complete the Distribution Requirements (Requirements 1-5). See the department listings for program requirements.

TRANSFER STUDENTS FROM OTHER COLLEGES AND RETURNING STUDENTS

Students transferring from another college to the College of Arts and Science, or returning to the College after an absence of one or more years or after the awarding of a degree, must apply to Admissions, Office of the Registrar for admission to the College of Arts and Science. Transfer students from other colleges at the University of Saskatchewan should be aware that many courses from other colleges transfer to Arts and Science programs (e.g., statistics, mathematics, chemistry, biology, English, etc.). All such courses must be included in the transfer student's Arts and Science program, and all grades from these courses will be included in the student's average for admission, promotion and graduation purposes. Transfer students must have a C.P.A. of 60% (as calculated by the College, based on courses which transfer to Arts and Science). Once an application for admission is accepted, the student should consult a departmental advisor, either in person or in writing, before registering.

Students should consult "Courses from Other Colleges" in the section *Description of Courses and Programs* for additional information.

COURSES FROM OTHER UNIVERSITIES FOR ARTS AND SCIENCE CREDIT

Students may transfer from another university to the College of Arts and Science; students from the College can also be given permission to take courses at another university for credit toward an Arts and Science degree. The following regulations apply:

RESIDENCY REGULATIONS

From the University of Saskatchewan, students must complete:

- at least one-half of the overall coursework required for their degree, including at least two-thirds of the senior credit units required (to the nearest multiple of 6 credit units), and
- at least two-thirds of the coursework required in the student's major subject (to the nearest multiple of 6 credit units).
- for all Four-year and Honours degrees, at least two-thirds of the credit units required at the 300-level and higher (to the nearest multiple of 3 credit units) must be completed from the University of Saskatchewan.

Students must meet all program requirements for the particular degree or certificate they are pursuing. This means that some students will have to complete more courses than the minimum number indicated below.

Students must meet the overall C.P.A. and major C.P.A. as described under "Promotion and Graduation Standards" in this section of the *Calendar*

For specific degrees, the minimum requirements are as follows:

B.A. or B.Sc. Three-year

Of the credit units required for the degree, transfer students must complete at least 45 credit units overall from the University of Saskatchewan, including a minimum of 30 senior credit units, and at least 18 credit units in the student's major subject.

B.A. or B.Sc. Four-year and B.A. or B.Sc. Honours

Of the credit units required for the degree, transfer students must complete at least 60 credit units overall from the University of Saskatchewan, including:

- at least 42 senior credit units
- at least two-thirds of the 300- and 400-level courses required (to the nearest multiple of 3 credit units), and
- at least two-thirds of the courses required in the major (to the nearest multiple of 6 credit units). For the 36 credit-unit Four-year major, this means that at least 24 credit units in the major subject is required.

Minors and Recognition

In an 18 credit unit minor or Recognition, at least 12 credit units must be from the University of Saskatchewan. In a 24 credit unit minor, at least 18 credit units must be from the University of Saskatchewan.

B.F.A.

Of the credit units required for the degree, transfer students must complete at least 60 credit units overall from the University of Saskatchewan, including:

- a minimum of 42 senior credit units
- at least two-thirds of the 300- and 400-level courses required (to the nearest multiple of 3 credit units)
- in Art, at least 48 credit units of the combined total of Studio and Art History courses required, and in Drama, at least 48 credit units in Drama and cognate courses

B.Mus.

Of the credit units required for the degree, transfer students must complete, from the University of Saskatchewan, at least 66 credit units overall, including two-thirds of the 300- and 400-level courses required (to the nearest multiple of 3 credit units), and at least two-thirds of the courses required in Music (to the nearest multiple of 6 credit units).

CREDIT GIVEN FOR COURSES FROM OTHER UNIVERSITIES

Students who transfer to the College of Arts and Science from other universities or colleges, or students who wish to take courses elsewhere as visiting students, should be aware that they may not obtain credit for all courses. Transfer students should be aware that transfer credits as assessed by the Office of the Registrar may not apply within this College.

In particular, the following situations apply:

- (1) Courses from another college may be allowed as elective credits under certain circumstances (see "Courses from Other Colleges"). A form for this credit is

available from the Office of the Dean (Records Office), Room 236 ARTS.

- (2) Courses for which there is no College of Arts and Science equivalent (or near equivalent) may be disallowed.

- (3) A department has the right to require that its majors take its courses, regardless of whether the student already has credit for a duplicate course from another university. A student who chooses or is required to take a course that is determined to essentially duplicate a course for which transfer credit has been granted will either not be given credit for the new course or will lose the transfer credit. The decision rests with the Office of the Dean of Arts and Science in consultation with the department involved.

- (4) The Cumulative Percentage Average (CPA) overall and in the major required for promotion and graduation is calculated only on the courses taken at the University of Saskatchewan.

- (5) Students may not repeat for credit or to raise their average any transfer courses in which they have already received a passing grade (50 per cent or better).

Note: Students receiving transfer credit for "unspecified" courses may normally use these credit units to satisfy Requirement 7 only. Usually, these "unspecified" transfer credits are considered as junior-level courses.

PROCEDURES FOR TRANSFER STUDENTS FROM OTHER UNIVERSITIES

Students transferring from another university to the College of Arts and Science must apply to Admissions, Office of the Registrar for admission.

The following procedures apply:

- (1) The student must arrange to have an official transcript of all courses taken previously forwarded to Admissions, Office of the Registrar for evaluation.

- (2) Admissions, Office of the Registrar will make a preliminary assessment of transfer courses for transfer credit. This evaluation can take four weeks or longer following receipt of transcripts by Admissions, Office of the Registrar. A copy of the transfer credit evaluation is sent to the student and to the Office of the Dean, which will assess the credit to be awarded toward an Arts and Science degree as outlined above.

- (3) On receipt of the transfer credit, a transfer student should consult the Office of the Dean either in person or in writing to determine the number of credit units required from the University of Saskatchewan to complete their degree program, according to the "Residency Regulations" listed above and the program requirements for the program which the student wishes to pursue.

TAKING COURSES AT OTHER UNIVERSITIES

VISITING STUDENT STATUS

A student wishing to take one or more courses from another university and receive credit toward a degree from the College of

ARTS & SCIENCE

Arts and Science must apply for Visiting Student status.

Students should contact the Office of the Dean of the College of Arts and Science and list the courses, including course descriptions, in which they intend to register. Permission to register will be granted under the following conditions:

- (1) The student must have completed at least 6 credit units of Arts and Science courses at the University of Saskatchewan.
- (2) The student must have a C.P.A. of at least 60%.
- (3) Permission must be received from the Office of the Dean prior to registering for such courses.
- (4) Credit for such courses will be subject to the restrictions listed under "Credit for Courses from Other Universities".
- (5) Students must inform the College by letter if they do not complete the courses.

Transfer students may also apply for Visiting Student status to take a course at another university, but should be aware that they must meet the "Residency Regulations" listed previously to qualify for their degree.

EXCHANGE AND STUDY ABROAD PROGRAMS

Several exchange and study abroad programs with universities in the United States, Mexico, Latin America, Japan and Europe have been developed for Arts and Science students. These programs allow students to study elsewhere for all or part of an academic session and obtain University of Saskatchewan credit for the approved courses taken.

LA ANTIGUA, GUATEMALA STUDY TERM ABROAD

The College of Arts and Science offers a term abroad in La Antigua, Guatemala every second year in Term 2. This program may be of interest to students in many disciplines within the College.

Students may take up to 18 credit units in the term. Courses offered in Guatemala include Spanish, and four courses from anthropology, archaeology, economics, geography, history, political studies and/or sociology. All courses except Spanish will be taught in English.

The deadline for applications for the term abroad is the last week of January in the year preceding travel to Guatemala. For further information contact the Department of History or the Department of Political Studies.

Other Study Abroad Programs

From year to year, there may be several courses offered abroad by Arts and Science. For example, the Mediterranean archaeology courses CLASS 246, 247 and 360 are usually offered in Israel or Jordan over the summer; several Interdisciplinary Studies (INTST) or Geography courses have recently been offered in Africa under the auspices of the World University Service Overseas. Consult the Office of the Dean for additional information on any of these programs.

WORK EXPERIENCE PROGRAMS

The College of Arts and Science offers work experience in the following programs: Computer Science Professional Internship Option; Cooperative Education Program for students in Geography, Land Use and Environmental Studies, and Regional and Urban Development; Practicum courses in the Aboriginal Justice and Criminology Program in Sociology, the Regional and Urban Development Program, and the Women's and Gender Studies major.

For more information, see "Description of Courses and Programs".

PRE-PROFESSIONAL STUDIES

There are many professional studies for students who have an Arts and Science degree and/or have one or more years of preparatory courses. These include architecture, chiropractic, library science, etc. Information about these studies is available at the Office of the Dean or at the Office of the Registrar.

Students who wish to enter any of the following programs of study should apply for admission to the College of Arts and Science.

Registration in the courses listed below does not imply that the student has been accepted in the other program.

Since programs often have more qualified applicants than can be accepted, students may find they need additional years of study, and perhaps a B.A. or B.Sc. degree, before they will be accepted. Students should select courses to fulfill the requirements for a B.A. or B.Sc. degree in the College of Arts and Science. Students should contact the other college directly for more information.

Following is a listing of pre-professional studies which are available at the University of Saskatchewan or by arrangement at other Canadian universities.

DENTISTRY

Students should consult the General Information section of the *Calendar* for admission requirements to Dentistry. The program is described in detail in the College of Dentistry section of the *Calendar*.

EDUCATION

Students should consult the General Information section of the *Calendar* for admission requirements to Education. The program is described in detail in the College of Education section of the *Calendar*.

Note: Courses which may be used by the College of Education toward their academic degree requirements, such as CHTST 105 and 106, may not be transferable to an Arts and Science program.

JOURNALISM

The University of Regina

The University of Regina offers a four-year program leading to a Bachelor of Arts

degree in Journalism and Communications. The first two years of the program can be completed at the University of Saskatchewan. Students are required to complete the distribution requirements of The University of Regina curriculum and should select courses in first and second year from the following categories:

- (1) ENG 110.6, or any two of ENG. 111.3, 112.3, 113.3, 114.3.
- (2) At least 3 credit units in a Natural Science course chosen from: BIOL 110.6; CHEM 111.3; GEOG 111.3, 112.3; GEOL 121.3, 122.3; PHYS 111.6, 121.6 or 128.3.
- (3) At least 3 credit units in a language numbered 120 or higher (not English).

In many cases, this requirement means that students without a high school background in a language other than English must complete 12 credit units in languages, such as SPAN 115.6 and 215.6, etc. The University of Regina will accept FR 103.3, 106.3 and 121.3 (or 122.3), or Classics courses in combination with Greek or Latin introductory courses, as follows: GREEK 112.3 and 113.3 or LATIN 112.3 and 113.3 with CLASS 104.3, 105.3, 110.3 or 111.3. Certain summer language courses either offered or accepted by the Saskatchewan Centre for International Languages in Regina, which may be taken between year one and year two of this program, are also accepted by The University of Regina.

(4) Three of the following four categories:

- a) - At least 3 credit units in a history course emphasizing Canadian history. HIST 152.3 is recommended, but HIST 151.3 is also acceptable.
- b) - At least 3 credit units in a political studies course emphasizing Canadian politics and government: POLST 110.6 or POLST 203.6 is acceptable.
- c) - ECON 111.3.
- d) - At least 3 credit units in a social science course dealing with the media in the social science context: SOC 244.3 or 246.3 is acceptable.

Note: SOC 110 is prerequisite to SOC 244 and 246.

- (5) At least 3 credit units from fine arts, or ENG 288.3.
- (6) PHIL 140.3 or 241.3 or any mathematics course (including MATH 100.6, 101.3 or 110.3).
- (7) At least 3 credit units in a humanities area (in addition to the humanities courses listed above). Please note the School of Journalism does not consider History as a Humanities area. Six credit units in an intermediate language course will meet both the language requirement (3) and the humanities requirement (7).

(8) Additional courses to total 60 credit units over the two years. No more than 42 credit units can be junior-level.

A minimum average of 70% is required. As well, proficiency in English must be well above average. It is strongly recommended that applicants type at least 30 words per minute.

Application deadline is January 31, by which time applicants must have completed or be registered in the courses listed above. The School will not accept applications from students who would have to take courses in Intercession or Summer Session to complete the course requirements.

Spaces in this program are limited and applicants who meet the requirements are not guaranteed admission. Applications will be assessed and selected candidates will be invited for examinations and interviews.

For further information, contact the School of Journalism, The University of Regina, Regina SK S4S 0A2, Telephone: (306)585-4420.

LAW

Students should consult the General Information section of the *Calendar* for admission requirements to Law. The program is described in detail in the College of Law section of the *Calendar*.

MEDICINE

Students should consult the General Information section of the *Calendar* for admission requirements to Medicine. The program is described in detail in the College of Medicine section of the *Calendar*.

NUTRITION

Students should consult the General Information section of the *Calendar* for admission requirements to the Nutrition program in the College of Pharmacy and Nutrition. The program is described in detail in the College of Pharmacy and Nutrition section of the *Calendar*.

OCCUPATIONAL THERAPY

University of Alberta

Students wishing to enrol in the B.Sc. in the Occupational Therapy program in the Faculty of Rehabilitation Medicine at the University of Alberta must complete a pre-professional year. The admission average will be based on 30 credit units of courses and must include 6 credit units each of introductory psychology, laboratory science, occupational therapy (OCCTH 106 and 107) and 12 credit units of electives.

Applicants who have completed more than one year of university course work may be able to use senior courses to meet psychology, laboratory science and elective requirements.

The University of Alberta will offer OCCTH 106 and 107 on the University of Saskatchewan campus during the 2000-2001 Regular Session and 2001 Intercession. Students wishing to enrol in these courses must be admitted by and register through the University of Alberta as an "Open Studies" student.

OCCTH 106 will transfer to the College of Arts and Science as 3 credit units in senior-level Psychology. OCCTH 107 is not transferable to an Arts and Science program at the University of Saskatchewan.

Deadline for application to the B.Sc. in Occupational Therapy program at the University of Alberta is April 1. Ten places will be available to qualified Saskatchewan applicants. The Occupational Therapy

program is under review. It is anticipated that in 2001 applicants will be required to complete at least 60 credit units of pre-professional study before being considered for admission to Occupational Therapy. For further information about entry requirements, interested applicants should check with the Faculty of Rehabilitation Medicine or the Office of the Registrar at the University of Alberta, or Michele Derald, Occupational Therapy Fieldwork Co-ordinator (Saskatchewan), c/o University of Saskatchewan, Box 320, St. Andrew's College, 1121 College Drive, Saskatoon SK S7N 0W3, Telephone: (306)966-7780 or email: derald@outlet.sk.ca.

The University of Manitoba

Three places are available for Saskatchewan students in the three-year program which leads to the degree of Bachelor of Medical Rehabilitation (Occupational Therapy) at The University of Manitoba. Applicants must have completed one pre-professional year of at least 30 credit units, consisting of: BIOL 110.6, PSY 110.6, SOC 110.6 and 12 elective credit units.

For more information, contact the Admissions Office, The University of Manitoba, Winnipeg MB R3T 2N2, Telephone: (204)474-8814 or The School of Medical Rehabilitation, 770 Bannatyne Ave., Winnipeg MB R3E 0W3, Telephone: (204)789-3674.

OPTOMETRY

University of Waterloo

The University of Waterloo offers a four-year Doctor of Optometry program. Agreements have been established between Ontario and a number of provinces to share the costs of educating a limited number of students from outside Ontario. The agreement between Ontario and Saskatchewan covers up to three students. The School of Optometry's Admission Committee bases its decisions on the competitive level of the candidates. The Committee is not committed to or limited by the number of places allocated to a province.

Applicants require senior matriculation standing in Mathematics B30 and C30 (or, under the old mathematics curriculum, Algebra 30 and Geometry-Trigonometry 30), Biology 30, Chemistry 30, and Physics 30 and at least two or three pre-professional years. The School expects students to study full-time (30 credit units per year).

The Pre-Optometry courses consist of:

General Biology (with lab) - two terms: BIOL 110.6; General Chemistry (with lab) - two terms: CHEM 111.3 and one of CHEM 231.3 or 242.3; Physics (with lab) - two terms: PHYS 111.6; Calculus - two terms: MATH 110.3 and one of 112.3 or 116.3; English - two terms: any English; Introductory Psychology - two terms: PSY 110.6; Physiology (Human or Mammalian) - two terms: PHSIO 212.6; Genetics - one term: Biol 211.3; Introductory Ethics - one term: PHIL 133.3; Organic Chemistry - one term: CHEM 251.3; Microbiology - one term: MICRO 214.3; Biochemistry - one

term: BIOCH 200.3; Statistics - one term: STATS 244.3 or 245.3.

Recommended courses: Human Anatomy - one term: ANAT 210.3; Human Embryology - one term: BIOL 352.3; Human Histology - one term: Immunology - one term: MICRO 421.3; Virology - one term: MICRO 309.3; Sociology - one term: any Sociology. The number of recommended courses successfully completed will be considered by the Admissions Committee. Missing recommended prerequisites could affect the competitive level of the candidate's application.

A minimum average of 75% is required. Recently successful applicants have had averages of approximately 85%.

For more information, contact Admissions, School of Optometry, University of Waterloo, Waterloo ON N2L 3G1, Telephone: (519)888-4567 extension 2782.

PHARMACY

Students should consult the General Information section of the *Calendar* for admission requirements to the Pharmacy program in the College of Pharmacy and Nutrition. The program is described in detail in the College of Pharmacy and Nutrition section of the *Calendar*.

PHYSICAL THERAPY

Students should consult the General Information section of the *Calendar* for admission requirements to Physical Therapy. The program is described in detail in the School of Physical Therapy section of the *Calendar*.

SOCIAL WORK

The University of Regina

The program of the Faculty of Social Work is as follows:

The University of Regina Faculty of Social Work offers programs in Saskatoon, Regina and Prince Albert, which lead to the Certificate of Social Work or the Bachelor of Social Work.

The criteria for admission decisions will be based on a combination of (1) 65% Weighted Percentage Average (W.P.A.), and (2) the total score achieved on the assessment of the written application form including a personal statement and a social issues question. Applicants may be required to attend a panel interview with three faculty representatives. The interview will result in a tabulated score. The criteria for determining personal suitability will include acceptance of the Canadian Association of Social Workers Code of Ethics and the Saskatchewan Human Rights Code.

Applications for admission to Social Work must be received at the Faculty of Social Work office in Regina by January 15 for the Spring/Summer and Fall terms and September 15 for the Winter term.

60 credit units of the program including NATST 110.6 and one of ENG 110.6, 111.3, 112.3, 113.3, 114.3 can be completed at the University of Saskatchewan. Students holding a related Three-year degree, including NATST 110.6 and one of ENG 110.6, 111.3, 112.3, 113.3, 114.3 will be given 60 credit units towards their B.S.W.

program. Students holding a related Four-year degree, including NATST 110.6 and one of ENG 110.6, 111.3, 112.3, 113.3, 114.3 will be given 75 credit units towards their B.S.W. program.

For more information please contact the Faculty of Social Work, St. Andrew's College, 1121 College Drive, Saskatoon SK S7N 0W3, Telephone: (306)664-7370 or (306)664-7373.

THEOLOGY

Students who are taking the B.A. or B.Sc. as a preparation for theological studies are advised to consult the principal of the theological college which they intend to enter about their choice of courses.

Students who are certified as candidates in theology in an affiliated college are permitted, on the recommendation of their principal, to credit up to 18 credit units of approved theological options as senior electives towards their B.A. or B.Sc. Credit will be granted for introductory courses in Biblical Literature and Church History only. For students who subsequently enrol in courses in Biblical Literature or Church History at the university, if they take for credit 6 credit units or more in Biblical Literature, the number of theological options which may be counted towards their degree will be reduced accordingly.

VETERINARY MEDICINE

Consult the General Information section of the *Calendar* for admission requirements to Veterinary Medicine. The program is described in detail in the College of Veterinary Medicine section of the *Calendar*. Veterinary Medicine admission requirements can also be met through the College of Agriculture.

OTHER PROFESSIONAL PROGRAMS

For information on degrees in the fields of architecture, chiropractic, library science or other degrees not listed here, contact the Office of the Dean or the Office of the Registrar.

SECOND DEGREE PROGRAMS

Programs in Arts and Science and in other colleges of this University may be combined to enable the student to obtain both the Bachelor of Arts or Bachelor of Science and the other degree in less time than if the two programs were taken separately. Students intending to complete degrees from Arts and Science and from another college should be aware that they must be admitted to the other college before they can receive the other college degree. It is possible to complete an Arts and Science degree while registered as a student in another college or as students in Unclassified Studies.

New regulations approved in 1997 now also allow students to receive both B.A. and B.Sc. degrees.

Students who wish to follow a Second Degree Program are advised to consult the Office of the Dean of Arts and Science to ascertain the precise course requirements. The duration of the Second Degree

Program and the course requirements are determined by the following regulations:

(1) *Residency requirement:* Students must meet the residency requirements of the college for the specific degree sought (see Courses from Other Universities for Arts and Science Credit). Students who wish to finish their Arts and Science degrees at another university may do so, provided they meet the residency requirements. In particular, it can be difficult to complete program requirements for 300- and 400-level courses at another university. Students are advised to complete these courses at the University of Saskatchewan.

(2) *Additional credit requirements:* Students must have credit for at least 30 additional Arts and Science credit units to qualify for the B.A. or B.Sc. Three-year, or at least 60 additional Arts and Science credit units for the B.A. or B.Sc. Four-year or Honours, regardless of the number of Arts and Science courses included in the program leading to the first degree. These additional courses may not be used for any other degree or certificate.

(3) *Program requirement:* Students must satisfy all program requirements and the graduation standards for the degree being attempted.

(4) In some cases, the above regulations may mean that students are required to take more than the total minimum number of credit units for a degree (more than 90 credit units for a Three-year degree; more than 120 credit units for a Four-year or Honours degree). In this case, the credit units which are in excess of the 90 or 120 may be in the subject of the major.

(5) The electives in the program must be courses listed for credit in the College of Arts and Science section in the *Calendar*.

(6) Students may not receive credit for more than 48 junior credit units in the Three-year degree and not more than 54 junior credit units in the Four-year or Honours degree.

(7) *Date of commencement of a program:* Once a student has received a degree, any subsequent degree or certificate program commences in the first academic session in which study begins for the subsequent degree or certificate alone. Students must complete the program and major requirements and the graduation standards which were in place for the academic session in which they began their studies, subsequent to completion of their previous degree or certificate. If the date of program commencement is more than 10 years ago, students should contact the Office of the Dean. Normally, such students will be required to meet the current degree requirements.

(8) The overall and major Cumulative Percentage Averages for Arts and Science graduation are calculated on grades from all courses taken, including any course from another college which is used for credit toward the Arts and Science degree and any Arts and Science course taken while in another college. This means that the average will include any courses which transfer to the College of Arts and Science even if they are extra to the Second Degree

ARTS & SCIENCE

program requirements. Under certain restrictions, failures and marks below 60% will be excluded from the average if these courses have been retaken in accordance with the rules of the College. See Cumulative Percentage Average below.

ARTS & SCIENCE

New regulations were approved in 1997 to allow Arts and Science students to complete both a Bachelor of Arts degree and a Bachelor of Science degree. Effective for Spring Convocation, 1999, the following regulations apply:

B.A. and B.Sc., or B.Sc. and B.A.

Students may not receive two Three-year degrees.

Students whose first degree is a B.A. Three-year, Four-year or Honours degree may receive a B.Sc. Four-year or Honours degree on completion of at least 60 additional credit units, subject to completion of all B.Sc. program and major requirements (total of 150 to 180 credit units or more).

Students whose first degree is a B.Sc. Three-year, Four-year or Honours degree may receive a B.A. Four-year or Honours degree on completion of at least 60 additional credit units, subject to completion of all B.A. program and major requirements (total of 150 to 180 credit units or more).

Students whose first degree is a B.A. Four-year or Honours may receive a B.Sc. Three-year on completion of at least 30 additional credit units, subject to completion of all B.Sc. program and major requirements (total of 150 credit units or more).

Students whose first degree is a B.Sc. Four-year or Honours may receive a B.A. Three-year on completion of at least 30 additional credit units, subject to completion of all B.A. program and major requirements (total of 150 credit units or more).

To receive a Three-year degree plus a Four-year or Honours degree will require at least 150 credit units. To receive a Four-year or Honours degree plus another Four-year or Honours degree would require at least 180 credit units.

Upgrade of Arts & Science Three-year degree to Four-year or Honours degree

Students with a B.A. Three-year may upgrade to a B.A. Four-year or Honours degree in the same major or a different B.A. major or interdisciplinary program on completion of at least 30 additional credit units, subject to completion of program and major requirements. A minimum of 120 credit units is required in total.

Students with a B.Sc. Three-year may upgrade to a B.Sc. Four-year or Honours degree in the same major or a different B.Sc. major or interdisciplinary program on completion of at least 30 additional credit units, subject to completion of program and major requirements. A minimum of 120 credit units is required in total.

Students with a B.A. Four-year may upgrade to an Honours degree in the same major provided that there are additional Honours program requirements remaining

to complete the Honours program and that they complete these requirements.

Students with a B.Sc. Four-year may upgrade to an Honours degree in the same major provided that there are additional Honours program requirements remaining to complete the Honours program and that they complete these requirements.

Students who have already completed all of the program requirements for an Honours degree, but who did not achieve the C.P.A. graduation standard required for Honours, are not permitted to take or retake courses to upgrade to an Honours degree under this policy.

Degrees for students with a B.A. or B.Sc. from another university

Students with a B.A. or B.Sc. degree from another university will be allowed to receive a B.A. or B.Sc. or upgraded degree from the University of Saskatchewan in accordance with the above regulations. The student must satisfy all program requirements, residency requirements and graduation standards for the specific University of Saskatchewan degree.

Advanced and Honours Certificates

A student who has already completed a B.A. Four-year or Honours degree can receive an Advanced or Honours Certificate in a different B.A. major or interdisciplinary program, on completion of at least 30 additional credit units, subject to completion of Four-year or Honours program requirements in that major or interdisciplinary program. A student who has already completed a B.Sc. Four-year or Honours degree can receive an Advanced or Honours Certificate in a different B.Sc. major or interdisciplinary program, on completion of at least 30 additional credit units, subject to completion of Four-year or Honours program requirements.

From another university: Students who hold a B.A. Four-year or Honours degree from another university or a B.Sc. Four-year or Honours degree from another university are eligible to receive the Advanced or Honours Certificate subject to the conditions listed above. Such students must complete a minimum of 30 credit units including at least 24 senior credit units and at least 18 credit units in the subject of the major.

Note: Under this policy, which was effective in September, 1998, students who have a B.A. Three-year or B.Sc. Three-year degree can not be awarded an Advanced or Honours Certificate. Students already in such programs should consult with the Office of the Dean to determine when they must complete the pre-1998 program requirements.

ARTS & SCIENCE AND B.F.A. (IN STUDIO ART OR DRAMA)

Students who have completed a Bachelor of Fine Arts (in Studio Art or Drama) degree and wish to complete a B.A. or B.Sc. Three-year degree, must complete a minimum of 30 credit units in addition to those used in fulfilling the requirements of the B.F.A. (in Studio Art or Drama) degree. Students who have completed another degree and wish to complete a B.F.A. (in Studio Art or Drama) degree must complete

a minimum of 60 additional credit units. All program requirements for the B.F.A. (in Studio Art or Drama) must also be completed.

ARTS & SCIENCE AND AGRICULTURE, COMMERCE, ENGINEERING, KINESIOLOGY, NURSING, NUTRITION & DIETETICS, PHARMACY, PHYSICAL THERAPY, VETERINARY MEDICINE

Students who wish to pursue a second degree program in Arts and Science with a professional program in Agriculture, Commerce, Engineering, Kinesiology, Nursing, Nutrition and Dietetics, Pharmacy, Physical Therapy or Veterinary Medicine will usually conform to the requirements of Program Types A, B, C or D in choosing the necessary additional minimum of 30 credit units in Arts and Science for the Three-year degree, or 60 credit units in Arts and Science for the Four-year degree.

ARTS & SCIENCE AND DENTISTRY OR MEDICINE

The Second Degree Program in Arts and Science and Dentistry or Medicine, leading to the B.A. or B.Sc. Three-year and D.M.D or M.D. may usually be completed in six years. The Four-year or Honours degree may usually be completed in seven years. This is possible because a number of courses in health sciences which are required by the College of Dentistry or Medicine may be counted as senior courses in the College of Arts and Science provided these courses do not duplicate courses already taken in Arts and Science.

Please consult the Office of the Dean for a list of these courses.

ARTS & SCIENCE AND EDUCATION

The Second Degree Program for the B.A. or B.Sc. Three-year and B.Ed. usually requires five years (three in Arts and Science and two in Education) provided all program and degree requirements are completed. Students who have been awarded a B. Ed. and who wish to receive a B.A. or B.Sc. Three-year degree must complete at least 30 additional credit units in Arts and Science, in addition to any Arts and Science courses used in completing the Education degree, as well as completing all program and degree requirements. Students who wish to receive a B.A. or B.Sc. Four-year or Honours degree must complete all program and degree requirements.

Students intending to enter the College of Education during or after the completion of their B.A. or B.Sc. Three-year, Four-year or Honours degree should consult the College of Education section of the *Calendar* to ensure that their selection of Arts and Science courses will meet the College of Education's requirements for teaching areas.

ARTS & SCIENCE AND LAW

The Second Degree Program in Arts and Science and Law, leading to the B.A. or B.Sc. Three-year and LL.B., may usually be completed in five years including Intersession and Summer Session. This is possible because up to 18 credit units of the following courses in the law program

may be counted as senior electives in the College of Arts and Science by students following the Second Degree Program:

- LAW 390.3 Critical Legal Studies
- LAW 392.3 Dworkin and His Critics
- LAW 393.3 Feminist Legal Theory
- LAW 394.3 Jurisprudence
- LAW 395.3 Jurisprudence and Tort Law
- LAW 425.3 Sentencing in the Criminal Justice System
- LAW 426.3 Criminology, Retributive Justice and the Criminal Justice System
- LAW 431.3 Advanced Constitutional Law
- LAW 432.3 Human Rights
- LAW 433.3 Sallows Seminar in Human Rights
- LAW 436.3 Indian and Aboriginal Law
- LAW 437.3; Advanced Studies in Aboriginal Law
- LAW 444.3 Environmental Law
- LAW 457.3 International Law
- LAW 460.3 International Trade Law
- LAW 462.3 Co-operative Law
- LAW 474.3 Children and the Law
- LAW 486.3 Law and Psychiatry

Law students may also be permitted to take 6 credit units of Arts and Science courses as electives in second or third year law. Students should consult the office of the Dean of Law to obtain permission to take such courses. In total 24 credit units taken as part of the LL.B. program may be counted towards the B.A. or B.Sc. Three-year degree, including 18 credit units which may be chosen from the list above.

Students who enter the College of Law with a B.A. or B.Sc. Three-year degree may count up to 18 credit units of the courses listed above (taken as a part of the LL.B. program) toward a four-year or honours degree.

Grades from all of the courses attempted from the above list will be used in the calculation of the Arts and Science average.

ARTS & SCIENCE AND MUSIC

Students may choose a Second Degree Program in Arts and Science and Music leading to the B.A. or B.Sc. Three-year and B.Mus. (in theory and composition, history and literature, or performance) subject to the following conditions:

(1) The 90 credit units needed for the B.A. or B.Sc. Three-year shall include not more than 24 credit units in music as follows: MUSIC 113.2, 114.2, 117.1, 119.1, 140.3, 141.3, 213.2, 214.2, 217.1, 219.1; and an additional 6 credit units in consultation with the Department of Music. At least 66 credit units in non-music courses are required.

(2) The 120 credit units needed for the B.A. or B.Sc. Four-year or Honours degree shall include not more than 36 credit units in music as follows: MUSIC 113.2, 114.2, 117.1, 119.1, 140.3, 141.3, 213.2, 214.2, 217.1, 219.1; and an additional 18 credit units in music, 12 of which must be at the 300- or 400-level. At least 84 credit units in non-music courses are required.

(3) All Music courses taken will be used for the purposes of calculation of the C.P.A.

(4) Students must major in a subject other than music in the B.A. or B.Sc.

Note: This Second Degree Program does not apply to the B.Mus. (Mus.Ed.).

ARTS & SCIENCE AND B.ED./B.MUS. (MUS.ED.)

Students who have completed the B.Ed./B.Mus. (Mus.Ed.) may ordinarily complete the work for the B.A. or B.Sc. Three-year in one additional year. See "Arts & Science and Education" (above).

PROMOTION AND GRADUATION STANDARDS

REPEATING COURSES

Failures and marks below 60% in courses taken from the University of Saskatchewan will be deleted from the average if the course has been retaken from the University of Saskatchewan according to the following rules:

(a) A failed course can be retaken. The highest mark from the University of Saskatchewan will be used in the average.

(b) A course in which the grade was 50 to 59% can be retaken *once* and only the highest mark will be used in the average. Please note that once a student has passed an upper-level course, no prerequisite course can be taken for a higher mark. For example, BIOL 110.6 could not be retaken if the student has already passed BIOL 211.3 (or its equivalent at another university.)

(c) A course in which the grade was 50 to 59% may be retaken simultaneously with a course for which it is a prerequisite. For example, if a student passed CHEM 111.3 with a grade between 50 to 59%, the student would be allowed to retake the course in the same term as taking a senior Chemistry course.

(d) The grades received for all attempts of the course will remain on the transcript.

(e) For admission, promotion and graduation purposes, other colleges may follow different rules for calculation of the average. For example, they may use only the first mark received.

(f) Marks for courses transferred from other universities are no longer used for calculation of averages to determine promotion and graduation eligibility. Transfer marks are used in the average for admission to an Honours program. A student cannot retake for credit or to raise the average, a course for which transfer credit has been received. A failed transfer course may be retaken at the University of Saskatchewan; a passed transfer course may not be retaken.

CUMULATIVE PERCENTAGE AVERAGE (C.P.A.)

The Cumulative Percentage Average is calculated on all courses attempted, subject to the policy on Repeating Courses as described above. To calculate the C.P.A.:

(1) Multiply the grade in each course by the number of credit units in the course. The result is the "weighted grade" of the course.

(2) Add together the weighted grades of all the courses taken.

(3) Add together the number of credit units taken.

(4) Divide the total weighted grades by the total number of credit units. The result is the Cumulative Percentage Average.

PROMOTION

The minimum requirements for continuing as a full-time student in the College of Arts and Science are based on the C.P.A. calculated from the weighted grades of all courses attempted, including failures.

This calculation is made once annually in May and is based on all grades obtained to the end of April (end of the Regular Session).

Only those students who are not promoted will receive a letter from the College in June indicating their faculty action (Probation or Required to Discontinue).

Students should ensure that they inform the University of any address changes, so that they will hear about their faculty action in time to appeal, if necessary.

Students who have been Required to Discontinue will not be sent registration materials for the College of Arts and Science. Any registration in Summer Session courses will be changed to the status of Students in Unclassified Studies. For further details on taking courses under Required to Discontinue status refer to Faculty Actions: Probation and Required to Discontinue.

PROMOTION STANDARD

To be allowed to take a full course load in the following Regular Session, the minimum Promotion Standard must be met.

(1) The Promotion Standard is based on the total number of credit units used in the calculation of the C.P.A.

(2) Failures used in the calculation of the C.P.A. will include courses with marks of WF (Withdraw-Fail), INF (Incomplete-Fail) and ABF (Absent-Fail). The mark used in the calculation of the C.P.A. for these failures is 30%.

(3) Students should be aware that meeting these standards does not ensure graduation; rather, these are the minimum standards required to continue studies on a full-time basis.

(4) For transfer students the required promotion average is based upon the total credit units attempted, including transfer credits. The C.P.A. is calculated only on University of Saskatchewan courses attempted, excluding transfer credits.

Promotion Standard

Credit Units Attempted	Minimum C.P.A.
18-30	56.0%
31-60	58.0%
61 or more	60.0%

Probation

Credit Units Attempted	C.P.A.
18-30	50.00-55.99%
31-60	54.00-57.99%
61 or more	58.00-59.99%

Required to Discontinue

Credit Units Attempted	C.P.A.
18-30	49.99% or less
31-60	53.99% or less
61 or more	57.99% or less.

FACULTY ACTIONS: PROBATION AND REQUIRED TO DISCONTINUE

Students who fail to meet the minimum C.P.A.'s will either be placed on probation or be required to discontinue from the College of Arts and Science for a period of one academic year (July 1 to April 30). This notification is usually made in early June.

Students who are *Required to Discontinue* from the College of Arts and Science are not permitted to return to the College for a period of one academic year. Such students may be permitted to take courses during that year as Students in Unclassified Studies. However, students who take courses as Students in Unclassified Studies during their Required to Discontinue year must have a CPA of 60% before they can reapply for admission to Arts and Science. Students who do not take courses during their first Required to Discontinue year will, on application, be accepted for readmission to Arts and Science.

Students on *Probation* may take no more than 24 credit units in the next Regular Session. **Students on Probation are not allowed to take more than 12 credit units per term.**

The performances of students on probation will be reviewed at the close of the Regular Session. Students who meet the promotion standards will have their probationary status removed.

ALTERNATIVE PROMOTION STANDARDS

Students who fail to meet the above promotion standards will also be evaluated by a system which ignores grades obtained in their first year of study, or their first and second years of study. This second evaluation is carried out to determine if the students are potentially capable of meeting the alternative graduation standard based on the last 60 credit units or more completed. The following standards apply:

Alternate Promotion Standard

Credit Units Attempted	Minimum C.P.A.
30-78	62.00% on last 18-48 cu
78 or more	62.5% on last 48-60 cu

Probation

Credit Units Attempted	C.P.A.
30-78	58.00-61.99% on last 18-48 cu
78 or more	60.00-62.49% on last 48-60 cu

Required to Discontinue

Credit Units Attempted	C.P.A.
30-78	57.99% or less on last 18-48 cu
78 or more	59.99% or less on last 48-60 cu

Where the two evaluation procedures produce different results, the least restrictive faculty action category shall apply.

APPEALS

Students who are required to discontinue their studies for a period of at least one year, or who have been placed on probation, have the right to appeal this decision. Appeals will only be accepted if extenuating circumstances can be shown to account for poor academic performance. Corroborating documentation, such as a letter from a doctor, is required. The appeal must be made *in writing within 15 days of the date of notification* to the Co-ordinator of Student Records, College of Arts and Science.

STUDENTS REQUIRED TO DISCONTINUE MORE THAN ONCE

When a student has been required to discontinue studies in the College of Arts and Science or in any other college or university more than once, any subsequent application for re-admission to the College must be accompanied by:

- Explanation of past performance;
- Documentation verifying any extenuating circumstances; and
- A letter of intent concerning the applicant's future academic plans.

The applicant is encouraged to contact an advisor in the Office of the Dean.

GRADUATION

GRADUATION CHECK

Early in their final year, students may ask the Office of the Dean to do a "Graduation Check" to make sure all graduation requirements will be completed.

APPLICATION FOR GRADUATION

Students must apply to graduate to receive a degree or certificate. The Application to Graduate must be submitted by August 31 (for Fall Convocation) or by March 31 (for Spring Convocation). A student who fails to graduate must re-apply at the appropriate time. Applications to Graduate are available at the Office of the Registrar and at each College General Office.

COMPLETION OF PROGRAM REQUIREMENTS

To qualify for graduation, students must complete the degree requirements for their Program Type (as described in the section on Arts and Science Degree Programs) and must complete the Course Requirements for their major or Interdisciplinary Program (as described in the section on Course and Program Descriptions). The student may also have completed the requirements for a minor or Recognition or both. The required Cumulative Percentage Average, as described below, must be achieved.

See "Date of Commencement of a Program" at the beginning of the Arts and Science General Information section of the *Calendar*.

REQUIRED CUMULATIVE PERCENTAGE AVERAGE

The graduation standard must be achieved on all University of Saskatchewan courses which credit toward an Arts and Science degree.

ARTS & SCIENCE

The graduation standards for degrees are:

	C.P.A.	C.P.A. in subject*
B.A. or B.Sc. Three-year	60.0%	62.5%
B.A. or B.Sc. Four-year	60.0%	62.5%
B.A. or B.Sc. Honours	70.0%	70.0%
B.F.A.	70.0%	70.0%
B.Mus.	60.0%	62.5%

*"Subject" means the major subject, the minor subject, the Recognition subject, and the courses listed as a "major", if any, for an Interdisciplinary Program.

All University of Saskatchewan courses attempted which credit towards an Arts and Science degree are used in the calculation of the Overall C.P.A. and the Subject C.P.A. Failures are included if the course has not been retaken as described above. Students cannot use a grade from another university to replace a University of Saskatchewan grade.

Note: Many programs include cognate courses in the major. Grades in these courses may be included in the calculation of the Subject C.P.A. as well as in the Overall C.P.A. Programs where this occurs include biology, biochemistry, and microbiology. For further information, consult the Office of the Dean.

ALTERNATIVE GRADUATION STANDARDS

All students, including transfer students, who do not meet the overall or the subject graduation standards are eligible to receive a degree if they meet the alternative graduation standards on courses taken from the University of Saskatchewan as follows:

Major subject - For the B.A. or B.Sc. Three-year degree an average grade of 62.5% is required on at least 24 credit units of senior courses. All senior courses attempted in the major subject must be included.

For the B.A. or B.Sc. Four-year degree an average grade of 65% is required on at least 30 credit units of senior courses. All senior courses attempted in the major subject must be included.

Overall C.P.A. - For the B.A. or B.Sc. Three-year or the B.A. or B.Sc. Four-year degree an overall C.P.A. of at least 62.5% is required on the last 60 credit units or more attempted (including complete Regular, Summer and Intersessions only).

The student must also meet the regular or alternative graduation standards in the major subject.

Minor and Recognition: There is no Alternate Graduation Standard for minors and recognition. The subject CPA as described above must be achieved if these designations are to be awarded.

DEGREES WITH DISTINCTION

Students in the B.F.A., B.Mus., B.A. Three-year or Four-year, or B.Sc. Three-year or Four-year programs, who earn a minimum C.P.A. of 75% are awarded their degrees with Distinction; those who earn a minimum C.P.A. of 80% are awarded Great Distinction.

The standard for Distinction or Great Distinction must be achieved on University of Saskatchewan courses which credit toward the Arts and Science degree.

Students cannot achieve Distinction or Great Distinction on the Advanced Certificate or the Post Degree Specialization Certificate.

Students cannot achieve Distinction or Great Distinction on the alternative graduation standard.

DEGREES WITH HONOURS

Honours Standard: Students who have completed an Honours Program with a cumulative percentage average of 70% and an average of 70% in the prescribed courses of the subject of honours will, on the recommendation of the department and approval of the committee, be awarded their degree with honours.

High Honours Standard: Students with a cumulative percentage average of 75% and an average of 80% in the prescribed courses in the subject of honours will, on the recommendation of the department and approval of the committee, be awarded their degree with high honours.

Alternative Honours Standard: Students with a cumulative percentage average of 75% overall on the last 60 or more credit units completed, and an average of 70% in the prescribed courses of the subject of honours will, on the recommendation of the department and approval of the committee, be awarded their degree with honours.

Departmental recommendations based on a comprehensive examination, or other quantitative aspects of the student's performance over the entire four years, shall have a weight of no more than 6 credit units in the calculation of a student's C.P.A.

The standard for Honours, High Honours and alternate Honours must be achieved on all University of Saskatchewan courses which credit toward the Arts and Science degree.

Students cannot achieve High Honours on the Alternative Honours Standard.

18 CREDIT-UNIT RULE

A student who has completed the course requirements of the B.A. or B.Sc. Three-year or B.A. or B.Sc. Four-year or Advanced Certificate but has not met the C.P.A. requirements, may take up to 18 additional credit units in order to raise the C.P.A. A student may not take more than a total of 18 such additional credit units in completing all degrees and certificates in the College of Arts and Science. Of the 18 credit units not more than 6 may be junior. The courses taken to raise the C.P.A. must be approved in advance by the Office of the Dean. Courses taken to raise the C.P.A. may not be credited towards any other degree or certificate.

ADDITIONAL COLLEGE REGULATIONS

CHANGES IN REGISTRATION

Changes in registration (to add or drop a class or to change a section) are not official until completed through U-STAR.

Students may drop a class at any time, but first-term classes dropped after November 15, second-term classes dropped after March 15, and classes extending over both terms dropped after February 15, will be regarded as failed classes (withdraw/fail). In the calculation of the student's C.P.A., the College will assign a grade of 30% for this class. This should be kept in mind especially by students who intend to apply for admission to Honours Programs and to compete for Scholarships, Distinctions, Honours and other awards.

COMPLETE CANCELLATIONS

All withdrawals from classes must be completed using U-STAR. Students considering a complete withdrawal from the College of Arts and Science are strongly encouraged to discuss the implications of such a decision with an advisor in the Office of the Dean, Room 235 Arts. No appointment is necessary.

FINAL EXAMINATIONS

Final examinations, which constitute between 30% and 80% of the final grade, are required in all courses except those in which a final examination exemption has been granted by the appropriate college committee.

ABSENCE FROM FINAL EXAMINATION

A student who misses the final exam will be assigned a final grade of ABS (Absent). If the College does not approve a deferred examination in the course, this grade will automatically be converted to ABF (Absent Fail) with a mark of 30%. The grade of ABF is assigned regardless of what standing the student had already achieved in the course or the percentage of the final mark which the final exam was to contribute.

Students should not make travel plans or schedule other activities during the period scheduled for examinations.

INCOMPLETE COURSES

A student who writes the final exam but has not submitted all required course work, essays, laboratory work, etc. will be assigned by the instructor a grade of INC (Incomplete). This will automatically be converted to INF (Incomplete-Fail) with a mark of 30% or the partial grade submitted by the instructor. Students should contact the instructor regarding completion of outstanding course work.

DEFERRED EXAMINATIONS

A student who is absent from a final examination for medical reasons (such as illness) or compassionate reasons (such as the illness of a child) may apply to the Office of the Dean for a deferred examination. This application must be made within three days of the missed examination and must be accompanied by documentation (letter from a doctor, etc.). See the Academic Schedule at the beginning of the *Calendar* for the dates that deferred examinations are written. A special deferred examination may also be approved for students who submit satisfactory evidence of inability to be present at the regular sitting. A student who is absent from the deferred examination will be

assigned a grade of ABF (Absent Fail) and a grade of 30%.

A student who becomes ill during a final examination should notify the invigilator immediately of the inability to complete the examination. The student should request a deferred examination. A student who has sat for a final examination and handed the paper in for grading will not be granted a deferred final examination.

SUPPLEMENTAL EXAMINATIONS

Only students in their graduating year in the College of Arts and Science may apply for a supplemental examination provided that:

- (1) A final grade of 40% - 49% has been obtained in the course.
- (2) The student has met the promotion or graduation standards of the college overall and in the major.
- (3) Supplemental examinations shall be accorded the same weight as the regular exam in the computation of the student's final grade.

Approval for the writing of a supplemental examination will not be considered until:

- an application for graduation has been submitted,
- all final examinations for the degree or certificate have been written,
- all final grades have been submitted.

If a passing grade is achieved, a grade of 50% in the course will be used by the College in calculation of the C.P.A. With the inclusion of the 50% in the average, the student must meet graduation standards.

See the Academic Schedule at the beginning of the *Calendar* for the dates that supplemental examinations are written.

EXAMINATION REGULATIONS

For provisions governing examinations students are referred to the *University Council Regulations on Examinations* section in the *Calendar* or on the web at www.usask.ca/registrar/

The *College Regulations on Examinations*, including Routine Inquiry and Requests for Re-reads, as well as *Student Academic Dishonesty and Student Appeals* may be found on the web at www.usask.ca/registrar/

GRIEVANCES

Students who have a grievance about the presentation of a course should consult the instructor, who will usually be able to find a solution. If students have not been satisfied, they may carry their grievance to the head of the department and to the Dean, in that order. In the case of a very serious academic grievance which the above procedure has failed to solve, students have recourse to the University Appeals Committee. Information about this committee may be obtained from the Office of the Dean of Arts and Science or the Arts and Science Students' Union.

STUDENT ASSOCIATIONS

ARTS AND SCIENCE STUDENTS' UNION

The Arts and Science Students' Union (ASSU) is an interdisciplinary organization which offers a wide range of academic and social services. The ASSU acts as the students' liaison and representative within the University. It also organizes sport and social activities, and coordinates the various departmental clubs in the College.

All Arts and Science students on campus are automatically members of the ASSU. This entitles students to use of the ASSU lounge and free telephone service. Further information about the ASSU can be found in its office, Room 248, Arts Building.

COURSE UNIONS

Students in Arts and Science are strongly encouraged to join the Course Union for their discipline. Through social activities, speakers, and other events, Course Unions provide opportunities for students to meet other students and faculty within their chosen field. Involvement in a Course Union contributes to a well-rounded university education. Students should contact the department of their major for more information on membership.

DESCRIPTIONS OF COURSES AND PROGRAMS

See the General Information section of the *Calendar* for an explanation of the format used in course descriptions.

Not all courses described are given in any one academic year. For a list of the courses to be offered in this Regular Session and a timetable of these courses, please consult the *Registration Guide* which will be available with registration materials in mid-June.

ST. THOMAS MORE COLLEGE

St. Thomas More College (STM) is a federated Catholic liberal arts college at the University of Saskatchewan. STM cooperates with the College of Arts and Science in preparing students for all B.A. and B.Sc. degrees, as well as the B.F.A. and the B. Mus. degrees.

Students in the College of Arts and Science may enrol through STM. Enrolment in STM does not restrict your choice of programs or courses. Furthermore, all courses offered by STM are open to any eligible university student and are designated in the *Registration Guide* with the letter "M" prior to the section number. For more information on STM and its class offerings, see "Federated and Affiliated Colleges".

COURSES FROM OTHER COLLEGES

REVISED POLICY ON COURSES WHICH TRANSFER TO ARTS & SCIENCE

A number of courses from other colleges now transfer automatically to a Bachelor of Arts or Bachelor of Science program.

1) Most courses taught by Arts and Science departments to students in other colleges will transfer automatically if they are equivalent to an Arts and Science course. For example, MATH 123 and 124 transfer automatically.

2) Under a new policy approved in 1998, any course from another college which is listed for credit in an Arts and Science Bachelor of Arts or Bachelor of Science program will also transfer automatically. For example, NUTR 120 and COMM 201 would now transfer automatically. These courses cannot be used in Requirements 1 to 5.

3) Students completing both an Arts and Science degree and another degree still require at least 30 credit units in Arts and Science courses for the Three-year degree, or 60 credit units in Arts and Science courses for the Four-year or Honours degree. These additional 30 or 60 credit units may not be used for the other degree and must be courses offered by the College of Arts and Science. For example, a student who has completed or is in the process of completing a degree from the College of Engineering as well as a B.Sc. degree from the College of Arts and Science, may not use Commerce courses to complete the requirement for 30 or 60 additional credit units.

A list of all courses which transfer from other colleges is available in the Office of the Dean.

Please note that other colleges are not obliged to accept Arts and Science students in their courses.

SIX CREDIT UNITS FROM ANOTHER COLLEGE

In addition to courses from other Colleges which transfer automatically to a College of Arts and Science program, students in the College of Arts and Science are allowed to take for credit a maximum of an additional 6 credit units from certain other colleges subject to the following guidelines:

(1) Students may not use this option if they are completing both an Arts and Science degree and another degree.

(2) Kinesiology activity courses are normally not acceptable for credit.

(3) These courses may be used only under Requirement 7 (elective requirement) of Programs A, B, C, and D.

(4) Students will lose credit for the course(s) if there is duplication with Arts and Science course(s).

(5) Application for credit of these courses must be made on a form available from the Office of the Dean.

(6) This policy does not apply to introductory statistics courses from any college, as listed below. These all count as Arts and Science courses.

OTHER COURSES

The following courses are acceptable for elective credit towards degrees in Arts and Science and are not considered as courses from another college:

Agriculture

AGRIC 111.3 Agricultural Science I

AGRIC 112.3 Agricultural Science II

For details, see the College of Agriculture section of the *Calendar*.

Kinesiology

KIN 121.3 Functional Effects of Physical Activity

KIN 122.3 Social Behavioral Foundations of Physical Activity

KIN 212.3 Introduction to Dance

KIN 222.3 Biomechanics I

KIN 225.3 Introductory Exercise Physiology I

KIN 226.3 Introductory Exercise Physiology II

KIN 425.3 Physiology of Exercise

Students may have credit for only 6 credit units from KIN 225, 226 and 425.

For details, see the College of Kinesiology section of the *Calendar*.

COLLEGE SCHOLAR AND SPECIAL STUDIES COURSES

The College Scholar and Special Studies courses have been established to provide qualified students with considerable freedom in planning a course that will fulfill their individual academic interests. Students in these courses pursue independent studies on topics or projects not encompassed by standard courses and receive academic credit for these studies.

The *College Scholar* course (COLSC 298.3, 299.6, 398.3, 399.6, 498.3, 499.6) is designed for students who wish to study a subject which cannot normally be attempted in one course or which includes the disciplines of more than one department.

The *Special Studies* course (SP ST 298.3, 299.6, 398.3, 399.6, 498.3, 499.6) permits a student to study a topic in the discipline area of one department.

The *Special Studies in Languages* course allows students to take a concentrated course in a language to obtain linguistic qualifications necessary for advanced study.

Normally, a student applying for one of these programs must have completed at least 90 credit units. For more information and for course application forms, contact the Office of the Dean.

Normal sessional deadlines apply to these courses, except in extraordinary circumstances.

The completed application form should be submitted to the Office of the Dean at least one month prior to the beginning of the session in which the course will be taken.

REGULATIONS FOR INTRODUCTORY COURSES IN STATISTICS

Introductory courses in statistics to be taken for Arts and Science credit may be chosen from ECON 204.6 or from the courses listed in Groups 1, 2, and 3 below:

Group 1: PL SC 314.3, G E 210.3, STATS 242.3, STATS 245.3

Group 2: COMM 104.3, EDPSY 441.3, PSY 233.3, STATS 244.3

Group 3: COMM 207.3, PSY 234.3, SOC 240.3

The following conditions for credit in introductory statistics courses apply:

(1) At most, one of the eight courses in Groups 1 and 2 may be taken for credit.

(2) At most, one of the three courses in Group 3 may be taken for credit.

(3) To obtain 6 credit units in introductory statistics, students may take ECON 204.6, or may take any one course from Group 2 together with any one course from Group 3. Courses from Group 1 may not be combined with any courses from Group 2 or Group 3 for additional credit. ECON 204.6 may not be combined with any course from Group 1, 2 or 3 to obtain more than 6 credit units in introductory statistics. At most, 6 credit units in introductory statistics courses may be taken for credit.

(4) With the exceptions of STATS 242.3 and 245.3, the above introductory courses in statistics may not be used toward Distribution Requirements 1 to 5 for any program type. STATS 242.3 and 245.3 may be used for these distribution requirements only in special cases. Please consult with the Office of the Dean for further information.

(5) STATS 103.3 and 241.3 are courses in probability. Students may receive credit for both STATS 103 and STATS 241 or 245, provided STATS 103 is taken and successfully completed first. These courses may be taken for credit in addition to the 3 credit units or 6 credit units in introductory statistics which are obtained subject to conditions (1), (2) and (3). Note that MATH 110.3 and 116.3 are prerequisites for STATS 241.3, and that STATS 241.3 is a prerequisite for STATS 242.3.

TRANSFER CREDIT FOR STATISTICS AND MATHEMATICS COURSES

Transfer students with junior-level statistics and junior-level linear algebra courses from another university should contact the Office of the Dean regarding credit before registering in any mathematics or statistics or economics courses.

ANATOMY AND CELL BIOLOGY

The Department offers education in five subdisciplines of the anatomical sciences: cell biology, histology, developmental biology, gross anatomy, and neuroanatomy. The program includes prerequisite courses for professional schools and graduate studies in many areas of the life sciences. Graduates have career opportunities in biomedical and biotechnology research.

ALL ANATOMY & CELL BIOLOGY DEGREE PROGRAMS

The following courses are required: BIOL 110.6, 211.3; ANAT 200.3, 210.3, 325.3, 330.3, 331.3; BIOCH 200.3, 212.3; CHEM 111.3, 251.3; MICRO 214.3 or APMC 212.3; PHSIO 212.6 or BIOL 217.3 and

BIOL 218.3; PSY 233.3 or PL SC 314.3 or equivalent, and the Program Type C Requirements. Additional courses are required for the three-year, four-year, or honours programs, as listed below. Students intending to major in Anatomy and Cell Biology should contact the department concerning courses to be taken as electives. Students should refer to the list of Anatomy and Cell Biology program electives below for selection of elective courses. Students are encouraged to attend departmental seminars.

MAJOR IN ANATOMY (B.SC. FOUR-YEAR)

Additional courses: ANAT 405.3 and 21 credit units from the list of Anatomy and Cell Biology program electives below.

MAJOR IN ANATOMY (B.SC. THREE-YEAR)

Additional courses: 6 credit units from the list of Anatomy and Cell Biology program electives below.

HONOURS IN ANATOMY

Additional courses: ANAT 402.6, 405.3, 490.0 and 21 credit units from the list of Anatomy and Cell Biology program electives below.

Anatomy and Cell Biology Program

Electives: ANAT 334.3, 401.6 (for non-honours students only), 404.3; BIOCH 211.3, 230.3, 310.3, 311.3 (or MICRO 391.3), 430.3, 436.3; BIOL 316.3, 352.3, 416.3; MICRO 216.3, 309.3, 387.3, 416.3, 417.3, 421.3; PHSIO 336.3, 337.3, 346.3, 348.3, 350.3

SUGGESTED SEQUENCE OF COURSES

First Year

Students must enrol in BIOL 110.6; CHEM 111.3; and PHYS 111.6. BIOCH 200.3 and CHEM 251.3 may be taken in either first or second year.

Second Year

Students entering second year should consult with a departmental advisor. Students must enrol in ANAT 200.3, 210.3; BIOCH 200.3 (if not taken in first year), BIOCH 212.3; BIOL 211.3; CHEM 251.3 (if not taken in first year), and PSY 233.3 or PL SC 314.3.

Third Year

Students entering third year should consult with a departmental advisor. Students must enrol in ANAT 325.3, 330.3, 331.3; MICRO 214.3; PHSIO 212.6 or BIOL 217.3 and 218.3. In addition, students must take 6 credit units from the list of Anatomy and Cell Biology program electives. Students in the Three-year program must complete any outstanding Program Type C requirements.

Fourth Year

Students entering fourth year should consult with a departmental advisor. Students must enrol in ANAT 405.3, and should take 15 credit units from the list of Anatomy and Cell Biology program electives and complete any outstanding Program Type C requirements. Honours students are also required to enrol in ANAT 402.6 and 490.0.

HONOURS IN CELL BIOLOGY AND BIOTECHNOLOGY

Program Requirements:

(1) BIOL 110.6, CHEM 111.3, 251.3, 6 credit units in approved Natural Sciences (PHYS 111.6 is recommended for these 6 credit units).

(2) 27 credit units in core Biotechnology courses: ANAT 200.3, BIOCH 200.3, 212.3, BIOCH 311.3 or MICRO 391.3, BIOL 211.3, MICRO 214.3 or AP MC 212.3, MICRO 216.3, PHSIO 212.6 or BIOL 217.3 and 218.3

(3) 6 credit units chosen from AN SC 313.3, 470.3, BIOCH 230.3, 436.3, BIOL 316.3, MICRO 417.3, 425.3

(4) 21 credit units chosen from ANAT 210.3, 325.3, 330.3, 331.3, 334.3, 404.3, 405.3; MICRO 387.3

(5) Project course ANAT 401.6

(6) PHIL 236.3 plus 27 credit units such that (a) and (b) are satisfied as follows:

(a) 9 credit units are taken from SOC 292.3, 323.3, AG EC 292.3, COMM 345.3, COMM 346.3

(b) 18 additional credit units are taken such that Type C distribution requirements 2-5 are satisfied with the recommendation that 6 of these credit units are chosen from the courses listed in (a) and/or from HIST 284.3, AGRIC 222.3. [Note that COMM 345.3, 346.3, AGRIC 222.3 cannot be used in Type C distribution requirements.]

(7) 12 credit units in Science electives. It is recommended that students take any outstanding requirements for completion of the Honours program in Cell Biology.

Students who do not meet the standard for an Honours degree in the Biotechnology program are eligible to be considered for a four-year degree in Cell Biology and Biotechnology.

ANATOMY

ANAT 200.3 Introduction to Cell Biology 1/2(3L-3P)

Prerequisite(s): BIOL 110.

Deals with important structural and functional characteristics of cells as applied to diverse cell types in eukaryotic organisms. Laboratories consist of demonstrations, movies, computer-assisted learning, and study sessions on specific topics, and emphasize cellular structure, ultrastructure, cytogenetics, and microscopic techniques as applied to cell biology.

ANAT 210.3 Basic Human Anatomy 1/2(3L-3P)

Prerequisite(s): BIOL 110.

The anatomical organization of the human body will be examined from systemic and functional bases. The histological organization of tissues and organs as well as the evolution and embryonic development of the human body will be considered wherever these shed light upon the organization of the human body.

Note: Students with credit for ANAT 202 cannot take ANAT 210 for credit.

ANAT 325.3 Advanced Cell Biology 1/2(3L)

Prerequisite(s): ANAT 200.

Recent concepts in the regulation of cell growth, development and function are considered. Topics covered include regulation of gene expression, synthesis and processing of RNA and protein, cell cycle regulation, and cellular signaling mechanisms. Emphasis is placed on how these processes are regulated and how they in turn combine to regulate overall cellular activities.

Note: Students with credit for ANAT 300 cannot take ANAT 325 for credit.

ANAT 330.3 Principles of Development 1/2(3L)

Prerequisite(s): ANAT 200 and 210, or BIOL 203.

An introduction to the cellular and molecular mechanisms regulating embryonic development in animals, including vertebrate and invertebrate species. In addition, topics of metamorphosis and regeneration will be briefly discussed.

Note: Students with credit for ANAT 201 cannot take ANAT 330 for credit.

ANAT 331.3 Methods in Cell and Developmental Biology 1/2(3P)

Prerequisite(s): ANAT 200, BIOCH 212, and permission of the Department.

This course will provide laboratory experience in cell and developmental biology. Instruction on, and use of, techniques such as cell culture, expression of proteins in cells, basic cytology, and immunofluorescence will be some of the areas covered.

ANAT 334.3 (formerly ANAT 234) Introductory Neuroanatomy

For details, see the College of Medicine section of the Calendar.

Note: Students with credit for ANAT 234 cannot take ANAT 334 for credit.

ANAT 401.6 Undergraduate Research Project 1&2(6P)

Prerequisite(s): Permission of the Department.

A course to provide experience in experimental techniques and approaches to cell biology problems. The student will be supervised by a faculty member who must be identified before registration. Preference is given to 4th year students in Anatomy. Evaluation is based on oral presentations, written papers, and industry. This course is not open to students in the Honours program.

ANAT 402.6 Honours Research Project 1&2(6P)

Prerequisite(s): Permission of the Department.

A course providing experience in experimental design and methodology, and

familiarity with the scientific literature in the area of research. The student will work on a laboratory project supervised by a faculty member. Evaluation will be based on oral presentations, written thesis, and defense of the thesis findings.

ANAT 404.3 Cellular Neurobiology 1/2(2L-3P)

Prerequisite(s): PHSIO 336 and ANAT 325 or PHSIO 337.

The cell biology of neurons and glial cells will be studied, with detailed discussion of synaptic signaling and sensory transduction, as well as the function of glial cells in maintaining the neural signaling machinery.

Note: Students with credit for ANAT 403 cannot take ANAT 404 for credit.

ANAT 405.3 Current Topics in Cell Biology 1/2(3S)

Prerequisite(s): ANAT 325, 330, 331, or permission of the Department.

Recent developments and the state of the art of cell biology research will be examined in a seminar-discussion format. Students will present and evaluate selected publications from the current literature on a variety of topics related to cell biology.

ANAT 490.0 Seminar 1&2 (1S)

Honours students in Anatomy are required to attend departmental seminars throughout the program.

ANCIENT HISTORY AND CLASSICAL CULTURE

Administrative Committee: Peter Burnell (History); Larry Stewart (History).

The Ancient History and Classical Culture programs are under review and may be changed significantly. However, students who have already entered one of these programs will be allowed to complete their degrees under the current program regulations; approved substitutions will be permitted for required courses that may be discontinued.

The College of Arts and Science offers four-year programs in Ancient History and Classical Culture leading to the B.A. Four-year or B.A. Honours degree. These programs are designed to provide students with a focused course of studies in all aspects of the ancient Greco-Roman world.

All students take at least 6 credit units in each of three designated areas of Classics (the social, the intellectual, and the literary), and at least 6 credit units in one of the classical languages for the Four-year program or 18 credit units for the Honours program. They also take 24 senior credit units in History. It is recommended that students take more than one of the Classical languages.

Students may choose an emphasis on Classics or Ancient History through their selection of electives.

Students wishing to enter these programs must first consult the Heads of both the

History and the Classics Departments to secure their approval.

Four-year Program

Minimum requirements (60 credit units):

- (1) CLASS 110.3, 111.3;
- (2) 6 credit units in History at the 100 level;
- (3) At least 48 senior credit units from Classics and History, including:
 - (a) at least 6 credit units from CLASS 220.3, 225.3, 234.3, 240.3, 242.3, 243.3, 244.3, 247.3, 248.3, GREEK 321.3, 322.3, LATIN 323.3, 423.3;
 - (b) at least 6 credit units from CLASS 233.3, 252.3, 259.3, 341.3; GREEK 302.3, 320.3, 421.3; LATIN 318.3; PHIL 208.3, 209.3.
 - (c) at least 6 credit units from CLASS 226.3, 227.3, 228.3, 333.3, 343.3, GREEK 325.3, 415.3, 416.3, 420.3, LATIN 301.3, 312.3, 317.3, 319.3, 402.3, 421.3, 422.3, 424.3;
 - (d) LATIN 112.3 and 113.3, or GREEK 112.3 and 113.3;
 - (e) HIST 200.6, 201.6;
 - (f) at least 6 credit units from HIST 300.3, 301.3, 400.6, 402.3;
 - (g) at least 6 credit units from HIST 202.3, 205.3, 211.3, 225.6, 309.3, 330.3, 403.3, 413.3, 421.3.

Honours Program

Students in the Honours program must take the following in addition to the Four-year requirements:

- (1) At least 18 credit units in Greek or 18 credit units in Latin;
- (2) At least 6 credit units in History at the 400-level.

ANTHROPOLOGY AND ARCHAEOLOGY

The Department of Anthropology and Archaeology offers the following degree options:

- B.A. Three-year, Four-year and Honours degrees with a major in Anthropology and Archaeology
- B.A. Three-year, Four-year and Honours degrees with a major in Archaeology
- B.Sc. Four-year and Honours degrees with a major in Archaeology

PROGRAMS IN ANTHROPOLOGY AND ARCHAEOLOGY

Anthropology is generally divided into four subdisciplines: archaeology, ethnology, linguistics and biological anthropology. However, these may be grouped into two major themes: (1) sociocultural anthropology (ethnology and linguistics) and (2) archaeology (archaeology and biological anthropology). ANTH 111.3 introduces the student to ethnology and social anthropology, while ARCH 112.3 introduces the student to archaeology and biological anthropology.

The following is a list of courses according to their subdisciplinary designation:

Archaeology: ARCH 250.3, 251.3, 255.3, 257.3, 258.3, 350.3, 351.3, 352.3, 353.3, 355.3, 356.3, 358.3, 360.3, 361.6, 452.3, 453.3, 455.3, 457.3, 458.6, 459.3, 461.3, 462.3, 465.3.

Ethnology: ANTH 220.3, 221.6, 222.3, 223.3, 224.3, 229.3, 230.3, 231.3, 232.3, 235.3, 311.3, 321.3, 326.3, 328.3, 329.3, 337.3, 339.3, 421.3, 422.3, 425.3, 430.3.

Linguistics: LING 240.3, 241.3, 242.3, 243.3, 246.3, 342.3.*

Biological Anthropology: ARCH 270.3, 375.3, 470.3 471.3, 472.3.

General and Multi-subdisciplinary: ANTH 111.3, ARCH 112.3, ANTH/ARCH 300.3, 301.3, 490.6.

* Linguistics courses are offered by the Department of Languages and Linguistics and may be taken for credit in Anthropology and Archaeology. These include: LING 111.3, 112.3, 240.3, 241.3, 242.3, 243.3, 246.3 and 342.3.

MAJOR IN ANTHROPOLOGY AND ARCHAEOLOGY (B.A. FOUR-YEAR)

ANTH 111.3 and ARCH 112.3, and 30 credit units consisting of a minimum of 6 credit units from 200-level courses chosen from two subdisciplines and a minimum of 3 credit units from 300-level courses. Students who plan to major in Anthropology and Archaeology should consult the Head of the Department or the Undergraduate Advisor concerning their choice of courses.

MAJOR IN ANTHROPOLOGY AND ARCHAEOLOGY (B.A. THREE-YEAR)

ANTH 111.3 and ARCH 112.3, and 24 credit units consisting of a minimum of 6 credit units from 200-level courses and a minimum of 3 credit units from 300-level courses. Students who plan to major in Anthropology and Archaeology should consult the Head of the Department or the Undergraduate Advisor concerning their choice of courses.

HONOURS IN ANTHROPOLOGY AND ARCHAEOLOGY

Students interested in taking an Honours Program in Anthropology and Archaeology must choose at least 48 credit units in anthropology and archaeology as follows:

- (1) ANTH 111.3 and ARCH 112.3;
- (2) 18 credit units from ANTH 220.3, 221.6, 222.3, 223.3, 224.3, 229.3, 230.3, 231.3, 232.3, 235.3, ARCH 250.3, 251.3, 255.3, 257.3, 258.3, 270.3, 361.6. Students are encouraged to take at least 3 credit units in each subdiscipline, but are only required to take 3 credit units in three of the four subdisciplines.*
- (3) One of ANTH 421.3, 422.3, 430.3, or one of ARCH 461.3, 462.3;
- (4) 21 additional upper-year credit units in anthropology and archaeology.

DOUBLE HONOURS

Anthropology and Archaeology may be combined in a Double Honours program with other disciplines. The requirements are 36 credit units in Anthropology and Archaeology including: 6 credit units at the 100 level, 12 credit units at the 200 level with at least 3 credit units in two of the four subdisciplines, one of ANTH 421.3, 422.3,

430.3, ARCH 461.3 or 462.3 and 15 additional senior credit units in anthropology and archaeology.

Note: The prerequisites for ANTH 421.3, 422.3, and 430.3 are a 6 credit unit 200-level course in ethnology and at least one course from ANTH 321.3, 326.3, 328.3, 329.3, 337.3, 339.3. Also note that the prerequisites for ARCH 461.3 and 462.3 are ARCH 251.3 and one other senior level 3 credit unit course in the subdiscipline archaeology.

The Department requires that all Honours students consult with the Head of the Department or the Departmental Undergraduate Advisor in establishing the students' fields of specialization within anthropology and archaeology, because this consideration is important in choosing suitable upper-level courses within the department and suitable cognate courses offered by other departments.

PROGRAMS IN ARCHAEOLOGY

Archaeology is the study of the artifacts and other material remains of past human societies. Through this study the characteristics of past human technologies are revealed, as well as the time periods at which they existed. The archaeology program will focus on past cultures in two parts of the world: (1) the North American Plains, and (2) the Near East and adjacent Mediterranean regions. The application of natural science methodologies in the analysis of archaeological materials is an important part of archaeological research. For this reason, the Department offers both B.A. and B.Sc. programs. Students who plan to major in archaeology should consult the Head of the Department or the Undergraduate Advisor concerning their choice of courses.

Students who prefer a social science orientation should take one of the B.A. degree programs.

Students who prefer a natural science orientation should take one of the B.Sc. programs.

Students will not be permitted to complete both a B.A. and a B.Sc. in Archaeology.

MAJOR IN ARCHAEOLOGY (B.A. FOUR YEAR)

Students are required to complete:

- 1) 6 credit units from ANTH 111.3, ARCH 112.3, ARCH 116.3
- 2) a minimum of 6 credit units from 200-level archaeology courses including 3 credit units chosen from the Old World and 3 credit units from the New World
- 3) a minimum of 9 credit units from 300-level courses: ARCH 350.3, 351.3, 352.3, 353.3, 355.3, 356.3, 358.3, 360.3, 361.6, ANTH 329.3, 339.3, LING 342.3, CLASS 356.3, 357.3, 360.6.
- 4) 15 additional credit units in archaeology at the 200-level and higher.

MAJOR IN ARCHAEOLOGY (B.A. THREE YEAR)

Students are required to complete:

- (1) 6 credit units from ANTH 111.3, ARCH 112.3, ARCH 116.3

(2) 24 credit units including i) a minimum of 6 credit units from 200-level archaeology courses, and ii) a minimum of 3 credit units from 300 level archaeology courses

MAJOR IN ARCHAEOLOGY (B.A. HONOURS)

The honours degree prepares the student for graduate studies in archaeology. Honours students must consult with the Head of the Department, or the Departmental Undergraduate Advisor to establish the student's field of specialization.

Students are required to complete:

- (1) 6 credit units from ANTH 111.3, ARCH 112.3, ARCH 116.3
- (2) 18 credit units from ARCH 250.3, 251.3, 255.3, 257.3, 258.3, 270.3, 361.6, ANTH 222.3, 224.3, 229.3, 329.3, 339.3, LING 246.3, 342.3, CLASS 240.3, 242.3, 243.3, 244.3, 247.3, 248.3
- (3) One of ARCH 461.3 or 462.3
- (4) 21 additional credit units in archaeology at the 200-level and higher

MAJOR IN ARCHAEOLOGY (B.SC. FOUR YEAR)

Students must complete the following:

- (1) ANTH 111.3 and ARCH 112.3
- (2) BIOL 110.6, 203.6, 205.3
- (3) CHEM 111.3, 221.3, 251.3
- (4) GEOL 121.3, 122.3, 243.3, 246.3
- (5) 30 credit units from ARCH 250.3, 251.3, 270.3, 375.3, 455.3, 457.3, 458.6, 459.3, 461.3, 462.3, 470.3, 471.3, 472.3
- (6) 48 credit units in additional courses to complete the College of Arts and Science requirements.

As electives, students are encouraged to choose from the list of recommended courses depending on the area of focus.

Recommended courses include:

- BIOL 204.3, 211.3, 253.3, 263.3, 323.3, 324.3, 325.3, 326.3, 351.6, 367.3, 368.3, 401.3, 422.3, 424.3, 451.3, 455.3, 458.3
- CHEM 231.3, 242.3
- GEOL 311.3, 312.3, 332.3, 343.3, 433.3, 435.3, 437.3, 439.3, 446.3
- GEOG 235.3, 320.3, 321.3, 325.3, 335.3, 336.3, 335.3
- PL SC 213.3, 322.3
- SL SC 220.3, 313.3, 332.3, 460.3
- STATS 103.3, 245.3

Non-scientific elective archaeology courses can be used as courses contributing to the major but not as part of the 30 credit units required in category (5).

Of the 120 credit units required for the degree not more than 60 credit units are allowed in any one subject and not more than 54 may be at the 100-level.

MAJOR IN ARCHAEOLOGY (B.SC. HONOURS)

The honours degree prepares the student for graduate studies in archaeology. Honours students must consult with the Head of the Department, or the Departmental Undergraduate Advisor to

establish the student's field of specialization.

Students must complete the following:

- (1) ANTH 111.3 and ARCH 112.3
- (2) BIOL 110.6, 203.6, 205.3
- (3) CHEM 111.3, 221.3, 251.3
- (4) GEOL 121.3, 122.3, 243.3, 246.3
- (5) 33 credit units from ARCH 250.3, 251.3, 270.3, 360.3, 375.3, 455.3, 457.3, 458.6, 459.3, 470.3, 471.3, 472.3
- (6) One of ARCH 461.3 or 462.3
- (7) 42 credit units in additional courses to complete the College of Arts and Science requirements.

As electives, students are encouraged to choose from the list of recommended courses depending on the area of focus.

Recommended courses include:

BIOL 204.3, 211.3, 253.3, 263.3, 323.3, 324.3, 325.3, 326.3, 351.6, 367.3, 368.3, 401.3, 422.3, 424.3, 451.3, 455.3, 458.3; CHEM 231.3, 242.3

GEOL 311.3, 312.3, 332.3, 343.3, 433.3, 435.3, 437.3, 439.3, 446.3

GEOG 235.3, 320.3, 321.3, 325.3, 335.3, 336.3, 435.3

PL SC 213.3, 322.3

SL SC 220.3, 313.3, 332.3, 460.3

STATS 103.3, 245.3

Non-scientific elective archaeology courses can be used as courses contributing to the major but not as part of the 30 credit units required in category (5).

Of the 120 credit units required for the degree not more than 60 credit units are allowed in any one subject and not more than 54 may be at the 100-level.

CLASSICAL AND NEAR EASTERN ARCHAEOLOGY

The Departments of Anthropology and Archaeology and Classics have developed an interdisciplinary program in Classical and Near Eastern Archaeology. For further information refer to the Classics section of the Calendar and contact the chairperson of the administrative committee.

PALAEOBIOLOGY

The Departments of Anthropology and Archaeology, Biology and Geological Sciences have developed an interdisciplinary program in Palaeobiology. For further information refer to the Palaeobiology section of the Calendar and contact the chairperson of the administrative committee.

SOCIOCULTURAL ANTHROPOLOGY

ANTH 111.3 Introduction to Cultural Anthropology 1/2(3L)

Acquaints the student with contemporary social and cultural variation. The basic mechanisms of society and culture will be explained within a comparative framework. *Note:* Students with previous credit for ANTH 110 may not take this course for credit.

ANTH 220.3 Introduction to Ethnological Theory and Social Structure 1/2(3L)

Prerequisite(s): ANTH 111.

Outlines the major social and cultural theories which have been developed by anthropologists. It also surveys the principles of social structure (with a special emphasis on kinship) as well as economic and political organization.

ANTH 221.6 Indians of North America 1&2(3L)

Prerequisite(s): ANTH 111 and ARCH 112 or NATST 110.

This survey offers a general overview of the development of North American anthropology and reviews New World prehistory. Compares and contrasts culture traits in various culture areas and deals with the specific cultural traditions of representative tribes in each culture area. Focuses on Canadian native traditions by dealing with native cultures in Saskatchewan and comparing their current political and administrative status with Indians in Mexico and the United States.

ANTH 222.3 North American Boreal Forest Ethnography 1/2(3L)

Prerequisite(s): ANTH 111.

Surveys Athabaskan and Algonkian ethnohistory, ethnography and ecological adaptation with some emphasis on the contemporary situation in Boreal and Sub-Boreal Canada.

ANTH 223.3 Contemporary Acculturation: Arctic Region 1/2(3L)

Prerequisite(s): ANTH 111.

A study of socio-cultural change discerning acculturation processes and patterns in the history of contact between indigenous and incursive societies in the Arctic. Some descriptive and analytical treatment of Inuit responses to technological change and the influence of explorers, whalers, the fur trade, missionaries, government activity, urbanization and politicization.

ANTH 224.3 North American Plains Ethnography 1/2(3L)

Prerequisite(s): ANTH 111 or NATST 110.

A comprehensive survey of the ethnography and ethnohistory of the cultures of the North American plains and prairies. The composition and development of the "plains culture complex" will be treated together with the impact of acculturation on this life-style.

ANTH 226.3 Business and Industrial Anthropology 1/2(3L)

Prerequisite(s): ANTH 113 or completion of 30 credit units of university including social science course.

Examination of the utility of cultural anthropology's concepts, theory, methodology and insights in creatively influencing the conduct of domestic and international business. Cross-cultural business etiquette, understanding of

marketing and consumer behaviour, and importance of intercultural negotiation in solving business problems in multicultural/transnational organizational settings are also discussed.

ANTH 229.3 Inuit Cultures 1/2(3L)

Prerequisite(s): ANTH 111 or NATST 110.

A broad circumpolar survey of the cultural variations of the Inuit, with reference to habitats, prehistory, physical and cultural adaptation, technology, religion and values, social organization and language. It is intended to provide a background for the study of Inuit adjustment to modern contact and changes.

ANTH 230.3 Introduction to Cultural Dynamics 1/2(3L)

Prerequisite(s): ANTH 111.

Examines some of the major dimensions of non-material culture including religion, magic, and constructs of space and time. It also examines processes of enculturation and culture change.

ANTH 231.3 Anthropology of Health Systems: A Cross-Cultural Perspective 1/2(3L)

Prerequisite(s): An introductory course in the social sciences.

Examines the medical systems of practice and belief utilized by non-Western traditional societies in contending with the universal realities of disease and mental illness. The attempts to extend Western medical systems into traditional societies will also be considered.

ANTH 232.3 Peoples and Cultures of South Asia 1/2(3L)

Prerequisite(s): ANTH 111.

A general survey of the social, economic, political and religious institutions of the countries of South Asia from an anthropological perspective. Both the traditional cultures and the changes which are taking place are considered. Although the primary emphasis in the course is on the peoples and cultures of India, comparative materials from Pakistan, Bangladesh, Sri Lanka, Nepal, and other areas of South Asia are also examined.

ANTH 235.3 Anthropological Approaches to Ethnicity and Ethnic Groups 1/2(3L)

Prerequisite(s): ANTH 111 or completion of 30 credit units at the university including an introductory social science course.

Introduction and assessment of various anthropological approaches to the study of ethnicity and ethnic groups in a cross-cultural comparative framework.

ANTH 300.3 Reading Course 1/2(3R)

ANTH 301.3 Reading Course 1/2(3R)

Prerequisite(s): Minimum of 24 undergraduate anthropology/archaeology

credit units.

Supervised reading courses in a particular aspect of one of the branches of anthropology not offered in lecture form in this department. A detailed reading program will be designed on an individual basis and will be guided by regular consultation with one or more faculty members. The student is required to prepare a comprehensive proposal for approval by the Head of the Department and make arrangements with a professor to supervise the course. Students must discuss the project with the Department Head before registration.

Note: Not more than 3 credit units will be allowed for calculation of honours standing or scholarship recommendation.

ANTH 311.3 Selected Topics in Ethnology 1/2(3L)

Prerequisite(s): Any anthropology course numbered 220 to 235.

Coverage of specialized areas of ethnological analysis, method and theory of an ethnographic region of the world not covered in the listed ethnology curriculum. Topics could include peasantry; cultures of Latin America, Southeast Asia or Africa; cognitive or symbolic anthropology.

ANTH 321.3 Myth, Ritual and Symbolism 1/2(3L)

Prerequisite(s): Any anthropology course numbered 220 to 235.

Critically examines various approaches to the study of primitive religion and ritual symbolism. The problems in the study and interpretation of myth, ritual, and symbol are considered through a survey of the works of both early social scientists and contemporary scholars. The role of symbols and ritual in social communication is examined in preliterate societies as well as modern Western civilization.

ANTH 326.3 Principles of Applied Anthropology 1/2(3L)

Prerequisite(s): Any anthropology course numbered 220 to 235.

Applications of anthropological concepts to contemporary culture contact and change problems. Includes treatment of social organizational analysis, adjustment strategies, community development, communication and politics. Theory, ethics, planning and contemporaneous case materials are dealt with. Methodological techniques will be introduced.

ANTH 328.3 Political and Legal Anthropology 1/2(3L)

Prerequisite(s): Any anthropology course numbered 220 to 235.

Analytical and comparative examination of anthropological approaches to the study of political and legal structures and processes in their sociocultural contexts focusing on structural-functional, neo-evolutionary, processual and political economy paradigms. Sources of conflict resolution and the relationships between politics, law, and religion are explored from a cross-cultural comparative framework.

**ANTH 329.3
Environmental Anthropology
1/2(3L)**

Prerequisite(s): Any anthropology course numbered 220 to 235.

Examines the variety of cultural adaptations that societies make to local environments, dealing with such adaptations as hunting and gathering, pastoralism, horticulture and intensive agriculture. It also attempts to illustrate how the principles of general ecology apply to the study of man in his environmental relationships.

**ANTH 337.3
Economic Anthropology and
Economic Development
1/2(3L)**

Prerequisite(s): Any anthropology course numbered 220 to 235.

Analytic and comparative examination of economic relations in their sociocultural contexts and a critical appraisal of anthropological approaches to the study of economic development and underdevelopment. Primitive and peasant economic structures and transformations in their systems of exchange are assessed through substantivist, formalist, adaptivist, and political economy approaches in economic anthropology.

**ANTH 339.3
Cultural Change
1/2(3L)**

Prerequisite(s): Any anthropology course numbered 220 to 235.

Surveys anthropological theories relating to cultural change from the general trends of cultural evolution to the results of cross-cultural contacts. Anthropological perspectives on urbanization, modernization and social movements will be covered. Examples will come principally from non-Western societies.

**ANTH 385.3
Selected Topics in the Ethnography
of Central America and Mexico
2(2.5L-1.5S)**

Prerequisite(s): 100-level anthropology course.

Part of the La Antigua, Guatemala Study Term Abroad. Selected themes in the ethnology of Central America and Mexico will be examined, concentrating on the indigenous peoples. Allows for cross-cultural experience and includes guest lecturers from Guatemala.

**ANTH 421.3
Historical Perspectives of
Ethnological Theory
1/2(3L)**

Prerequisite(s): 6 credit units of 200-level anthropology and at least 3 credit units from: ANTH 311, 321, 326, 328, 329, 337 or 339.

A critical survey of basic concepts, ideas and schools of thought in cultural and social anthropology in an historical perspective. Both European and North American schools are examined. The time period covered is from the beginning of the Enlightenment (1690) to the end of World War II. Includes the classical evolutionism, diffusionism, historical particularism, structural-functional approaches, structuralism, culture and personality school, and cross-cultural comparisons.

Note: Students with credit for ANTH 420 may not take this course for credit.

**ANTH 422.3
Contemporary Ethnological Theory
1/2(3L)**

Prerequisite(s): 6 credit units of 200-level anthropology and at least 3 credit units from ANTH 311, 321, 326, 328, 329, 337 or 339.

A critical survey of contemporary developments in ethnological theory, from the end of World War II to the present. Both European and North American approaches are examined. Covers neo-evolutionism, cultural ecology and cultural materialism, contemporary structuralism, emics, etics and new ethnography, cognitive approaches and symbolic anthropology, feminist perspectives and anthropology of gender, post-modernist approaches, hermeneutics and semiotic anthropology, Marxist anthropology, politically correct anthropology, and ethical issues in research and application.

Note: Students with credit for ANTH 420 may not take this course for credit.

**ANTH 425.3
Advanced Seminar on Ethnicity and
Ethnic Conflict
1/2(2.5S)**

Prerequisite(s): ANTH 235 and 3 credit units of 200-level anthropology and 3 credit units from ANTH 311, 321, 326, 328, 329, 337 or 339.

Theoretical aspects of ethnicity, processes of ethnicity retention and change, and ethnic conflict are examined from cross-cultural and anthropological perspectives. Processes of intersection of race, class, ethnicity and gender are considered. Marginalization of ethnic minorities in many developing nations in the context of modernization and development is examined.

**ANTH 430.3
Field Methods in Ethnology
1/2(3L)**

Prerequisite(s): 6 credit units of 200-level anthropology and at least 3 credit units from ANTH 311, 321, 326, 328, 329, 337 or 339.

Topics include: historical survey of ethnological field research; formulation of a research problem; formulation and testing of hypotheses; choice of a unit of study; sampling procedures; historical and ethnohistorical data; field techniques such as participant observation; ethnographic interview; household schedule; genealogy; technical aids; projective tests, etc.

Note: Each student is expected to undergo the experience of designing and executing a research project during the term as a practical training component of this course. For all ethnology students this is a highly recommended course.

**ANTH 490.6
Honours Thesis
1&2(1S)**

Prerequisite(s): Open to Anthropology honours students, normally in their fourth year, with written permission of the department.

Students will carry out a major research project under the supervision of a faculty member and report the project in the form

of an honours thesis. The research will be based on primary data.

SPECIAL TOPICS

ANTH 398.3 1/2(3S)

ANTH 399.6 1&2(3S)

ANTH 498.3 1/2(3S)

ANTH 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

**ARCHAEOLOGY/BIOLOGICAL
ANTHROPOLOGY***

*Students with previous ANTH credit for the following ARCH courses may not take the ARCH courses for credit.

**ARCH 112.3 (Formerly ANTH 112)
Introduction to Archaeology and
Biological Anthropology
1/2(3L)**

Acquaints the student with the principal dimensions of the growth of human culture from its earliest beginnings. The processes of biological evolution will be discussed and related to the cultural evolution.

Note: Students with previous credit for ANTH 110 or 112 may not take this course for credit.

**ARCH 116.3
Introduction to Near Eastern and
Classical Archaeology
1/2(3L)**

Introduction to the archaeology of ancient Egypt, Mesopotamia, Israel and surrounding regions, Greece and Rome. The course examines how archaeologists use material remains to reconstruct ancient societies, focusing on the archaeological characteristics and cultural dynamics of major periods, and the relationship between human communities and the environment.

**ARCH 250.3 (Formerly ANTH 250)
Introduction to Archaeological
Science
1/2(3L-1P)**

Prerequisite(s): ARCH 112.

A study of the theory, methods and techniques used by archaeologists in survey, excavation, analysis and interpretation. Emphasizes methods and techniques. Laboratory instruction will be given in the handling of archaeological material and data. When possible this will be based on the student's work at excavations of local archaeological sites.

**ARCH 251.3 (Formerly ANTH 251)
Archaeological Interpretation of
Prehistory
1/2(3L)**

Prerequisite(s): ARCH 112.

A survey of prehistory with emphasis on the application of the theory, methods and techniques of modern archaeology.

**ARCH 255.3 (Formerly ANTH 255)
Prehistory of North America
1/2(3L)**

Prerequisite(s): ANTH 111 and ARCH 112.

Provides an overview of pre-contact cultural development across North America utilizing a cultural ecological approach.

**ARCH 257.3 (Formerly ANTH 257)
Archaeology of Ancient Egypt
1/2(3L)**

Prerequisite(s): ARCH 112.

A study of the archaeological evidence for the reconstruction of ancient Egyptian culture from the Neolithic through to the Roman periods, focusing on the particular characteristics of archaeology in Egypt, major cultural periods, and significant sites.

**ARCH 258.3 (Formerly ANTH 258)
Archaeology of Ancient Mesopotamia
1/2(3L)**

Prerequisite(s): ARCH 112.

A study of the archaeological evidence for the development of the cultures of ancient Mesopotamia from the Neolithic through to the Persian periods, focusing on the particular characteristics of Mesopotamian archaeology, major cultural periods, significant sites, and the relation of urban centres to the surrounding regions.

**ARCH 270.3 (Formerly ANTH 270)
Human Evolution
1(3L-3P)**

Prerequisite(s): ARCH 112 or BIOL 110 (strongly recommended). It is expected that students will have had Biology 30 with a laboratory, or BIOL 107.

An introductory overview of human biology including the background for evolutionary biology, and the evolution, structure, and function of certain primate patterns.

**ARCH 300.3
Reading Course
1/2(3R)**

**ARCH 301.3
Reading Course
1/2(3R)**

Prerequisite(s): Minimum of 24 undergraduate anthropology/archaeology credit units.

Supervised reading courses in a particular aspect of one of the branches of anthropology not offered in lecture form in this department. A detailed reading program will be designed on an individual basis and will be guided by regular consultation with one or more faculty members. The student is required to prepare a comprehensive proposal for approval by the Head of the Department and make arrangements with a professor to supervise the course. Students must discuss the project with the Department Head before registration.

Note: Not more than 3 credit units will be allowed for calculation of honours standing or scholarship recommendation. These courses are not available for graduate credit.

**ARCH 350.3 (Formerly ANTH 350)
Introduction to Boreal Forest
Archaeology
1/2(3L)**

Prerequisite(s): ARCH 250 or 251.

An introduction to the archaeology of the boreal forest region stretching from Quebec to the northern prairie provinces, and including southern Keewatin and adjacent southeastern Mackenzie. The archaeological cultures will be discussed in detail and the methodological and theoretical approaches to the archaeology of this region.

**ARCH 351.3 (Formerly ANTH 351)
North American Arctic Archaeology
1/2(3L)**

Prerequisite(s): ARCH 250 or 251.

A survey of the prehistoric cultural sequence in the Arctic area of North America including Alaska, Canada and Greenland. The examination of special archaeological problems and research developed in the area will also be emphasized.

**ARCH 352.3 (Formerly ANTH 352)
Historical Archaeology
1/2(3L)**

Prerequisite(s): ARCH 250 or 251.

Study of the method and theory of historical archaeology in North America with emphasis on recent developments in the field. Topics include critical use of documentary sources, historic artifact and faunal analyses, pattern recognition, frontier archaeology and others will be explored.

**ARCH 353.3 (Formerly ANTH 353)
Plains Archaeology
1/2(3L)**

Prerequisite(s): ARCH 250 or 251.

A survey of the prehistory of the Plains region of North America with emphasis on the recognition and examination of archaeological problems.

**ARCH 355.3
Archaeology of the American
Southwest
1/2(3L)**

Prerequisite(s): ANTH 250 or 251.

An introduction to prehistoric cultural development across the American Southwest from initial occupation to the arrival of the Spanish. Theoretical concepts, especially those related to the adoption of agriculture and questions concerning abandonment, are emphasized.

**ARCH 356.3 (Formerly ANTH 356)
The Development of Complex Cultures
in the Eastern Mediterranean and
Near Eastern Regions
1/2(2L-1S)**

Prerequisite(s): ARCH 250 or 251 or CLASS 243 or 244.

A study of the development of complex cultures in the eastern Mediterranean and Near Eastern regions from the hunting and gathering societies of the Upper Palaeolithic period to the establishment of complex urban cultures during the Early Bronze Age, with an emphasis on the geographical areas of ancient Syria and Israel.

**ARCH 358.3 (Formerly ANTH 358)
The Palaeolithic World
1/2(3L)**

Prerequisite(s): ARCH 250 or 251.

A detailed survey of human cultural development from earliest hominids on to the emergence of modern humans and concluding with the shift towards food production. Emphasis is on the nature of interpretations formed from archaeological data and the contemporary issues surrounding these interpretations.

**ARCH 360.3 (Formerly ANTH 360)
Archaeological Resource
Management
1/2(3L)**

Prerequisite(s): ARCH 250 or 251.

Provides a theoretical and methodological introduction to the management and conservation of archaeological sites and materials. Examines federal and provincial legislation, contract research and public involvement. Case studies and in-depth areas of contract archaeology will be discussed.

**ARCH 361.6 (Formerly ANTH 361)
Archaeological Field Methods
IS/SS-1&2(60P)**

Prerequisite(s): ARCH 250 or 251.

Six weeks of field experience in archaeological research techniques including site survey, excavation, and laboratory analysis. The field location will depend on areas of departmental projects. Offered only in Intersession or Summer Session.

Note: Students with credit for ANTH 261 may not take this course for credit.

**ARCH 375.3 (Formerly ANTH 375)
Human Palaeontology
1/2(3L-3P)**

Prerequisite(s): ARCH 270, or GEOL 243 or 246.

Intensive survey of hominid evolution based upon the interpretations of the fossil record.

**ARCH 452.3 (Formerly ANTH 452)
Selected Topics in Archaeology
1/2(3L)**

Prerequisite(s): ARCH 251 and 3 credit units in senior archaeology.

**ARCH 453.3 (Formerly ANTH 453)
Selected Topics in Archaeology
1/2(3L)**

Prerequisite(s): ARCH 251 and 3 credit units in senior archaeology.

Provides coverage of specialized areas of archaeological analysis, method and theory. Topics include lithic analysis, pottery analysis, faunal analysis, study of microwear.

**ARCH 454.3
Rock Art Studies
1/2(3L)**

Prerequisite(s): ARCH 250 or 251 and a 300-level archaeology or ART 252.6.

The study of rock art across the world with emphasis on pre-contact North America. Analytical methods and theoretical concepts will also be discussed.

**ARCH 455.3 (Formerly ANTH 455)
Introduction to Lithic Technology
1/2(3L)**

Prerequisite(s): ARCH 251 or 250 and a 300-level archaeology course.

Basics of stone tool manufacturing and usage, including the analysis of materials, breakage, debitage, typologies, use wear, and Old and New World tool classes. The behavioral and social context of lithic technology will also be emphasized.

**ARCH 457.3 (Formerly ANTH 457)
Introduction to Prehistoric Pottery
Technology
1/2(3L)**

Prerequisite(s): ARCH 251 or 250 and a 300-level archaeology course.

A broad perspective on prehistoric pottery including the nature of clays, pottery production and use, the physical properties of pottery and pottery assemblages on the Canadian plains and adjacent boreal forest.

**ARCH 458.6 (Formerly ANTH 458)
Zooarchaeology
1&2(3L)**

Prerequisite(s): ARCH 470 or BIOL 351.

The identification of vertebrate faunal remains from archaeological sites including an examination of interpretive procedures and quantitative methods.

**ARCH 459.3
Geoarchaeology
1/2(3L)**

Prerequisite(s): GEOL 121, 122 and ARCH 250. GEOL 246 is recommended.

Deals with the basic components of geoarchaeology including: stratigraphy, site formation processes, and landscape reconstruction. Various methods used in paleoenvironmental reconstruction are also discussed focusing on the late Quaternary of North America.

**ARCH 461.3 (Formerly ANTH 461)
Historical Development of Modern
Archaeology
1/2(3L)**

Prerequisite(s): ARCH 251 and 3 senior credit units in archaeology.

Overview of the history of archaeology, beginning with 18th- and 19th-century developments in western Europe. The expansion of archaeology throughout the world is examined, with discussion of the development of the major schools. Advances in field methodology, laboratory analyses and theoretical concepts are emphasized.

Note: Students with credit for ANTH 451 may not take this course for credit.

**ARCH 462.3 (Formerly ANTH 462)
Contemporary Archaeological Theory
1/2(3L)**

Prerequisite(s): ARCH 251 and 3 senior credit units in archaeology.

Detailed survey of the basic concepts and schools of thought in contemporary archaeology considered on a world-wide basis, with emphasis on Canada and the United States. Theoretical models relating to culture history, settlement, ecological and other approaches are discussed.

Note: Students with credit for ANTH 451 may not take this course for credit.

**ARCH 465.3 (Formerly ANTH 465)
Spatial Analysis of Archaeological
Data
1/2(3L)**

Prerequisite(s): A 300-level course in archaeology or CLASS 243 or 244.

Spatial analysis examines the distribution of artifacts, ecofacts and features in the archaeological record and assesses the extent to which the distribution reflects past

human activity, social structures, etc. Familiarizes students with theories of spatial analysis and provides practical experience in applying these theories to archaeological data.

**ARCH 470.3 (Formerly ANTH 470)
Human Osteology
1(3L-3P)**

Prerequisite(s): ARCH 270.

A comprehensive investigation of the human skeleton. Primary emphasis involves preparing students for archaeological fieldwork and advanced research in biological anthropology.

**ARCH 471.3 (Formerly ANTH 471)
Forensic Anthropology
2(3L-3P)**

Prerequisite(s): ARCH 470.

Concerned with the analysis of human skeletal materials and specifically the identification of age, sex, stature, race and other features. Laboratory sessions supplement lectures.

**ARCH 472.3
Palaeopathology
1/2(L)**

Prerequisite(s): ANTH 470.

The diagnosis and interpretation of disease in antiquity and the overall health status of earlier human populations. Although skeletal pathology will be emphasized, analysis of mummified tissues and ancient DNA will be included.

SPECIAL TOPICS

ARCH 398.3 1/2(3S)

ARCH 399.6 1&2(3S)

ARCH 498.3 1/2(3S)

ARCH 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

INUKTITUT

**INUK 101.3
Inuktitut Phase One
1(3L)**

An introduction to a limited set of the basic structures of Inuktitut (Eskimo), designed for students with no previous experience in the language, and presented in a series of intensive oral drills.

COURSES IN OTHER DEPARTMENTS

The following courses may be credited toward an anthropology and archaeology major and honours program:

CLASS 243.3 Introduction to the

Archaeology of Ancient Israel and Syria

CLASS 244.3 Archaeology and Cultural

Development in Ancient Israel and Syria:

Late Bronze Age to Hellenistic Period

CLASS 247.3 Introduction to Greek

Archaeology

CLASS 248.3 Introduction to Roman

Archaeology

CLASS 360.6 Field Course in

Mediterranean Archaeology

For details see the appropriate section of the *Calendar*.

ARAMAIC

See the Department of Classics section of the *Calendar*.

ARCHITECTURE

See the Regional and Urban Development Program section of the *Calendar*.

ART AND ART HISTORY

There are at present three general fields or areas of concentration in the department:

AREA I - Studio Art: concerned with the practice of art in various media in six studio areas.

AREA II - History of Art: concerned with the history, theory and criticism of art.

AREA III - Art Education: concerned with the teaching of art. (For details, see the College of Education section of the *Calendar*)

B.A. PROGRAMS - STUDIO ART

Major in Art: Area I - Studio Art (B.A. Four-year)

Students majoring in Area I (Studio) are required to take a minimum of 36 credit units:*

(1) ART 120.3, 121.3 and 6 senior credit units in the history of art.

(2) 24 credit units in at least three studio areas, including 6 credit units in foundation drawing and two other studio areas.

The following are recommended for students wishing additional courses in art:

(1) Any senior course in the history of art.

(2) Additional courses from one of the studio areas.

Major in Art: Area I - Studio Art (B.A. Three-year)

Students majoring in Area I (Studio) are required to take a minimum of 30 credit units:*

(1) ART 120.3, 121.3 and 6 senior credit units in the history of art.

(2) 18 credit units in at least three studio areas, including 6 credit units in foundation drawing and two other studio areas.

*The maximum number of art credit units (including both Studio Art and Art History) permitted for credit is 42 in the B.A. Three-year, and 60 in the B.A. Four-year.

DOUBLE HONOURS IN STUDIO ART AND ART HISTORY

Thirty-six credit units in Studio Art in at least four studio areas including 6 credit units in foundation drawing and three other studio areas, and ART 120.3, 121.3 and 30 senior credit units or the equivalent in Art History. At least 48 credit units in non-Art courses are required.

DOUBLE HONOURS IN STUDIO ART AND ANOTHER SUBJECT

ART 120.3, 121.3, 24 credit units in Studio Art including 6 credit units in foundation drawing and three other studio areas, and 6 credit units or the equivalent in either

Studio Art or Art History and 36 or 42 credit units or the equivalent in a non-art subject at the discretion of the department concerned.

B.F.A. DEGREE

This program is intended for students who wish to acquire a thorough knowledge of studio art as part of their general education and for those who wish to prepare for work leading to graduate degrees in art.

1. Admission

Students should have completed 60 credit units with at least 24 credit units in studio art. Formal admission to the B.F.A. Program requires application for admission made on a form available at the Office of the Dean. In order to qualify for admission students must have obtained a cumulative percentage average* of at least 70% and a minimum subject average of 70% on all art courses taken.

* The Cumulative Percentage Average is calculated from the grades obtained on all courses taken, including failures.

2. Pre-B.F.A. Program

The recommended pre-B.F.A. program consists of:

First Year

18 credit units in art (ART 120.3, 121.3 and 12 credit units in studio art including ART 112.6 and at least one other foundation level studio course).

12 credit units selected from Requirements 1 to 5 of Program Type D: Fine Arts.

Second Year

12 or 18* credit units in art including two other foundation level studio courses.

12 credit units selected from Requirements 1 to 5 of Program Type D: Fine Arts.

* Only students with a cumulative percentage average of 70% or better will be permitted to take more than 12 credit units in art in the second year.

3. B.F.A. Program

During the final two years of the four-year program, the student may concentrate in two or more studio areas. Significant development may be difficult if a student works in more than four areas. The concentration of the following sample program is in two studio areas, drawing and printmaking, with electives used to gain some experience in three other areas.

Third Year

12 credit units in studio art; 6 credit units in history of art; A required academic course (6 credit units); Elective (6 credit units)

Fourth Year

12 credit units in studio art; 6 credit units in history of art; Electives (12 credit units)

4. Academic Requirements

This degree is offered in Studio Art. The degree requires four years (120 credit units) in the College of Arts and Science, including two years in the pre-B.F.A. program and two years in the B.F.A. program.

The B.F.A. candidate must complete the following:

(1) a minimum of 48 credit units in four or more studio areas, including 6 credit units in foundation level drawing and three other foundation level studio courses;

(2) 24 credit units in history of art courses including ART 120.3, 121.3;

(3) 18 senior elective credits, which may be chosen from any department. The B.F.A. student is encouraged to use these electives for further studio work;

(4) 30 credit units in academic courses chosen from the 10 divisions listed below, with not more than 6 credit units to be taken from each division:

a - ENG 110.6 or any two of ENG 111.3, 112.3, 113.3, 114.3; or LIT 100.6;

b - A second language;

c - 6 credit units from HIST 110.3, 111.3, 114.6, 120.6, 121.3, 122.3, 140.6, 148.6, 170.6;

d - ANTH 111.3 and ARCH 112.3 or 116.3, or ANTH 220.3 or ARCH 250.3 and 251.3 (ANTH 220.3, ARCH 250.3 and 251.3 are subject to the approval of the Head of the Department of Anthropology and Archaeology);

e - One of LING 111.3 and 112.3, NATST 110.6, SOC 110.6, POLST 110.6, ECON 111.3 and 114.3, GEOG 113.3 and 114.3;

f - PSY 110.6;

g - One of PHIL 110.6, or PHIL 120.3 and 133.3;

h - BIOL 107.6 or 6 credit units in 100-level computer science courses or any 100-level natural science course;

i - MATH 101.3, or 110.3 and 112.3 or 116.3;

j - A course in music or drama or any course from classics or FINAR 100.6 or religious studies or WGST 110.6; or the following dance courses may be credited to the B.F.A. in Studio Art under this requirement: KIN 212.3 and 213.3, or *KINAC 210.2, 212.2 and 412.2, or a combination of KIN and KINAC courses (to a limit of 7 credit units).

(5) A B.F.A. candidate must maintain a cumulative percentage average of 70% or better on all courses.

* Kinesiology Activity Classes (KINAC) are not acceptable as electives in the B.A., B.Sc. or B.Mus. degree programs.

5. Final Examination

Upon the completion of the fourth year, the candidate for a B.F.A. degree in Studio Art will be required to mount an exhibition of work done during the program of his/her study in this department. The exhibition must be of quantity and quality acceptable to a faculty review committee. The B.F.A. Final Exhibition will have a value of 12 credit units for average calculations. If the grade given for the exhibition results in a cumulative percentage average of less than 70%, thus preventing graduation, the student will have one opportunity to mount a second exhibition. This must be done within twelve months of the first exhibition. If the results then constitute a cumulative percentage average of at least 70% or better the student will graduate. If not, the student

may want to fulfill the requirements of a B.A. Four-year degree in Art.

The department retains the right to select one work from distinguished B.F.A. exhibitions for the permanent collection of student work.

6. Degrees with Distinction

Students in the B.F.A. program who have earned a C.P.A. of 75% on 120 credit units and have been recommended for Distinction by the examining board for their final exhibition are awarded their degree with Distinction; those who have earned a C.P.A. of 80% on 120 credit units and have been recommended for Great Distinction by the examining board are awarded their degree with Great Distinction.

7. Distinguished Exhibition Award

The Distinguished Exhibition Award will be given to students whose final exhibition is deemed exceptional by the Department of Art and Art History.

B.A. PROGRAMS - HISTORY OF ART

Major in Art: Area II - History of Art (B.A. Four-year)

Students are required to take a minimum of 36 credit units:*

(1) ART 120.3, 121.3, 24 senior credit units in the history of art, including at least 6 credit units in art before 1800 (these courses are indicated with a †) and at least 6 credit units in art after 1800.

(2) One of the 100-level studio courses (6 credit units).

Students wishing to take additional courses in art are advised to take 18 additional credit units in the history of art and 6 additional studio credit units.

Major in Art: Area II - History of Art (B.A. Three-year)

Students are required to take a minimum of 30 credit units:*

(1) ART 120.3, 121.3, 18 senior credit units in the history of art including 6 credit units in art before 1800 (these courses are indicated with a †) and 6 credit units in art after 1800.

(2) One of the 100-level studio courses (6 credit units).

* The maximum number of art credit units (including both Studio Art and Art History) permitted for credit is 42 in the B.A. Three-year, and 60 in the B.A. Four-year.

Honours Program in History of Art

This program is intended both for students who wish to acquire a thorough knowledge of the history of art as a part of their general education and for those who wish to prepare for work leading to graduate degrees in the field.

A graduate degree in the history of art is normally the minimum qualification for employment in universities, museums and galleries. The following courses are required: ART 120.3, 121.3, one 100-level course (6 credit units) in studio art, 6 credit units from HIST 110.3, 111.3, 114.6, 120.6, 121.3, 122.3, 140.6, or 170.6 and 42 senior credit units in Art History provided that:

(1) at least 6 credit units are at the 400 level;

(2) at least 18 credit units are at the 300 level or higher;

(3) at least 6 credit units are in art before 1800 (these courses are indicated with a 1) and at least 6 credit units are in art after 1800.

Eighteen other credit units are to be chosen in consultation with the department. Courses in classics, english, french, german, history, philosophy and sociology are strongly recommended.

Double Honours in Art History and Studio Art

Thirty-six credit units in Studio Art including 6 credit units in foundation level drawing and three other studio areas, and ART 120.3, 121.3 and 30 senior credit units or the equivalent in Art History. At least 48 credit units in non-Art courses are required.

Double Honours in Art History and Another Subject

Students who are admitted to a Double Honours program (Art History and another subject) must be counseled in both departments. Students will fulfill the Art History portion of the program as follows: ART 120.3 and 121.3 or the equivalent; 30 senior credit units or the equivalent in Art History.

STUDIO COURSES

The Studio Area provides students with an intensive studio experience which explores technical, aesthetic, and theoretical concerns in a critical setting pertinent to the pursuit of art in our culture. Courses are offered in Drawing, Sculpture, Painting, Photography, Printmaking, and Extended Media. All studio majors are required to take 6 credit units in foundation-level drawing as well as foundation-level courses in at least to other studio areas. The program aims to educate students in both the practical and theoretical aspects of the visual language and to provide a thorough background for those who will pursue research and careers in the visual arts or arts-related fields. Studies are enriched by visiting artists and critics and the presence of graduate students from Canada and abroad. In addition to the regular program, several courses are offered each summer during Intersession and Summer Session. In addition to scheduled classes, students are expected to attend most auxiliary activities, such as guest lectures and local exhibitions. All students must allow time in their schedules for working a minimum of six hours per week for each studio class in which they are enrolled. Please note that more than two absences from scheduled classes and labs will adversely affect the student's evaluation.

Note: Laboratory fees are required by the department in printmaking, drawing, photography and sculpture. Details will be given in the *Registration Guide* and/or in course outlines.

Note: A student not majoring in art may count a second introductory studio course taken as a senior course.

Note: A number of art studio courses have been changed to 6 credit unit courses. Students with credit for a course at the

"old" number level may not take for credit the course at the "new" number level.

Old and New Course Equivalencies

<i>Old</i>	<i>New</i>
ART 110.6 Art History	ART 120.3, 121.3
ART 135.6 Extended Media	ART 136.3
ART 335.6	ART 338.3, 339.3
ART 435.6	ART 438.3, 439.3
ART 420.6	ART 418.3, 419.3
ART 271.3, 272.3 Painting	ART 211.6
ART 371.3, 372.3	ART 311.6
ART 471.3, 472.3	ART 411.6
ART 473.3, 474.3	ART 421.6
ART 475.3, 476.3	ART 431.6
ART 181.3, 182.3 Drawing	ART 112.6
ART 281.3, 282.3	ART 212.6
ART 381.3, 382.3	ART 312.6
ART 481.3, 482.3	ART 412.6
ART 483.3, 484.3	ART 422.6
ART 485.3, 486.3	ART 432.6
ART 114.6 Sculpture	ART 141.3
ART 214.6	ART 241.3, 242.3
ART 314.6	ART 341.3, 342.3
ART 414.6	ART 441.3, 442.3
ART 424.6	ART 443.3, 444.3
ART 434.6	ART 445.3, 446.3
ART 116.6 Photography	ART 161.3

ART

ART 111.6 Foundation in Painting 1&2(2T-2P)

Explores the principles and elements of the language of art as related to the process of painting. Discussion and exposure to a variety of tools, materials, and media will be included. Historical reference to stylistic changes and various aesthetic concepts will be explored.

Note: Painting students must provide their own painting materials.

ART 211.6, 311.6, 411.6 Painting and Related Work 1&2(3T)

Prerequisite(s): ART 111 is a prerequisite to ART 211. Subsequently, 6 credit units in each number level are prerequisite to the next level.

Continual identification of concepts and methods as they relate to the expression, structure, media and skills of pictorial art. Students may experiment with painting media and work from any subject matter. Students must acquaint themselves with the materials of their craft and its correct use in producing technically sound works of art. Emphasizes the student's artistic growth and development.

Note: Painting students must provide their own painting materials.

ART 421.6 Special Studies: Painting and Related Work 1&2(3T)

Prerequisite: ART 411.6 and permission of the instructor.

Emphasizes the student's independent artistic growth and development in painting.

Note: Painting students must provide their own painting materials.

ART 431.6 Special Studies: Painting and Related Work 1&2(3T)

Prerequisite: ART 421.6 and permission of the instructor.

Emphasizes the student's independent artistic growth and development in painting.

Note: Painting students must provide their own painting materials.

ART 113.6 Foundation in Printmaking 1&2(1.5T-1.5P)

Explores the conceptual, expressive and technical processes of three main areas of printmaking – lithography, silkscreen and intaglio. Discussion and exposure to a variety of equipment, materials and media will be included.

ART 213.6 Printmaking 1&2 (2T)

Prerequisite(s): ART 113.

Exploration of an advanced level of the conceptual, expressive and technical means of four major print methods: Etching, Lithography, the Relief Print and Serigraphy and related photographic methods. Thorough familiarity with the craft of the traditional print methods as well as experimentation will be encouraged.

ART 313.6, 413.6 Printmaking 1&2(2T)

Prerequisite(s): ART 213 is prerequisite to ART 313; ART 313 is prerequisite to ART 413.

Explores the conceptual, expressive and technical processes of all areas of printmaking. Advanced concepts and processes are all a part of choices students can make concentrating in two or more distinct areas of printmaking.

ART 423.6, 433.6 Special Studies: Printmaking 1&2(1.5T)

ART 141.3 Foundation in Sculpture 1/2(1.5T)

An introduction to the concepts and issues relating to contemporary sculpture. This combined lecture/studio class encourages a wide exploration of materials while focusing on basic formal and compositional skills.

Note: For this class, sculpture students provide their own materials.

ART 241.3, 242.3, 341.3, 342.3, 441.3, 442.3 Sculpture and Related Work 1/2(3T)

Prerequisite(s): ART 141 is a prerequisite to ART 241 or ART 242. Subsequently, 6 credit units in each number level are prerequisite to the next level.

Continual identification of the concepts, materials and means of sculpture and related three-dimensional form. Methods of construction (casting, carving, building, assembling, etc.) and presentation, both traditional and experimental, will be encouraged. This includes a wide exploration of materials and combination of materials

(such as wood, metal, cement, plaster, found objects, etc.).

ART 443.3, 444.3, 445.3, 446.3 Special Studies: Sculpture and Related Work 1/2(3T)

ART 115.6, 215.6, 315.6, 415.6 Ceramics 1&2(2T)

Prerequisite(s): ART 115 is a prerequisite to ART 215. Subsequently, 6 credit units in each number level are prerequisite to the next level.

Continual exploration of the concepts and technical methods involving clay as an expressive medium. Concerns particular to pottery as well as those of sculpture will be investigated. Thorough familiarity with the means of pottery such as hand building techniques, wheel throwing, glazing, kiln building and firing techniques will be developed. Both traditional and experimental form exploration will be encouraged.

Note: Currently, these ceramics courses are not available on the Saskatoon campus. However, where facilities and staff are available, they may be offered in off-campus credit programs.

ART 161.3 Foundation in Photography I 1(3T)

Introduction to the basic elements of black and white photography. Theory and practical application will be taught through the direct experience with the camera. Black and white film development and printing will be practiced.

Note: Photography students must provide their own cameras and photographic materials.

ART 216.6, 316.6, 416.6 Photography 1&2(3P)

Prerequisite(s): ART 161 is a prerequisite to ART 216. Subsequently, 6 credit units in each number level are prerequisite to the next level.

Continual development in the creative language of photography both expressive and technical. Includes black and white, and colour photography (at the 316 level). Theory and practical application will be approached through assigned projects.

Note: Photography students must provide their own cameras and photographic materials.

ART 336.6 Digital Imagery 1&2(3T)

Prerequisite(s): A 100-level studio course. Conceptual and technical development of the student's work in digital imagery. Adobe Photoshop software will be used to introduce students to photomontage techniques, negative and print enhancement. Critical and theoretical concerns in the medium will be discussed and related to the given assignments.

ART 426.6, 436.6
Special Studies: Photography
1&2(3T)

Prerequisite(s): Permission of the department.

ART 112.6
Foundation in Drawing
1&2(3T)

Introduction to the formal and creative language of drawing. The course emphasizes the development of drawing skills and identification of concepts and methods as they relate to visual perception and expression.

Note: Drawing students must provide their own drawing materials.

ART 212.6, 312.6, 412.6
Drawing and Related Work
1&2(3T)

Prerequisite(s): ART 112 is prerequisite to ART 212. Subsequently, 6 credit units in each number level are prerequisite to the next level.

Continual identification of concepts and methods as they relate to visual perception and expression through drawing, compositional design, graphic media and skills. Use of diverse media coupled with invented and observed form is encouraged.

Note: Drawing students must provide their own drawing materials.

ART 422.6
Special Studies I: Drawing and Related Work
1&2(3L)

Prerequisite: Permission of the instructor and ART 412.6

Emphasizes the student's independent growth and development as it relates to drawing.

Note: Drawing students must provide their own drawing materials.

ART 432.6
Special Studies II: Drawing and Related Work
1&2(3L)

Prerequisite: Permission of the instructor and ART 412.6

Emphasizes the student's independent growth and development as it relates to drawing.

Note: Drawing students must provide their own drawing materials.

ART 136.3
Foundation in Extended Media
1/2(1L/2S)

This introductory studio course explores collaborative and interdisciplinary approaches to contemporary art-making. Sessions include lectures and experiential, interactive activities, leading to the development of multidisciplinary projects. All disciplines within the university community are welcome. No background in studio art is necessary.

ART 236.3, 237.3, 338.3, 339.3, 438.3, 439.3
Extended Media
1&2(3T)

Prerequisite(s): Art 135 or completion of at least two foundation-level studio art classes, or permission of the department; subsequently 6 credit units in each number

level are prerequisite to the next level.

Continued exploration of collaborative and interdisciplinary approaches to contemporary artmaking. Projects will include alternative practices such as video, performance, installation, projection, bookworks, etc. Reading and discussion of related texts will accompany production of artworks.

SEMINAR COURSE

ART 430.6
Problems in Contemporary Art
1&2(2T)

Prerequisite(s): Completion of the requirements of the second year of the B.F.A. or B.A. Three-year or B.A. Four-year with a major in studio art.

Deals with key issues in contemporary art. Original documents, theories and criticisms, and subsequent interpretations and current literature, pertaining to contemporary art will serve as source material for topics selected by individual students for investigation. Faculty and students will participate through ongoing presentations and discussions.

STUDIO/ART HISTORY COURSE

ART 350.3
Hands-on Art History: A Survey of Historical Media
1/2(3T)

Prerequisite(s): One of ART 120, 121, 111, or 112 (181). Access to email is highly recommended.

A practical course which explores the techniques of various media such as : mosaic, encaustic, stained glass, carving in stone or wood, applique, lantern making, jewelry, manuscript illumination, printing, tempera painting, fresco, and oil painting. Students will gain practical experience using these techniques. Theoretical tracts from various historical periods will be examined for recipes and analyses of contemporary studio practices.

Note: This course can be used toward either studio or art history requirements in Art degree programs.

HISTORY OF ART COURSES

The discipline examines histories of the visual arts which include photography, sculpture, painting, button blankets, architecture, video, performance, installation, film, and digital imaging, among other media. The interrelations of the visual arts, popular culture, lived cultures and social structures are the focus of investigation.

* denotes courses with a date of 1800 or earlier.

ART 120.3
Introduction to the History of Art I
1(3L)

An introduction to the history of western visual culture from Ancient Greece to the Renaissance. The principles of art historical study will be examined.

Note: Students with credit for ART 110 may not take this course for credit.

ART 121.3
Introduction to the History of Art II
2(3L)

An introduction to the history of western visual culture from the seventeenth century to the present day. The principles of art historical study will be examined.

Note: Student's with credit for ART 110 may not take this course for credit.

Note: ART 120 and 121 may be taken under Requirement 5 or 7 of Program Types A, B, C, and Requirement 1 of Program Type D.

ART 252.6
First People's Art History
1&2(3L)

A survey of the art of the First Peoples of North America from the precontact era to the present. Particular emphasis will be placed on artistic production after 1940.

ART 257.6
Introduction to Canadian Art History
1&2(3L/S)

Prerequisite(s): ART 120 and 121, or a course in the areas of fine arts or humanities.

Offers a brief introduction to traditional Native Canadian art practices and a survey of Canadian visual culture from the earliest period of European settlement to the present day. The institutional, geographic and social locations of artistic production and consumption will be studied. Issues of race, ethnicity, gender and class will be addressed.

***ART 260.3**
History and Theory of European Architecture 1400-1700
1/2(3L/S)

Prerequisite(s): ART 120 and 121.

An introduction to the architecture of the European states and their colonies 1400 to 1700. The institutional, geographic and social locations of architectural production will be studied. Issues of power, nationalism, and class will be examined.

Note: Students with credit for ART 262 may not take this course for credit.

***ART 261.3**
History and Theory of European Architecture 1700-1900
1/2(3L/S)

Prerequisite(s): ART 120 and 121.

An introduction to the architecture of the European states and their colonies 1700 to 1900. The institutional, geographic and social locations of architectural production will be studied. Issues of power, nationalism, and class will be examined.

Note: Students with credit for ART 262 may not take this course for credit.

***ART 305.6**
Art of the 15th Century
1&2(3L/S)

Prerequisite(s): ART 120 and 121, or HIST 225.

A history of 15th-century European painting and sculpture both north and south of the Alps. Special emphasis will be placed on Leonardo da Vinci, and the formal and iconographic sources for major monuments will be considered in their historic contexts.

***ART 308.3 (Formerly 306)**
Art of the High Renaissance and Reformation Era (1500-1550)
1/2(3L)

Prerequisite(s): ART 120 and 121.

The High Renaissance, Mannerism, and other trends in European painting and sculpture will be considered in the context of the Reformation; special emphasis will be placed upon Raphael, Michelangelo, and Dürer.

***ART 309.3 (Formerly 306)**
Art of the Late Renaissance (1550-1600)
1/2(3L)

Prerequisite(s): ART 120 and 121.

Artistic trends in the second half of the 16th century will be considered in the context of the Council of Trent; special emphasis will be placed upon Late Titian, Tintoretto, Veronese, and the painters of the Medicean Studiolo.

***ART 317.6**
Art of the 17th and 18th Centuries
1&2(3L/S)

Prerequisite(s): ART 120 and 121 or HIST 226.

Baroque, "Baroque Classicism" and Rococo in Italy, France, Holland, Germany, England and Spain will be discussed.

ART 319.6
Studies in 19th Century Visual Culture
1&2(3L/S)

Prerequisite(s): ART 120 and 121.

Investigates 19th Century visual culture in Western Europe and North America. Examines the social production and consumption of visual culture, addressing issues of race, gender, sexuality and class. Issues of historiography will also be considered.

ART 322.6
Picturing the West: Representing the American and Canadian Frontiers, 1820-1940
1&2(1.5L-1.5S)

Prerequisite(s): ART 120 and 121.

An examination of the ways the West was represented in visual culture during the period of colonial exploration and settlement. Photography, film, wild west events, painting, mapping and responses of First Peoples will be studied in the context of issues of race, gender and class.

ART 323.3
European Colonialism in the Visual Arts 1880-1920
1/2(3S)

Prerequisite(s): ART 120 and 121.

Examines how visual culture played a central role in legitimizing European colonial expansion of the late 19th and early 20th centuries. Photography, painting, popular prints, postcards, world fairs, and the urban planning of colonial cities will be studied. Anti-colonial resistance will also be examined.

ART 324.3 Early 20th-Century Studies in Art and Architecture 1900-1918 1/2(3L/S)

Prerequisite(s): ART 120 and 121.

A study of visual culture and architecture in Europe and North America from 1900 to the end of World War I. Issues concerning art institutions, gender, class and the impact of modernism will be studied.

Note: Students with credit for ART 320 may not take this course for credit.

ART 325.3 Early 20th-Century Studies in Art and Architecture 1918-1940 1/2(3L/S)

Prerequisite(s): ART 120 and 121.

A study of visual culture and architecture in Europe and North America from 1918 to World War II. Issues concerning art institutions, nationalism, gender, class and the impact of modernism will be studied.

Note: Students with credit for ART 320 may not take this course for credit.

ART 326.3 Studies in Photographic History 1830-1920 1/2(3L/S)

Prerequisite(s): ART 120 and 121.

An introduction to the study of photography from the earliest experiments to 1920. Areas include photographic theory, art photography and commercial production. Special emphasis will be placed on photography in a Canadian context.

Note: Students with credit for ART 321 may not take this course for credit.

ART 328.3 Studies in Photographic History 1920 to the Present 1/2(3L/S)

Prerequisite(s): ART 120 and 121.

An introduction to the study of photography from 1920 to current practices. Areas include recent critical debates, commercial production and the impact of new technologies. Special emphasis will be placed on photography in a Canadian context.

Note: Students with credit for ART 320 may not take this course for credit.

*ART 406.6 Renaissance Studies 1&2(3S)

Prerequisite(s): 12 credit units in history or art history, including either ART 120 and 121 or HIST 225.

A detailed investigation of the works of one of the following: Donatello, Leonardo da Vinci, Raphael, Dürer, Titian, Michelangelo. The Renaissance as a concept in the history of style will receive special emphasis.

*ART 417.6 Baroque Studies 1&2(3S)

Prerequisite(s): 12 credit units in history or art history, including either ART 120 and 121 or HIST 226.

A detailed investigation of the works of one of the following: Bernini, Rubens, Rembrandt. The Baroque as a concept in

the history of style will receive special emphasis.

ART 418.3 Studies in Contemporary Art 1&2(3S)

Prerequisite(s): ART 120 and 121 and a second or third-year course in art history.

A survey of contemporary international art which includes film, video, performance, as well as more traditional media.

ART 419.3 Studies in Contemporary Architecture, Late Modern to the Present 1&2(3S)

Prerequisite(s): ART 120 and 121 and a second or third-year course in art history.

A survey of contemporary international architecture from Late-Modernism through Post-Modernism to current issues.

ART 437.3 Postcolonial Issues in Contemporary Canadian Art 1/2(3S)

Prerequisite(s): ART 120 and 121.

Examines recent work by artists, video/film producers and curators in Canada. Explores topics such as anti-colonial resistance by First Peoples' artists; diaspora identities and aesthetics; multiculturalism; and the role of museums and exhibitions in fictioning Canadian national identity.

ART 440.6 Studies in Contemporary Canadian Art 1&2(3S)

Prerequisite(s): ART 120, 121 and 257.

An introduction to developments in Canadian Art since 1970, with particular attention to how this art has raised interests of social and cultural significance. Issues of representation with respect to gender, race and class will be examined in the context of various theoretical discourses.

SPECIAL TOPICS

ART 298.3 1/2(3S)
ART 299.6 1&2(3S)
ART 398.3 1/2(3S)
ART 399.6 1&2(3S)
ART 498.3 1/2(3S)
ART 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

COURSES IN OTHER DEPARTMENTS

FINAR 100.6 An Introduction to the Fine Arts
PHIL 271.3 Aesthetics (Recommended senior elective)

For details see the appropriate section of the *Calendar*.

COLLEGE OF EDUCATION COURSES

The Department of Art and Art History offers the following Art Education courses in the College of Education towards the B.Ed. degree (for the requirements of this degree and course descriptions, see the College of Education section).

EDART 232.3 Art Education Seminar-Studio
EDART 303.3 Teaching Visual Art in Elementary Schools
EDART 311.3 Teaching Visual Art in Middle Years
EDART 331.3 Teaching Visual Art in the Secondary School
EDART 401.3 Textile Art for Classroom Teachers
EDART 411.3 Art and the Built Environment in Art Education
EDART 421.3 Ceramics for Teachers
EDART 433.3 Advanced Methodology in Art Education
EDART 441.3 Art History for Teachers

ASTRONOMY

See the Department of Physics and Engineering Physics section of the *Calendar*.

BIOCHEMISTRY

The Biochemistry program provides education and training in the molecular approach to the study of the life sciences. Individual student programs in Biochemistry can emphasize biotechnology, cell biochemistry, chemical approaches, metabolism, molecular biology, plant biochemistry, protein structure and function, or signal transduction. Programs in Biochemistry include essential prerequisite courses for life science professional schools and graduate studies in many areas of the life sciences. Graduates at all levels find employment in industry involved in many areas of biotechnology and other life science research enterprises.

Biochemistry offers three-year, four-year, and honours degree programs. By combining the biochemistry program with offerings from other departments and colleges, students can design a degree program that is either diverse or specialized.

ALL BIOCHEMISTRY DEGREE PROGRAMS

The following courses are required: BIOCH 200.3, 211.3 or 220.3, 212.3, 230.3; CHEM 111.3, 251.3, 252.3, MICRO 214.3 or AP MC 212.3 and the Program Type C Requirements. BIOL 110.6 is a prerequisite for MICRO 214.3 and AP MC 212.3.

Additional biochemistry courses are required for the three-year, four-year or honours biochemistry programs, as listed below. In all programs, 6 credit units of open electives are permitted. Other courses must be chosen from natural science courses offered by the College of Arts and Science, or from the list of courses offered by other colleges which are listed below. Courses should be selected in consultation with an advisor in the Department of Biochemistry.

MAJOR IN BIOCHEMISTRY (B.SC. FOUR-YEAR)

Additional courses: BIOCH 310.3, 311.3 or MICRO 391.3, BIOCH 490.0 and 12 credit units in biochemistry as electives.

MAJOR IN BIOCHEMISTRY (B.SC. THREE-YEAR)

Additional courses: BIOCH 310.3 or 311.3 and any 3 credit units in biochemistry as an elective. (MICRO 391.3 may be used instead of BIOCH 311.3).

HONOURS IN BIOCHEMISTRY

Additional courses: BIOCH 310.3, 311.3 (or MICRO 391.3), BIOCH 490.0 and 12 credit units in biochemistry as electives as well as 6 credit units chosen from CHEM 221.3, 231.3, 242.3 (requires MATH 110.3) or 243.3.

DOUBLE HONOURS PROGRAMS

Double honours programs with the Departments of Anatomy and Cell Biology, Biology, Chemistry, Microbiology and Immunology, and Physiology can be arranged easily. Students considering these programs should normally seek advice upon entering 2nd or 3rd year. Students considering these options should choose courses that are required by either department. Some of these programs require careful planning.

HONOURS IN BIOCHEMISTRY AND BIOTECHNOLOGY

The Department of Biochemistry offers the B.Sc. Honours degree in Biochemistry and Biotechnology. Students who do not meet the standard for the Honours degree are eligible to be considered for a Four-year degree. Programs can be designed with an emphasis on animal, medical, microbial, or plant applications and courses. The requirements in the first two years are similar to the Biochemistry degree requirements described above, and in the annual program described below. Biochemistry and Biotechnology is an interdisciplinary program needing careful planning, and early consultation with an advisor is suggested. However, the first two years of the program if carefully chosen, will allow students to make choices in respect to a number of life science programs. In addition to Biochemistry, the Biotechnology program has an emphasis on molecular biology, ethics, public policy considerations, and commercial issues.

Biochemistry electives includes biochemistry courses not listed as required (specifically BIOCH 211.3, 220.3, 412.3, 420.3, 430.3, 432.3, 436.3, 488.3, 489.6) or CHEM 456.3 or CH E 461.3.

SUGGESTED SEQUENCE OF COURSES

First year

Students must enrol in BIOL 110.6 and CHEM 111.3. For maximum flexibility, students are encouraged to enrol in BIOCH 200.3 (Term 2) and CHEM 251.3 (Term 2) in their first year. MATH 110.3 is recommended for all four-year degree programs. MATH 101.3 is recommended to students who do not intend to enrol in another Mathematics course. As part of the Program Type C Requirements, PHYS 111.6 or 121.6, STATS 103.3, CMPT 111.3, 112.3 and MATH 112.3 or 116.3 are recommended.

Second year

Students entering 2nd year, especially those considering double honours or biotechnology programs, should consult with a faculty advisor in the Biochemistry Department. Students must enrol in BIOCH 200.3, CHEM 251.3 (if not taken in 1st year) and BIOCH 212.3. Students should enrol in BIOCH 211.3 or 220.3 and 230.3, MICRO 214.3 or AP MC 212.3. Other recommended courses are: ANAT 200.3, BIOL 211.3, CHEM 221.3, 231.3, 242.3, 252.3, MICRO 216.3. Students wishing to take plant physiology (BIOL 331.3) can enrol in BIOL 205.3 in 2nd year.

Third year

Students entering 3rd year should consult with a faculty advisor in the Biochemistry Department. Students completing a three-year degree, should enrol in CHEM. 252.3 if needed, BIOCH 310.3 or 311.3 (or MICRO 391.3), and 3 credit units in biochemistry as an elective, and any Program Type C requirements needed. Students in the four-year or honours program should enrol in BIOCH 310.3, 311.3 (or MICRO 391.3), and in 6 credit units of biochemistry electives. Upper-year biochemistry courses (BIOCH 412.3, 420.3, 430.3, 432.3, 435.3, 436.3) are available only in alternate years as are some of the other senior life science classes. Six credit units in physiology are recommended: animal physiology, BIOL 217.3 and 218.3; human physiology, PHSIO 212.6; microbial physiology, MICRO 216.3 and 415.3 with BIOCH 211.3; plant physiology, BIOL 205.3 and 331.3. Honours students should enrol in at least 3 credit units of CHEM 221.3, 231.3, 242.3, 243.3, or 252.3.

Fourth year

Students entering 4th year should consult with a faculty advisor in Biochemistry. Students in 4th year should complete the required and optional biochemistry and chemistry course requirements as well as any outstanding Program Type C Requirements. Enrolment in BIOCH 490.0 is required and BIOCH 488.3 or 489.6 are recommended.

SUGGESTED SEQUENCE OF COURSES FOR BIOCHEMISTRY AND BIOTECHNOLOGY

The Biochemistry and Biotechnology honours program requires the program described below:

1. Introductory Natural Sciences: BIOL 110.6, CHEM 111.3, 251.3 and 6 credit units 100-level natural science;
2. Biochemistry and Biotechnology Core Requirements: ANAT 200.3; BIOCH 200.3, 212.3, 230.3, 310.3, 311.3 (or MICRO 391.3), 436.3 and 3 credit units senior biochemistry elective: CHEM 252.3 and 6 credit units chosen from CHEM 221.3, 231.3, 242.3, 243.3; MICRO 214.3 or AP MC 212.3; MICRO 216.3 or BIOL 211.3;
3. Physiology Requirements (part of core) 9 credit units chosen from one of the following combinations: animal - BIOCH 211.3, BIOL 217.3, 218.3; or medical - BIOCH 211.3, PHSIO 212.6; or microbial - BIOCH 211.3, 435.3, MICRO 416.3; or plant - BIOCH 220.3, BIOL 205.3, 331.3;

4. Molecular Biology Electives: 9 credit units chosen from ANAT 331.3, AN SC 313.3, 470.3, BIOCH 488.3 or 489.6, BIOL 211.3, 316.3, 420.3, MICRO 216.3, 387.3, 417.3, 425.3, PL SC 411.3, 416.3. BIOCH 488.3 or 489.6 are recommended.

5. Interdisciplinary Requirements: PHIL 236.3; 9 credit units chosen from SOC 292.3, 323.3, AG EC 292.3, COMM 345.3, 346.3. In addition, HIST 284.3 and AGRIC 222.3 are recommended.

6. Program C Requirements 2-5: 6 credit units each of Languages, Humanities, Social Sciences and an additional 6 credit units of any of these disciplines or Fine Arts. PHIL 236.3; SOC 292.3, SOC 323.3, AG EC 292.3 can be used for Humanities and Social Science requirements.

7. Electives: 6 credit units of open electives, AGRIC 222.3, COMM 345.3 346.3 are recommended. Other degree requirements to 120 credit units should be chosen from science courses. In addition, the Biochemistry honours degree requirements may be completed by ensuring that 12 credit units of senior biochemistry electives are included.

In first year, the general advice for first-year Biochemistry should be followed. Students should fulfill 6 credit units Program C Language requirement in first year. Other requirements in Humanities and Social Sciences should be taken in second, third, and fourth years when most of the required 200 and 300-level courses of this program have as a prerequisite the completion of 30 credit units at the university.

In second year, in addition to the Biochemistry requirements, students should take ANAT 200.3, BIOL 211.3 or MICRO 216.3, and PHIL 236.3. Students may also wish to consider some courses to begin fulfilling the physiology requirement of the Biotechnology program described above. For program flexibility, it is important that BIOCH 212.3, and one of BIOCH 230.3 (recommended), second year.

In third year, BIOCH 310.3 and 311.3 should be taken. BIOCH 435.3 (if needed) and 436.3 are offered on alternate years and should be taken if available. For the Program C Social Sciences requirement, SOC 292.3, SOC 323.3, AG EC 292.3 should be considered.

In the third and fourth years, the remaining program requirements, described above, need to be completed.

An advisor, should be consulted at the end of first year and must be consulted at the end of second and third year.

BIOCHEMISTRY

**BIOCH 200.3
Molecules of Life
1(2/3L)**

Prerequisite(s): Biology 30 or 3 credit units of university-level biology, and CHEM 111 and 251. CHEM 251 may be taken concurrently.

Topics include: simple and complex biomolecules, amino acids, peptides, proteins, carbohydrates, lipids, nucleic acids, coenzymes, vitamins. An introduction to the structure of biological

membranes, solute transport, DNA replication, mRNA transcription and protein synthesis will be presented.

Note: Students cannot obtain credit for this course and BIOCH 203, 205 or 209.

**BIOCH 211.3
Introductory Metabolism
2(3L)**

Prerequisite(s): BIOCH 200.3 and CHEM 251.3. Note: Students who have credit for BIOCH 209.3 have met the BIOCH 200.3 prerequisite.

Introduction to the thermodynamic aspects of energy metabolism and the principles of anabolic and catabolic metabolic pathways. Emphasis will be placed on the overall purposes of the major pathways, the precursor molecules leading into these pathways, important products, and the basic types of control that regulate metabolic flux.

Note: Students cannot obtain credit for this course and BIOCH 203 or 205.

**BIOCH 212.3
Introductory Biochemical Techniques
2(3L/4P)**

Prerequisite(s): BIOCH 200.3 and CHEM 251.3. Note: Students who have credit for BIOCH 209.3 have met the BIOCH 200.3 prerequisite.

The theory, application and practice of basic biochemical techniques used in all life science and biotechnology disciplines is presented. Topics include: buffer preparation, pH determination, spectrophotometric methods, enzyme measurement, chromatography, radioisotopes, and centrifugation. Methods for the characterization and separation of amino acids, sugars, lipids, proteins, enzymes, and DNA.

Note: Students cannot obtain credit for this course and BIOCH 203 or 205.

**BIOCH 220.3
Introductory Plant Biochemistry
1(3L)**

Prerequisite(s): BIOCH 200.3 or BIOL 110.6, and CHEM 251.3. Note: students who have credit for BIOCH 203.6 or 209.3 have met the BIOCH 200.3 prerequisite.

This introduction to plant biochemistry presents the following: photosynthesis, respiration, and energy generation; nitrogen, carbohydrate, lipid, and some secondary metabolism. The emphasis will be on metabolic events that are typical of plants, and often different from other living organisms.

Note: Students cannot obtain credit for this course and BIOCH 433.

**BIOCH 230.3 (Formerly 300)
Information Transfer - DNA to Proteins
2(3L)**

Prerequisite(s): BIOCH 200.3 and CHEM 251.3. Note: students who have credit for BIOCH 203.6 or 209.3 have met the BIOCH 200.3 prerequisite.

Deals with the structure and function of nucleic acids at an advanced level. Chromosome anatomy, DNA replication, transcription of genes, and translation of mRNA in both prokaryotes and eukaryotes are covered. The various mechanisms

whereby gene expression is regulated are also discussed.

Note: Students cannot obtain credit for this course and BIOCH 300 or 334.

**BIOCH 310.3
Proteins and Enzymes
1(3L/4P)**

Prerequisite(s): BIOCH 212; students with BIOCH 203 should consult with the Department.

The properties of proteins and enzymes will be described including structure, kinetics, regulation and modification, antibodies, membrane proteins and glycosylation. Laboratories will provide experience with the determination of structural and functional properties including: ultracentrifugation, chromatography, electrophoresis, kinetics, phosphoamino acid identification, Western blotting, computer-based sequence analysis via the Internet.

Note: Students cannot obtain credit for this course and BIOCH 341 or 429.

**BIOCH 311.3
Introductory Molecular Biology
1(3L/4P)**

Prerequisite(s): BIOCH 212.3 and one of BIOCH 230.3, BIOL 211.3, or MICRO 216.3. MICRO 214.3 or AP MC 212.3 recommended. Note: Students who have credit for BIOCH 300.3 or 334.6 have met the BIOCH 230.3 prerequisite.

Basic principles and techniques of nucleic acid manipulations used in molecular biology and biotechnology are presented. Information and practical experience with plasmids, vectors, restriction endonucleases, DNA sequencing, site-directed mutagenesis, simple cloning, hybridization, promoter analysis, protein over-expression and an Internet exercise. In addition mRNA analysis, eukaryotic cloning and DNA fingerprinting will be presented.

Note: Students cannot obtain credit for this course and BIOCH 341 or MICRO 391 (395).

**BIOCH 412.3
Protein Structure, Function, and
Engineering
2(3L)**

Prerequisite(s): BIOCH 310; or 341 and 429.

The details of protein structure, domains, folding, and targeting shall be presented. Modern experimental approaches to protein engineering shall be presented. The inter-relationship between structure and function in enzyme/protein mechanism and regulation shall be stressed.

Note: Students cannot obtain credit for this course and BIOCH 334. This course will be offered in the academic year 2001/2002 and alternate years thereafter (2003/2004, etc.).

**BIOCH 420.3
Advanced Plant Biochemistry
2(3L)**

Prerequisite(s): BIOCH 200.3, 220.3; BIOCH 230.3 or BIOL 211.3. Note: students who have credit for BIOCH 203.6 or 209.3 have met the BIOCH 200.3 prerequisite. Students who have credit for BIOCH 300.3 or 334.6 have met the BIOCH 230.3 prerequisite.

This advanced course presents the following topics: recent advances in metabolic control, photosynthesis, nitrogen

assimilation, and secondary metabolism; the structure and function of selected proteins and the application of protein engineering; selected topics illustrating the biochemical basis of plant biotechnology.

Note: Students cannot obtain credit for this course and BIOCH 433. This course will be offered in the academic year 2000/2001 and alternate years thereafter (2002/2003, etc.).

BIOCH 430.3 Cell Biochemistry 2(3L)

Prerequisite(s): BIOCH 211 (or 203), 310, 334 or 429.

The biochemical properties of eukaryotic cells will be investigated with special emphasis on signal transduction mechanisms, cell-cell extracellular matrix interactions, cell cycle control, apoptosis, neoplastic transformation and tumor progression.

Note: This course will be offered in the academic year 2001/2002 and alternate years thereafter (2003/2004, etc.).

BIOCH 432.3 Lipid Metabolism 1(3L)

Prerequisite(s): BIOCH 211 (or 203).

A review of selected aspects of the biochemistry of lipids, emphasizing their function and metabolism.

Note: This course will be offered in the academic year 2001/2002 and alternate years thereafter (2003/2004, etc.).

BIOCH 435.3 Intermediary Metabolism 1(3L)

Prerequisite(s): BIOCH 211 (or 203).

The organization of metabolic pathways dealing with carbohydrates, lipids, amino acids and nucleotides with emphasis on common strategies employed in different pathways, and the overall regulation and integration of metabolite flow into cells, in tissues, and in intact organisms.

Note: This course will be offered in the academic year 2000/2001 and alternate years thereafter (2002/2003, etc.).

BIOCH 436.3 Advanced Molecular Biology 2(3L)

Prerequisite(s): BIOCH 311 or MICRO 391 (or 395).

Modern and advanced methods and strategies of nucleic acid manipulation and characterization are presented. Topics include: uses of the polymerase chain reaction; generation and screening of libraries; cloning and expression of foreign genes; RFLPs and molecular medicine.

Note: This course will be offered in the academic year 2000/2001 and alternate years thereafter (2002/2003, etc.).

BIOCH 488.3 Research Approaches in Biochemistry 1/2 (8P)

Prerequisite(s): BIOCH 310, 311, 341, 342 or MICRO 391 (or 395) (may be taken concurrently) and permission of the department. Preference will be given to biochemistry honours or, secondarily, four-

year degree students.

The student will work on a project available in the research laboratory of a faculty member, under that faculty member's supervision; become familiar with the pertinent research literature; establish procedures, collect, record and analyze experimental results; submit to the department a written report which incorporates the background to the work done, procedures used, results obtained and a discussion of the results and their significance.

BIOCH 489.6 Extended Research Approaches in Biochemistry 1 & 2 (8P)

Prerequisite(s): BIOCH 310, 311, 341, 342 or MICRO 391 (or 395) (may be taken concurrently) and permission of the department. Preference will be given to biochemistry honours or, secondarily, four-year degree students.

The student will: work two terms on a project available in the research laboratory of a faculty member, under that faculty member's supervision; become familiar with the pertinent research literature; establish procedures, collect, record and analyze experimental results; submit to the department a written thesis which incorporates the background to the work done, procedures used, results obtained and a discussion of the results and their significance. The student will defend the thesis findings.

BIOCH 490.0 Seminar 1 & 2 (1S)

The biochemistry seminar series presents a wide range of topics from the life sciences.

COURSES IN OTHER COLLEGES AND DEPARTMENTS

AP MC 212.3 General Microbiology (may be used in place of MICRO 214.3 for degree requirements).

The following courses may be used as senior science electives:

AN SC 313.3 Animal Breeding and Genetics

AN SC 470.3 Applied Animal Biotechnology

AP MC 425.3 Food Microbiology

AP MC 433.3 Microbial Insecticides

AP MC 434.3 Industrial Microbiology I

AP MC 435.3 Microbial Techniques

AP MC 437.3 Industrial Microbiology II

FD SC 415.3 Advanced Food Chemistry

FD SC 417.3 Food Analysis

CR SC 314.3 Statistical Methods

CR SC 345.3 Biological Activity and Fate of Herbicides

CR SC 405.3 Evolution and Population Genetics

CR SC 411.3 Genetics and Plant Breeding

CR SC 416.3 Applied Plant Biotechnology

CR SC 417.3 Crop Physiology

NUTR 220.3 Advanced Nutrition

NUTR 305.3 Research Methods.

For details, see the appropriate section of the *Calendar*.

BIOLOGY

MAJOR IN BIOLOGY (B.SC. FOUR- YEAR)

Required courses: BIOL 110.6, 203.6, 204.3, 205.3, 211.3; one of BIOL 253.3 or 263.3; one of ANAT 200.3, BIOL 217.3 or 331.3; 9 additional approved credit units in biology; BIOCH 200.3, 212.3; CHEM 111.3, 251.3.

MAJOR IN BIOLOGY (B.SC. THREE- YEAR)

Required courses: BIOL 110.6, 203.6, 204.3, 205.3; two of: BIOL 211.3, 253.3, 263.3, ANAT 200.3, either BIOL 217.3 or 331.3; 6 additional credit units in biology; CHEM 111.3, 251.3.

Students intending to major in biology are strongly advised to take CHEM 111.3, 251.3, before, or concurrently with, BIOL 110.6.

HONOURS IN BIOLOGY

The Honours Program in Biology is designed to permit specialization in various fields. The required courses are: BIOL 110.6, 203.6, 204.3, 205.3, 211.3, 350.3, 414.3; one of BIOL 253.3 or 263.3; one of ANAT 200.3, BIOL 217.3 or 331.3; PL SC 314.3* or another senior 3 credit-unit course in statistics and 18 additional credit units in biology which must be approved by the department. Other requirements are CHEM 111.3, 251.3; BIOCH 200.3 and 212.3; and 12 credit units selected from CMPT 111.3 or 112.3, 115.3, GEOG 111.3, 112.3, 210.3, GEOL 121.3, 122.3, MATH 110.3, 112.3 or 116.3, PHYS 111.6 or 121.6. No more than 6 credit units in geography may be used for this requirement. It is recommended that students intending to do graduate work obtain a reading knowledge of a second language. A comprehensive honours oral examination will be given in the fourth year.

Students are advised to register for the following courses:

First Year

BIOL 110.6, CHEM 111.3, 251.3 (students intending to go on in biology are strongly advised to take these chemistry courses before, or concurrently with, BIOL 110.6 since CHEM 111.3 and 251.3 are prerequisites for senior courses in biology), and 18 other credit units.

Second Year

At least 12 credit units in biology, BIOCH 200.3 and 212.3. Other courses to a total of 30 credit units.

Third Year

15 credit units in biology, PL SC 314.3* or another senior 3 credit unit course in statistics, and 12 other credit units.

Summer of Third Year

Honours Field Course BIOL 350.3.

Fourth Year

BIOL 414.3, 12 other credit units in biology, and 15 other credit units.*

* For details on statistics see Index under "Statistics Courses."

Students intending to enter the honours program should discuss their program with

the Head of the Department before planning their second year.

Students in the fourth year should note that 800-level courses listed in the Graduate Studies and Research Section may be taken with permission of the department.

It is recommended that students specializing in biology attend seminars regularly.

With the approval of the department, certain courses offered by other departments may be counted as biology courses in a major or honours program. Courses accepted without special approval are listed at the end of this section.

DOUBLE HONOURS

For Double Honours in Biology and another subject, students will require the following Biology courses: BIOL 110.6, 203.6, 204.3, 205.3, 211.3, 350.3, 414.3; BIOL 253.3 or 263.3; 217.3 or 331.3 or ANAT 200.3; PL SC 314.3 or an equivalent statistics course. Students also require CHEM 111.3, 251.3, BIOCH 200.3 and 212.3, and 12 credit units selected from CMPT 111.3 or 112.3, 115.3, GEOG 111.3, 112.3, 210.3, GEOL 121.3, 122.3, MATH 110.3, 112.3 or 116.3, PHYS 111.6 or 121.6. No more than 6 credit units in geography may be used for this requirement.

A comprehensive oral examination in biology will be given in the fourth year.

AGRICULTURAL BIOLOGY

Students are reminded of the possibility of majoring in biology in the College of Agriculture under the Agricultural Biology Option. Consult the section on Fields of Specialization in the College of Agriculture, and the program advisor in the Department of Biology.

HONOURS IN BIOLOGY AND BIOTECHNOLOGY

Program Requirements:

(1) BIOL 110.6; CHEM 111.3, 251.3; 12 credit units of approved Natural Sciences chosen from PHYS 111.6; MATH 110.3, 112.3 or 116.3; GEOG 111.3, 112.3, 210.3; GEOL 121.3, 122.3; CMPT 111.3 or 112.3, 115.3. (PHYS 111.6 is recommended as part of these 12 credit units).

(2) 27 credit units in core Biotechnology courses: ANAT 200.3; BIOCH 200.3, 212.3; BIOCH 311.3 or MICRO 391.3; BIOL 211.3, 316.3; MICRO 214.3 or AP MC 212.3; 6 credit units chosen from one of the following pairs: BIOL 217.3 and 218.3, BIOL 217.3 and 366.3, BIOL 205.3 and 331.3.

(3) 12 credit units chosen from ANAT 331.3; BIOCH 230.3, 436.3; MICRO 216.3, 387.3, 417.3, 425.3; AN SC 313.3, 470.3; PL SC 411.3, 416.3; BIOL 480.3. (BIOL 480.3 is recommended as part of these 12 credit units.)

(4) 21 credit units chosen from BIOL 203.6, 204.3, 205.3, 217.3, 218.3, 253.3, 263.3, 325.3, 326.3, 342.3, 350.3, 366.3, 414.3, 420.3.

(5) PHIL 236.3 plus 27 credit units such that (a) and (b) are satisfied as follows:

(a) 9 credit units are taken from SOC 292.3, 323.3; AG EC 292.3; COMM 345.3, 346.3.

(b) 18 additional credit units are taken such that Type C distribution requirements 2-5 are satisfied with the recommendation that 6 of these credit units are chosen from the courses listed in (a) and/or from HIST 284.3; AGRIC 222.3. [Note that COMM 345.3, 346.3, AGRIC 222.3 cannot be used in Type C distribution requirements.]

(6) PL SC 314.3.

(7) 3 credit units Science electives. It is recommended that students take any outstanding requirements for completion of the Honours program in Biology.

Students who do not meet the standard for an Honours degree in the Biotechnology program are eligible to be considered for a four-year degree in Biology and Biotechnology.

LAND USE AND ENVIRONMENTAL STUDIES (BIOLOGY MAJOR)

Interested students should refer to the Land Use and Environmental Studies section of the *Calendar*.

PALAEOBIOLOGY

The Departments of Anthropology and Archaeology, Biology and Geological Sciences have developed an interdisciplinary program in Palaeobiology. Interested students should refer to the Palaeobiology section of the *Calendar* and contact the chairperson of the administrative committee.

BIOLOGY

BIOL 105.3 An Introduction to Human Genetics IS(3L-3P)

Prerequisite(s): Biology 30, with a laboratory or BIOL 107 or 108; and Chemistry 30.

Underlying mechanisms of human heredity are developed to allow an understanding of the inheritance and biotechnical manipulation of human genetic traits. Topics include Mendelian inheritance, cytogenetics, polygenic inheritance, population genetics and molecular genetics. The genetic basis of metabolic disease and the influence of mutagens, carcinogens and teratogens are discussed. Closing lectures deal with the application, legality and morality of genetic knowledge and technology.

Note: Students with credit for BIOL 211 may not take this course for credit. This course is offered only at Intersession or as an Independent Study course in the Regular Session.

BIOL 107.6 The Living Earth 1&2(3L-1.5T)

Includes geological, biological and ecological studies. It considers the history of the earth and the forces which shape its changing surface, the nature of life and the requirements for life on the earth, heredity and evolution including the record of life preserved in the rocks, organism diversity, and the effects of people on the environment. The lectures will be supplemented by outside reading and by small-group tutorial and demonstration sessions.

Note: Students with credit for BIOSC 100 or 101 may not take this course for credit.

Note: Students who have taken Biology 30 (Grade XII Biology) may not take both BIOL 107 and BIOL 110 for credit.

Note: BIOL 107 is recommended for students in Program Types A, B and D. This course is not acceptable under requirement 1 of Program Type C.

Note: Students with credit for GEOL 205 or 206 may not take this course for credit.

BIOL 108.6 The Living Earth 1&2(3L-3P)

Follows the same lectures as BIOL 107 but has a three-hour laboratory each week. Designed for College of Education students in the Elementary Program. There will be a Physical Sciences/ Biological Sciences laboratory devoted to an integrated approach to the environment, using techniques from Physics, Chemistry, Biology and Geology. This laboratory is equivalent to a three-hour practicum.

Note: Students with credit for BIOSC 100 or 101 may not take this course for credit.

Note: Students who have taken Biology 30 (Grade XII Biology) may not take both BIOL 108 and BIOL 110 for credit.

Note: Students with credit for GEOL 205 or 206 may not take this course for credit.

BIOL 110.6 General Biology 1&2(3L-3P)

Prerequisite(s): Biology 30 with a laboratory, or BIOL 107 or 108. Chemistry 30 is required for registration in a biology major and strongly recommended for other students registering in BIOL 110.

Deals with the general principles of biology and is based on a good previous preparatory course. This course is a prerequisite for senior courses in biology.

Note: Students in Program Types A, B and D should consider BIOL 107 as an alternative to BIOL 110.

BIOL 202.3 Botany 1(3L-4P)

Prerequisite(s): BIOL 110.

Deals in some depth with selected aspects of botany: structure, development and taxonomy of vascular plants.

Note: Students may not take both BIOL 202 and 205 for credit. Intended primarily for agriculture students.

BIOL 203.6 Animal Structure and Function 1&2(1L-6P)

Prerequisite(s): BIOL 110.

Surveys the structure, function, and evolution of the major groups of vertebrate and invertebrate animals.

BIOL 204.3 A Survey of Bacteria, Algae and Fungi 1(3L-4P)

Prerequisite(s): BIOL 110; CHEM 111 and 251.

Surveys the structure, function and evolution of the bacteria, algae and fungi.

Note: Intended primarily for majors in biology, plant sciences and education.

BIOL 205.3 A Survey of the Land Plants 2(3L-4P)

Prerequisite(s): BIOL 110.

Surveys the structure, function and evolution of the Bryophytes and Tracheophytes.

Note: Students may not take both BIOL 202 and 205 for credit. Intended primarily for majors in biology, plant ecology and education.

BIOL 211.3 Genetics 1/2(3L-2P-1T)

Prerequisite(s): BIOL 107 or 108 or 110.

Theory and problem solving are given in transmission genetics, cytogenetics, molecular genetics, gene regulation, and behavioral genetics. Laboratory exercises include bench experiments, computer-aided laboratories and assistance in problem solving.

Note: Students with credit for BIOL 105 will not receive credit for BIOL 211.

BIOL 217.3 Introductory Animal Physiology 1(3L-4P)

Prerequisite(s): BIOL 110; CHEM 111 and 251; also recommended PHYS 111.

An introduction to physiological principles. It includes consideration of physical, chemical and functional aspects of animal cells, study of membranes, cellular transport and extrusion mechanisms. Bioelectric and contractility phenomena are also included.

Note: Students with credit for PHSIO 212 will not receive credit for BIOL 217.

BIOL 218.3 Comparative Systems Physiology 2(3L-4P)

Prerequisite(s): BIOL 217.

An introduction to the function of organ systems in animals. It includes study of cardiovascular, digestive, osmoregulatory, respiratory, and endocrine and nervous systems. Examples are drawn from vertebrate and invertebrate models.

Note: Credit will not be granted for this course if the student has credit for PHSIO 212.

BIOL 253.3 Ecosystems 1(3L-4P)

Prerequisite(s): BIOL 107 or 108 or 110 or GEOG 111 and 112 or 113 and 114 or 6 credit units in geology.

An introduction to aquatic and terrestrial ecosystems, with emphasis on western Canadian biomes and ecosystems. Community structure and dynamics, ecosystem production, energy flow and material cycling will also be considered.

Note: Students with credit for PL SC 213 will not receive credit for BIOL 253.

BIOL 263.3 Introduction to Population Biology 2(3L-4P)

Prerequisite(s): BIOL 110.

An introduction to the major topics of population genetics, population ecology and animal behaviour, integrated by using an evolutionary theme. Quantitative theory and mathematical models will be used.

BIOL 316.3 Molecular Genetics of Eukaryotes 2(3L-3P)

Prerequisite(s): BIOL 211.

Includes structure and mapping of the eukaryotic chromosome, cytoplasmic inheritance, recombinant DNA technology, mutation, recombination, gene regulation in eukaryotes, developmental genetics, oncogenetics, immunogenetics and evolutionary genetics. Laboratories involve computer exercises based on genome data bases.

BIOL 323.3 Taxonomy of Vascular Plants 1(3L-4P)

Prerequisite(s): BIOL 202 or 205.

Introduces the principles and methods of plant systematics: classification; description; nomenclature; identification of vascular plants; taxonomic characters; species and speciation; and tempos and patterns of plant evolution. Students are expected to make a collection of no more than 40 species of vascular plants and should contact the Department of Biology in the Spring for details.

BIOL 324.3 Plants and Human Affairs 1(3L-2P)

Prerequisite(s): BIOL 107 or 110 or permission of department and completion of 60 credit units at the university.

A consideration of the higher or vascular plants which are economically important; their origins, history and botanical relationships and their fundamental role in all human societies.

BIOL 325.3 Plant Cells and Tissues 2(3L-4P)

Prerequisite(s): BIOL 202 or 205.

A structural and functional study of the organization of the vascular plant body. The course deals with plant cell organelles, cell types and basic tissue organization. Examination of live material is emphasized in the laboratory.

BIOL 326.3 Plant Development 1(3L-4P)

Prerequisite(s): BIOL 202 or 205.

A survey of developmental phenomena in plants including the experimental approach to the interpretation of morphogenesis. Emphasis will be placed upon the vascular plants, but examples drawn from other groups will be used for comparison and clarification where appropriate.

BIOL 331.3 Introductory Plant Physiology 2(3L-4P)

Prerequisite(s): BIOL 202 or 205.

Three sections which deal respectively with plant cell physiology, the physiology of the whole plant and the physiology of plant growth and morphogenesis.

BIOL 342.3 Mycology 2(3L-4P)

Prerequisite(s): BIOL 204.

Fungal cell biology and development. Emphasis on growth and reproduction,

genetics, environmental and economic impact, biotechnology applications.

**BIOL 345.3
Introductory Plant Pathology
1(3L-4P)**

Prerequisite(s): BIOL 202 or 205.

A survey of the biology of the major groups of plant pathogens and of the major types of plant diseases with emphasis on symptoms, transmission and control. Approximately equal emphasis is placed on theory and on laboratory work.

**BIOL 350.3
Honours Field Course
1(7P)**

Prerequisite(s): BIOL 204, 205 or 202 and 203.

An introduction to the principles and methods of field biology with an emphasis on the ecological relationships of organisms.

Note: Restricted to honours or prospective honours students. Required for honours students in biology. It is recommended that it be taken after completing the third year of courses.

**BIOL 351.6
Vertebrate Zoology and Comparative
Anatomy
1&2(3L-4P)**

Prerequisite(s): BIOL 110.

For students specializing in vertebrate biology or preparing for admission to the Colleges of Medicine or Veterinary Medicine. The lectures deal with the evolution, classification, comparative anatomy and natural history of the vertebrates and the lower chordates. Representative vertebrate types are dissected.

**BIOL 352.3
Comparative Embryology
2(3L-4P)**

Prerequisite(s): BIOL 203.

A comparative survey of animal embryology with emphasis on morphogenesis, histogenesis and developmental mechanisms in vertebrates and selected invertebrates including insects. Live embryos of various types and a variety of sectioned material will be examined in the laboratory.

**BIOL 364.3
Economic Entomology
2(3L-4P)**

Prerequisite(s): BIOL 110.

Emphasizes the ecological aspects of economic entomology. Includes a laboratory and lecture survey of economically important arthropods, a consideration of the principles of pest control and discussion of pesticides.

**BIOL 365.3
Insect Diversity and Evolution
1(3L-4P)**

Prerequisite(s): BIOL 203.

Surveys insects and their close relatives based on morphology and taxonomy. Focuses on insect natural history, comparative anatomy and classification. Representative types examined in the laboratory provide an understanding of current trends in insect taxonomy and phylogeny.

**BIOL 366.3
Insect Structure and Function
2(3L-4P)**

Prerequisite(s): BIOL 203 and 217.

Introduction to structure and function in insects. Topics are the integument, sensory systems, nervous and chemical coordination, gaseous exchange, food intake and utilization, metabolism, haemolymph and circulation, excretion, osmoregulation, reproduction, growth, and development. Comparisons with vertebrate physiological systems are made as appropriate.

**BIOL 367.3
Lower Invertebrate Structure and
Function
1/2(3L-4P)**

Prerequisite(s): BIOL 203.

Studies functional morphology of lower invertebrate animals. Laboratories investigate the physiology of invertebrates.

**BIOL 368.3
Higher Invertebrate Structure and
Function
1/2(3L-4P)**

Prerequisite(s): BIOL 203.

A study of the functional morphology of higher invertebrate animals. Laboratories investigate the physiology of invertebrates.

**BIOL 401.3
Evolutionary Biology
1(3L-1T)**

Prerequisite(s): BIOL 211 and 263.

Includes speciation and its consequences, hybridization and introgression, aspects of population genetics significant in evolutionary theory, rates of evolution and evidences for evolution. The evolution of specific groups will be considered in detail.

**BIOL 414.3
Perspectives in Biology
1&2(1.5S)**

Prerequisite(s): Must be in Biology Honours Program or have permission of the department.

Assigned reading and tutorials. Students will be required to write a series of essays on assigned topics.

Note: Honours students in biology in their fourth year must take this course.

**BIOL 416.3
Molecular Genetics
2(3L-4P)**

Prerequisite(s): BIOL 316 and a course in biochemistry or physiology.

A survey is made of the structure and replication of genetic information in prokaryotic and eukaryotic cells. The control of genetic information in differentiation is analyzed with specific reference to the control of RNA, DNA and protein synthesis.

**BIOL 420.3
Molecular Biology of Plants
1(3L-4P)**

Prerequisite(s): BIOL 205 and one of BIOL 316 or BIOCH 230 (or 300) or permission of the instructor.

A study of the molecular biology of plants; plastid genomes, coordination of expression between nuclear and plastid genomes, environmental and hormonal effects on gene expression and genetic engineering of plants.

**BIOL 422.3
Phycology
2(3L-4P)**

Prerequisite(s): BIOL 204.

Ecology, morphology, physiology and taxonomy of algae with emphasis on freshwater forms.

**BIOL 424.3
Grasses and Grasslands
2(3L-4P)**

Prerequisite(s): BIOL 202 or 205.

A study of the morphology, systematics, biogeography, synecology and autecology of the grasses and other graminoids, and ecology of grasslands. Laboratory emphasis is on the structure and taxonomy of grasses.

**BIOL 436.3
Animal Parasitology
1(3L-3P)**

Prerequisite(s): 60 credit units at the university and permission of the department.

Deals with helminths, arthropods and protozoa of people, domestic and wild animals, and birds. Examples from these parasite and host types will be used to illustrate important concepts, including basic structure and function, life cycles, ecology, biogeography, individual and population level host-parasite-environment relationships, epizootiology and parasite control strategies.

**BIOL 451.3
Ichthyology
1(3L-4P)**

Prerequisite(s): BIOL 203 or 351.

The biology of fishes including their morphological diversity, physiology, behaviour and ecology, and their management and utilization. Students enrolled in this course are expected to make a collection of at least 14 species of fish. Collections can be completed during the course.

**BIOL 455.3
Mammalogy
2(3L-4P)**

Prerequisite(s): BIOL 203 or 351.

Introduction to local and world mammal faunas. Evolution, behaviour, ecology, morphology, phylogeny, and physiology will be emphasized in lectures. Laboratories will be concerned with taxonomic classification, identification, and anatomical adaptations.

**BIOL 458.3
Ornithology
1(3L-4P)**

Prerequisite(s): BIOL 203 or 351.

Introduction to the diversity of birds of the world. Lecture material focuses on evolution, ecology, behaviour, physiology and conservation. Laboratories focus on morphological diversity and taxonomy.

**BIOL 466.3
Aquatic Insects
1(3L-4P)**

Prerequisite(s): BIOL 203.

Identification of aquatic insects, discussions of current literature, field trips, collections, and laboratory work.

Note: Students are advised to contact the instructor about making a collection of

insects the summer before enrolling in the course.

**BIOL 472.3
Animal Behaviour
2(3L-4P)**

Prerequisite(s): BIOL 263.

Fundamental concepts in animal behaviour. An introduction to the form, control and adaptive significance of animal behaviour.

**BIOL 473.3
Population Ecology
1(3L-4P)**

Prerequisite(s): BIOL 263 and a course in statistics.

The theory of population growth, distribution and abundance of organisms.

**BIOL 474.3
An Introduction to Quantitative
Biology
2(3L-4P)**

Prerequisite(s): MATH 110, and 112 or 116, PL SC 314 or STATS 245, and 18 credit units in biology.

Introduces the student to quantitative methods, as applied to biological problems. Lectures emphasize the theoretical basis of the methods while laboratory time is used for the solution of concrete examples chosen from a variety of biological disciplines.

**BIOL 480.3
Biology Research
1/2(6P)**

Prerequisite(s): Restricted to fourth year biology students with a cumulative weighted average of 70% or better.

The student will work on a laboratory or field project under the supervision of a faculty member. Before beginning, the student must obtain a supervisor and then submit an outline of the project for approval by the Head of the Department. At the end of the project, the student will submit to the department a written report in thesis form.

Note: Honours Agriculture Biology students may not take both this course and AGRIC 494. Those in College Scholar Programs may not take this course in addition to another laboratory or field project designed under the Program.

SPECIAL TOPICS

BIOL 398.3 1/2(3S)
BIOL 399.6 1&2(3S)
BIOL 498.3 1/2(3S)
BIOL 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

**COURSES IN OTHER DEPARTMENTS
AND COLLEGES**

The following courses may be credited toward a biology major or honours program:

ANAT 200.3 Introduction to Cell Biology
AN SC 313.3 Animal Breeding and Genetics
AN SC 470.3 Applied Animal Biotechnology
AP MC 212.3 General Microbiology

GEOL 332.3 Palaeontology
 GEOL 343.3 Facies Models
 GEOL 433.3 Evolution of the Vertebrates
 GEOL 435.3 Microfossils
 GEOL 437.3 Palaeoecology
 GEOL 439.3 Palaeobotany
 MICRO 214.3 Basic and Medical Microbiology
 MICRO 387.3 Microbial Genetic Systems
 PL SC 412.3 Physiological Plant Ecology
 PL SC 431.3 Wildland Ecology
 PL SC 314.3 Statistical Methods
 PL SC 405.3 Evolution and Population Genetics
 PL SC 411.3 Genetics and Plant Breeding
 PL SC 416.3 Applied Plant Biotechnology
 PL SC 432.3 Conservation of Plant Genetic Diversity
 VT P 425.3 Introduction to Toxicology

For details on the above courses, please see the appropriate section of the *Calendar*

BIOTECHNOLOGY

Interdisciplinary degree programs in Biotechnology are offered through the co-operation of several departments and Colleges. The programs provide education and training in the science and the social, commercial and ethical issues associated with Biotechnology.

Bachelor of Science Honours degrees, following Program Type C, are offered in four areas: Cell Biology and Biotechnology (see Department of Anatomy and Cell Biology), Biochemistry and Biotechnology (see Department of Biochemistry), Biology and Biotechnology (see Department of Biology), and Microbiology and Biotechnology (see Department of Microbiology and Immunology). Each Bachelor of Science program consists of a core of science courses related to biotechnology, plus a selection of other courses in the area of biotechnology and the subject area. Students also must complete specific courses in philosophy, sociology, business, and economics. Students who do not meet the standard for an Honours degree in the Biotechnology program are eligible to be considered for a Four-year degree in the associated program. For more information, please see the corresponding department listing.

A Bachelor of Arts Four-year degree, following program Type B, is offered in Sociology of Biotechnology. This program consists of the courses in biotechnology listed below, as well as courses in commerce, agricultural economics, sociology and philosophy. For more information, please see the Department of Sociology.

The following biotechnology courses are designed specifically for non-life science students.

BTECH 200.3 Introduction to the Science of Biotechnology 1/2(3L)

Prerequisite: Biology 30 or BIOL 107 plus completion of 30 credit units at the university; no 200-level life science course (except CHEM 251.3) without permission of the instructor.

The course will focus on those aspects of scientific knowledge that will allow students to understand basic biological concepts as related to biotechnology. Relevant examples from agricultural and medical biotechnology will be used to illustrate and introduce these scientific principles. This course is designed specifically for non-life science students.

Note: Students whose programme requires them to take either BIOL 211.3 or BIOCH 200.3 are not allowed to take BTECH 200.3, 300.3 or 400.3 for credit without permission of the instructor.

BTECH 300.3 Techniques and Approaches in Biotechnology 1/2(3L/2T)

Prerequisite: BTECH 200.

This course will build upon BTECH 200 and will concern technique and approaches. A major objective is the introduction of biotechnology terminology as well as an appreciation for the variety of research approaches used in modern biotechnology and related disciplines. This course is designed specifically for non-life science students.

BTECH 400.3 Applications and Uses of Biotechnology 1/2(2L/1P)

Prerequisite: BTECH 300.

Interactive visits to local biotechnology companies to view the scientific operations, the production and the scale up of the final product. Pre-visit lectures will review the appropriate concepts from BTECH 200 and 300. Post-visit sessions will discuss how the science has been applied. This course is designed specifically for non-life science students.

CATHOLIC STUDIES

CTHST 105.3 and 106.3 Catholic Studies for Teachers 1 and 2 1/2(3L)

For details, see listing under academic courses in the College of Education section of the *Calendar*. These courses are not acceptable for elective credits in the College of Arts and Science.

CHEMISTRY

Chemistry is the science that deals with the structure and transformations of material substances. It occupies a central place among the sciences because it takes the fundamental ideas of mathematics and physics, adapts them to chemical systems, and applies them in areas ranging from biotechnology to advanced materials to environmental science. Product development in areas such as pharmaceuticals and electronic materials

depend on developments in chemistry, and chemistry is key in environmental and medical research.

Through appropriate course selection, students can specialize in analytical, bioinorganic, bioorganic, computational, inorganic, organic, physical and theoretical chemistry.

The four-year programs leading to a B.Sc. Honours or B.Sc. Four-year degree meet requirements for professional qualification as a chemist and membership in the Canadian Society for Chemistry.

CURRICULUM CHANGES

Chemistry programs were modified in 1995 and again in 2000. Students enrolled prior to 2000 should consult with a faculty advisor in the Department of Chemistry.

MAJOR IN CHEMISTRY (B. SC. FOUR-YEAR)

Students in the Four-year program are required to take 120 credit units including:

CHEM 111.3, 221.3, 231.3, 242.3, 243.3, 251.3, 252.3, 322.3, 332.3, 342.3, 346.3, 353.3, 354.3, 402.0, 6 credit units of senior chemistry electives including at least 3 credit units at the 400-level chosen in consultation with a faculty advisor in the Department of Chemistry; CMPT 111.3 or 112.3, ENG 110.6, PHYS 121.6, MATH 110.3, 116.3, 225.3 and another 3-credit-unit senior mathematics or statistics elective; 18 credit units to fulfill Requirements C2, C3 and C5; 30 credit units of electives.

Students in the four-year major program may receive credit for a maximum of 60 credit units total in chemistry and a maximum of 54 credit units in 100-level courses.

The department suggests that students follow the course sequence suggested for the Honours program to allow for maximum flexibility in course selection in their final year.

MAJOR IN CHEMISTRY (B. SC. THREE-YEAR)

Students in the Three-year program are required to take 90 credit units including:

CHEM 111.3, 221.3, 231.3, 242.3, 243.3, 251.3, 252.3, 322.3, 332.3, and a 3 credit-unit chemistry elective chosen in consultation with a faculty advisor in the Department of Chemistry. Other requirements are listed under Program Type C: Natural Sciences.

Up to 12 additional credit units in chemistry may be taken as electives.

Students are advised to include CHEM 111.3, 231.3 and 251.3; MATH 110.3 and 116.3 in the courses they select for the first year, and at least 12 credit units in chemistry in their second year.

Students in the three-year major program may receive credit for a maximum of 42 credit units total in chemistry and a maximum of 48 credit units in 100-level courses.

HONOURS IN CHEMISTRY

Students in the honours program are required to take 120 credit units including:

CHEM 111.3, 221.3, 231.3, 242.3, 243.3, 251.3, 252.3, 322.3, 332.3, 342.3, 346.3, 353.3, 354.3, 402.0, 482.3; 18 credit units of senior chemistry electives including at least 12 credit units at the 400-level chosen in consultation with a faculty advisor in the Department of Chemistry; CMPT 111.3 or 112.3, ENG 110.6, PHYS 121.6, MATH 110.3, 116.3, 225.3 and another 3-credit-unit senior mathematics or statistics elective; 18 credit units to fulfill Requirements C2, C3 and C5; 15 credit units of electives.

Students intending to enter or transfer into the honours program are required to consult with the Head of the Department.

Students in the honours program may receive credit for a maximum of 60 credit units total in chemistry and a maximum of 54 credit units in 100-level courses.

The department suggests the following course sequence:

First Year: CHEM 111, 231, 251, CMPT 111 or 112, ENG 110, MATH 110, 116, and PHYS 121.

Second Year: CHEM 221, 242, 243, 252, MATH 225 and a 3-credit-unit mathematics or statistics elective, 6 credit units elective(s), and 6 credit units to fulfill Requirements C2, C3 or C5.

Third Year: CHEM 322, 332, 342, 346, 353, 354, 6 credit units of senior chemistry electives and 6 credit units to fulfill Requirements C2, C3 or C5.

Fourth Year: CHEM 402, 482, 12 credit units of senior chemistry electives, 6 credit units to fulfill Requirements C2, C3 or C5, and 9 credit units of electives.

DOUBLE HONOURS

A Double Honours program allows concentration in chemistry and a second subject of interest. Students are required to take CHEM 111.3, 221.3, 231.3, 242.3, 243.3, 251.3, 252.3, 322.3, 332.3, 342.3, 402.0; 3 credit units chosen from CHEM 346.3, 353.3 and 354.3; 3 credit units of a senior chemistry elective and 36 credit units in the second area of concentration.

Students who wish to take a Double Honours Program must consult the departments concerned. Admission is based on departmental recommendation and College approval.

MINOR IN CHEMISTRY

Students with an interest in chemistry may take courses leading to a minor in chemistry in conjunction with any Four-year or Honours degree program within the College of Arts and Science.

Students must take a minimum of 21 credit units of chemistry courses as follows: CHEM 111.3, 221.3, 231.3, 242.3, 251.3, 252.3, and an additional 3-credit-unit chemistry elective.

CHEMISTRY**CHEM 111.3
Introduction to Modern Chemistry
1/2(3L-3.5P)**

Prerequisite(s): Chemistry 30 and Mathematics B30 (or Algebra 30). *Mathematics C30 (or Geometry-Trigonometry 30) is strongly recommended.*

Introduction to modern chemistry including stoichiometry, the properties of gases, liquids, solids and solutions, thermochemistry, equilibrium, kinetics and structure and bonding. The laboratory sessions will illustrate concepts discussed in lectures, and develop skills in techniques and data treatment.

**CH E 220.3
Introduction to Chemical Engineering
2(3L-1.5P)**

Corequisite(s): CHEM 242.

For details, see the College of Engineering section of the *Calendar*.

**CHEM 221.3
Analytical Chemistry I
1/2(3L-4P)**

Prerequisite(s): CHEM 111.

Discussion of the basic principles and tenets of analytical science and how these aspects are put into practice in analytical techniques.

**CHEM 231.3
Inorganic Chemistry I
1/2(3L-3P-1T)**

Prerequisite(s): CHEM 111.

Discussion of atomic and molecular properties in terms of modern theories of structure and bonding. The laboratory provides experience in the preparation and investigation of the properties of typical inorganic compounds.

**CHEM 242.3
Physical Chemistry I
1/2(3L-3P-1T)**

Prerequisite(s): CHEM 111 and MATH 110 or 123.

The study of the structure of matter and the changes it undergoes. Topics include properties of materials, thermodynamics, chemical equilibria and chemical kinetics. The laboratory provides experience with the use of physical-chemical equipment and problem solving skills.

**CHEM 243.3
Physical Chemistry II
1/2(3L-2T)**

Prerequisite(s): CHEM 242 and MATH 116 or 124.

An introduction to quantum chemistry and statistics of chemical systems as a foundation for courses concerned with the theory and spectroscopy of atomic and molecular systems.

**CHEM 251.3 (Formerly 151)
Organic Chemistry I
1/2(3L-3P-1T)**

Prerequisite(s): CHEM 111.

Discussion of functional groups illustrating general principles of organic reactions in order to lead to more complex compounds such as carbohydrates, lipids, peptides and polymers. The laboratory provides

experience in organic laboratory techniques.

**CHEM 252.3
Organic Chemistry II
1/2(3L-3P-1T)**

Prerequisite(s): CHEM 251 (or 151).

Discussion of structure determination, stereochemistry and mechanistic similarities of organic reactions. Syntheses will be used to help students learn to work with the large factual information that is organic chemistry. Students will be encouraged to solve challenging problems. The laboratory provides experience in the synthesis and investigation of the properties of organic compounds.

**CHEM 302.3
Research Seminar
1&2(1L-1P-1S)**

Prerequisite(s): 15 credit units in chemistry.

Deals with the non-technical aspects of the science of chemistry. The primary focus is scientific communication, including oral, poster, and written presentations. Other topics include: information retrieval and on-line search techniques; resumes; science and ethics; and the history and philosophy of science. An oral and a poster presentation to the department are required.

**CHEM 322.3
Analytical Chemistry II
1/2(3L-4P)**

Prerequisite(s): CHEM 221.

Introduction to modern instrumental methods of chemical analyses. This course is presented in a problem-oriented learning approach. Students are expected to work in teams on class assigned problems. The laboratory is designed to develop basic understanding of common instrumental methods. Topics include chromatography, electrophoresis, electrochemistry and spectroscopy.

**CHEM 332.3
Inorganic Chemistry II
1/2(3L-4P)**

Prerequisite(s): CHEM 231 and 242.

An introduction to transition metal chemistry including coordination geometry and stereochemistry, ligand field theory, and spectroscopic, magnetic and thermodynamic properties of inorganic compounds. The laboratory work includes experiments on the preparation and characterization of transition metal compounds.

**CHEM 342.3
Physical Chemistry III
1/2(3L-4P)**

Prerequisite(s): CHEM 243 and MATH 225.

Theory and practice of atomic and molecular spectroscopy including both optical and magnetic resonance methods. The application of group theory to problems of spectroscopic analyses will be introduced.

Note: Students with credit for CHEM 349 may not take this course for credit.

**CHEM 346.3
Theoretical Chemistry
1/2(3L)**

Prerequisite(s): CHEM 243; MATH 225 and 264 or 266.

The methods of quantum mechanics are introduced and applied to basic problems in atomic and molecular structure. These include the rigid rotator, harmonic oscillator and hydrogen atom, as well as approximate treatments of many-electron atoms and molecules.

**CHEM 347.3
Chemical Thermodynamics
1/2(3L-3.5P)**

Prerequisite(s): CHEM 242 and MATH 116 or 124.

The presentation of the fundamental principles of thermodynamics with particular emphasis on generalized methods. Considerable time is devoted to the thermodynamics of solutions with emphasis on generalized methods for dealing with deviations from ideal behaviour. These principles are applied to the calculation of equilibrium compositions in liquid-vapour systems. The laboratory work consists of a number of experiments relating to practical studies of the above concepts.

**CHEM 353.3
Organic Structure Analysis
1/2(3L-4P)**

Prerequisite(s): CHEM 252.

Deals with the theory and practice of techniques (primarily spectroscopic) used for the identification of organic compounds. Laboratories provide experience in the manipulation, transformation, separation and identification of organic compounds.
Note: Students with credit for CHEM 458 may not take this course for credit.

**CHEM 354.3
Physical Organic Chemistry
1/2(3L-4P)**

Prerequisite(s): CHEM 252.

Provides a greater understanding of the structure of organic compounds, and the underlying principles and rationale for organic reactions. The laboratory portion involves experiments in molecular modelling (structures, structure-activity relationships, reaction paths), which will be performed on personal computers using modern software.

**CHEM 374.3
Energy Issues and the Environment
1/2(3L-2.5P)**

Prerequisite(s): CHEM 242.

Discusses facts and issues related to energy production and use in order to evaluate the technological choices that must be made to ensure a reasonable quality of life. The content of this course will be extended in problem sessions.

**CHEM 375.3
Pollution, Waste Disposal and the Environment
1/2(3L-3P)**

Prerequisite(s): CHEM 111.

The disposal and treatment of waste materials will be discussed in terms of their effect on the gaseous and aqueous environments. A series of problems designed to illustrate the material covered

in each topic will be assigned. The laboratory sessions are designed to give some understanding of how tests for environmental quality are carried out in the field and in the laboratory.

**CHEM 377.3
Industrial Chemistry
1/2(3L)**

Prerequisite(s): CHEM 242.

Discussion of the basic principles of chemistry utilized in diverse technological practices.

**CHEM 402.0
Seminar
1&2(1S)**

Attendance at departmental seminar sessions throughout the academic year is required by students in the final year of a Four-year or Honours program. Consists of presentations by departmental visitors, faculty and students, followed by discussions.

The following 400-level courses may not all be offered in any one year. Each year an appropriate course selection will be offered to allow completion of a student's program. Students should consult a faculty advisor in the Department of Chemistry prior to making their selections.

**CHEM 420.3
Selected Topics in Analytical
Chemistry
1/2(3L-4P)**

Prerequisite(s): CHEM 322.

Advanced laboratory course in analytical techniques. Much of the laboratory work will use specialized equipment available in the Department of Chemistry. Lectures cover the underlying theory of the topics and the principles of the instrumentation being used.

**CHEM 429.3
Applied Techniques in Analytical
Chemistry
1/2(3L-6P)**

Prerequisite(s): CHEM 322.

Practical aspects of modern instrumental analysis, such as statistical treatment of data, special considerations for trace analysis, sampling techniques, and automation are covered. The laboratory is designed to give students an opportunity to apply these topics to a project focused on an instrumental technique (including computer interfacing) of their choice.

**CHEM 430.3
Selected Topics in Inorganic
Chemistry
1/2(3L)**

Prerequisite(s) or Corequisite(s): CHEM 439.

Selected topics that are not dealt with or are covered only at an elementary level in other inorganic chemistry courses offered by the department. Possible topics include crystallographic and spectroscopic methods of structure determination, organometallic chemistry, cluster compounds, catalysis, nonaqueous solution chemistry, bio-

inorganic chemistry, structure and bonding, and excited state processes.

CHEM 433.3
Bioinorganic Chemistry
1/2 (3L-4P)

Prerequisite(s): CHEM 332.

This course presents a concise overview of the role of metal ions in biological systems. The laboratory is designed to help the student understand major concepts and learn a range of modern experimental techniques.

CHEM 439.3
Inorganic Chemistry III
1/2(3L-3.5P)

Prerequisite(s): CHEM 332.

Topics include reaction mechanisms of thermal substitutions, oxidation-reduction and photochemical reactions, organometallic chemistry, homogeneous catalysis and other topics of current interest such as bio-inorganic chemistry.

CHEM 440.3
Selected Topics in Physical Chemistry
1/2(3L)

Prerequisite(s): CHEM 342 and 346 (or 349).

Selected topics that are not dealt with or are covered only at an elementary level in other physical chemistry courses. Possible topics include advanced spectroscopy, nuclear chemistry, photochemistry, polymers, radiation chemistry, solid-state chemistry, structural techniques, surface and colloid chemistry.

CHEM 447.3
Statistical Mechanics and Chemical Kinetics
1/2(3L-3.5P)

Prerequisite(s): CHEM 342 and 346 (or 349).

Methods of statistical mechanics are introduced and applied to problems in chemistry. Advanced chemical kinetics are discussed with emphasis on fast-reaction techniques, theories of reaction and diffusion rates, and electrochemical aspects.

CHEM 450.3
Selected Topics in Organic Chemistry
1/2(3L)

Prerequisite(s): CHEM 354.

Selected topics that are not dealt with or are covered only at an elementary level in other organic chemistry courses. Possible topics include organic synthesis, organic reaction mechanisms, natural products, organometallic chemistry, heterocyclic chemistry, carbohydrate chemistry and organic photochemistry.

CHEM 455.3
Organic Synthesis
1/2(3L-4P)

Prerequisite(s): CHEM 354.

Principles of chemical reactions are applied to the problems of putting together particular types of bonds, groupings and compounds. The laboratory will investigate a variety of new synthetic methods and improved reaction procedures.

CHEM 456.3
Natural Products
1/2(3L)

Prerequisite(s): CHEM 252.

Provides a basic knowledge of Natural Products Chemistry with emphasis on secondary metabolism. Includes an overview of primary and secondary metabolism, modern techniques for studying secondary metabolism, biological reactions, interaction of plants with other living organisms, and major classes of bioactive compounds grouped according to their basic building blocks and their biogenesis.

CHEM 460.3
Selected Topics in Theoretical Chemistry
1/2(3L)

Prerequisite(s): CHEM 342 (or 349).

Selected topics that are not dealt with or are covered only at an elementary level in other theoretical chemistry courses. Possible topics include application of quantum mechanics to molecular structure and behaviour, advanced group theory, statistical mechanics and irreversible thermodynamics.

CHEM 482.3
Chemistry Research
1&2(6P)

Prerequisite(s): Permission of the department.

A laboratory, library, theoretical or computer study under the supervision of a member of the Department. At the end of the project the student will present both an oral and a written report summarizing the results.

SPECIAL TOPICS

CHEM 398.3 1/2 (3S)

CHEM 498.3 1/2 (3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

CHINESE

For course descriptions, see the Religious Studies section of the *Calendar*.

CLASSICAL AND NEAR EASTERN ARCHAEOLOGY

Administrative Committee: C.M. Foley (STM), A.D. Maingon (Anthropology and Archaeology), E.G. Walker (Anthropology and Archaeology).

The Department of Anthropology and Archaeology and St. Thomas More College offer a joint program in archaeology and classical cultures. This major enables students interested in archaeology and in the ancient cultures of the Mediterranean region to pursue this interest through a single interdepartmental major.

Classical and Near Eastern Archaeology is available as a B.A. Four-year and B.A. Honours program (Type A). Sections of some courses in this program are taught by the faculty in St. Thomas More College.

Students interested in this program should consult with either the Department of

Anthropology and Archaeology or St. Thomas More College. Students majoring in this program must select their courses in consultation with the Program Administrative Committee.

Due to changes in the Department of Classics, adjustments in this program are likely in the coming year. Interested students should consult C. M. Foley for additional information through the office of the Department of Anthropology and Archaeology.

The requirement for Greek, Latin or Hebrew will be deleted from the four-year program in Classical and Near Eastern Archaeology, but these language courses are added to the list of courses in Anthropology and Classics from which students must select 6 credit units. Please note that honours students in the program must still complete at least 6 credit units in Latin, Greek or Hebrew.

Course requirements:

(1) CLASS 110.3, 111.3;

(2) 6 credit units selected from ANTH 111.3, ARCH 112.3 or ARCH 116.6 (ARCH 112 and 116 are preferred);

(3) 18 credit units selected from: CLASS 240.3, 242.3, 243.3, 244.3, 247.3, 248.3, 356.3, 357.3, 360.6, 401.3;

(4) 24 credit units selected from: ARCH 250.3, 251.3, 257.3, 258.3, 356.3, 358.3, 361.6, 461.3, 462.3, 465.3;

(5) At least 6 credit units will be 400-level courses from categories (3) and (4) above or as approved by the Administrative Committee;

For the B.A. Four-year program, students are required to take, in addition to requirements (1) through (5) listed above, an additional 6 credit units selected from: ANTH 220.3, 230.3, 329.3, 339.3; ARCH 270.3, CLASS 220.3, 225.3, 233.3; GREEK 112.3 and 113.3, LATIN 112.3 and 113.3, HEB 111.6; a 3 credit-unit senior course not included in this list may be selected with the written approval of the Administrative Committee.

For the B.A. Honours program, students are required to take, in addition to requirements (1) through (5) listed above:

a) 6 credit units selected from: GREEK 112.3 and 113.3, or LATIN 112.3 and 113.3, or HEB 111.6;

b) 6 credit units selected from: ANTH 220.3, 230.3, 329.3, 339.3; ARCH 270.3, CLASS 220.3, 225.3, 233.3; GREEK 202.3 and 203.3, LATIN 202.3 and 203.3, HEB 201.6; a 3 credit-unit senior course not included in this list may be selected with written approval of the Administrative Committee.

Note: Students must ensure that they have the appropriate prerequisites for the senior courses in which they wish to register in the program.

CLASSICS

The Department of Classics has for its subject matter the ancient "classical" civilizations of Greece and Rome from the

Minoan and Mycenaean ages to the fall of the Roman Empire in the West. The importance of a knowledge of these civilizations for the study and understanding of Western people cannot be overstated, for, as the development and character of a human being are already present at his birth, so the seeds of the development and special characteristics of Western civilization are to be found in the ancient world. Intellectually and artistically the period from Homer (700 B.C.) to St. Augustine (A.D. 354-430) represents one of the most creative developments in human history. The department offers, at both elementary and advanced levels, courses in Latin and Greek and courses in which translations are used and which cover the major aspects of these civilizations: archaeology, history, art, literature, philosophy, religion, and mythology.

Students should be aware that the department offers a number of interesting 200-level courses that can be used to satisfy the humanities requirement for Program Types A, B, C, and D. These courses include CLASS 220, 225, 233, 234, 240, 242, 252, and 259. The prerequisite for most of these courses is CLASS 110 and 111 or 30 credit units at the university.

Ancient History and Classical Culture, and Classical and Near Eastern Archaeology are new interdisciplinary programs (honours and four-year majors) involving classics and other disciplines. See the appropriate section of the *Calendar* for details of these programs.

Students are encouraged to consider including in their programs a summer course offered at a Classical site, for example CLASS 360 (Field Course in Mediterranean Archaeology). For further information contact C. M. Foley, St. Thomas More College.

The following Classics programs are under review and may be changed significantly: Major in Classics (B.A. Four-Year and Three-Year), Honours in Classics, Double Honours in Classics and Another Discipline, Ancient History and Classical Culture, and Minor in Classics. However, students who have already entered one of these programs will be allowed to complete their degrees under the current program regulations; approved substitutions will be permitted for required courses that may be discontinued.

MAJOR IN CLASSICS (B.A. FOUR-YEAR)

36 credit units including CLASS 110.3, 111.3, and 30 senior credit units in Classics, Greek, or Latin.

MAJOR IN CLASSICS (B.A. THREE-YEAR)

30 credit units including CLASS 110.3, 111.3, and 24 senior credit units in Classics, Greek, or Latin.

HONOURS IN CLASSICS

CLASS 110.3, 111.3, 401.3; 24 credit units in Greek or 24 credit units in Latin; a further 27 senior credit units in Greek, Latin or Classics. (The senior credit units in

Classics can include a maximum of 12 credit units from other departments approved for inclusion in a classics honours or major.)

Note: The language requirements of the Honours in Classics program are not sufficient for admission to programs in Classics at most graduate colleges. Students considering graduate work in the future should consult the Head of the Department before registering in this program.

DOUBLE HONOURS IN CLASSICS AND ANOTHER DISCIPLINE

Classics may be combined in a Double Honours program with other disciplines. The Classics requirements are CLASS 110.3, 111.3, 401.3; 24 credit units in Greek or 24 credit units in Latin; 9 further credit units in Greek, Latin, or Classics.

ANCIENT HISTORY AND CLASSICAL CULTURE

The Departments of Classics and History have developed an interdisciplinary program in ancient history and classical culture. This Four-year or Honours degree program is designed to provide students with a focused course of studies in all aspects of the ancient Greco-Roman world. Students interested in either program should see the separate entry under Ancient History and Classical Culture.

CLASSICAL AND NEAR EASTERN ARCHAEOLOGY

The departments of Classics and Anthropology and Archaeology have developed an interdisciplinary program in the archaeology of the ancient cultures of the Mediterranean region. This Four-year or Honours degree program enables students to pursue an interest in this subject through a single interdepartmental program. Students interested in this program should see the separate entry under Classical and Near Eastern Archaeology.

MINOR IN CLASSICS

This minor may be taken in conjunction with any Four-year major or Honours program. Students are required to take CLASS 110.3 and 111.3, and 18 credit units selected from: CLASS 104.3, senior courses in Classics, and courses in Greek and Latin.

CLASSICS

Knowledge of Latin or Greek is not a prerequisite for the following courses.

**CLASS 103.3
Medical Terminology (Formerly 163)
1/2(3L)**

Presents the most important Greek and Latin roots of the vocabulary of contemporary medicine and demonstrates the predictable patterns by which these roots combine. Students will learn to define new compounds and phrases by analysis of their parts and will be introduced to language history, linguistic principles and etymology.

Note: Students with credit for CLASS 163, 241, 262 or 263 may not take this course

for credit. This course may be taken as an elective only under Requirement 7 of Program Types A, B, C, and D.

**CLASS 104.3
The Classical Myths (Formerly 238)
1/2(3L)**

A study of the traditional stories of Greek gods and heroes with some consideration given to both earlier Mesopotamian and later Roman mythic traditions.

Note: May be taken as an elective only under Requirement 7 of Program Types A, B, C and D.

**CLASS 105.3
The Classical Roots of English
(Formerly 215)
1/2(3L)**

An examination of the Latin and Greek roots of English vocabulary and grammar.

Note: This course may be taken as an elective only under Requirement 7 of Program Types A, B, C and D and under Requirements 5 of Program Types B and C.

**CLASS 110.3
Greek Civilization
1/2(3L)**

A survey of the culture of the Greeks to the end of the Classical period, based on readings in translation from Greek literature and on other ancient source materials.

**CLASS 111.3
Roman Civilization
1/2(3L)**

Surveys Roman culture in the Republican and Imperial periods, based on readings in translation from Roman literature and on other ancient source materials.

**CLASS 220.3
Daily Life in Ancient Greece and Rome
1/2(3L)**

Prerequisite(s): CLASS 110 and 111, or completion of 30 credit units at the university. Studies daily life in ancient Athens and Rome.

**CLASS 225.3
Women in Antiquity
1/2(3L)**

Prerequisite(s): CLASS 110 and 111, or completion of 30 credit units at the university. Studies the life and achievements of women in the Classical World.

**CLASS 226.3 (Formerly 331)
Tragedy
1/2(2L)**

Prerequisite(s): CLASS 110, 111 or completion of 30 credit units at the university.

Careful reading and analysis of works by Aeschylus, Sophocles, Euripides and Seneca, with emphasis on intellectual and aesthetic questions, staging, and modern approaches to the literary interpretation of ancient plays.

Note: Students with credit for CLASS 331 may not take this course for credit.

**CLASS 227.3 (Formerly 332)
Comedy
1/2(3L)**

Prerequisite(s): CLASS 110, 111 or completion of 30 credit units at the university.

An introduction to ancient Greek and Roman comedy through careful study of the works of Aristophanes, Menander, Plautus and Terence.

Note: Students with credit for CLASS 332 may not take this course for credit.

**CLASS 228.3 (Formerly 334)
Epic
1/2(3L)**

Prerequisite(s): CLASS 110 and 111 or completion of 30 credit units at the university.

An introduction to Greek and Roman epic poetry with emphasis on its artistic qualities and cultural significance. Selections from Homer, Hesiod, Apollonius, Virgil, Ovid, Lucan, and/or Statius.

Note: Students with credit for CLASS 334 may not take this course for credit.

**CLASS 233.3
Introduction to Ancient Thought
1/2(3L)**

Prerequisite(s): CLASS 110 and 111, or completion of 30 credit units at the university.

Studies the basic texts for Greek and Roman ideas about religion, science, society and morality.

**CLASS 234.3
Roman Law
1/2(3L)**

Prerequisite(s): CLASS 111 or HIST 201 or completion of 30 credit units at the university.

The development of Roman Law from the Twelve Tables to Justinian, with some indication of its influence in medieval and modern times.

**CLASS 240.3
Ancient Art and Architecture I: Bronze Age to Classical Greece
1/2(3L)**

Prerequisite(s): CLASS 110 and 111, or completion of 30 credit units at the university.

An introduction to the art and architecture of the Aegean Bronze Age and the origins and development of Greek vase painting, sculpture and architecture to the end of the Classical era.

Note: Students with credit for ART 201 may not take this course for credit.

**CLASS 242.3
Ancient Art and Architecture II: The Graeco-Roman World
1/2(3L)**

Prerequisite(s): CLASS 110 and 111, or completion of 30 credit units at the university.

A study of the Art and Architecture of the Graeco-Roman World (200 BCE to 400 CE), with focus on the Roman adaptation and transformation of Hellenistic Greek aesthetic practices and principles in the spheres of architecture, sculpture, interior decoration and luxury crafts.

Note: Students with credit for ART 201 may not take this course for credit.

**CLASS 243.3
Introduction to the Archaeology of Ancient Israel and Syria
1/2(3L)**

Prerequisite(s): CLASS 110 and 111, or completion of 30 credit units at the university including ARCH 112.

Introduction to the archaeology of ancient Israel and Syria focusing on methodology, major sites, and cultural reconstruction from the development of early agricultural settlements during the Neolithic period to the major city-states of the Canaanite Middle Bronze Age.

Note: Students with credit for CLASS 237 may not take this course for credit.

**CLASS 244.3
Archaeology and Cultural Development in Ancient Israel and Syria-Late Bronze Age to Hellenistic Period
1/2(3L)**

Prerequisite(s): CLASS 243 or a 200 level course in archaeology, or CLASS 110 and 111, or completion of 30 credit units at the university including ARCH 112.

Examines the archaeological reconstruction of cultural development in the regions of ancient Israel and Syria from the Late Bronze Age to the Hellenistic Period, focusing on methodological issues, major sites, and the defining characteristics of the cultures themselves.

Note: Students with credit for CLASS 237 may not take this course for credit.

**CLASS 247.3 (Formerly 236)
Introduction to Greek Archaeology
1/2 (3L)**

Prerequisite(s): Completion of 30 credit units at the university including CLASS 110 or ARCH 112.

An introduction to the major sites of the Aegean from the Bronze Age to the Hellenistic Era, with emphasis on the reconstruction of culture through the archaeological record.

Note: Students with credit for CLASS 236 may not take this course for credit.

**CLASS 248.3 (Formerly 236)
Introduction to Roman Archaeology
1/2 (3L)**

Prerequisite(s): Completion of 30 credit units at the university including CLASS 111 or ARCH 112.

An introduction to the major sites of the Roman world, from the Etruscan period to the early empire, focusing on evidence from sites in Italy and the Provinces from which the rise of Roman culture and its impact on other cultures will be assessed.

Note: Students with credit for CLASS 236 may not take this course for credit.

**CLASS 252.3
Paganism and Christianity in the Early Christian Centuries of the Roman Empire
1/2(3L)**

Prerequisite(s): CLASS 110 and 111, or completion of 30 credit units at the university.

A study of the relationships between paganism and Christianity until A.D. 430.

CLASS 259.3**Ancient Christian Literature
1/2 (3L)**

Prerequisite(s): CLASS 111 or completion of 30 credit units at the university.

A survey of the major literary works of the Greek and Latin Christian Fathers, with emphasis on the poetry of Gregory Nazianzen and on Augustine's Confessions.

CLASS 333.3**Satire
1/2(3L)**

Prerequisite(s): CLASS 110 and 111.

Studies the origins and development of Roman Satire, with particular attention to such authors as Horace, Juvenal, Seneca, Persius and Petronius.

CLASS 341.3**Greek Religion
1/2(3L)**

Prerequisite(s): CLASS 110 and 111.

Greek religion to the time of Alexander.

CLASS 343.3**Roman Erotic Poetry
1/2(3L)**

Prerequisite(s): CLASS 110 and 111.

The love-poetry of Catullus, Propertius, Tibullus, Horace, Virgil and Ovid: English translations of each poem will be studied in conjunction with the Latin original.

CLASS 356.3**The Archaeology of the Aegean
Bronze Age
1/2(3L)**

Prerequisite(s): CLASS 247.

A study of the material remains of Bronze Age cultures in the Aegean – Minoan, Cycladic and Mycenaean – to reconstruct the contexts in which these prehistoric cultures evolved and were socially active.

CLASS 357.3**The Archaeology of the Early Greek
Polis
1/2(3L)**

Prerequisite(s): CLASS 247.

A study of the material remains of the 11th to the 6th centuries B.C. in Greece that witness the emergence of culture from a period of severe recession to the florescence of the polis or "city state" that becomes the hallmark of the Classical era.

CLASS 360.6**Field Course in Mediterranean
Archaeology
3 or SS(P)**

Prerequisite(s): CLASS 243, 244 or 247 and 248.

A field course in Mediterranean Archaeology. Participation in a supervised excavation, interpretation of stratigraphy, architectural features, artifacts and other physical remains.

CLASS 401.3**Special Topics in Classics
1/2(3S)**

Prerequisite(s): Restricted to honours students, or permission of the department.

A special research topic approved by the department will be studied. Required for an Honours degree in Classics.

GREEK**GREEK 112.3****Greek for Beginners I
1(5L)**

An introduction to the fundamentals of ancient Attic Greek, in which the student learns the basic forms of nouns and verbs and rudimentary syntax.

GREEK 113.3**Greek for Beginners II
2(5L)**

Prerequisite(s): GREEK 112.

An introduction to the more advanced elements of the grammar and syntax of ancient Attic Greek.

GREEK 202.3**Intermediate Greek I
1(3L)**

Prerequisite(s): GREEK 113.

Grammar review and introduction to continuous prose texts. Prose composition.

Note: The department recommends a minimum grade of 75 per cent in GREEK 113 for students enrolling in this course.

GREEK 203.3**Intermediate Greek II
2(3L)**

Prerequisite(s): GREEK 202.

Readings in continuous prose texts. Introduction to poetry and Greek metrics. Prose composition.

Prerequisite for the following courses is GREEK 202 and 203. Only students who have achieved high standing in GREEK 202 and 203 or the equivalent are advised to undertake them.

Prose Composition: Translation into Latin or Greek from other languages (normally English) may be used by instructors as a pedagogic tool in all 300- and 400-level courses in Latin or Greek and may be used for assessment of credit.

GREEK 302.3**Hellenistic Greek
1/2(3L)**

Study of the basic texts for the intellectual and religious history of the post-Classical and early Christian periods. Readings from the Greek *Bible*, Josephus, *The Jewish War VI*, Plutarch *De Iside et Osiride*, selections from Epictetus and Plotinus, and/or selected papyri and inscriptions.

GREEK 310.3**History of the Greek Language
1/2(3L)**

Deals with the phonological and morphological features of ancient Greek through descriptive and comparative analysis directed towards an understanding of its evolution. Emphasizes sound-change, word-formation and dialectal variants.

GREEK 320.3**Greek Philosophy: Plato
1/2(3L)**

Reading of one early dialogue or one book of the *Republic*.

GREEK 321.3**Greek Historians: Herodotus
1/2(3L)**

Reading of one book from the *Histories*.

GREEK 322.3**Greek Historians: Thucydides
1/2(3L)**

Reading of one book from the *Histories*.

GREEK 325.3**Greek Epic Poetry
1/2(3L)**

Readings from the *Iliad*, the *Odyssey*, the *Theogony*, and/or the *Works and Days*.

GREEK 415.3**Greek Comedy
1/2(3L)**

Readings from Aristophanes and/or Menander.

GREEK 416.3**Greek Tragedy
1/2(3L)**

Reading of two of the works of Aeschylus, Sophocles and/or Euripides.

GREEK 420.3**Greek Lyric Poetry
1/2(3L)**

Reading of selections from the major Greek Lyric poets Alcman, Sappho, Alcaeus, Stesichorus, Simonides, Bacchylides and Pindar, as well as Archilochus, Semonides and Solon of the iambic and elegiac tradition.

GREEK 421.3**Greek Philosophy: Aristotle
1/2(3L)**

Reading of two books from works by Aristotle.

LATIN**LATIN 112.3****Latin for Beginners I
1(5L)**

An introduction to the basics of Latin grammar, with particular attention to accidence.

LATIN 113.3**Latin for Beginners II
2(5L)**

Prerequisite(s): LATIN 112.

An introduction to the main elements of basic Latin syntax.

LATIN 202.3**Intermediate Latin I
1(3L)**

Prerequisite(s): LATIN 113.

Consolidation of basic Latin grammar and introduction to advanced Latin syntax. The readings of some of the less difficult ancient Latin texts. Minimum of 75 per cent in introductory Latin recommended.

LATIN 203.3**Intermediate Latin II
2(3L)**

Prerequisite(s): LATIN 202.

Readings in continuous Latin prose texts. Introduction to Latin poetry and metrics. Latin prose composition.

Prerequisite for the following courses is LATIN 202 and 203. Only students who have achieved high standing in LATIN 202 and 203 or the equivalent are advised to undertake them.

LATIN 301.3**Medieval Latin
1/2(3L)**

Reading of selected texts from either St. Augustine or Boethius; one further text, from later medieval Latin.

LATIN 311.3**History of the Latin Language
1/2(3L)**

Deals with the evolution of the Latin language, literary and spoken, primarily through examination of its phonology and morphology. The latter part of the course examines later Latin and so-called Vulgar Latin as the precursors of the Romance languages.

LATIN 312.3**Catullus
1/2(3L)**

Reading of the poems of Catullus.

LATIN 317.3**Lucretius
1/2(3L)**

Readings from *De Rerum Natura*.

LATIN 318.3**Cicero
1/2(3L)**

Reading of selected texts from Cicero.

LATIN 319.3**Horace
1/2(3L)**

Readings from the *Odes*, *Satires* and/or *Epistles*.

LATIN 323.3**Livy
1/2(3L)**

Readings from *Ab Urbe Condita*.

LATIN 402.3**Virgil
1/2(3L)**

Reading of selected texts from Virgil.

LATIN 421.3**Roman Elegiac Poetry
1/2(3L)**

Reading of selected texts from Ovid, Propertius, and Tibullus.

LATIN 422.3**Roman Comedy
1/2(3L)**

Reading of one play by either Plautus or Terence.

LATIN 423.3**Roman Historians: Tacitus
1/2(3L)**

Readings from the historical or literary works of Tacitus.

LATIN 424.3

Juvenal
1/2(3L)

Readings from the *Satires*.

SPECIAL TOPICS

CLASS/GREEK/LATIN 398.3 1/2(3S)

CLASS/GREEK/LATIN 399.6 1&2(3S)

CLASS/GREEK/LATIN 498.3 1/2(3S)

CLASS/GREEK/LATIN 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

COURSES IN OTHER DEPARTMENTS

Up to 12 credit units of the following may be used for credit towards a major or honours program in Classics.

HIST 200.6 The History of Greece

HIST 201.6 History of Rome

HIST 300.3 The Roman Senate from Tiberius to Nero

HIST 301.3 The Severan Emperors of Rome, 193-235

HIST 400.6 The Age of Augustus, 44 B.C.-A.D. 14

See the appropriate section of the *Calendar* for details.

SEMITIC LANGUAGES

ARAMAIC

ARAM 201.6

Introduction to Biblical and Extra-Biblical Aramaic
1&2(3L)

Prerequisite(s): HEB 111.

The relation of Aramaic to the other Semitic languages, particularly Hebrew and Syriac. Grammar of Biblical Aramaic. Reading of the Aramaic portions of *Ezra* and *Daniel*. Brief introduction to extra-Biblical Aramaic inscriptions and literature, with readings.

HEBREW

HEB 111.6

Introductory Hebrew Grammar
1&2(3L)

Hebrew grammar. Translation from Hebrew into English of selected Old Testament passages.

HEB 201.6

Translation of Hebrew Prose
1&2(3L)

Prerequisite(s): HEB 111.

Translation from Hebrew into English of *Judges* 2-4, 6-9, 17-18; II *Samuel* 9-20.

SEMITIC LANGUAGES

SEML 305.3

The Comparative and Historical Study of the Semitic Languages
1/2(3L)

Prerequisite(s): LING 111, 112 and 12 credit units of Semitic languages.

A comparative and historical study of selected Semitic languages utilizing contemporary linguistic methodologies. Using Hebrew as the basis of comparison,

the course focuses on phonology, morphology, and syntax.

SEML 401.6

Selected Topics in Semitic Languages, Linguistics and Literature
1&2(3L)

Prerequisite(s): Restricted to honours students, or permission of the department.

A special research topic in Semitic language and literature (in the original language) approved by the department.

COLLEGE SCHOLARS

The guidelines for College Scholar individual research projects are described in detail at the beginning of the "Descriptions of Courses and Programs" section. These courses credit only as electives. Please consult the Office of the Dean for more information.

COL SC 298.3, 398.3, 498.3

College Scholar

COL SC 299.6, 399.6, 499.6

College Scholar

COMPUTER SCIENCE

Students who are following the new high school mathematics curriculum should note that Mathematics C30 will also be needed by computer science majors.

MAJOR IN COMPUTER SCIENCE (B.SC. FOUR-YEAR)

Courses required for the Four-year major are CMPT 111.3 or 112.3, 115.3, 215.3, 220.3, 250.6, 260.3, and 24 credit units in 300- or 400-level computer science courses subject to the following constraints:

(1) There must be at least 3 credit units from each of four of the following six areas:

a - CMPT 317.3, 374.3

b - CMPT 321.3, 330.3

c - CMPT 340.3

d - CMPT 360.3, 361.3

e - CMPT 370.3, 371.3

f - CMPT 393.3, 394.3, MATH 313.3

(2) There must be at least 6 credit units in 400-level courses.

For the Four-year program, MATH 313.3 can be counted as a computer science course. Students are required to take MATH 110.3, and either 112.3 or 116.3; either MATH 264.3 or 266.3; or E E 326.3; and either STATS 242.3 or 245.3. They are advised to take MATH 110.3, 116.3, 266.3; STATS 241.3 and 242.3.

Students are required to take 3 credit units in the business science area: COMM 102.3, 201.3, 202.3, 203.3, 204.3; 205.3, 206.3, 301.3, 304.3; ECON 111.3, 114.3. Students are required to take an additional 3 credit units in the natural sciences, business sciences or engineering.

MAJOR IN COMPUTER SCIENCE (B.SC. THREE-YEAR)

Courses required for the 30 credit unit major are CMPT 111.3 or 112.3, 115.3, 215.3, 220.3, 250.6, 260.3, and 9 credit units in computer science subject to the approval of the department. Students are required to take MATH 110.3, and 116.3 or 112.3; and STATS 242.3 or 245.3. They are advised to take MATH 110.3, 116.3, 266.3, STATS 241.3, 242.3.

HONOURS IN COMPUTER SCIENCE

Courses required for the honours program are CMPT 111.3 or 112.3, 115.3, 215.3, 220.3, 250.6, 260.3, 360.3, 361.3, 400.3 and 21 credit units in 300- or 400-level computer science courses subject to the following constraints:

(1) there must be at least 3 credit units in three of the five areas a, b, c, e, f, listed under (1) for the four-year degree (above).

(2) there must be at least 9 credit units in 400-level courses.

For the honours program, MATH 313.3 can be counted as a computer science course. Students are required to take MATH 110.3, 116.3, 266.3, STATS 241.3, 242.3, and 3 credit units in the business science area: COMM 102.3, 201.3, 202.3, 203.3, 204.3, 205.3, 206.3, 301.3, 304.3; ECON 111.3, 114.3. Students are required to take an additional 3 credit units in the natural sciences, business sciences or engineering.

Software Engineering Option

Students can complete either the regular program in the Honours program (51 credit units) described above, or the Software Engineering track (51 credit units). The Software Engineering track requires completion of CMPT 111.3 or 112.3, 115.3, 215.3, 250.6, 260.3, 330.3, 340.3, 360.3, 370.3, 371.3, 374.3, 470.3, 490.3; CMPT 405.3 or the Professional Internship Option (including 409.3); 6 additional credit units in computer science including at least 3 credit units numbered 410 or higher.

Students are required to take MATH 110.3, and 112.3 or 116.3; MATH 264.3 or 266.3; and STATS 242.3 or 245.3. They are advised to take MATH 116.3, 266.3, STATS 241.3 and 242.3.

Students are required to take 3 credit units in business science area: COMM 102.3, 201.3, 202.3, 203.3, 204.3, 205.3, 206.3, 301.3, 304.3; ECON 111.3, 114.3. Students are required to take an additional 3 credit units in the natural sciences, business sciences or engineering.

Note: Students should be aware that the Software Engineering Option does not lead to a professional engineering degree certified by professional engineering societies and does not qualify persons to hold the designation "P.Eng."

Students interested in a second degree program in computer science and another subject are advised to consult with both departments before selecting their courses in each year of their program.

POST DEGREE SPECIALIZATION CERTIFICATE

For students who have completed or are completing a University degree in some other discipline, and who wish to complete a computer science major, there is another option to the standard B.Sc. degrees. This option is the Post Degree Specialization Certificate (PDSC) in computer science. To obtain a PDSC in computer science a student must meet all the discipline requirements, as well as the promotion and graduation standards, for the B.Sc. Four-year Major in computer science (see above). In taking courses for the PDSC, a student must complete at least 30 credit units from the College of Arts and Science that are not used for any other degree or certificate.

This program differs from a B.Sc. in that a student need not complete requirements 1 through 5 and requirement 7 for the Bachelor of Science degree. As a result, a student will not necessarily have the breadth of background in Arts and Science that is expected for a B.Sc. However, the student has the breadth provided by their other degree, and has the complete computer science and mathematics background of the four-year computer science degree.

Note that by carefully sequencing the computer science courses and the courses for the other degree, it is sometimes possible to complete both the other degree and the PDSC in computer science in 5 years. In particular, this can be done for many programs in the College of Engineering and for Development of Information Systems majors in the College of Commerce. Contact the Department of Computer Science for more information. Also, students with alternative selections of mathematics, statistics and/or business science courses from their other degree are urged to consult the department and the college regarding possible equivalencies.

PROFESSIONAL INTERNSHIP OPTION

In the Computer Science Professional Internship Option, students complete 16 consecutive months of supervised work experience with a sponsoring employer in addition to the requirements for a computer science program. Normally, the work placement commences after the student has completed three years of the Four-year B.Sc. degree program. The placement lasts from May 1 of one year to August 31 of the next year. Only in exceptional circumstances (e.g., for medical reasons) will a shorter duration work period be permitted. Students should note that an internship is NOT a summer work program.

Benefits to Students: For students who go on internship placements, there are several benefits: (1) acquiring practical training and valuable experience in their prospective career area, adding strength to their résumé, and thus improving their job prospects upon graduation; (2) getting the "inside track" on full-time employment opportunities with the same company in which the student interned, through established professional contacts; and (3) earning an income to help finance the final year of their university education.

Only a limited number of internship placements will be available in a given year. Eligibility for an internship placement will be decided by the Internship Co-ordinator in the Department of Computer Science, while hiring decisions for internship students are made by the employers.

Students are required to apply by December 1 for admission to an internship in May of the following year. If selected for an internship placement, students must complete CMPT 401, 402, 403, and 404, in addition to the regular requirements of the B.Sc. degree. Furthermore, CMPT 409 is a required course following return from the internship placement. A student must successfully complete all requirements of the internship option in order to receive the Professional Internship designation on the University transcript.

Interested students are encouraged to contact the Internship Co-ordinator in the Department of Computer Science for further details about internship opportunities.

COMPUTER SCIENCE

CMPT 100.3 Introduction to Computing 1/2(3L-2P-1T)

Prerequisite(s): Mathematics A30 or B30 or C30 (or, under the old mathematics curriculum, Algebra 30 or Geometry-Trigonometry 30 or Mathematics 30).

A survey of major computer science areas, combining a breadth of topics with depth via specific examples within each topic. Topics include: history of computing, computer applications, analysis and design, high level programming, computer software, computer hardware, artificial intelligence, and the social impact of computers.

Note: Students wishing to major in computer science are advised to take either CMPT 111 or 112. Students may not take CMPT 100 for credit concurrent with or following CMPT 115.

Note: Students majoring in computer science may not use CMPT 100 as a course in their major, but may count it as a junior elective, subject to the previous "note."

CMPT 101.3 Introduction to Programming 2(3L-2P-1T)

Prerequisite(s): CMPT 100 or equivalent.

Introduces the student to programming. Includes algorithm development, programming in a high-level language and algorithm analysis. Other fundamental concepts of computer science, such as recursion, file processing, and data structures will be discussed. Students will also be introduced to a variety of software packages.

Note: Cannot be taken for credit by students intending to major in computer science.

CMPT 111.3 Computer Programming and Algorithmic Analysis 1(3L-2P-1T)

Prerequisite(s): Mathematics B30 (or, under the old mathematics curriculum, Algebra 30 and Geometry-Trigonometry 30).

Introduces some of the basic concepts of

computer science through the study of the fundamentals of algorithms, traditional elementary programming and algorithm analysis.

Note: Designed for students with little or no experience with computers who want to be introduced to the fundamental concepts of computer science. Students may not receive credit for more than one of CMPT 111, 112 or 122.

CMPT 112.3 Design and Analysis of Computer Programs 1(3L-2P-1T)

Prerequisite(s): Mathematics B30 (or, under the old mathematics curriculum, Algebra 30 and Geometry-Trigonometry 30).

Introduces some of the basic concepts of computer science by reviewing fundamentals of algorithms and traditional elementary programming and studying algorithm analysis, computing machines and simulation.

Note: Designed for students with experience in using a high level structured or functional programming language such as Pascal. Students without such a background who are considering registering for the course should consult with the department or register for CMPT 111. Students may not receive credit for more than one of CMPT 111, 112 and 116 (122).

CMPT 115.3 Principles of Computer Science 2(3L-2P-1T)

Prerequisite(s): CMPT 111 or 112.

Introduces more of the basic concepts of computer science through a study of information systems, artificial intelligence, languages and grammars, numerical analysis and computability.

Note: Students with credit for CMPT 123 may not take this course for credit.

CMPT 116.3 (Formerly CMPT 122.3) Computing I 1(3L-1.5T)

For students in Geology and Engineering. For details, see the College of Engineering section of the *Calendar*.

Note: Students who have credit for CMPT 122 may not receive credit for this class.

CMPT 215.3 Introduction to Computer Organization and Architecture (Formerly 230) 1(3L-1T)

Prerequisite(s): CMPT 115 or 123, and a first-year calculus course.

An introduction to the hardware and software structure of contemporary computer systems. Topics include internal number representation, assembly and machine languages, input-output devices and their management, basic CPU operation, memory systems, computer organization, computer architecture, systems software, and data communication.

Note: A student cannot receive credit for both CMPT 212 and CMPT 215. Students seeking a computer science degree should take CMPT 215.

CMPT 220.3 Introduction to Digital Systems Design 2 (3L-2P)

Prerequisite(s): CMPT 215. CMPT 260 is recommended.

The following aspects of digital systems design will be discussed: binary and multiple-valued logic algebras, combinational logic design and minimization techniques, design of arithmetic circuits, implementation of digital systems using random and array structures, sequential logic design, finite-state machines, register transfer machines, and simple control unit design.

Note: Students with credit for E E 310 or E P 321 may not take this course for credit. E E 310 or E P 321 can be used to meet the requirement for CMPT 220.

CMPT 250.6 Analysis of Data and Language Structures 1&2(3L-1P)

Prerequisite(s): CMPT 115 or 123, and a first-year calculus course.

A continuation of CMPT 115 or 123. Further language and data structure as well as object oriented programming and design. Algorithm analysis techniques are used to compare algorithms. The topics include trees, graphs, referencing environments, storage management, sorting and searching, file structures.

CMPT 260.3 Mathematical Logic and Computing 1(3L-2P)

Prerequisite(s): CMPT 115 or 123, and a first-year calculus course.

Focuses on elementary applied logic and set theory and relates these concepts to a variety of computer science areas such as syntactic analysis, relational databases, logic programming, artificial intelligence, and formal program verification.

CMPT 317.3 Introduction to Artificial Intelligence 2(3L)

Prerequisite(s): CMPT 250 and 260.

A survey of Artificial Intelligence techniques and underlying theory. Topics include knowledge representation techniques, heuristic search, expert systems, and expert system shells, and a tour of various application areas of Artificial Intelligence including machine learning, natural language processing and high-level computer vision.

CMPT 321.3 Computer Design and Architecture 2(3L-2P)

Prerequisite(s): CMPT 220, or CMPT 215 and either E E 310 or E P 321.

Design of computers using top-down approach. Topics include data path, control logic, use of hardware description, languages, and evaluation of computer architectures.

CMPT 330.3 Systems Programming and Introduction to Operating Systems 1(3L-2P)

Prerequisite(s): CMPT 215 and 250.

Concentrates on the systems software level of modern operating systems. Topics include bootings, trapping, process abstraction, device I/O and file systems, networks and distributed services, command interpreters, facilities for multiprogramming, system administration, and instrumentation and measurement. Hands-on experience is emphasized. Students will become proficient with a current systems programming language.

CMPT 340.3 Programming Systems and Languages 1(3L)

Prerequisite(s): CMPT 250 and 260. CMPT 215 or 212 is also recommended.

A survey of programming languages and computing paradigms followed by a deeper study of two or more less familiar paradigms such as functional programming, logic programming, applicative, algebraic and object-oriented languages. Semantic models, including predicate logic, lambda calculus or axiomatic semantics (program verification). Other language issues include implementation methods such as interpretation versus compilation, variable-scoping, nondeterminism.

CMPT 360.3 Machines and Algorithms 1(3L)

Prerequisite(s): CMPT 250 and 260, MATH 264 or 266 or 6 credit units in mathematics at the 200-level that can be used for a major in mathematics.

The first part develops and analyzes some standard techniques for algorithm development which are widely applicable to computer science problems. The second part analyzes several models of computers so that their capabilities are known.

CMPT 361.3 Intractable Problems and Models of Computation 2(3L)

Prerequisite(s): CMPT 360.

Problems which have no known efficient solution are studied; exact inefficient algorithm design techniques are introduced, as are efficient approximation algorithms. NP-completeness proofs are developed as evidence of intractability. Part of the course is a rigorous and systematic introduction to models of computation via formal language theory.

CMPT 370.3 Systems Analysis and Design 1(3L-2P-1T)

Prerequisite(s): CMPT 250.

The development life cycle of software systems is studied, with emphasis on the principles and techniques used in analysis and general design. Alternate approaches such as iterative development and prototyping are also studied. Introduces the principles involved in cost-benefit analysis

and project management. The methods discussed are applicable to all forms of software, including information systems, scientific systems, hypermedia systems, and real time systems. Individual assignments and one group assignment are required, using a suitable language.

**CMPT 371.3
Systems Design, Implementation
and Maintenance
2(3L-2P-1T)**

Prerequisite(s): CMPT 370.

The study of the development life cycle of software systems continues, with emphasis on the principles and techniques used in detailed design, implementation and maintenance. Particular attention is paid to project management, requirements specification, object-oriented sign, software quality assurance, and software verification and validation. The evolution of metrics to assist in controlled development is discussed throughout the course. Exposure to CASE and project management software is provided.

**CMPT 374.3
Theory and Application of Data Bases
2(3L-2P-1T)**

Prerequisite(s): CMPT 370.

Lectures, assignments and projects dealing with the management, storage, and retrieval of large volumes of data. Concentrates on the relational data model, and relational data base management systems. Topics include: recovery and concurrency, integrity and security, query optimization, normalization, and semantic modelling. Additional topics include multimedia databases and other paradigms.

**CMPT 393.3
Operations Research
1(3L)**

Prerequisite(s): CMPT 111, 112 or 122; STATS 241 or 245 or G E 210 (preferably STATS 241) and MATH 264 or 266 or C E 318 or E E 326 or permission of the department. The statistics course may be taken concurrently.

History and methodology of operations research. Mathematical programming techniques including linear programming, network analysis, dynamic non-linear optimization. Probabilistic models including queuing models, inventory models and simulation. Applications of operations research techniques and models.

Note: A student cannot receive credit for CMPT 393 and any one of QUANT 393, POM 393 or COMM 393.

**CMPT 394.3 (Formerly 398)
Simulation Principles
2(3L)**

Prerequisite(s): CMPT 115, STATS 242 or 245 (preferably 242, which may be taken concurrently).

Introduction to the development of logical, numerical and statistical models of systems; deterministic and probabilistic models; Monte Carlo simulations. Basic elements involved in simulation such as entities, attributes, events and time representation. Properties of computer modelling languages; design, development and testing of models.

Note: Students with credit for CMPT 398 may not take this course for credit.

**CMPT 400.3
Research Topics in Computer
Science
1&2(1.5S)**

Prerequisite(s): In the final year of an Honours Program, or a cumulative percentage average of at least 70% in 24 credit units in computer science and written permission of the department.

Senior students will be introduced to research in an advanced area of computer science under the supervision of a faculty member specializing in the area.

**CMPT 401.0 Professional Internship 1
CMPT 402.0 Professional Internship 2
CMPT 403.0 Professional Internship 3
CMPT 404.0 Professional Internship 4**

Prerequisite(s): Professional Internship placement with a sponsoring employer, and approval of the department.

Internship students register in one of these zero-credit-unit courses for each four-month installment of the 16 month internship placement. The initial four-month period is probationary, and satisfactory completion of each course is required prior to registration in the next course. Each course is graded on a Pass/Fail basis.

**CMPT 405.3
Project Design and
Implementation
1&2(3L-1.5L)**

Prerequisite(s): 24 credit units in computer science and permission of the department.

Senior students apply engineering and scientific methods to develop a major computer system or system component. Students work individually or in teams and are supervised by a faculty member specializing in the area. Students prepare and present interim and final reports on their project.

**CMPT 409.3
Professional Internship 5
1&2**

Prerequisite(s): CMPT 401, 402, 403, 404, or equivalent, or special permission of the department.

This 3 credit-unit two semester course allow internship students to share their internship experience with other students, through written and verbal reports, as well as to apply and build upon their experience through participation in suitable peer mentoring activities.

**CMPT 416.3
Advanced Algorithms
2(3L)**

Prerequisite(s): CMPT 360.

A continuation of the algorithms part of CMPT 360. Some of the algorithm techniques include: augmenting algorithms for network flows, matching and graph connectivity, geometric algorithms for nearest neighbour, intersection problems, and convex hull; parallel and distributed algorithms.

**CMPT 417.3
Knowledge Representation and
Reasoning
1(3L)**

Prerequisite(s): CMPT 317, one of CMPT 340 or 360.

An introductory study of logic-based approaches to knowledge representation and automated reasoning. Topics include search techniques, constraining satisfaction problems, meta-programming, truth maintenance systems, modal logics, and situation calculus. Besides these logic-based approaches, we will also discuss uncertainly formalisms such as probabilistic causal nets and the Dempster-Shafer theory.

**CMPT 421.3
Introduction to VLSI Systems
1(3L)**

Prerequisite(s): CMPT 321.

Emphasizes the design and issues of VLSI-based systems, analysis of subsystems design approaches, specialized VLSI chips design, and VLSI impact on architectures. Topics include: MOS technology, CMOS circuit and logic design, array structures, subsystem design, system design aspects, and new trends in VLSI design.

**CMPT 422.3
Principles of Operating Systems
2(3L)**

Prerequisite(s): CMPT 330.

An introduction to the principles of modern operating systems. The synchronization and communication of cooperating processes. Virtual memory. The sharing of resources. Design methodology.

**CMPT 424.3
Computer Network Technologies and
Analysis
2(3L)**

Prerequisite(s): CMPT 220 (or E E 310 or E P 321) and 330.

Topics include telecommunications theory; network design methodology; protocols and standards for data transmission in computer-communication networks; architectures of local-area and long-haul networks; high-level protocols; microcomputer networks; and economics of networking.

**CMPT 429.3
Translator Writing
2(3L)**

Prerequisite(s): CMPT 360.

Context-free and regular grammars. Programming language design. Scanners. Compile-time error handling. LL(1), SLR(1), LALR(1), and LR(1) grammars with their associated syntactic analyzers. Introduction to attributed translation grammars, semantic analysis and code generation.

Note: May be offered alternate years.

**CMPT 460.3
Computer Graphics
1(3L)**

Prerequisite(s): CMPT 330 or 340, MATH 264 or 266 or E E 326 or C E 318 or permission of the department.

Introduction to computer graphics. An overview of passive and interactive

graphics hardware. Emphasis is on the design and development of raster graphics. Topics include algorithms for generating lines, circles and ellipses, half toning, shading, clipping, ray-tracing and curve fitting. A course project involves implementation of some selected graphics algorithms.

**CMPT 470.3
Information Systems Development
1(3L-2S)**

Prerequisite(s): CMPT 371 and 374.

Lectures and course projects on developing information systems including life-cycle models, specifications of requirements, system design, verification and validation, testing, software metrics, and project management.

**CMPT 481.3
Human-Computer Interaction
1(3L-1P)**

Prerequisite(s): CMPT 370.

Fundamental theory and practice in the design, implementation, and evaluation of human-computer interfaces. Topics include: principles of design, usability engineering, methods for evaluating interfaces with or without user involvement, techniques for prototyping and implementing graphical user interfaces.

**CMPT 490.3
Ethics and Computer Science
2(3L-3S)**

Prerequisite(s): Successful completion of 30 credit units in computer science, including at least 3 credit units at the 400-level.

Addresses social, ethical, legal and managerial issues in the application of computer science to the information technology industry. Through seminars and case studies, human issues confronting computer science graduates will be addressed. Topics include managerial and personal ethics, computer security, privacy, software reliability, personal responsibility for the quality of work, intellectual property, environment and health concerns, and fairness in the workplace.

**CMPT 496.3
Markov Chains and Queuing Theory
2(3L)**

Prerequisite(s): CMPT 393.

Markov and queuing processes in maintenance, inventory and traffic problems. The analysis of queues. Transient and steady state solution.

GREE

See the Department of Native Studies.

DRAMA

The Bachelor of Arts and Bachelor of Fine Arts programs in Drama feature four fields or areas of concentration.

B. A. PROGRAMS

Area 1: Theatre History - concerned with the history, theory and criticism of theatre.

B.F.A. PROGRAMS

Area 2: Acting - concerned with the practice of acting in various media.

Area 3: Directing - concerned with the practice of directing for the stage.

Area 4: Design - concerned with the practice of scenic, lighting, and costume design for the stage.

B.A. PROGRAMS**Major in Drama: General (B.A. Four-year)**

Required courses: Two of DRAMA 110.3, 113.3, 210.3, 213.3; 116.3 and 117.3; 201.6, 202.6; 302.6, or 401.3 and 402.3; and two more of DRAMA 110.3, 113.3, 210.3, 213.3, or 216.3 and 217.3 or 6 credit units from: CLASS 226.3, 227.3, ENG 214.3, 221.6, 223.6, 227.3, 258.3, 280.6, 288.3, FR 345.3, 365.3, 445.3.

Students majoring in Drama (General) are required to take a minimum of 36 credit units, with a maximum number of 60 credit units in drama permitted in the B.A. Four-year.

Major in Drama: General (B.A. Three-year)

Required courses: Two of DRAMA 110.3, 113.3, 210.3, 213.3; 116.3 and 117.3; 201.6, 202.6; and either 302.6, or 401.3 and 402.3.

Students majoring in Drama (General) are required to take a minimum of 30 credit units with a maximum number of 42 credit units in drama permitted in the B.A. Three-year.

Honours in Drama - Area 1: Theatre History

Required courses: Two of DRAMA 110.3, 113.3, 210.3, 213.3; 116.3 and 117.3; 201.6, 202.6; two more of DRAMA 110.3, 113.3, 210.3, 213.3, or 216.3 and 217.3; 302.6, 401.3, 402.3, 481.6; ENG 221.6; and 6 credit units from: CLASS 226.3, 227.3, ENG 214.3, 223.6, 227.3, 258.3, 280.6, 288.3, FR 345.3, 365.3, 445.3.

Thirty additional credit units are to be chosen in consultation with the department. Courses in anthropology/archaeology, art history, classics, English, French, German, history, music history, philosophy and sociology are strongly recommended. Students must also pass an honours examination set by the department.

This program is intended both for students who wish to acquire a thorough knowledge of the history of theatre as part of their general education and for those who wish to prepare for work leading to graduate degrees in theatre history, theory and criticism.

Double Honours in Drama and Another Subject

Drama may be combined with certain other subjects. Students wishing to combine drama with any other subject must first apply to the Head of the Drama Department and the head of the other department concerned.

Required courses: Two of DRAMA 110.3, 113.3, 210.3, 213.3; 116.3 and 117.3; 201.6, 202.6, 302.6, 401.3 and 402.3, and

6 credit units from: CLASS 226.3, 227.3, ENG 214.3, 221.6, 223.6, 227.3, 258.3, 280.6, 288.3, FR 345.3, 365.3, 445.3.

B.F.A. PROGRAMS

The B.F.A. programs are intended for students who wish to acquire a thorough knowledge of one of the performance-oriented areas of theatre as part of their general education and for those who wish to prepare for graduate schools or conservatories in the areas of acting, directing or design.

1. Admission

Students interested in entering the B.F.A. program in Drama should contact the Department of Drama no later than the end of their first year to register for the Pre-B.F.A. Review. Students should have completed DRAMA 110.3, 113.3, 116.3 and 117.3. Formal admission to the B.F.A. program should be made on a form available at the Office of the Dean. In order to qualify for admission, students must have obtained a cumulative percentage average of at least 70% overall and a cumulative percentage average of 70% in all drama courses taken.

2. Pre-B.F.A. Program

The recommended Pre-B.F.A. year:

Two of DRAMA 110.3, 113.3, 210.3, 213.3; 116.3 and 117.3; ENG 110.6 and 12 credit units selected from requirements 1 to 5 of Program Type D: Fine Arts.

Note: It is recommended that all potential Drama B.F.A. students take ENG 110.6 and that potential design students also take ART 120.3 and 121.3.

3. Academic Requirements

This degree is offered in acting, directing or design. The degree requires 4 years (120 credit units) in the College of Arts and Science. The B.F.A. candidate must complete a minimum of 36 to 42 credit units in performance and/or technical and design courses, 36 credit units in theatre history, theory and criticism and cognate courses, 30 credit units in Program Type D academic requirements and 12 to 18 elective credit units. The 30 credit units to fulfill the Program Type D academic requirements are to be chosen in consultation with the department. The 12 to 18 elective credit units may be chosen from any department. The B.F.A. student is encouraged to use the electives for further work in drama. The student is also expected to attend all Department of Drama critiques, guest lectures, special performances, and workshops that are periodically scheduled. Further, a B.F.A. candidate must maintain a cumulative percentage average of 70% overall and a cumulative percentage average of 70% on all Drama courses.

B.F.A. in Drama - Area 2: Acting

Required courses: DRAMA 110.3, 113.3, 116.3, 117.3, 201.6, 202.6, 210.3, 213.3, 216.3, 217.3, 302.6, 315.6, 326.3, 327.3, 401.3, 402.3, 415.6; ENG 221.6; 6 credit units from: CLASS 226.3, 227.3, 332.3, ENG 214.3, 223.6, 227.3, 258.3, 280.6, 288.3, FR 345.3, 365.3, 445.3.

Designated program:

First Year

ENG 110.6; two of DRAMA 110.3, 113.3, 210.3, 213.3; 116.3 and 117.3; 12 credit units from required academic courses.

Second Year

Two of DRAMA 110.3, 113.3, 210.3, 213.3; 201.6 or 202.6, 216.3 and 217.3; 302.6; 6 credit units in electives or required academic courses.

Third Year

ENG 221.6; DRAMA 201.6 or 202.6, 315.6, 326.3, 327.3; 6 credit units in electives or required academic courses.

Fourth Year

DRAMA 401.3, 402.3, 415.6; 6 credit units from designated courses in classics, English or French; 12 credit units in electives or required academic courses.

B.F.A. in Drama - Area 3: Directing

Required courses: DRAMA 110.3, 113.3, 116.3, 117.3, 201.6, 202.6, 210.3, 213.3, 216.3, 217.3, 220.3, 221.3, 302.6, 341.6, 401.3, 402.3, 441.6; ENG 221.6; 6 credit units from: CLASS 226.3, 227.3; ENG 214.3, 223.6, 227.3, 258.3, 280.6, 288.3; FR 345.3, 365.3, 445.3.

Designated program:

First Year

ENG 110.6; two of DRAMA 110.3, 113.3, 116.3, 117.3, 210.3, 213.3; 12 credit units from required academic courses.

Second Year

Two of DRAMA 110.3, 113.3, 210.3, 213.3; 201.6 or 202.6, 216.3 and 217.3; 302.6; 6 credit units in electives or required academic courses.

Third Year

ENG 221.6; DRAMA 201.6 or 202.6, 220.3 and 221.3, 341.6; 6 credit units in electives or required academic courses.

Fourth Year

DRAMA 401.3, 402.3, 441.6; 6 credit units from designated courses in classics, English or French; 12 credit units in electives or required academic courses.

B.F.A. Drama - Area 4: Design

Required courses: DRAMA 110.3, 113.3, 116.3, 117.3, 201.6, 202.6, 210.3, 213.3, 220.3, 221.3, 302.6, 314.6, 401.3, 402.3, 414.6; ART 120.3 and 121.3, 111.6 or 112.6, 211.6 or 212.6; 6 credit units from: CLASS 226.3, 227.3; ENG 214.3, 221.6, 223.6, 227.3, 258.3, 280.6, 288.3; FR 345.3, 365.3, 445.3.

Designated program:

First Year

ENG 110.6; ART 120.3 and 121.3; two of DRAMA 110.3, 113.3, 210.3, 213.3; 116.3 and 117.3; 6 credit units from required academic courses.

Second Year

ART 111.6 or 112.6; two of DRAMA 110.3, 113.3, 210.3, 213.3; 116.3 and 117.3; 201.6 or 202.6, 216.3 and 217.3, 220.3 and 221.3; 6 credit units in electives or required academic courses.

Third Year

ART 211.6 or 212.6; DRAMA 201.6 or 202.6, 302.6, 314.6; 6 credit units in electives or required academic courses.

Fourth Year

DRAMA 401.3, 402.3, 414.6; 6 credit units from designated courses in classics, English or French; 12 credit units in electives or required academic courses.

DRAMA**DRAMA 100.6
Introduction to Theatre and Drama 1&2(3L)**

An introduction to the arts and crafts of the playwright, actor, designer, director, theatre historian and critic. A brief survey of important periods in the development of oriental and western drama.

Note: Students majoring in drama may not use this as a course in their major, but may count it as a junior elective. Students majoring in art or music may take this course in partial fulfillment of Requirement 1 of Program Type D.

**DRAMA 104.6
Introduction to Theatre 1&2(3P)**

Direct experience of theatre arts and crafts. Designed to encourage the individual's creative impulse. Dramatic activities, for teachers at all levels, are explored and students move towards an understanding of drama as education.

Note: This course is not acceptable in a major in drama in the College of Arts and Science except with written permission of the Head of the Drama Department.

**DRAMA 110.3
Technical Theatre: Scenic Construction, Painting and Rigging 1/2(3L-3P)**

Introduces the fundamentals of scenic construction techniques including construction methods and materials, scene painting and aesthetic aspects of producing scenery for the stage. Requires a minimum of 50 hours production work beyond the regular class and lab hours. Students should avoid taking any evening classes because of the demands of evening production set-up and rehearsals.

**DRAMA 113.3
Technical Theatre: Stage Properties, Methods and Construction Techniques 1/2(3L-3P)**

Introduction to the fundamentals of stage properties construction, materials and techniques. Emphasis will be placed on the practical and aesthetic aspects of producing stage properties for theatre productions. There is a requirement of a minimum of 50 hours production work beyond the regular class and lab hours. Students should avoid taking any evening classes because of the demands of evening production set-up and rehearsals.

**DRAMA 116.3
Introduction to Acting 1: Body, Voice, Feelings, Mind and Imagination 1/2(3L-3P)**

The essentials of acting through the exploration of body, voice, idea and ensemble. Begins to develop awareness of theatrical imagination and creative self-discovery through improvisations and theatre exercises.

DRAMA 117.3
Introduction to Acting 2: Approaching Text and Scene Study
 1/2(3L-3P)

Prerequisite(s): DRAMA 116.

Integrating the creative process in acting with the dramatic text.

DRAMA 120.6
Oral Interpretation
 IS/SS(3L)

A performance oriented course in the oral reading skills with emphasis on the development of the "voice, mind and body" as a single instrument to communicate literary works effectively. Practical application of theoretical principles will include solo and ground performances.

Note: Normally offered only in Intersession and Summer Session. Students are encouraged to contact the department prior to registration in the course. Open to drama majors as an elective only under Requirement 7 of Program Type D.

DRAMA 121.3
Directing for the Non-Specialist
 IS/SS(3L)

A practical and theoretical course for those interested in directing plays for amateur bodies such as schools and community groups. The directing process will be explored in terms of script analysis, script scoring, audition methods, coaching techniques, the development of rehearsal schedules, and the design of floor plans and blocking.

Note: Normally offered only in Intersession and Summer Session. Students are encouraged to contact the department prior to registration in the course. Open to drama majors as an elective only under Requirement 7 of Program Type D. Students with credit for another 100-level drama course may not take this course for credit.

DRAMA 201.6
History of Drama and Theatre from 600 B.C. to 1850
 1&2(3L)

Prerequisite(s): Completion of 30 credit units at the university.

The evolution of acting, production coordination, scene and costume design, theatre architecture, and plays from antiquity to 1850. While plays are assigned to be read, they are not studied for their literary content. The emphasis is upon the history of theatrical production, both in the period the plays were written and in subsequent ages of revivals.

DRAMA 202.6
History of Drama and Theatre from 1850 to the Present
 1&2(3L)

Prerequisite(s): Completion of 30 credit units at the university.

The evolution of acting, directing, scene and costume design, theatre architecture, and plays from 1850. While plays are assigned to be read, they are not studied for their literary content. The emphasis is upon the history of theatrical production, both in the period the plays were written and in subsequent ages of revivals.

Due to limited enrolment, departmental permission is required for admission to upper level performance/practice courses.

DRAMA 210.3
Technical Theatre: Costume Construction and Techniques
 1/2(3L-3P)

Prerequisite(s): DRAMA 110 or 113 and permission of the department.

A study of the craft and art of the theatre costumer. Emphasizes the practical and aesthetic aspects of producing costumes for the stage. There is a requirement of 50 hours production work beyond the regular class and lab hours. Students should avoid taking any evening classes because of the demands of evening production set-up and rehearsals.

DRAMA 213.3
Technical Theatre: Lighting, Sound and Stage Management
 1/2(3L-3P)

Prerequisite(s): DRAMA 110 or 113 and permission of the department.

Introduction to the fundamentals of the craft and art of stage lighting, sound production, and theatre stage management. There is a requirement of a minimum of 50 hours production work beyond the regular class and lab hours. Students should avoid taking any evening classes because of the demands of evening production set-up and rehearsals.

DRAMA 216.3
Intermediate Acting 1: Transformation and Character
 1/2(3L-3P)

Prerequisite(s): DRAMA 117.

The technical and creative exploration of character potential within the actor, and the relationship of character to the psychological and social realities in text created for performance.

DRAMA 217.3
Intermediate Acting 2: Character in the Performance Ensemble
 1/2(3L-3P)

Prerequisite(s): DRAMA 216.

Exploration of character development as effected by the creative relationship between actors in rehearsal and performance. Concentrates on both technical and creative means and concentrates on the ensemble as it expands the printed text into performance.

DRAMA 220.3
Introduction to Theatre Design I
 1/2(4L-2P)

Prerequisite(s): DRAMA 110, 113 and permission of the department.

Introduction to the technical and aesthetic skills and methods required of the theatre designer. Special consideration will be given to the development of skills required to communicate with fellow theatre practitioners, directors, designers and technicians in the visual medium.

DRAMA 221.3
Introduction to Theatre Design II
 1/2(4L-2P)

Prerequisite(s): DRAMA 220.

An exploration of the role of the theatre designer in the areas of setting, costumes and lighting. Special consideration will be given to the development of skills required to communicate with fellow theatre practitioners, directors, designers and technicians in the visual medium. An application of the technical skills learned in DRAMA 220.

DRAMA 253.6
Television, Radio, Film: Theory and Production
 1&2(3L-3P)

Prerequisite(s): DRAMA 210 and 213 or 216 and 217 (may be taken concurrently).

The nature and potential of audio-visual techniques in the performance of drama. Writing, performing, directing and mounting productions for television, radio and films. The styles and theories of important directors.

DRAMA 302.6
Textual Analysis
 1&2(3S)

Prerequisite(s): Completion of 30 credit units at the university including at least 6 credit units in English.

An analysis of the dramatic text, from the stand-point of performance and creative solutions in production; character motivation, mood, atmosphere, historical and cultural setting, plot, thematic structure, and production styles.

DRAMA 314.6
Design for the Theatre: Intermediate Course
 1&2(3S-3P)

Prerequisite(s): DRAMA 221.

A continuation of the design aesthetics of DRAMA 221, with emphasis on both theoretical and practical design projects. Focuses on individual "paper projects", involving the complete planning and execution of the sets, costumes and lighting for entire productions. May also involve a design project that relates to departmental productions.

DRAMA 315.6
Acting: Advanced Course
 1&2(6P)

Prerequisite(s): DRAMA 216 and 217.

Advanced study of acting, with emphasis on contemporary non-realistic and period styles. Participation in public performances is required. Because of evening rehearsals, students should avoid taking any evening courses.

DRAMA 326.3
Theatre Voice and Speech: Level I
 1/2(6P)

Prerequisite(s): DRAMA 216 and 217; DRAMA 315. (concurrent)

Development of the student's physical awareness of the vocal process through exercises in relaxation, body alignment, support of tone and resonance. Basic speech skills. The voice as a communicative instrument and the beginning of its technical control through the speaking of prose and poetry.

DRAMA 327.3
Movement I
 1/2(6P)

Prerequisite(s): DRAMA 216 and 217; DRAMA 315 (concurrent).

Neutral Mask and Clown: studies in physical theatre. Part One will consist of the student's discovery of neutral expression and expressiveness through the use of neutral mask. Part two will allow the student to develop the personal clown.

DRAMA 331.6
Playwriting
 1&2(3S)

Prerequisite(s): At least 12 credit units in Drama and 12 credit units in English.

Students are required to contact the instructor before registering.

DRAMA 341.6
Play Directing
 1&2(6P)

Prerequisite(s): DRAMA 110, 113; 216 and 217 (both may be taken concurrently).

Basic problems in directing and producing plays.

DRAMA 353.6
Advanced Television and Film Production
 1&2(3L-3P)

Prerequisite(s): DRAMA 253.

Advanced audio-visual techniques in dramatic production. The student will be expected to produce an original film or television drama in consultation with the instructor.

DRAMA 401.3
Dramatic Theory and Criticism
 1/2(3L)

Prerequisite(s): At least 12 credit units in English.

An examination of significant theories of major critics, theorists and writers of the theatre from ancient to modern.

DRAMA 402.3
Studies in Canadian Theatre
 1/2(3L)

Prerequisite(s): At least 12 credit units in English.

An examination of dominant trends in Canadian theatre practice.

Note: This is a required course in the Honours and B.F.A. programs.

DRAMA 414.6 Design for the Theatre: Advanced Course
 1&2(6P)

Prerequisite(s): DRAMA 314.

An advanced study of set, costume and lighting design as it relates to practical application. The student will be assigned a design project that relates to departmental productions.

Note: This is a required course in the B.F.A. Area 4 program.

DRAMA 415.6
Acting: Fourth Year Seminar
 1&2(6P)

Prerequisite(s): DRAMA 315.

Final undergraduate course in advanced acting techniques. The student will be encouraged to develop an individual repertoire to enhance strengths and correct weaknesses in technical delivery. Participation in public performances is

required. Because of evening rehearsals, students should avoid taking any evening courses.

DRAMA 426.3 Theatre Voice and Speech: Level II 1/2(6P)

Prerequisite(s): DRAMA 326 and 327; DRAMA 415 (concurrent).

Further development of the actor's voice in range, power and flexibility. Exercises to reinforce basic skills, to heighten resonance, to increase pitch range, and to develop greater facility in articulation, including that in dialect work. Increased responsiveness to language values.

DRAMA 427.3 Movement II 1/2(6P)

Prerequisite(s): DRAMA 326, 327; DRAMA 415 (concurrent).

The Commedia dell'arte. A study of the Commedia dell'arte masks or "types", physical acting, comedy, lazzi and concetti.

DRAMA 441.6 Advanced Play Directing 1&2(6P)

Prerequisite(s): DRAMA 341.

Advanced problems in directing and producing plays.

DRAMA 481.6 Advanced Reading and Special Studies 1&2(6P/3S)

Open only to students who wish to pursue further planned study in a phase of drama of their choice with approval of the Head of the Department.

FINE ARTS

The Department of Drama also teaches "FINAR 100.6 An Introduction to the Fine Arts" through the College of Education. For details, see listing under Academic Courses in the College of Education section of the *Calendar*.

SPECIAL TOPICS

DRAMA 298.3 1/2(3S)
DRAMA 299.6 1&2(3S)
DRAMA 398.3 1/2(3S)
DRAMA 399.6 1&2(3S)
DRAMA 498.3 1/2(3S)
DRAMA 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

COURSES IN OTHER DEPARTMENTS

Students in the B.A. Four-year and B.F.A. programs may credit a limited number of courses from other departments toward their drama major. Please consult the drama program descriptions to determine which of the following courses would be allowed for credit toward a drama program:

ART 120.3 Introduction to the History of Art I
ART 121.3 Introduction to the History of Art II
ART 111.6, 271.3, 272.3 Painting and Related Work
ART 112.6 Foundations in Drawing
ART 281.3, 282.3 Drawing and Related Work

CLASS 226.3 Tragedy
CLASS 227.3 Comedy
ENG 214.3 Medieval Drama
ENG 221.6 Shakespeare
ENG 223.6 Drama to 1700, other than Shakespeare
ENG 227.3 English Drama, 1660-1737
ENG 258.3 Canadian Drama in English
ENG 280.6 Modern Drama, Primarily British and American
ENG 288.3 Introduction to Film
FR 345.3 The Theatre in Quebec: Origins and Development
FR 365.3 French Theatre in English Translation
FR 445.3 The Theatre in Quebec: Modern and Contemporary Drama
FR 495.3 French Theatre
For details see the appropriate section of the *Calendar*.

ECONOMICS

A junior course in calculus is prerequisite for all 300- and 400-level courses. For the junior course in calculus, MATH 110 is recommended, although MATH 101.3 is acceptable.

The requirement of ECON 305 for the honours program can be met by a course in linear algebra e.g., MATH 264 or 266. The requirement of ECON 306 can be met by a course in the calculus of multiple variables e.g., MATH 225. Other mathematics classes may satisfy the equivalency criteria: students should consult with the Head of the Department.

Students who satisfy the ECON 305 and 306 equivalency in mathematics may not subsequently take ECON 305 and 306 for credit. However, students who already have credit for these courses shall not be precluded from taking the mathematics equivalency classes for elective credit and they shall not lose credit for ECON 305 and 306. B.A. Three-year students who have satisfied the mathematics equivalency criteria for ECON 305 or 306 shall be required to take at least 6 credit units at the 300 level in economics for their degree excluding ECON 305 and 306. The 6 credit units in mathematics that satisfy the equivalency criteria for ECON 305 and 306 shall be counted as if they were economics courses in order to satisfy the minimum number of economics courses required for any degree in economics and the grades in these mathematics courses will be included in the economics grade average.

MAJOR IN ECONOMICS (B.A. FOUR-YEAR)

ECON 111.3, 114.3, 204.6, 211.3 or 213.3, 214.3; and 18 additional credit units in economics, 12 of which must be at the 300- or 400-level.

Students proposing to major in economics are advised to take ECON 111.3 and 114.3, POLST 110.6 and 6 credit units in mathematics in their first year and ECON 211.3, 214.3 and 204.6 in their second year. It is recommended that students take ECON 111.3 prior to ECON 114.3.

MAJOR IN ECONOMICS (B.A. THREE-YEAR)

ECON 111.3, 114.3, 204.6, 211.3 or 213.3, 214.3; and 12 additional credit units in economics, 6 of which must be at the 300- or 400-level.

HONOURS IN ECONOMICS

ECON 111.3, 114.3, 204.6, 211.3 or 213.3, 214.3; two of 261.3, 263.3, 265.3, 267.3, 280.3, 380.3; 305.3 and 306.3; and 18 additional credit units in economics, 12 of which must be at the 400 level. Students shall, in consultation with the department, include in their honours program additional courses offered by other departments of the college.

Students who expect to enter the Honours Program in Economics are advised to register in ECON 111.3 and 114.3, POLST 110.6, 6 credit units in mathematics and 12 credit units from Requirements 2 to 5 of Program Type B in their first year.

DOUBLE HONOURS PROGRAM

Any students who wish to take a Double Honours Program in Economics and another discipline are invited to contact the Heads of the appropriate departments. Double Honours students are required to take the first 30 credit units of the requirements for the Honours degree in Economics and 6 additional credit units at the 400 level.

Note: Sections of some courses in this department are taught by faculty in the corresponding department of St. Thomas More College. These course sections are designated in the *Registration Guide* by section numbers prefixed with the letter "M."

POST-DEGREE SPECIALIZATION CERTIFICATE IN ECONOMICS

To be eligible for a Post-Degree Specialization Certificate in Economics, students must have successfully completed a university degree in some other discipline. (Students with a Bachelor of Arts would not be eligible for the PDSC because such students would be eligible to complete the Four-year degree or Advanced Certificate in Economics.)

The program requires completion of at least 30 credit units from the College of Arts and Science including completion of the department's discipline requirements, promotion and graduation standards, for a Four-year major in Economics. The program requires completion of ECON 111, 114, 204, 211 or 213, 214, 12 credit units in Economics at the 300- or 400-level, and 6 additional credit units in Economics. A junior course in calculus is prerequisite for all 300-level Economics courses.

MINOR IN ECONOMICS

This minor may be taken in conjunction with a four-year major or Honours program in any other subject area. Required courses are: ECON 111, 114, and 15 additional credit units in economics. It is recommended that students also take ECON 211 or 213, and 214. Students considering further studies in economics should include these courses in their program.

PROGRAM IN BUSINESS ECONOMICS

The Business Economics Program combines courses in the Department of Economics and the College of Commerce to produce a degree which provides the student with a rigorous background in both economics and commerce, with special emphasis in economics, so as to prepare students for the world of business, finance, and public service. Students trained in our program will be able to apply their specialised knowledge to practical economic problems in their chosen area of employment. Moreover, they will be better equipped to enter the private and public sectors as business economists. In addition, in this program the student becomes familiarised with both economics and commerce from a liberal arts perspective thereby providing the students with a unique and valuable approach to these areas of study.

Registering in the Program in Business Economics

Students interested in registering in the Business Economics Program MUST apply directly to the Department of Economics.

Major or Honours Degree in Business Economics (B.A. Four-Year)

Whether a student earns an honours or a four-year major degree in the Business Economics Program depends on her or his CPA and whether the student takes the required six credit 400-level credit units for the honours degree. The total program requirement is 66 credit units, including 60 credit units in economics and commerce.

Program Requirements For Business Economics

- (1) ECON 111.3, ECON 114.3, ECON 213.3 (Applied Microeconomics) or ECON 211.3, ECON 214.3. ECON 213.3 is recommended.
- (2) ECON 204.6 or equivalent.
- (3) COMM 304.3 (Introduction to Business Law), COMM 201.3 (Accounting and Business Decisions) COMM 301.3 (Management Accounting for Managers).
- (4) Six credit units taken from: COMM 203.3 (Introduction to Finance), COM 204.3 (Introduction to Marketing), COMM 202.3 (Introduction to Organizational Behaviour), COMM 206.3 (Introduction to Industrial Relations), COMM 345.3 (Business and Public Policy).
- (5) Twelve additional credit units in economics including a minimum of 6 credit units at the 300- or 400-level.
- (6) Six additional credit units in economics at any level (for an honours degree these credit units must be taken at the 400-level).
- (7) Nine additional senior credit units in either economics or commerce.
- (8) Three credit units in calculus (MATH 110.3 is recommended; MATH 101.3 is acceptable) and 3 credit units in computer science.

Economics total credit units	36
Commerce total credit units	15
Elective credits in economics or commerce	9
Other required courses	6
TOTAL	66

In addition, students must complete the other distribution requirements and electives

required for the four-year or honours degrees.

ECONOMICS

**ECON 111.3
Price Theory and Resource Allocation
1/2(3L)**

Shows the student how to understand the individual consumption and production decisions which are made within a market economy, guided by prices and costs. Economic concepts of supply, demand, cost, response to price changes, production, equilibrium, and income distribution are analyzed.

**ECON 114.3
Money and Income
2(3L)**

Prerequisite(s): ECON 111 recommended.
Shows the student how to understand the collective problems in economic policy, and the choices which face a modern economy. Social accounting, national income, consumption, saving, government spending, taxation, investment, interest rates, money and banking, foreign trade, and balance of payments are analyzed.

**ECON 204.6
Statistical Applications in the Social
Sciences
1&2(3L-1P)**

Prerequisite(s): ECON 111.
An introduction to statistical methods and their application to problems in economics and related disciplines.

Note: Students are not permitted to take both this course and STATS 244 or 245, SOC 240, PSY 233 or 234, or QUANT 194 or 295 (or their equivalents) for credit.

Note: Students who have taken other courses in statistics, either from Arts and Science or from another college, should consult "Regulations for Introductory Courses in Statistics" for information on statistics course equivalencies. See "Statistics Courses" in the Index section of the Calendar.

**ECON 211.3
Intermediate Microeconomic Theory
1/2(3L)**

Prerequisite(s): ECON 111.
Presents the student with a formal analysis of demand, elasticity, cost, production, firm and market equilibrium, competition, monopoly, oligopoly, factor demand and prices, general market equilibrium, and welfare.

**ECON 213.3
Applied Microeconomics
1/2(3L)**

Prerequisite(s): ECON 111.
Presents the student with an understanding of consumer and producer behaviour in the market place. Emphasis will be on applied problems and case studies.

Note: Students with credit for ECON 211 may not take this course for credit.

**ECON 214.3
Intermediate Macroeconomic Theory
1/2(3L)**

Prerequisite(s): ECON 111, 114, and 211 or 213.

Presents the student with a formal analysis of national accounting, the consumption function, investment, public expenditure, taxes, budgets, money and interest, IS-LM analysis of general equilibrium in an open economy, aggregate supply and demand, public policy, inflation, and the rudiments of growth theory.

**ECON 221.3
Women and the Economy
1/2(3L)**

Prerequisite(s): ECON 111.
An examination of women's changing economic roles. Includes an analysis of labour force participation, wage inequality, gender differences in education, intra-household distribution of resources, economics of reproduction, and how technological change affects women.

**ECON 223.3
Labour Economics
1(3L)**

Prerequisite(s): ECON 111 and 114.
An economic analysis of the labour market. Topics discussed will include the allocation of the labour force among sectors, industries and occupations and the functions and nature of the labour market. The problem of unemployment and public policy will be considered.

**ECON 227.3
Wage Determination
2(3L)**

Prerequisite(s): ECON 111 and 114.
A study of the theories of wage determination in various institutional settings. Analysis of the general level of wages and employment will also be considered. Emphasis will be on theoretical models.

**ECON 231.3
Co-operatives
1/2(3L)**

Prerequisite(s): ECON 111.
The historical background, philosophy and development of co-operatives are studied with special reference to the experience and problems of the prairie economy. Economic problems peculiar to co-operative organization are analyzed.

**ECON 234.3
Economics of Health Care
1/2(3L)**

Prerequisite(s): ECON 111.
An application of economic analysis to selected aspects of the health care delivery system. Emphasis will be placed upon an evaluation of the applicability of consumption and production theory to the delivery of physicians' services. Empirical work on the demand for and supply of physicians' services will be reviewed with particular reference to its significance for public policy.

**ECON 254.3
The International Trading System
1(3L)**

Prerequisite(s): ECON 111.

A survey of the development of the international trading system with particular attention to its evolution in the post-World War II period.

**ECON 256.3
The International Monetary System
2(3L)**

Prerequisite(s): ECON 114.
A survey of the development of the international monetary system with particular attention to its evolution in the post-World War II period.

**ECON 258.6
The Economics of the Pacific Rim
1&2(3L)**

Prerequisite(s): ECON 111 and 114.
The economics of the Pacific Rim with particular attention to the current state of the six economies (Japan, the NIC's, ASEAN, the Pacific Islands, ANZAC, and North America), their integration, and the coordination of policy.

**ECON 261.3
Economic History of Europe and the
British Isles from the Economics of
the Roman Empire to the Economics
of European Expansion
1/2(3L)**

Prerequisite: ECON 111 and 114.
This is an analytically oriented survey of the economic development and growth of the European economy in the context of the world economy, beginning with a brief survey of the pre-historic economies. This course ends with an analysis of the economics of colonization and the expansion of international trade and how these impacted differentially on the economies of Western Europe.

**ECON 263.3
The Economic History of Europe and
the British Isles: Economic
Development from an Historical
Perspective and the Rise of Western
Economies
1/2(3L)**

Prerequisite: ECON 111 and 114.
An analytically-oriented survey of the economic development and growth of the European economy in the context of the world economy, beginning with a comparative analysis of the economies of Europe in the 16th Century. This is followed by a discussion of the details of Britain's Industrial Revolution, the lessons to be learned from this experience and how it affected the rest of the world.

**ECON 265.3
The Economic History of Canada
from the Pre-Contact Era to the 18th
Century
1/2(3L)**

Prerequisite: ECON 111 and 114.
Economic analysis of Canadian history from the pre-European era to the 18th century. The course focuses on the causes of differential economic development which occurred in Canada and how this discussion might improve our

understanding of the process of economic development.

**ECON 267.3
The Economic History of Canada
from the Early 19th Century to the
Great Depression
1/2(3L)**

Prerequisite: ECON 111 and 114.
Economic analysis of the history of Atlantic colonies as well as of Quebec and Ontario, and the Western lands still controlled by the Hudson's Bay Company. Concludes with an analytical discussion of the process of Canadian economic development in the 19th and 20th Centuries in the context of the international economy.

**ECON 270.3
Economic Development in
Non-Industrialized Countries
1(3L)**

Prerequisite(s): ECON 111 and 114.
A review of the economic development of selected countries. The relevance of resources, financial institutions, government action and regional differences to problems of industrialization in these countries will be studied in the light of past and current theories of economic development.

**ECON 275.3
The Economics of Natural Resources
1(3L)**

Prerequisite(s): ECON 111 and 114.
The application of economic analysis to issues concerning the use of natural resources, their management and conservation, as well as environmental effects following therefrom. Policy problems related to the ownership of natural resources, their management, and taxation will also be discussed.

**ECON 277.3
The Economics of the Environment
1/2(3L)**

Prerequisite(s): ECON 111 and 114.
An introduction to the economic analysis of environmental issues. It will include analysis of environmental quality, benefit-cost analysis, and evaluation of different environmental policies and their application in Canada and Saskatchewan. It will conclude with analysis of global environmental issues.

**ECON 280.3
Classical Economics
1(3L)**

Prerequisite: ECON 111 and 114.
The history of classical economics: Adam Smith, David Ricardo and Karl Marx, among others, with emphasis on the theories of value, distribution, growth, population, money and trade.

**ECON 285.3
The Economics of Central American
Development
2(2.5L-1.5S)**

Prerequisite(s): ECON 111 and 114.
Part of the La Antigua, Guatemala Study Term Abroad. Examines selected aspects of the theory of development and its experience in Central America, with a particular emphasis on Guatemala. Through lectures and discussions, students will look at trade, technology, infrastructural

investment, industrialization, agricultural efficiency and other issues.

ADVANCED COURSES

300- and 400-level courses are advanced courses in economics. A junior course in calculus and ECON 111 are prerequisites for all 300- and 400-level courses. Additional prerequisites for specific courses are noted in the course description.

ECON 305.3 Quantitative Methods in Economics I 1(3L-3P)

Prerequisite(s): ECON 114.

An introduction to the application of quantitative methods in Economics.

Note: Students with credit for ECON 304 or a course in linear algebra may not take this course for credit.

ECON 306.3 Quantitative Methods in Economics II 2(3L-3P)

Prerequisite(s): ECON 114.

An introduction to comparative statistics and optimization methods in Economics.

Note: Students with credit for ECON 304 or a course in the calculus of multiple variables may not take this course for credit.

ECON 307.3 Economic Forecasting 2(3L)

Prerequisite(s): ECON 214 and a course in statistics taken previously or concurrently.

Presents forecasting techniques for the economic variables necessary for planning by business, government and NGOs. The course includes choosing forecasting techniques. The course discusses both how to prepare a forecast and how to attack or defend a forecast.

ECON 311.3 Money, Banking and Capital Markets 1(3L)

Prerequisite(s): ECON 214.

A study of the evolution and kinds of money, its functions and its economic significance. Topics discussed include theories of the demand for money, the money supply process with particular emphasis on the role of chartered banks, central banking, and financial intermediation. The concepts developed in this analytical survey are then utilized to evaluate recent Canadian monetary policy.

ECON 316.3 Portfolio Theory and Investment Analysis (Formerly 216) 1(3L)

Prerequisite(s): ECON 114, 204 or an equivalent course in statistics, and 211 or 213.

Concerned with the theory of asset choice under conditions of risk and uncertainty. It considers various models of portfolio analysis, and capital market equilibrium.

ECON 327.3 The Economics of Pay Inequality 2(3L)

Prerequisite(s): ECON 211 or 213.

Addresses the causes and extent of pay inequality with special emphasis on pay differentials between men and women. The theoretical and empirical material available on pay inequality from the perspective of economics will be studied.

ECON 343.3 Industrial Organization 1(3L)

Prerequisite(s): ECON 211 or 213.

Extends the use of basic price theory to the study of market structure, conduct, and performance results. The major structural characteristics of industries in Canada, and their market conduct and performance in relation to general standards of economic welfare will also be discussed.

ECON 344.3 Industrial Regulation 2(3L)

Prerequisite(s): ECON 211 or 213.

An analysis of the rationale and the public policies designed to affect the market conduct and performance of firms in Canada. Includes an analysis of competition policies, economic regulations, crown corporations, and controls over multinational firms in Canada.

ECON 347.3 Industrial Location and Regional Economic Analysis 1(3L)

Prerequisite(s): ECON 204 and 214.

Considers Canada's spatial structure and regional characteristics, how a region adjusts to external shocks, its growth mechanisms, and the effects of interregional trade barriers.

Note: Students with credit for ECON 346 may not take this course for credit.

ECON 348.3 Urban Economics 2(3L)

Prerequisite(s): ECON 211 or 213.

A consideration of those factors which systematically influence the development and growth of cities, their spatial structure, the markets for selected public services, and some special problems of urban public finance. Selected reference is made to empirical studies of Canadian cities.

ECON 349.3 Regional Economic Models and Methods 2(3L)

Prerequisite(s): ECON 214.

Using the Arts Computer Lab examines a series of currently-used regional economic models and the practical applications of these models to data sets from various sorts of regions, both industry-based and resource-based.

ECON 350.3 Economics of Public Expenditures 1/2(3L)

Prerequisite(s): ECON 211 or 213.

A survey of the principles of resource allocation in the public sector in relation to

the role and effect of expenditure policies on the achievement of the major economic objectives. Topics include public choice, cost-benefit analysis and major expenditure programs.

Note: Students with credit for ECON 351 may not take this course for credit.

ECON 352.3 Economics of Taxation 1/2(3L)

Prerequisite(s): ECON 211 or 213.

A survey of the principles of resource allocation in the public sector in relation to the role and effect of taxation policies on the achievement of the major economic objectives. Topics include the major taxes, fiscal federalism, and growth and the debt.

Note: Students with credit for ECON 351 may not take this course for credit.

ECON 354.3 International Trade and Commercial Policy 1(3L)

Prerequisite(s): ECON 211 or 213.

A survey of the theory and practice of international trade and commercial policy. Topics include theories of the determinants of trade, the effects of customs unions, imperfect competition and growth on trading patterns and welfare, and the theory of trade policies.

ECON 356.3 International Monetary Economics 2(3L)

Prerequisite(s): ECON 214.

A survey of the theory and practice of the international monetary system. Topics examined include the determination of exchange rates, the international movements of capital, the conditions for balance of payments equilibrium, the process adjustment to disequilibria, and policy options in open economics.

ECON 380.3 The History of Economic Thought after 1870 2(3L)

Prerequisite(s): ECON 111, 114, 214, and 211 or 213.

The marginal utility theory, marginal productivity theory, neoclassical monetary theory and Keynesian economics; Menger, Jevons, Walras, Wicksteed, Marshall, Wicksell and Keynes, among others.

ECON 388.3 Selected Topics in Economics 1/2(3L)

Prerequisite(s): ECON 114, 211 or 213, 214 and permission of the department.

Theoretical, empirical, and policy topics in microeconomics, macroeconomics, econometrics, or economics history/economic thought. Selected topics are those which are not dealt with or are covered only at an elementary level in other courses.

ECON 389.3 Research Project in Economics 1/2(3S)

Prerequisite(s): ECON 114, 211 or 213, 214 and permission of the department.

Research work on theoretical, empirical, and policy topics in microeconomics,

macroeconomics, econometrics, or economics history/economic thought, under the supervision of members of the department.

ECON 404.6 Econometrics 1&2(3L-1P)

Prerequisite(s): ECON 204, 214 and 305.

An introduction to the application of econometric methods to the examination of economic problems. The necessary techniques will be examined in both their theoretical and empirical aspects.

Note: Students may not take both ECON 404 and STATS 344 for credit. Students with credit for ECON 404 may count this course for half credit toward a Statistics major.

ECON 410.3 Monetary and Fiscal Policy 1(3L)

Prerequisite(s): ECON 211 or 213 and 214.

Considers the performance, effectiveness and limitation of the tools of macroeconomic policy.

ECON 411.3 Monetary Theory 2(3L)

Prerequisite(s): ECON 214.

An examination of recent developments in the field of monetary theory. Topics include market-clearing and nonmarket-clearing models of business cycle fluctuations, rational expectations, the policy ineffectiveness debate, and the time inconsistency of optimal policy.

ECON 412.3 Welfare Economics and General Equilibrium 2(3L)

Prerequisite(s): ECON 114 and 211 or 213.

Basic principles of constructing general equilibrium models and systematic review of the principles of welfare theory.

ECON 414.3 Economic Growth 2(3L)

Prerequisite(s): ECON 214.

Looks at the fundamental principles and economic truths common to all countries which have set for themselves the objective of growth and development. This includes the economic obstacles to development and the economic means by which developing countries can raise their rates of growth of output and living standards.

ECON 450.3 Strategic Choice 1(3L)

Prerequisite(s): ECON 214.

A study of game theory - the analysis of choice in situations involving strategy, in which optimal behaviour depends explicitly on the behaviour of others. Covers the theories of bargaining games, both cooperative and non-cooperative games, both zero-sum and non-zero-sum games, and the analysis of uncertainty.

ECON 470.3
Economics of Behaviour and Behavioural Economics 1/2(3L)

Prerequisite: ECON 111, 114, 211 and 214.
The economics of behaviour and the importance of behavioural assumptions for the analytical predictions of economic theory. The economics of behaviour also has significant implications for public and private economic policy and decision making, which will be discussed in some detail in this course in the context of an analysis of the overlapping and competing theoretical frameworks for human agency used by economists.

ECON 473.3
Mathematical Introduction to Micro-Theory 1(3L)

Prerequisite(s): ECON 114 and 211 or 213.
Introduction to theories of consumer demand and of cost and production by means of the calculus and linear algebra. The necessary mathematical tools will be taught in the course. Recommended for potential honours and graduate students.

ECON 474.3
Mathematical Micro-Theory 2(3L)

Prerequisite(s): ECON 473.
Some modern theories of consumer demand to be followed by linear models of the firm: revealed preference, demand under risk and uncertainty, characteristics theory of demand, input/output analysis and linear programming. This course is an extension of ECON 473.

ECON 488.3
Selected Topics in Economics 1/2(3L)

Prerequisite(s): ECON 114, 211 or 213, 214 and permission the department.
Theoretical, empirical questions, or policy topics in microeconomics, macroeconomics, econometrics, or economic history/economic thought. Selected topics are those which are not dealt with or are covered only at an elementary level in other courses.

ECON 489.3
Research Project in Economics 1/2(3S)

Prerequisite(s): ECON 114, 211 or 213, 214 and permission of the department.
Research work on theoretical, empirical, and policy topics in microeconomics, macroeconomics, econometrics, or economics history/economic thought, under the supervision of members of the department.

SPECIAL TOPICS

ECON 298.3 1/2(3S)
ECON 299.3 1&2(3S)
ECON 398.3 1/2(3S)
ECON 399.6 1&2(3S)
ECON 498.3 1/2(3S)
ECON 499.6 1&2(3S)
These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

ENGLISH

Students are encouraged to consult an academic advisor. Appointments may be arranged through the department general office, 320 Arts.

All English classes, at both the 200 and 400 levels, have been placed in categories as outlined below.

CATEGORY 1: ANGLO-SAXON & MEDIEVAL

ENG 201.3, 206.3, 210.3, 211.3, 213.3, 214.3, 215.3, 401.6, 402.3.

CATEGORY 2: RENAISSANCE

ENG 220.6, 221.6, 223.6, 225.6, 403.6, 404.3, 405.6, 406.3.

CATEGORY 3: 18TH/19TH CENTURY

ENG 227.3, 228.6, 231.6, 234.6, 254.6, 273.6, 274.6, 409.6, 410.3, 413.6, 414.3, 415.6, 416.3, 417.6, 418.3.

CATEGORY 4: 20TH CENTURY

ENG 239.6, 240.6, 250.6, 251.6, 252.6, 253.6, 255.6, 256.6, 258.3, 259.3, 275.6, 280.6, 288.3, 443.6, 444.3, 445.6, 446.3, 461.6, 462.3, 463.6, 464.3, 465.6, 466.3, 467.6, 468.3.

CATEGORY 5: CRITICAL APPROACHES

ENG 277.3, 281.6, 282.6, 283.6, 294.3, 483.6, 484.3, 485.6, 486.3.

CATEGORY 6: ADDITIONAL COURSES

217.3, 232.3, 262.6, 265.6, 266.3, 267.3, 270.6, 272.3, 278.6, 285.6, 286.3, 287.3, 289.3, 290.6, 292.3, 487.6, 488.3, 493.6, 494.3.

MAJOR IN ENGLISH (B.A. FOUR-YEAR)

- (1) ENG 110.6 or equivalent (see "General Notes" section below).
- (2) A minimum of 12 credit units from categories 1 through 3 (no more than 6 credit units from any single category).
- (3) A minimum of 18 (maximum 42) other credit units from any of the categories.
Note: 6 of the 36 required credit units for this degree may be taken at the 400 level after consultation with the Department's Administrative Assistant and the Instructor of the seminar.

MAJOR IN ENGLISH (B.A. THREE YEAR)

- (1) ENG 110.6 or equivalent (see "General Notes" section below).
- (2) A minimum of 6 credit units from categories 1 through 3.
- (3) A minimum of 18 (maximum 30) credit units from any of the categories.

HONOURS IN ENGLISH

- (1) ENG 110.6 or equivalent (see "General Notes" section below).
- (2) 30 credit units (6 credit units chosen from each of categories 1 through 5).
- (3) 6 additional credit units chosen from categories 1 through 3
- (4) 18 credit units chosen from any of the categories.
- (5) Honours students who contemplate proceeding to graduate studies in the discipline should pay early attention to

acquiring skills in a language other than English.

Note: 12 of the above 60 credit units must be taken at the 400 (Honours) level. All Honours students should make an appointment with the Department's Administrative Assistant for academic counselling.

DOUBLE HONOURS

Students who are admitted to a Double Honours program (English and another subject) must be counselled in both departments. Students will fulfill the English portion of the program as follows:

- (1) ENG 110.6 or equivalent (see "General Notes" section below).
- (2) 12 credit units from categories 1 through 3 (no more than 6 credit units from any single category).
- (3) A minimum of 18 credit units from any of the categories.
- (4) 6 credit units of the above 36 credit units must be at the 400 (Honours) level.
- (5) Students interested in pursuing graduate studies should take the single Honours program to ensure adequate area coverage.

GENERAL NOTES

(a) ENG 110.6 equivalency is 6 credit units junior English, e.g. two of ENG 111.3, 112.3, 113.3, 114.3 or 6 credit units transfer credit with one of 111.3, 112.3, 113.3, 114.3.

Note: ENG 115.3 and/or 116.3, if previously taken, may be used with, or in place of, the 3 credit unit classes listed above.

(b) All students are encouraged to seek academic counselling each year; Honours students in particular should see the Department's Administrative Assistant to ensure entry into the permission only 400-level Honours seminars.

(c) ENG 200.6 may count towards an Honours degree only if taken in the second year of a program.

(d) Students who are not majoring in English may, on occasion, take an Honours class with the approval of the Instructor and the Department Head.

COMPLEMENTARY COURSES

Students in English programs may take courses in any department of the College of Arts and Science, but a knowledge of classical and biblical literature is especially useful. Students will also find useful cognate courses in the following departments: Art and Art History, Drama, French, History, Languages and Linguistics, Music, Native Studies and Philosophy.

PREREQUISITES

English 110 or equivalent is a prerequisite for all upper-year English classes..

A few senior English courses have alternate prerequisites (see the prerequisites listed under each individual course).

ST. THOMAS MORE COLLEGE

Sections of some courses in this department are taught by faculty in the corresponding department of St. Thomas More College. These course sections are designated in the Registration Guide by section numbers prefixed with the letter "M".

BUSINESS COMMUNICATIONS

BSCOM 100.3
Business Communication

For details, see the College of Commerce section of the *Calendar*.

ENGLISH

Only 6 credit units of introductory 100-level English may be taken for credit.

ENG 110.6
Literature and Composition 1&2(3L)

An introduction to the main kinds of literature. In addition to learning the tools of critical analysis, students will study and practise composition.

ENG 111.3 Literature and Composition: Reading Poetry 1/2 (3L)

An introduction to the major forms of poetry in English. In addition to learning the tools of critical analysis, students will study and practise composition.

ENG 112.3
Literature and Composition: Reading Drama 1/2(3L)

An introduction to major forms of dramatic activity in English. In addition to learning the tools of critical analysis, students will study and practise composition.

ENG 113.3
Literature and Composition: Reading Narrative 1/2(3L)

An introduction to the major forms of narrative literature in English. In addition to learning the tools of critical analysis, students will study and practise composition.

ENG 114.3
Literature and Composition: Reading Culture 1/2(3L)

An introduction to historical and contemporary cultural forms in English. In addition to learning the tools of critical analysis, students will study and practise composition.

SENIOR COURSES

ENG 200.6
English Literature from the Middle Ages to the Present 1&2(3L)

A study of the development of English literature from the Middle Ages to the present, with special attention to some of its major authors.

**ENG 201.3
Anglo-Saxon Language
And Culture
1/2(3L)**

Discussion of the importance of Old English language and literature for the Anglo-Saxon culture of early medieval England. Investigation of this language as foundation for the development of English. Introductory study of texts such as Beowulf and writers such as King Alfred.

Note: Students with credit for ENG 208.6 may not take this class for credit.

**ENG 206.3
Old Icelandic Language and Culture
1/2(3L)**

The impact of the Old Norse language and literature on the language and cultural identity of the Anglo-Saxons. Study of Old Norse language to approach the literature and culture of these North Germanic people. Examination of texts pertinent to the Viking attacks on and settlement in Anglo-Saxon England.

Note: Students with credit for ENG 207.6 may not take this class for credit.

**ENG 210.3
Old English Literature
1/2(3L)**

Prerequisite: English 201.3.

A study of several poems and some prose passages in Old English, including elegies, battle narratives, and a more extensive consideration of Beowulf than in English 201.3, including its backgrounds and analogues.

Note: Students with credit for ENG 208.6 may not take this class for credit.

**ENG 211.3
Chaucer and Medieval Makers
1/2(3L)**

Study of late medieval literature in English. Attention to writings by Chaucer, Langland, and the Gawain-poet, as well as those by fifteenth-century writers such as Margery Kempe, Sir Thomas Malory, and Robert Henryson.

Note: Students with credit for ENG 212.6 may not take this class for credit.

**ENG 213.3
Middle English: Dialect to Standard
1/2(3L)**

Study of the Middle English period, 1100-1500. Attention to the features, development, and status of regional dialects in a multilingual context. Emphasis on literary texts (such as *Ancrene Wisse*, *Patience*, and *The Paston Letters*) as witnesses to the varieties of English during the later middle ages.

Note: Students with credit for ENG 212.6 may not take this class for credit.

**ENG 214.3
Medieval Drama
1/2(3L)**

A survey of the variety of drama performed in the British Isles before 1550. A study of the plays in their historical context. It also examines their relation to custom and ritual; their social function; their performance and production; and the responses to them of medieval and modern audiences.

**ENG 215.3
Old Icelandic Literature
1/2(3L)**

Prerequisite: English 206.3.

A study of several Old Icelandic sagas and passages of Eddaic and of skaldic poetry. Critical approaches to Old Icelandic literature. Cultural backgrounds, as well as theories of saga composition, and continental influences.

Note: Students with credit for ENG 207.6 may not take this class for credit.

**ENG 217.3
Introduction to Old Norse Mythology
1/2(3L)**

A study of the mythology of medieval Scandinavia, including a survey of the sources, an examination of several chief deities and myths associated with them, and a consideration of some old Icelandic literary evidence.

Note: As of January 1, 2000 this class no longer fulfills a Category 1 requirement.

**ENG 220.6
16th-Century Literature
1&2(3L)**

A study of the Renaissance in England through the poetry and prose of such writers as More, Wyatt, Sidney, Spenser, and Bacon.

**ENG 221.6
Shakespeare
1&2(3L)**

A general course in Shakespeare's plays.

**ENG 223.6
Drama to 1642, other than
Shakespeare
1&2(3L)**

A study of the drama of the Middle Ages and Renaissance, with emphasis on such playwrights as Marlowe, Jonson, and Webster.

**ENG 225.6
17th-Century Literature
1&2(3L)**

A study of English literature of the 17th century, including the poetry of Donne, Jonson, Herbert, Marvell, and especially the works of Milton.

**ENG 227.3
English Drama, 1660-1737
1/2(3L)**

A study of the drama of the Restoration and the 18th Century, emphasizing the comedy of manners, but also dealing with dramatic genres particular to the period.

**ENG 228.6
The Literature of the Restoration and
18th Century
1&2(3L)**

A study of the literature of England from 1660 to 1800, with emphasis upon major writers such as Dryden, Swift, Pope, Gray, Fielding, Johnson, Boswell, and Burke.

**ENG 231.6
Poetry and Prose of the Romantic
Period
1&2(3L)**

A study of British literature from 1780 to 1830, examining the nature of romanticism and the usefulness of the term "romantic," and emphasizing the works of such writers

as William Wordsworth, Mary Shelley, and William Hazlitt.

**ENG 232.3
The Gothic Tale: Studies in Romantic
Fiction
1/2(3L)**

An examination of the impact of the "Renaissance of Wonder and Terror" on English fiction. Traces the roots of the Gothic novel, and will highlight those aspects of the genre that left their mark not only on the Romantic poets, but also on the mystery and detective novel writers of more recent times.

**ENG 234.6
Prose and Poetry of the Victorian
Period
1&2(3L)**

A study of the period 1830-1890, with emphasis on such prose writers as Carlyle, J. S. Mill, Newman, Huxley, Arnold and Pater, and such poets as Tennyson, the Brownings, Arnold, the Pre-Raphaelites, and Hopkins.

**ENG 239.6
Modern Irish Literature
1&2(3L)**

A study of 20th-century Anglo-Irish prose, poetry, and drama, usually including such writers as James Joyce, Frank O'Connor, W. B. Yeats, Seamus Heaney, John Synge, and Sean O'Casey.

**ENG 240.6
20th-Century British Poetry and
Prose
1&2(3L)**

A study of major 20th-century British poets and writers of prose, including for example, Yeats, Eliot, Thomas, Hopkins, Auden, Joyce, Conrad, and Lawrence.

**ENG 250.6
Commonwealth Literature
1&2(3L)**

A study of selected colonial and post-colonial literatures in English from Africa, south-east Asia, the West Indies, and the Antipodes.

**ENG 251.6
Canadian Poetry in English
1&2(3L)**

A survey of the development of Canadian poetry in English from the end of the 18th century to the present, with emphasis on the 20th century. Typically the class would study such poets as Isabella Valancy Crawford, D. C. Scott, E. J. Pratt, Dorothy Livesay, Earle Birney, and Michael Ondaatje.

Note: Students with credit for ENG 253 may not take this course for credit.

**ENG 252.6
Canadian Fiction in English
1&2(3L)**

A survey of the development of Canadian fiction in English from the end of the 18th century to the present, with emphasis on the 20th century. Some non-fictional prose will also be considered.

Note: Students with credit for ENG 253 may not take this course for credit.

**ENG 253.6
Canadian Literature in English
1&2(3L)**

A survey of English-Canadian literature (principally poetry and fiction), with emphasis on the 20th century.

Note: Students with credit for ENG 251 or 252 may not take this course for credit.

**ENG 254.6
American Literature to the Civil War
1&2(3L)**

While earlier writers will be studied in sufficient depth to provide necessary background and continuity, the course will concentrate on the works of such writers as Irving, Cooper, Poe, Emerson, Thoreau, Hawthorne, Melville, Whitman, and Dickinson.

**ENG 255.6
American Poetry and Prose from the
Civil War to the Great Depression
1&2(3L)**

A survey of such prose writers as Samuel Clemens, W. D. Howells, Henry James, and Ernest Hemingway, and such poets as Robert Frost, Wallace Stevens, W. C. Williams, Ezra Pound, and E. E. Cummings.

**ENG 256.6
American Poetry and Prose During
and Since the Great Depression
1&2(3L)**

A study of prose and poetry from 1930 to today by such writers as William Faulkner, John Steinbeck, Bernard Malamud, and Robinson Jeffers.

**ENG 258.3
Canadian Drama in English
1/2(3L)**

The development of Canadian drama in English, with emphasis on the period since 1960.

**ENG 259.3
Western Canadian Literature
1/2(3L)**

A study of literature in English, especially fiction, poetry, and drama, produced on the Canadian prairies.

**ENG 262.6
Advanced Composition
1&2(2L)**

Intended for students who are interested in developing their skill at expository writing. With the help of examples drawn from modern writers, the fundamentals of rhetoric and good prose style will be studied and practiced. Enrolment will be limited.

Note: This course may not be taken for credit towards the honours program.

**ENG 265.6
Creative Writing
1&2(2L)**

Intended for students who are seriously interested in the practice of imaginative writing (fiction, poetry, etc.). Course work will include an assignment of writing each week. Enrolment will be limited. Interested students should (a) obtain an application form from the English Department general office, Arts 320, and (b) register in an alternate class until final selection of the class has been completed.

**ENG 266.3
Advanced Creative Writing: Fiction
1/2(3L)**

Prerequisite(s): Evidence of practice and skill in the writing of creative prose as determined by the instructor.

Intended for students who have acquired some practice and skill in the writing of prose. Interested students should (a) obtain an application form from the English Department general office, Arts 320, and (b) register in an alternate class until final selection of the class has been completed.

**ENG 267.3
Advanced Creative Writing: Poetry
1/2(3L)**

Prerequisite(s): Evidence of practice and skill in the writing of creative poetry as determined by the instructor.

Intended for students who have acquired some practice and skill in the writing of poetry. Interested students should (a) obtain an application form from the English Department general office, Arts 320, and (b) register in an alternate class until final selection of the class has been completed.

**ENG 270.6
English Biography and Autobiography
1&2(3L)**

A study of the development of the genre from its earliest appearance in the Middle Ages to the present.

**ENG 272.3
Utopian Literature in English
1/2(3L)**

A literary and cultural survey of utopias in English, with emphasis on 19th- and 20th-century examples from British and American literature.

**ENG 273.6
English Fiction to 1800
1&2(3L)**

A study of various types of prose fiction from early romances, travel tales, rogue biographies, and so on, to Defoe and the rise and development of the novel in England. Particular emphasis will be given to the major novels and novelists of the 18th century.

**ENG 274.6
The English Novel in the 19th Century
1&2(3L)**

A study of the English novel from Jane Austen to Hardy, with particular concentration on the great Victorians - Dickens, Thackeray, the Bronte sisters, George Eliot, and Hardy.

**ENG 275.6
The English Novel in the 20th Century
1&2(3L)**

A study of representative English novelists of the 20th century, including, for example, Conrad, Joyce, Lawrence, Golding, Woolf, and Greene.

**ENG 277.3
Literary Uses of Mythology
1/2(3L)**

An introduction to the theory of myth and selected examples of the classical and other myths most frequently adapted and reinterpreted in literature in English. Emphasizes the ways in which different

writers can find quite different kinds of significance in the same myth.

**ENG 278.6
English Satire
1&2(3L)**

A study of selected satire in English.

**ENG 280.6
Modern Drama, Primarily British and American
1&2(3L)**

A study of modern British and American drama and the influences on it, including such dramatists as Ibsen, Shaw, Brecht, Pinter, Churchill, O'Neill, and Mamet.

**ENG 281.6
Feminist Critical Theory and Literature by Women
1&2(3L)**

Several contemporary feminist critical approaches will be used to analyze writings by women from various parts of the English-speaking world.

**ENG 282.6
Critical Methods
1&2(3L)**

Prerequisite(s): 6 credit units junior English or LIT 100.6.

A study of literary theory, particularly of the 20th century, and its usefulness in the explication of literary texts. Theory will be grounded in practice with primary works.

**ENG 283.6
Literature and Colonialism
1&2(3L)**

An introduction to reading and research in literature and its colonialist contexts.

**ENG 285.6
Prerequisite(s): 6 credit units junior English or LIT 100.6.
19th- and 20th-Century European Literature in Translation
1&2(3L)**

A study of 19th- and 20th-century European literature in translation with an emphasis upon major works that have influenced English and American literature.

**ENG 286.3
Courtly Love and the Family in the Middle Ages
1/2(3L)**

An examination of romantic love, chivalry, and the family during the Middle Ages. The course will focus on a number of medieval romances, but will also cover many areas of women's cultural expression, including musical composition and mystical visions, and the tensions between the various forms of medieval women's experience and models of clerical authority.

**ENG 287.3
Fantasy
1/2(3L)**

A history of fantasy in English literature from early times to the present. Emphasis will be placed on modern works of fantasy.

**ENG 288.3 (Formerly 298)
Introduction to Film
1/2(2L-2P)**

A brief introduction to film aesthetics and history.

Note: Students with credit for ENG 298 prior to 1999-2000 may not take this course for credit.

**ENG 289.3
English Structural Linguistics
1/2(3L)**

Prerequisite(s): ENG 110 or equivalent, or LING 111, or a senior course in a language.

The theory and practical applications of structural and transformational grammar and rhetorics.

**ENG 290.6
An Introduction to English Linguistics and the History of the English Language
1&2(3L)**

Prerequisite(s): ENG 110 or equivalent, or LING 111 or 112, or a senior course in a language.

An introduction to English linguistics with special attention to the history of the English language, its Germanic origins, and its development as a world language.

**ENG 292.3
The Semantics of English
1/2(3L)**

Prerequisite(s): ENG 110 or equivalent, or LING 111, or a senior course in a language.

Semantics explains the ways in which we find language meaningful, and why misunderstanding these ways confuses and frustrates us. Deals with the semantics for English proposed by A. B. Johnson, C. S. Peirce, Alfred Korzybski, and others, and applications of their proposals to understanding literature, advertising, and propaganda.

**ENG 294.3
Techniques of English Poetry
1/2(3L)**

An introduction to poetic technique, primarily metre, form, sound, and diction.

HONOURS SEMINARS

Seminars are open to students who have been admitted to a single or double Honours program of studies. Other students may be admitted as space permits after consultation with the Department's Administrative Assistant and the Instructor of the class. The content of courses will change from year to year. The topics and texts covered in any particular term will be announced before the deadline for registration. Please seek academic counselling through the General Office, 320, Arts Building.

ENG 401.6 Studies in Anglo-Saxon and Medieval Literature

ENG 402.3 Topics in Anglo-Saxon and Medieval Literature

ENG 403.6 Studies in 16th-Century Literature in English

ENG 404.3 Topics in 16th-Century Literature in English

ENG 405.6 Studies in 17th-Century Literature in English

ENG 406.3 Topics in 17th-Century Literature in English

ENG 409.6 Studies in 18th-Century British Literature

ENG 410.3 Topics in 18th-Century British Literature

ENG 413.6 Studies in 19th-Century British Literature

ENG 414.3 Topics in 19th-Century British Literature

ENG 415.6 Studies in 19th-Century American Literature

ENG 416.3 Topics in 19th-Century American Literature

ENG 418.3 Topics in 19th-Century Canadian Literature

ENG 443.6 Studies in Commonwealth and Post-Colonial Literature

ENG 444.3 Topics in Commonwealth and Post-Colonial Literature

ENG 445.6 Studies in Genres and Contexts of Literature: Modern

ENG 446.3 Topics in Genres and Contexts of Literature: Modern

ENG 461.6 Studies in 20th-Century British Literature

ENG 462.3 Topics in 20th-Century British Literature

ENG 463.6 Studies in 20th-Century American Literature

ENG 464.3 Topics in 20th-Century American Literature

ENG 465.6 Studies in 20th-Century Canadian Literature

ENG 466.3 Topics in 20th-Century Canadian Literature

ENG 467.6 Studies in 20th-Century Irish Literature

ENG 468.3 Topics in 20th-Century Irish Literature

ENG 483.6 Studies in Women's Literature

ENG 484.3 Topics in Women's Literature

ENG 485.6 Studies in Critical Approaches to Literature

ENG 486.3 Topics in Critical Approaches to Literature

ENG 487.6 Studies in Genres and Contexts of Literature

ENG 488.3 Topics in Genres and Contexts of Literature

ENG 493.6 Studies in Language and Linguistics

ENG 494.3 Topics in Language and Linguistics

SPECIAL TOPICS

ENG 298.3 1/2(3L)

ENG 299.6 1&2(3L)

ENG 498.3 1/2(3S)

ENG 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

ENVIRONMENTAL EARTH SCIENCES

Administrative Committee: A. E. Aitken (Geography), D. J. Pennock (Soil Science, Agriculture), R. Renaut (Geological Sciences).

The Interdisciplinary Program in Environmental Earth Sciences is a joint

program of the departments of Geography, Geological Sciences, and Soil Science. It explores the relationships, both modern and ancient, among the solid Earth, the atmosphere, the oceans, and the biosphere; its primary emphasis is on the physical sciences, rather than the biological sciences. An important part of the program is training in methods, including field methods, of investigating and interpreting near-surface environments, and the effects of human activities upon them. The program consists of a core of biology, chemistry, geography, geology, and soil science, plus a choice of specialization in physical geography, geology, or soil science: students must also meet the non-science Requirements C2 to C5 of the College of Arts and Science. Courses shall be selected in consultation with the Program Administrative Committee. On completion of the program, students receive either the B.Sc. Four-year or the B.Sc. Honours.

The course requirements for the program are as follows:

(1) BIOL 110.6; CHEM 111.3, 221.3, 251.3, 375.3; GEOG 111.3, 210.3, 225.3, 235.3; GEOL 121.3 (or GEOG 112.3), 243.3, 246.3; MATH 110.3, 112.3 (or 116.3); SL SC 313.3, 322.3, 403.3

(2) SL SC 220.3

(3) GEOG 233.3 or GEOL 206.3

(4) BIOL 253.3 or GEOG 270.3 or PL EC 213.3

(5) Courses to meet Requirements C2 to C5 of the College of Arts and Science.

Note: Students specializing in physical geography who intend to proceed later to an Advanced or Honours Certificate in Geography should take GEOG 113.3 and 114.3 to fulfill requirement C3.

Note: Depending on other courses taken, students may require senior courses to complete C5. A maximum of 54 credit units in junior courses is allowed in the B.Sc. Four-year or Honours program.

Specialization in Physical Geography (33 credit units): GEOG 222.3, 271.3, 280.3, 321.3, 322.3, 323.3, 390.3; STATS 245.3; plus 9 credit units from: GEOG 325.3, 333.3, 335.3, 336.3, 351.3, 370.3. An entrance requirement for this specialization is Physics 30.

Specialization in Geology (33 credit units): PHYS 111.6; GEOL 224.3, 229.3, 258.3, 308.2, 324.3, 358.3, 384.3, 408.1, 478.3; plus 3 credit units of senior geology courses.

Specialization in Soil Science (33 credit units): PHYS 111.6; SL SC 312.3, 332.3, 343.3, 412.3, 460.3, 470.3; AGRIC 492.3; AP MC 212.3 or MICRO 214.3; and CR SC 314.3 or STATS 245.3.

Note: Students completing a Specialization in the Geology or Geography program should be advised that they may be required to take additional courses in geography in order to meet requirements for professional registration as geoscientists in the Province of Saskatchewan.

Please consult the Office of the Dean for a list of the courses in this program which are used for calculation of the C.P.A. in the

major for graduation purposes.

FINE ARTS

FINAR 100.6 An Introduction to the Fine Arts 1&2(3L-6P)

For details see listing under Academic Courses in the College of Education.

Note: This course transfers automatically to an Arts and Science degree.

FOOD SCIENCE

Administration of this program is through the Department of Applied Microbiology and Food Science, College of Agriculture; the contact person is R. T. Tyler.

The College of Arts and Science offers a four-year program in Food Science. Students will meet the requirements of Program Type C leading to the B.Sc. Four-year or B.Sc. Honours degree.

Food Science is the discipline in which the biological and physical sciences and engineering are used to study the nature of foods, the causes of their deterioration, and the principles underlying food processing and preservation. This program is designed for students who have a strong interest in the basic sciences and who wish to apply this knowledge to the selection, preservation, packaging, and distribution of safe, nutritious food.

B.Sc. FOUR-YEAR

Required courses: BIOL 110.6; CHEM 111.3 and one of CHEM 221.3, 231.3 or 242.3; PHYS 111.6; MATH 110.3, 112.3; NUTR 120.3; BIOCH 200.3, 211.3 and 212.3; CHEM 251.3, 252.3; CMPT 100.3; 3 credit units in statistics for science students; AP MC 212.3, 425.3; FD SC 345.3, 415.3, 417.3, 452.3, 457.3; MECAG 421.3. Students are encouraged to select additional elective courses from those listed in the Honours program.

B.Sc. HONOURS

Required courses are as listed for the B.Sc. Four-year, FD SC 490.0 and an additional 15 credit units selected from AP MC 434.3; CHEM 242.3*; PL SC 420.3; ECON 343.3; FD SC 323.3, 412.3, 491.3; NUTR 220.3. An Honours oral examination is required.

All students are encouraged to select additional electives from the following list: AP MC 435.3; BIOCH 220.3, 310.3, 432.3; BIOL 211.3, 364.3, 472.3; CHEM 221.3*, 375.3; PL SC 461.3.

*If not taken as part of the 'required' courses.

FOOD SCIENCE

FD SC 490.0 Honours Seminar 1&2(1S)

Students in the Honours Program are required to present one departmental seminar and to attend all seminars.

FD SC 491.3 Research Project 1/2(3P)

Prerequisite(s): Registration in Honours with a minimum cumulative percentage average of 70% in food science courses, and written permission of the Department

of Applied Microbiology and Food Science.

A research project is selected in consultation with a faculty supervisor in whose laboratory the work will be carried out. The student will a) become familiar with scientific literature pertinent to the project, b) plan and set up procedures, collect, record and analyze results, c) submit to the department a typed report incorporating a review of literature, procedures used, results obtained and a discussion of the results and their significance.

Please consult the Office of the Dean for a list of the courses in this Program which are used for the calculation of the C.P.A. in the major for graduation purposes.

FRENCH

See Department of Languages and Linguistics section of the *Calendar*.

GEOGRAPHY

GENERAL INFORMATION

Several courses have changed numbers, as shown below. Students with credit for the course under its former name may not take the revised course for credit.

There are two themes in geography: physical geography and human geography. GEOG 101.3/111.3 and GEOG 102.3/112.3 introduce the student to physical geography while GEOG 113.3 and 114.3 introduce the student to human geography. These courses, together with GEOG 210.3, 215.3 and 222.3 provide geography students with a suitable background for taking senior courses in geography. The B.A. program in Geography follows Program Type B. The B.Sc. program in Geography follows Program Type C.

Students who intend to specialize in geography should pursue the program leading to a Four-year or Honours degree. The Three-year major program in geography does not lead to a professional career in geography or entrance to a graduate program in geography.

Note: GEOG 101 and 102 may be used to satisfy Requirement 3 of Program Types A, B, and D. If a Program Type C student wishes to satisfy Requirement 1, they must take GEOG 111 and/or 112.

The Three-year, Four-year, and Honours degrees may be taken in geography and some combinations for Double Honours may be pursued, e.g. geography and biology, geography and anthropology and archaeology, geography and history, geography and commerce. Geography has a strong interdisciplinary focus. Interdisciplinary programs with connections to geography include Environmental Earth Sciences*, Land Use and Environmental Studies*, Regional and Urban Development*, and International Studies*. A Co-operative Education program and four minors programs in Geography may also be pursued (see below).

*For details see index section in the *Calendar* under the specific Interdisciplinary program.

MAJOR IN GEOGRAPHY (B.A. FOUR-YEAR)

This degree provides a more intensive exposure to human geography than the three-year degree. The required courses are 6 credit units of geography at the 100-level, GEOG 210.3, 215.3, 222.3, 391.3, MATH 110.3 or its equivalent and STATS 245.3 or its equivalent. An additional 21 credit units in geography at the senior level are required, including 12 credit units in human geography, 3 credit units in regional geography, 3 credit units in physical geography, and 3 in technical geography.

The department strongly recommends that students take an additional 12 credit units in geography including at least 3 credit units in human geography.

MAJOR IN GEOGRAPHY (B.A. THREE-YEAR)

This degree provides the student with a general background in human geography. Three credit units of geography at the 100-level, GEOG 210.3, 215.3, 222.3 are required courses and the student must take another 18 credit units in geography at the senior level including 9 credit units in human geography, 3 credit units in regional geography, 3 credit units in physical geography, and 3 credit units in technical geography.

MATH 110.3 or its equivalent and STATS 245.3 or its equivalent are recommended. Also, while the college accepts 30 credit units in geography, the department strongly recommends that geography majors in the three-year program take 9 additional credit units in geography at the 300- or 400-levels.

HONOURS IN GEOGRAPHY (B.A. HONOURS)

The Honours degree in human geography allows a student to specialize in one field of human geography and to conduct a research project in that field. It prepares the student for graduate studies in human geography. The required courses are 6 credit units of geography at the 100-level, GEOG 210.3, 215.3, 222.3, 303.6, 322.3, 391.3, 405.3, 491.3, MATH 110.3 or its equivalent and STATS 245.3 or its equivalent. An additional 27 credit units in geography at the senior level are required, including 15 credit units in human geography, 3 credit units in regional geography, 3 credit units in physical geography, 3 in technical geography and another 3 credit units from among the regional, physical or technical geography courses.

MAJOR IN GEOGRAPHY (B.Sc. FOUR-YEAR)

This degree provides a more intensive exposure to physical geography than the three-year degree. The required courses are 6 credit units of geography at the 100-level, GEOG 210.3, 215.3, 222.3, 390.3, MATH 110.3 or its equivalent and STATS 245.3 or its equivalent. An additional 21 credit units in geography at the senior level are required, including 12 credit units in

physical geography, 3 credit units in human geography, 3 credit units in regional geography, and 3 credit units in technical geography.

The department strongly recommends that students take an additional 12 credit units in geography including at least 9 credit units in physical geography and another 3 credit units in geography. Students are required to take 12 credit units in the natural sciences selected from those courses listed under Requirement 1 of Program Type C.

MAJOR IN GEOGRAPHY (B.Sc. THREE-YEAR)

This degree provides the student with a general background in physical geography. Three credit units of geography at the 100-level, 210.3, 215.3 and 222.3 are required courses and the student must take another 18 credit units in geography at the senior level, including 9 credit units in physical geography, 3 credit units in human geography, 3 credit units in regional geography, and 3 credit units in technical geography.

MATH 110.3 or its equivalent and STATS 245.3 or its equivalent are recommended. Also, while the college accepts 30 credit units in geography, the department strongly recommends that geography majors in the three-year program take 9 additional credit units in geography at the 300- or 400-levels.

HONOURS IN GEOGRAPHY (B.Sc. HONOURS)

The Honours degree in physical geography allows a student to specialize in one field of physical geography and to conduct a research project in that field. It prepares the student for graduate studies in physical geography. The required courses are 6 credit units of geography at the 100-level, GEOG 210.3, 215.3, 222.3, 303.6, 322.3, 390.3, 405.3, 490.3, MATH 110.3 or its equivalent and STATS 245.3 or its equivalent. An additional 27 credit units in geography at the senior level are required, including 15 credit units in physical geography, 3 credit units in human geography, 3 credit units in regional geography, 3 credit units in technical geography and another 3 credit units from among the regional, human or technical geography courses.

SENIOR COURSE SELECTIONS

Human Geography: 215, 219, 241, 246, 247, 249, 260, 265, 280, 319, 344, 345, 349, 354, 361, 381, 391, 405, 419, 444, 449, 491.

Physical Geography: 210, 225, 233, 235, 270, 271, 325, 333, 335, 336, 351, 370, 390, 405, 425, 433, 435, 470, 490.

Regional Geography: 201, 202, 203, 204, 205, 207, 208.

Technical Geography: 222, 303, 320, 321, 322, 323.

Planning Geography: 343, 346, 446.

Note: All of the courses listed in the physical geography track above may be used to satisfy Requirement 3 of Program Types A, B and D. In addition, all of these

courses with the exception of GEOG 101 and 102 may be used to satisfy Requirement 1 of Program Type C.

Students who have received transfer credit for geography courses taken at other universities should consult the department for advice on whether they require other introductory-level geography courses or will be allowed credit for other geography courses.

MINORS IN GEOGRAPHY

Four programs in geography can be taken as minors in conjunction with any non-geography major or honours degree program.

Minor in Human Geography

A minor program in Human Geography can be taken in conjunction with any non-geography major or honours degree program. The program is designed to provide students with a basic comprehension of human-environment interactions and the acquisition of analytical skills employed in urban and economic geography and regional development.

Requirements are: One of GEOG 113 or 114; GEOG 210, 215, 222; and 12 senior credit units in geography including 6 credit units of human geography, 3 credit units of physical geography, and 3 credit units of regional geography. At least 3 credit units must be at the 300- or 400-level.

Minor in Physical Geography

A minor program in Physical Geography can be taken in conjunction with any non-geography major or honours degree program. The program is designed to provide students with a basic comprehension of physical phenomena occurring in the natural environment and the acquisition of analytical skills employed in resource management and environmental studies.

Requirements are: One of GEOG 111 or 112; GEOG 210, 215, 222; and 12 senior credit units in geography including 6 credit units of physical geography, 3 credit units of human geography, and 3 credit units of regional geography. At least 3 credit units must be at the 300- or 400- level.

Minor in Urban Planning

A minor program in Urban Planning can be taken in conjunction with any non-geography major or honours degree program. This minor program will provide students with a strong and structured understanding of urban planning. Students completing a degree in geography will be allowed to register in this minor program, provided that no double-counting of credits occurs. Students completing a degree in the Regional and Urban Development (RUD) program may not register in this minor program.

Requirements are: GEOG 113, 246, 247, 249; and 6 credit units selected from GEOG 222, 343, 346, 442.

Minor in Geographic Information Systems

A minor program in Geographic Information Systems (GIS) can be taken in conjunction with any non-geography major

or honours degree program. This minor program will provide students with a strong and structured understanding of modern technologies employed in spatial data acquisition and analysis.

Requirements are: GEOG 112 plus an additional 3 credit units of geography at the 100-level; GEOG 222, 320, 321, 322 and 323.

CO-OPERATIVE EDUCATION OPTION IN GEOGRAPHY

This five-year program is available to students in the B.A. or B.Sc. Four-year and Honours programs. After completion of the second year (at least 54 credit units), students spend the first half of their third year and the last half of their fourth year in a paid work placement. Students complete four- or five four-month paid work terms, then return to university for their final year.

Entrance Requirements for Geography majors: Students must hold a cumulative G.P.A. of 70% or higher (or have permission of the department) and must have completed no fewer than 54 and no more than 84 credit units of course work. To qualify for participation in the Co-operative Education Program, students must have successfully completed the following courses: 6 credit units of geography at the 100-level, GEOG 210, 215, 222, MATH 110, 3 credit units of introductory statistics (see Statistics Courses in the Index section of the *Calendar*), and 6 credit units of electives in natural sciences or social sciences (total of 27 credit units).

CO-OPERATIVE EDUCATION COURSES IN GEOGRAPHY

GEOG 272.0 Work Experience 1

Prerequisite(s): Acceptance into the program as per the eligibility criteria as designated in *Geography, LUEST, or RUD* (see the appropriate sections of the *Calendar*) and approval of the Department or Interdisciplinary Co-ordinator.

GEOG 372.0 Work Experience 2

Prerequisite(s): GEOG 272.

GEOG 373.0 Work Experience 3

Prerequisite(s): GEOG 372.

GEOG 472.0 Work Experience 4

Prerequisite(s): GEOG 373.

GEOG 473.0 Work Experience 5

Prerequisite(s): GEOG 472.

Co-operative education students register in one of these courses for each four-month cooperative work term. To be eligible for the first work term, students must have completed no fewer than 54 and no more than 84 credit units of course work. Specific eligibility criteria for each of the participating programs in Geography, Land Use and Environmental Studies (LUEST), and Regional and Urban Development (RUD) are listed in the appropriate sections of the *Calendar*. Satisfactory completion of each work term is required prior to

registration in the next work term. Each work term is graded on a Pass/Fail basis.

Courses are taken in the following sequence: University courses (54 to 84 credit units), two years or more

Work placement GEOG 272.0, summer (May to August)

Work placement GEOG 372.0, Term one (September to December)

University courses (partial third year), Term two (January to April)

Work placement GEOG 373.0, summer (May to August)

University courses (remainder of third year), Term one (September to December)

Work placement GEOG 472.0, Term two (January to April)

Work placement GEOG 473.0 (if desired), summer (May to August)

University courses (fourth year), Term one and two (September to April)

GEOGRAPHY

GEOG 101.3 Introduction to Global Environmental Systems: Atmosphere, Hydrosphere and Biosphere 1/2(3L)

A study of important elements of the global environment, emphasizing interactions between the atmosphere, soils and vegetation. Examines the global radiation and energy balance, global variations in temperature and precipitation, atmospheric and oceanic circulation, the hydrologic cycle, soil formation and fertility, and the distribution and composition of plant communities. Case studies are introduced to illustrate human impact on the environment.

Note: Follows the same lectures as GEOG 111, but *without* a laboratory component. Recommended for students who wish to satisfy the natural science requirement of Programs Type A, B, and D. Students with credit for GEOG 110 or 111 may not take this course for credit.

GEOG 102.3 Introduction to Global Environmental Systems: Landscapes of the Earth 1/2(3L)

A study of important elements of the global environment, emphasizing interactions between the atmosphere, lakes and oceans, and the earth's surface. Examines the process operating beneath and at the earth's surface that shape the continents and ocean basins. Topics include plate tectonics, earthquake and volcanic activity, the hydrologic cycle, and the landforms created by the action of rivers, wind, glaciers, ground ice, and waves. Case studies are introduced to illustrate the impact of natural hazards on human populations.

Note: Follows the same lectures as GEOG 112, but *without* a laboratory component. Recommended for students who wish to satisfy the natural science requirement of Programs Type A, B, and D. Students with credit for GEOG 110 or 112 may not take this course for credit.

GEOG 111.3
Introduction to Global Environmental Systems: Atmosphere, Hydrosphere and Biosphere
1/2(3L-2P)

Follows the same lectures as GEOG 101, but with a laboratory component.

Note: Recommended for students who wish to satisfy the natural science requirement of Program Type C. Students with credit for GEOG 101 or 110 may not take this course for credit.

GEOG 112.3
Introduction to Global Environmental Systems: Landscapes of the Earth
1/2(3L-2P)

Follows the same lectures as GEOG 102, but with a laboratory component.

Note: Recommended for students who wish to satisfy the natural science requirement of Program Type C. Students with credit for GEOG 102 or 110 may not take this course for credit.

GEOG 113.3
Introduction to Economic Geography
1/2(3L-1T)

An introduction to geography as a social science. A survey of the subfields of economic geography includes the location of social and economic activities in space, regional development, spatial diffusion, urban growth processes and spatial interaction, as applied to selected regional problems.

Note: Students with credit for GEOG 115 may not take this course for credit.

GEOG 114.3
Introduction to Cultural Geography
1/2(3L-1T)

Examines the distribution of human populations, the evolution of human societies, the behavioral norms or cultures of these societies, and the influence of culture in its various manifestations (language, religion, customs, politics, etc.) on the human landscape including settlement types, forms of agriculture and travel patterns.

Note: Students with credit for GEOG 115 may not take this course for credit.

GEOG 201.3 (Formerly 301)
Regional Geography of Russia
1/2(3L)

Prerequisite(s): 3 credit units of geography.

An appraisal of the physical environment, resource base, industrial development, agriculture, population and cultural characteristics of Russia using a regional approach. The regional breakdown will be based on the 20 official Economic Regions.

GEOG 202.3
Regional Geography of Canada
1/2(3L)

Prerequisite(s): 3 credit units in geography.

Presents an analysis of the evolution of Canada and describes the physical, historical, economic and cultural bases of the various regions of Canada.

GEOG 203.3
Regional Geography of the United States
1/2(3L)

Prerequisite(s): 3 credit units in geography.

The major geographic regions of the United States will be defined and the physical environment, the historical development, the economic activities and the settlement patterns will be analyzed.

GEOG 204.3
Geography of the Prairie Region
1/2(3L)

Prerequisite(s): 3 credit units in geography.

Presents an analysis of the physical, historical, economic and social geography of the three Prairie Provinces. The processes of settlement, resource development, urban growth will be examined.

GEOG 205.3
Regional Geography of Latin America
1/2(3L)

Prerequisite(s): 3 credit units of geography.

A picture of the land, climates, peoples, politics, and economies of Latin America in terms of mappable regions of similarity.

GEOG 207.3
Geography of Pacific Asia
1/2(3L)

Prerequisite(s): 3 credit units in geography.

A systematic study of the geographical settings of Pacific Asia; analysis of the physical characteristics, population and spatial economy; and examination of selected countries and regions.

GEOG 208.3 (Formerly 281)
World Regional Development
1/2(3L)

Prerequisite(s): 3 credit units in social science or permission of the department.

The regions of the world face a series of development problems. These problems are examined in terms of development theory and their spatial consequence. Their implications for global, national and regional planning are discussed.

GEOG 210.3
Environmental Study in Physical Geography
1/2(3L-2P)

Prerequisite(s): 3 credit units in introductory natural sciences.

An overview of environmental study using physical geography as an integrative discipline. Includes assessment of human-environment interrelationships from the perspective of our current understanding of how Earth systems function.

Note: May be taken concurrently with upper level geography courses with permission of the department.

GEOG 215.3
Human Geography and Global Change
1/2(3L-1T)

Prerequisite(s): 3 credit units in a social science.

A systematic examination of the interrelationships between geography and global change. Geographic concepts and

perspectives are used to better understand the rapidly changing economic, political, social, demographic and environmental processes in the world as it enters the 21st century.

Note: May be taken concurrently with upper-level geography courses with permission of the department.

GEOG 219.3 (Formerly 263)
Introduction to Business Geography
1/2(3L-1P)

Prerequisite(s): GEOG 113 or 114 or 215.

An introduction to a geographic perspective on businesses and the economy. Provides a broad overview of all sectors of the economy in addition to a focus on theories and methods in manufacturing location. Introduces the student to computer applications in location planning.

GEOG 222.3
Introduction to Technical Geography
1/2(3L-3P)

Prerequisite(s): 6 credit units of geography.

Introduction to the skills for reading maps, air photos and satellite images is provided, along with introduction to computer-based cartography, image analysis and enhancement, and geographic information systems (GIS).

GEOG 225.3
Hydrology of Canada
1/2(3L)

Prerequisite(s): GEOG 111 or 210 or GEOL 243 and 246.

The geographic distribution of hydrologic processes in Canada is outlined. The types of processes and their rates of operation are related to regional physical environments.

GEOG 233.3
Introduction to Weather and Climate
1(3L-1T)

Prerequisite(s): GEOG 111 or 210 or GEOL 206.

An examination of the elements of weather and climate; the composition and thermal structure of the atmosphere; radiation and energy balances; global circulation; air masses; fronts and atmospheric disturbances; weather analysis and climates with special reference to Canada.

GEOG 235.3
Principles of Geomorphology
1(3L)

Prerequisite(s): GEOG 112 or 210 or GEOL 121 or 122.

The description and objective classification of landforms and the processes and principles involved in their origin and distribution.

GEOG 241.3
Population Geography
1/2(3L)

Prerequisite(s): GEOG 113 or 114 or 215.

Examines the demography of human populations and their spatial patterns. Central themes are the evolving patterns of fertility, mortality, and migration, the processes that fashion these geographical distributions, and their impact upon population growth, demographic change and regional development.

GEOG 246.3 (Formerly 256)
Urban Community Planning
1/2(3L)

Prerequisite(s): GEOG 113 or 114 or 215.

Introduces the theory and methods of urban and regional planning. Three major topical areas are emphasized: the land use and social organization problems faced by urban places and planners; planning concepts, and their evolution and application; and the interrelationship between the role of the state, and urban or regional change.

GEOG 247.3
Community Planning in Canada
1/2(3L)

Prerequisite(s): GEOG 113 or 114 or 215.

Detailed investigation of community planning methodology and applications, with emphasis on population and housing analysis. The causes, impacts and proposed planning solutions for major community planning problems in Canadian urban or rural areas are discussed. Computer applications and the use of statistical information in addressing problems of inner-city neighbourhoods in Saskatoon are stressed.

GEOG 249.3
Introduction to Urban Geography: Urban Systems
1/2(3L)

Prerequisite(s): GEOG 113 or 114 or 215.

An introduction to the fundamental concepts of the urban system. The origins of cities, evolution of urbanization, classification of urban areas, urban hierarchies, core-periphery relationships and inter-urban movement of phenomena will be traced.

GEOG 260.3
Political Geography
1/2(3L)

Prerequisite(s): GEOG 113 or 114 or 215 or POLST 110.

An analysis of the theories and ideas concerning the relationship between geography and politics.

GEOG 270.3
Principles of Biogeography
1/2(3L)

Prerequisite(s): GEOG 111 or 210.

Focuses on the geography of plants including the environmental control of plant distributions; the collection, analysis and presentation of vegetation data; and the functional and historical aspects of plant communities.

GEOG 271.3
Regional Biogeography
1/2(3L)

Prerequisite(s): GEOG 111 or 210 or BIOL 253 or PL SC 213.

A regional treatment of world plant communities emphasizing vegetation types, environmental parameters, faunal assemblages, and modification by human activities.

GEOG 280.3
Introduction to Resource Geography
1/2(3L)

Prerequisite(s): 3 credit units in geography or GEOL 121 or 122.

An introduction to the geographic perspectives on resources and resource

analysis. Resource appraisal, allocation and evaluation are major topics of the course.

**GEOG 303.6 (Formerly 402)
Spatial Analysis
1&2(3L-1P)**

Prerequisite(s): 12 credit units in geography.
Emphasizes the role of statistics in human and physical geographical research. Topics are covered in univariate, bivariate, multivariate and spatial statistics. Weekly labs and course content emphasize geographical subjects.

**GEOG 319.3
Location Theory
1/2(3L)**

Prerequisite(s): GEOG 113 or 114 or 215.
Emphasizes the fundamental geographical concepts and theories necessary to explain the location of public and private facilities and the use of rural and urban land.

**GEOG 320.3 (Formerly 220)
Cartography
1/2(2L-3P)**

Prerequisite(s): GEOG 222, or equivalent background and permission of the department.

History of map making, map projections; relief representation, graphics and statistical mapping, drafting, map design and map reproduction, analysis of map series and sources.

**GEOG 321.3 (Formerly 221)
Air Photo Analysis
1/2(2L-3P)**

Prerequisite(s): GEOG 222, or equivalent background and permission of the department.

The techniques of data acquisition from and appreciation of air photos; photogrammetry and photo analysis of the geographical environment.

**GEOG 322.3 (Formerly 412)
Introduction to Geographic
Information Systems
1/2(3L)**

Prerequisite(s): GEOG 222, or equivalent background and permission of the department.

Introduces students to the use of computer-based Geographic Information Systems for the management and analysis of spatial data and for map production. Topics include vector and raster data structures, spatial data acquisition, geo-referencing, spatial interpolation, overlay analysis, and modelling. Students obtain practical experience with Geographical Information Systems through a series of exercises.

**GEOG 323.3 (Formerly 313)
Remote Sensing
1/2(2L-1S)**

Prerequisite(s): GEOG 222, or equivalent background and permission of the department.

Advanced lectures, seminars and laboratories for those specializing in resource and environmental studies. It includes inductive and deductive evaluation and air photo patterns and the interpretation of multi-spectral imagery and remote sensing imagery.

**GEOG 325.3
Principles of Fluvial Systems
1/2(3L)**

Prerequisite(s): GEOG 225.

Processes responsible for the spatial variability of available water resources are introduced and investigated analytically. Topics covered will provide an explanation of the pattern of precipitation, evaporation, infiltration, snowmelt and streamflow.

**GEOG 333.3
Regional Climatology
2(3L)**

Prerequisite(s): GEOG 233.

The classification and distribution of world climates; water budget; the study of the climatic regions of the world with special reference to Canada.

**GEOG 335.3
Pleistocene Geomorphology
2(3L)**

Prerequisite(s): GEOG 235.

Glacial and periglacial geomorphology, stressing Pleistocene glaciation in Canada and the present periglacial environment.

Note: Students who have taken GEOL 312 may not take this course for credit.

**GEOG 336.3
Hillslope Geomorphology
1/2(3L)**

Prerequisite(s): GEOG 235 or GEOL 311.

Examination of slope systems as basic landscape units, with an emphasis on understanding the landscape moulding processes of weathering, transportation and deposition.

**GEOG 343.3
Legal Issues for Urban Studies and
Planning
1/2(3L)**

Prerequisite(s): 12 credit units in geography.

Designed for students interested in urban studies and planning, this course reviews legal concepts and issues associated with the functions of municipalities, and especially with their powers for controlling and planning land use. The focus wherever possible, is on Saskatchewan urban and rural areas, and on Saskatchewan legislation and case law.

**GEOG 344.3
Spatial Interaction
1/2(3L-1S)**

Prerequisite(s): GEOG 113 or 114 or 215 or permission of the department.

Emphasizes the study of human spatial interaction in urban and regional systems through the use of models. The study of spatial interaction includes population migration, the urban journey-to-work, recreational travel, flow of goods and information, shopping travel, and spatial choice and decision making.

**GEOG 346.3 (Formerly 341)
Introduction to Urban Design
1/2(3L)**

Prerequisite(s): GEOG 246.

A lecture/seminar on the history, context and elements of the built urban environment. Function and form, and aspects of urban aesthetics are discussed in relation to streetscapes, open spaces and heritage conservation. The relationship of urban design with trends in social thought and with

cultural patterns is addressed. The studio consists of design exercises including graphic presentations and elementary applications in computer-aided drafting.

**GEOG 349.3
Intermediate Urban Geography:
Internal Structure of the City
1/2(3L)**

Prerequisite(s): GEOG 113 or 114 or 215.

The internal structure of cities, especially those in the industrialized world, and the economic, social, political, and demographic processes that shape our urban areas.

**GEOG 351.3
Northern Environments
1/2(3L)**

Prerequisite(s): 6 credit units in the natural sciences (GEOG 210 recommended).

A multidisciplinary study of the physical environment of the circumpolar region. Examines the processes operating at the Earth's surface and within the atmosphere and oceans and their role in structuring northern ecosystems. Case studies will permit students with background preparation in the humanities, social sciences and natural sciences to assess the impact of human activity on northern environments.

**GEOG 354.3
Historical Geography
1/2(3L)**

Prerequisite(s): GEOG 113 or 114 or 215.

An introduction to the aims, content and methodology of Historical Geography. Emphasis will be placed on the development of studies in this discipline in Europe and North America in this century.

**GEOG 370.3 Applied Biogeography
1/2(3L)**

Prerequisite(s): GEOG 270 or BIOL 253 or PL SC 213 or permission of department.

The impact of human activity on the biosphere is introduced through the examination of environmental problems in agriculture, forestry, mining and industry, and discussed from an ecological perspective.

**GEOG 381.3
Geography of Northern Development
1/2(3L)**

Prerequisite(s): GEOG 113 or 114 or 215 or NATST 304.

Explores the question of development in northern Canada. The framework for this geographical analysis is provided by the Core/Hinterland Theory. Within this theoretical framework, major resource development will be examined and the regional impact analyzed. Special attention will be placed upon resource development conflicts.

**GEOG 390.3
Field Methods in Physical Geography
1(L/P)**

Prerequisite(s): 9 credit units in physical geography at the 200-level or above, and permission of the department.

Introduces a variety of field and laboratory approaches, methodologies and techniques that find frequent application in physical geography. Field projects will be undertaken to collect data for analysis, evaluation and presentation.

Note: Required for all four-year majors and honours students in physical geography. Attendance at a field camp held the week preceding the start of the fall (first) term is required. For this course there will be costs in addition to tuition fees.

**GEOG 391.3
Field Methods in Human Geography
1(L/P)**

Prerequisite(s): GEOG 113 or 114 or 215 and 6 credit units at the 200 level in human geography and permission of the department.

Geography students are introduced to field methods used in human geography. Students will undertake a series of data gathering exercises in the field and then analyze their results.

Note: Required for all four-year majors and honours students in human geography. Attendance at a field camp held the week preceding the start of the fall (first) term is required. For this course there will be costs in addition to tuition fees.

**GEOG 405.3
History of Geographic Thought
1/2(3S)**

Prerequisite(s): 24 credit units in geography.

A seminar designed to acquaint the major or honours student with the development of geographic thought, emphasizing major themes and people who have been significant in this development.

**GEOG 419.3
Locational Analysis
1/2(3L)**

Prerequisite(s): GEOG 319.

Emphasizes the fundamental geographical methods necessary to analyze and determine the optimal location of public and private facilities and the rational allocation of rural and urban land use in space. The course also covers regional allocation methods and optimal regionalizations for planning purposes.

**GEOG 433.3 (Formerly 437)
Climates of the Earth
1/2(2L-1S)**

Prerequisite(s): GEOG 333.

A study of causes of climates of the earth including analyses of complex precipitation and temperature regimes. The emphasis will be to examine the surface and upper atmospheric flow patterns and their relationships with the weather and climate.

**GEOG 435.3
Problems in Geomorphology
1/2(3L)**

Prerequisite(s): GEOG 335 or 336.

A study of recent developments in research into weathering, fluvial geomorphology, mass movement and slope processes, karst landforms, glacial and periglacial geomorphology.

**GEOG 442.3
Advanced Land Use Planning
1/2(3L/3S)**

Prerequisite(s): GEOG 249.

A lecture/seminar on analytic methods in land use planning. Input-output relationships affecting land use change are introduced. Information system structure for urban transportation within the context

of planning for residential, commercial and industrial land uses is discussed. Reviewed also is the land development process, demographic indicators, and computer procedures identifying geographic target areas for policy intervention throughout a city.

GEOG 444.3 **Problems in Spatial Interaction** **1/2(3S)**

Prerequisite(s): GEOG 344.

Focuses on the study of contemporary and current problems in the field of spatial interaction modelling. Student projects will focus on the application of interaction models to real world problems.

GEOG 446.3 **Advanced Urban Design** **1/2(3L)**

Prerequisite(s): GEOG 346.

A lecture/seminar on analytic methods in urban design with an emphasis on energy-efficient subdivision design. Design for sustainable development and for pedestrian traffic in open space networks is discussed and analyzed. Issues in the spatial syntax of artificial environments are introduced, with an analysis of artificial object configuration in urban space. The workshop consists of design and discussion exercises and the use of CAD.

GEOG 449.3 **Advanced Urban Geography** **1/2(3L)**

Prerequisite(s): GEOG 249 or 349.

Advanced topics in both urban systems and internal structure of the cities. The focus is on alternative approaches and paradigms in the study of urban geography, advanced techniques of urban analysis, and the role of the state in urban geography.

GEOG 470.3 (Formerly 426) **Theory in Biogeography** **1/2(3L)**

Prerequisite(s): GEOG 370 or BIOL 110 and 323.

Pattern and process in the plant world are discussed at local, regional, and global scales with particular emphasis on the environmental control of plant distributions.

GEOG 490.3 **Special Topics in Physical Geography** **1/2(2L-2T)**

Prerequisite(s): 6 credit units in physical geography at the 300-level or above, and permission of department.

Students will work on theoretical or practical research projects under the supervision of a faculty member. An outline of the project must be submitted to the course co-ordinator in the term preceding registration and be approved before Departmental permission will be granted. An oral presentation and written report submitted at the end of the project will be evaluated by a faculty committee.

GEOG 491.3 **Research Topics in Human Geography** **1/2(3L)**

Prerequisite(s): GEOG 391 and 303 (may be taken concurrently) and permission of department.

Recent research problems and methods in geography. Each student is required to undertake a major research project.

SPECIAL TOPICS

GEOG 398.3 1/2(3S)

GEOG 399.6 1&2(3S)

GEOG 498.3 1/2(3S)

GEOG 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

GEOLOGICAL SCIENCES

GENERAL INFORMATION

Students who intend to specialize in geology or exploration geophysics should pursue a four-year program leading to the B.Sc. Four-year or Honours degree. The four-year programs in geology and geophysics, as described below, meet the minimum requirement for employment in the industry and qualify graduates for registration as Professional Geoscientists in the Province of Saskatchewan, and, if sufficiently high standards are attained, for advancement to post-graduate studies.

MAJOR IN GEOLOGY (B.SC. FOUR-YEAR)

Students in the B.Sc. Four-year program in Geology are required to take GEOL 121.3, 122.3, 224.3, 225.3, 229.3, 243.3, 246.3, 258.3, 308.2, 324.3, 332.3, 343.3, 358.3, and 408.1. In addition, students are required to take 21 additional credit units in geosciences at the 300- or 400-level, of which at least 12 credit units are to be selected from: GEOL 325.3, 384.3, 444.3, 445.3, 463.3, and 465.3. Four-year students are also required to take CHEM 111.3 and one of CHEM 221.3, 231.3, or 242.3 (CHEM 242 is recommended); MATH 110.3 and either MATH 112.3 or 116.3. Students may take up to 72 credit units in geology.

The following would be the most appropriate sequence of courses:

First Year

GEOL 121.3, 122.3; CHEM 111.3, and one of 221.3, 231.3 or 242.3 (CHEM 242 is recommended); MATH 110.3, 112.3 or 116.3; CMPT 116.3, or 111.3 and 115.3; and 6 to 9 approved credit units from Program Type C, Requirements 2 to 5.

Second Year

GEOL 224.3, 225.3, 229.3, 243.3, 246.3, and 258.3; BIOL 110.6 or PHYS 111.6 or 121.6; 6 approved credit units from Program Type C, Requirements 2 to 5.

Third Year

GEOL 308.2, 324.3, 325.3, 332.3, 343.3, 358.3, and either GEOL 334.3 and 335.3 or GEOL 384.3; 6 credit units from the area of

Natural Sciences; 6 approved credit units from Program Type C, Requirements 2 to 5.

Fourth Year

GEOL 408.1, 444.3, 445.3, 463.3, 465.3, and 3 credit units at the 300- or 400-level; 6 credit units of senior science (students must ensure that they take no more than 72 credit units in geology out of the 120 required for the four-year degree); 6 approved credit units from Program Type C, Requirements 2 to 5.

MAJOR IN GEOLOGY (B.SC. THREE-YEAR)

Students who wish to pursue the B.Sc. Three-year program in Geology, should select GEOL 121.3 and 122.3 and consult the Head of the Department as to the details of their subsequent courses. GEOL 224.3, 225.3, 243.3, 246.3, 258.3, and three of 324.3, 325.3, 332.3, 343.3 or 358.3 would be the most desirable courses for completing the major requirement. Students may elect an additional 12 credit units of courses in geology as part of this degree program. If they do, the two not already taken of GEOL 324.3, 325.3, 332.3 and 343.3 and 6 credit units of senior geology classes listed in the B.Sc. Four-year program would be most appropriate.

Note: The B.Sc. Three-year degree program does NOT qualify students for registration as Professional Geoscientists in the Province of Saskatchewan.

HONOURS IN GEOLOGY

Students who elect and are qualified to pursue the B.Sc. Honours program in Geology are required to take GEOL 121.3, 122.3, 224.3, 225.3, 229.3, 243.3, 246.3, 258.3, 308.2, 324.3, 332.3, 343.3, 358.3, and 408.1. In addition, students are required to take 21 additional credit units in geosciences at the 300- or 400-level, of which at least 12 credit units are to be selected from: GEOL 325.3, 384.3, 444.3, 445.3, 463.3, and 465.3. Students may wish to take GEOL 334.3 and 335.3 in lieu of GEOL 384.3. Honours students are also required to take CHEM 111.3 and one of 221.3, 231.3, or 242.3 (CHEM 242 is recommended); MATH 110.3 and either MATH 112.3 or 116.3; and one of BIOL 110.6, PHYS 111.6 or PHYS 121.6. Students may take up to 72 credit units in geology.

MAJOR IN GEOPHYSICS (B.SC. FOUR-YEAR*)

Students in the B.Sc. Four-year program in geophysics are required to take GEOL 121.3, 122.3, 224.3, 243.3, 246.3, 258.3, 282.3, 334.3, 335.3, 358.3, 481.3, 482.3, 483.3, and 485.6; CHEM 111.3; CMPT 116.3; E P 320.3, 356.3; MATH 110.3, 116.3, 225.3 or 276.3, 226.3 or 238.3, 266.3; PHYS 121.6, 227.3, and one of PHYS 216.3 or E P 225.3. In addition, they are advised to take GEOL 411.3, and MATH 338.6. The following would be the most appropriate sequence of courses:

First Year

GEOL 121.3, 122.3; CHEM 111.3; CMPT 116.3; MATH 110.3, 116.3; PHYS 121.6; 6 approved credit units from Program Type C, Requirements 2 to 5.

Second Year

GEOL 224.3, 282.3; MATH 225.3 or 276.3, 226.3 or 238.3, 266.3; PHYS 227.3; PHYS 216.3 or E P 225.3; 9 approved credit units from Program Type C, Requirements 2 to 5.

Third Year

GEOL 243.3, 246.3, 258.3, 334.3, 335.3, 358.3; E P 320.3, 356.3; MATH 338.6.

Fourth Year

GEOL 411.3, 481.3, 482.3, 483.3, 485.6; 9 approved credit units from Program Type C, Requirements 2 to 5.

HONOURS IN GEOPHYSICS*

Students who elect and are qualified to pursue the B.Sc. Honours program in exploration geophysics must obtain a strong background in geology, mathematics and physics. Students are required to take: GEOL 121.3, 122.3, 224.3, 243.3, 246.3, 258.3, 282.3, 334.3, 335.3, 358.3, 411.3, 481.3, 482.3, 483.3 and 485.6; CHEM 111.3; CMPT 116.3; E P 225.3, 356.3 and 320.3; MATH 110.3, 116.3, 238.3, 266.3, 276.3 and 338.6; PHYS 121.6, 227.3.

* Students who entered a Geophysics program prior to 1990-91 should consult the Department of Geological Sciences to determine the sequence of courses for upper years.

ENVIRONMENTAL EARTH SCIENCES

The departments of Geography, Geological Sciences and Soil Science have developed an interdisciplinary program in Environmental Earth Sciences. Interested students should refer to the Environmental Earth Sciences section of the *Calendar* and contact the Chair of the Administrative Committee.

PALAEOBIOLOGY

The departments of Anthropology and Archaeology, Biology and Geological Sciences have developed an interdisciplinary program in Palaeobiology. Interested students should refer to the Palaeobiology section of the *Calendar* and contact the Chair of the Administrative Committee.

GEOLOGY

GEOL 108.3 **Earth Processes** **1/2(3L)**

Exploration of the global and local-scale physical processes that have shaped our planet. Strong emphasis is on interrelationships of geological processes and humans. Topics for discussion include volcanoes, earthquakes, pollution, and the origin and exploitation of energy, mineral and water resources.

Note: May be used toward the Natural Science requirement for Programs Type A, B, and D (B.A. programs). Students with credit for GEOL 103, 105, 110 or 121 may not take this course for credit.

GEOL 109.3 **Earth History** **2(3L)**

A consideration of the evolution of our earth, from its origin to the present. Emphasis is placed on the evolution of life, and on the interpretation of the rock and

fossil record. Special consideration is given to major events in the history of our planet and of animals and plants.

Note: May be used toward the Natural Science requirement for Programs Type A, B, and D (B.A. programs). Students with credit for GEOL 103, 105, 110 or 122 may not take this course for credit.

**GEOL 121.3
Physical Geology
1/2(3L-3P)**

Follows the same lectures as GEOL 108. The laboratory component satisfies the requirements of students in Program Type C (B.Sc. programs). Students in the College of Education who wish to take a course in Earth Science and require a laboratory component are advised take this course.

Note: Students with credit for GEOL 103, 105, 108, 110 or GEOL E 118 may not take this course for credit.

**GEOL 122.3
Historical Geology
2(3L-3P)**

Follows the same lectures as GEOL 109. The laboratory component satisfies the requirements of students in Program Type C (B.Sc. programs). Students in the College of Education who wish to take a course in Earth Science and require a laboratory component are advised to take this course.

Note: Students with credit for GEOL 103, 105, 110 or 109 may not take this course for credit.

**GEOL 206.3
Earth Systems
1/2(3L)**

Prerequisite(s): 6 credit units in a 100-level science course(s).

An introduction to Earth System Science, a concept that demonstrates the interrelationships between the Earth's landmasses, atmosphere, oceans and biosphere, and the role of humans in their interaction. Topics discussed will include geochemical cycles and environmental change, both natural and anthropogenic.

Note: Students with credit for GEOL 205 or 209 or BIOL 107 or 108 may not take this course for credit.

**GEOL 224.3
Mineralogy and Petrology
1(3L-3P)**

Prerequisite(s): GEOL 110 or 121 (GEOL E 118); CHEM 111. Students with GEOG 112 may take this course with permission of the department.

Crystalline materials and their properties, crystal chemistry and chemical equilibria in natural system, mineral properties and classification, mineral genesis; classification and petrogenesis of igneous and metamorphic rocks.

Note: Students with credit for GEOL 221 may not take this course for credit.

**GEOL 225.3
Advanced Mineralogy
2(3L-3P)**

Prerequisite(s): GEOL 224, CHEM 242, 221 or 231 (may be taken concurrently). Optical mineralogy, X-ray crystallography, crystal chemistry, major rock-forming mineral groups, mineral stability.

Note: Students with credit for GEOL 221 may not take this course for credit.

**GEOL 229.3
Introductory Geochemistry
2(3L)**

Prerequisite(s): GEOL 121 (GEOL E 118); MATH 110 (may be taken concurrently); CHEM 111. Students with GEOG 112 may take this course with permission of the department.

An overview of geochemical theory and problem-solving techniques used by Earth Scientists to elucidate Earth system processes. Topics of discussion will include the origin of elements, stable and radiogenic isotopes, geochronology, thermodynamics, trace element partitioning in mineral fluid systems, weathering and aqueous geochemistry.

Note: Students with credit for GEOL 428 may not take this course for credit.

**GEOL 243.3
Sedimentology
1(3L-2P)**

Prerequisite(s): GEOL 110 or 121 (GEOL E 118). Students with GEOG 112 may take this course with permission of the department.

An introduction to physical and sedimentary processes, and the origins and characteristics of the main types of sedimentary rocks. Selected continental and marine depositional environments are discussed. Laboratories focus on the identification of sedimentary rocks in hand specimen and the applications of sedimentary structures. The multidisciplinary applications of sedimentology are emphasized.

Note: Students with credit for GEOL 241 may not take this course for credit.

**GEOL 246.3
Stratigraphy and Stratigraphic
Palaeontology
2(3L-3P)**

Prerequisite(s): GEOL 243.

The principles of stratigraphic analysis. Covers classical and modern methods, including litho-, bio-, and chronostratigraphy, and sequence stratigraphy. A brief introduction is given to the main fossil groups, emphasizing their application to dating sedimentary rocks. Problems of correlation are discussed. Laboratories include examples of the different approaches to stratigraphic analysis of sedimentary rocks.

Note: Students with credit for GEOL 241 may not take this course for credit.

**GEOL 258.3
Structural Geology
1(3L-3P)**

Prerequisite(s): GEOL 110 or 121 (GEOL E 118). Students with GEOG 112 may take this course with permission of the department.

Structural features of rocks; their description, recognition, origin and use, including: faults, folds, joints, rock cleavage, igneous intrusions, and salt domes. Although the emphasis is on orogenic processes, such as plate tectonics and mountain building, non-orogenic processes, such as gravity tectonics and glacial thrusting, will also be discussed.

Note: Students with credit for GEOL 252 may not take this course for credit.

**GEOL 282.3
Earth Physics
1(3L)**

Prerequisite(s): MATH 112 or 116 or 124; PHYS 111 or 121 or E P 155

Physical processes in the origin of the Earth and Moon, and in the subsequent development of internal structure. The generation of the geomagnetic field by dynamo action, and the use of magnetics and gravity in geophysics. Earthquakes and global seismology. The use of satellite data in geophysics.

Note: Students with credit for GEOL 382 may not take course for credit.

**GEOL 308.2 (Formerly GEOL 407)
Geological Mapping I (Fall or Spring
camp)
1/3(P)**

Prerequisite(s): GEOL 224, 243, 246 and 258, or permission of the department.

A field course held at the Little Rocky Mountains, Montana. Emphasis will be placed on interpreting and mapping sedimentary rocks, although igneous rocks will also be studied.

Note: There will be costs additional to tuition fees. Normally held in early May or late August, two weeks prior to beginning of on-campus classes.

**GEOL 311.3
Principles of Geomorphology
1(3L)**

Prerequisite(s): GEOG 112 or 210, GEOL 110 or 121 (GEOL E 118).

The description and objective classification of landforms, their appearance on maps, and the processes and principles involved in their origin and distribution.

Note: Students with credit for GEOG 235 may not take this course for credit.

**GEOL 312.3
Pleistocene Geomorphology
2(3L)**

Prerequisite(s): GEOG 235 or GEOL 311 or C E 211.

Glacial and periglacial geomorphology, stressing Pleistocene glaciation in Canada and the present periglacial environment.

Note: Students who have taken GEOG 236 or GEOG 335 may not take this course for credit.

**GEOL 324.3
Igneous Petrology
1(3L-3P)**

Prerequisite(s): GEOL 225, 229; and MATH 112 or 116 (may be taken concurrently).

Mineralogy, phase relations, origin, and occurrence of igneous rocks. Geological processes that tend to produce and modify a magma, will be interpreted in the light of chemical equilibria and kinetics. The laboratory will involve the study of igneous rocks in thin section.

Note: Students with credit for GEOL 323 may not take this course for credit.

**GEOL 325.3
Metamorphic Petrology
2(3L-3P)**

Prerequisite(s): GEOL 324.

The mineralogy, phase relations, possible equilibration temperatures and pressures, and occurrence of metamorphic rocks.

Geological processes that tend to produce geothermal and geobarometric gradients and modify rocks will be interpreted using chemical equilibria and chemical-thermal kinetics. The laboratory will involve the study of metamorphic rocks in thin section.

Note: Students with credit for GEOL 323 may not take this course for credit.

**GEOL 332.3
Palaeontology
1(3L-3P)**

Prerequisite(s): GEOL 246.

The principles of palaeontological classification; the major groups of index fossils; the nature and geological history of reef-building organisms; plant and vertebrate fossils; fossils as rock-formers and as indicators of past environmental conditions. The economic importance of fossils.

**GEOL 334.3
Gravity, Magnetics and Radiation
Methods
1(3L-3P)**

Prerequisite(s): CMPT 116 or 122; MATH 223 and 224, or 225 and 226; E E 201 or G E 212 or PHYS 227.

Basic theory of gravity, magnetics and radiation methods. The application of geophysical measurements in geological engineering, groundwater and prospecting problems.

Note: This course is also taught as GEO E 334 by the College of Engineering. Students with credit for GEO E 333 or 334 may not take this course for credit.

**GEOL 335.3
Seismology, Radar and Electrical
Methods
2(3L-3P)**

Prerequisite(s): CMPT 116 or 122; MATH 223 and 224, or 225 and 226; E E 201 or G E 212 or PHYS 227.

Basic theory of seismic, radar and electrical methods. The application of geophysical measurements in geological engineering, groundwater, and prospecting problems.

Note: This course is also taught as GEO E 335 by the College of Engineering. Students with credit for GEO E 333 or 335 may not take this course for credit.

**GEOL 343.3 (Formerly GEO E 334.3)
Facies Models
1(3L-3P)**

Prerequisite(s): GEOL 246, 308 (407) and 332 (may be taken concurrently).

The history of the facies concept; sedimentary environments and facies; techniques of facies analysis; modern environments of deposition; interpretation of ancient sedimentary environments; sedimentary facies through geological time; sedimentary facies, sea level, and tectonics.

**GEOL 358.3
Structural Geology II
2(3L-3P)**

Prerequisite(s): GEOL 258.

The geometry, character, and origin of folds, faults and rock cleavage: their interrelationships and analysis. The analysis of complex geological maps. Ductile strain, strain analysis, deformation fabrics, ductile faulting, shear-sense indicators and the

brittle/ductile transition will be discussed. The analysis of polyphase deformation, interference structures, and sequential deformation fabrics.

Note: Students with credit for GEOL 252 may not take this course for credit.

GEOL 384.3 Elementary Geophysics 2(3L-3P)

Prerequisite(s): GEOL 258; MATH 110, and 112 or 116. (Students, other than geology students, are accepted without prerequisite on written approval of the Geology Department).

Principles and methods of geophysics; their use in the interpretation of crustal structures of both tectonic and stratigraphic origin; their role in locating probable centres of mineral concentration; their application to problems in engineering geology.

Note: Students with credit for GEO E 333, 334 or 335 or GEOL 334 or 335 may not take this course for credit.

GEOL 406.3 Global Considerations in Geology 1(3L)

Prerequisite(s): GEOL 241 or 243 and 246, 252 or 258 and 358, and 324.

Origin of the universe and the solar system; the early earth and the origin and evolution of its core, mantle, crust, oceans, and atmosphere. The Archaean-Proterozoic contrasts; plate tectonics; geochemical cycles and budgets; climatic, atmospheric, hydrospheric and biospheric change; limits on resource exploitation; occurrence, distribution and retardation of radionuclides.

Note: Students with credit for GEOL 409 may not take this course for credit.

GEOL 408.1 (Formerly GEOL 307) Geological Mapping II (Fall camp) 1(P)

Prerequisite(s): GEOL 308 (407) and 358.

Methods of geological mapping and report writing based on a field course on the Precambrian Shield. Emphasis will be placed on volcanic rocks, although intrusive, sedimentary, and metamorphic rocks will also be studied.

Note: There will be costs additional to tuition fees. Normally held in late August, two weeks prior to beginning of on-campus classes.

GEOL 411.3 Well-logging 1(3L)

Prerequisite(s): GEOL 110 or 121 or GEO E 118; MATH 223 and 224, or 225 and 226; G E 212 or PHYS 227.

Discussion of the types of geophysical measurements that are made in boreholes with emphasis on the physical principles and problems involved in evaluation of geological formations.

Note: This course is also taught as GEO E 411 by the College of Engineering. Students with credit for GEO E 411 may not take this course for credit.

GEOL 429.3 Isotope Geochemistry 1/2(3L)

Prerequisite(s): GEOL 224, 229.

An overview of theory and applications of stable and radiogenic isotope geochemistry including the use of isotopes as geotracers, geochronometers and geothermometers.

GEOL 433.3 Evolution of the Vertebrates 2(3L)

Prerequisite(s): GEOL 241 or 243 and 246 (Students, other than geology students, are accepted without prerequisite on approval of the Geology Department).

The geological history of the principal groups of vertebrates, with emphasis on palaeontological general morphology and evolutionary relationships.

GEOL 435.3 Microfossils 1/2(3L-3P)

Prerequisite(s): GEOL 332.

Introduction to the twin disciplines of micropalaeontology, concerned with mineralized microfossils, and palynology, concerned with organic-walled microfossils, techniques of extraction, study and classification of microfossils.

Their use in stratigraphy, archaeology and the determination of past environments, climates and oceanic circulation patterns.

GEOL 437.3 Palaeoecology 1/2(2L-2P)

Prerequisite(s): GEOL 241 or 243 and 246 (or permission of the department for non-geology students).

Study of the relationship between organisms and their environments during geological time; the use of fossils in reconstruction of the conditions of deposition of ancient sediments.

GEOL 439.3 Palaeobotany 1(3L-3P)

Prerequisite(s): GEOL 241 or 246 or BIOL 205 (or permission of the department for non-geology students).

An evolutionary survey of the principal groups of plants based on the fossil record. Consideration will be given to the origins of life and to the history of the algae and bryophytes, and emphasis will be placed on the vascular plants. The course will include discussion of modes of fossilization and of palaeobotanical techniques.

GEOL 444.3 Tectonic Evolution of North America 1(3L-3P)

Prerequisite(s): GEOL 252 or 258, 324, 325 and 384.

A review of the theory of plate tectonics and an outline of the Archean, Proterozoic and Phanerozoic tectonic history of the continent, with special attention to the tectonic controls on sedimentary basins and to the evolution of both continental margins.

GEOL 445.3 Phanerozoic History of North America 2(3L-3P)

Prerequisite(s): GEOL 241 or 246.

Paleozoic, Mesozoic and Cenozoic history of North America and comparisons with select areas and events of other continents; emphasis on western Canada in laboratory exercises and tutorials.

GEOL 446.3 Advanced Sedimentology 1(3L-3P)

Prerequisite(s): GEOL 221 or 224, 229 and 343 (may be taken concurrently).

Chemical, biochemical and physical processes in the formation of sedimentary rocks; origin, diagenesis and petrography of carbonates, evaporites and cherts. Major topics of current sedimentological interest may also be discussed.

GEOL 463.3 Petroleum Geology 2(3L-3P)

Prerequisite(s): GEOL 221 or 224 or 228; 241 or 243 and 246 (which students in geophysics may take concurrently) and 252 or 258.

Origin of coal, oil, gas and evaporites. Basin analysis and its role in exploration for, and recovery of, reserves. Diagenesis and the development of porosity and permeability. Estimation of reserves and geological aspects of their development. Environmental problems of mining.

GEOL 465.3 Metalliferous Mineral Deposits 1(3L-3P)

Prerequisite(s): GEOL 241 or 243 and 246; 252 or 258, and 324.

Geology and genesis of the principal types of deposits of metallic ores. Emphasis on the lithologic, stratigraphic, and structural environments as criteria for understanding and exploring for these deposits. Relationship of economic conditions to the status of ore.

GEOL 478.3 (Last offered 2000-2001) Hydrogeology 2(3L-3P)

Prerequisite(s): GEOL 241 or 243 and 246; 252 or 258; MATH 110, and 112 or 116.

Introduction to aquifer exploration and delineation, resource evaluation, development and contamination. Laboratories will concentrate on geological analysis and interpretation.

Note: Senior students in related scientific and engineering departments may seek permission of the instructor to take the course.

GEOL 481.3 Potential Field Methods 1(3L-3P)

Prerequisite(s): GEO E 334 and 335 (GEOL 334 and 335) and CMPT 116 or equivalent. The theory of interpretation of gravity and magnetic fields in geophysical exploration. Elements of potential theory, mathematical models, Fourier methods and interpretation procedure will be discussed.

GEOL 482.3 Electrical Methods in Geophysical Prospecting 2(3L-3P)

Prerequisite(s): GEO E 334 and 335 (GEOL 334 and 335) and CMPT 116 or equivalent.

The fundamental principles underlying electrical methods; instrumentation, field procedures, and the computation and interpretation of data; application of the methods in geophysical exploration.

GEOL 483.3 Seismology 2(3L-3P)

Prerequisite(s): GEO E 334 and 335 (GEOL 334 and 335) and CMPT 116 or equivalent.

Theory of elasticity; energy sources; refraction and reflection methods; instrumentation and interpretation, including the fundamentals of digital processing.

GEOL 485.6 Geophysics Field Camp 1/3(P)

Prerequisite(s): GEO E 334 and 335 (GEOL 334 and 335).

Practical experience in conduct of geophysical surveys; operation of equipment, data manipulation, computer processing and interpretation, preparation of reports. Normally held in late August, two weeks prior to the beginning of on-campus classes.

GEOL 487.3 Geophysical Field Methods 1/3(P)

Prerequisite(s): GEOL 384 or GEO E 334 and 335 (GEOL 334 and 335).

A course in geophysical field methods for students who are not geophysics majors but who require some experience with field techniques. Gravity, magnetic, electromagnetic and seismic surveys will be performed over appropriate targets. The course is normally conducted in the two weeks immediately preceding the fall regular session. Interested students should contact the department for further details.

Note: Students with credit for GEOL 485 or GEO E 473 may not take this course for credit.

GEOL 490.3 Geological Sciences Research 1/2(3P)

Prerequisite(s): 6 credit units in geological sciences at the 300-level or above and permission of the department.

Students will work on theoretical or practical research projects under the guidance and supervision of a faculty member. An outline of the project must be submitted to the course co-ordinator in the term preceding registration and be approved before Departmental permission will be granted. An oral presentation and written report submitted at the end of the project will be evaluated by a faculty committee.

**GEOL 492.6
Geological Sciences Research
1 & 2(3P)**

Prerequisite(s): 6 credit units in geological sciences at 300-level or above, and permission of the department

Students will work on theoretical or practical research projects under the guidance and supervision of a faculty member. An outline of the project must be submitted to the course co-ordinator in the term preceding registration and be approved before Departmental permission will be granted. An oral presentation and written report submitted at the end of the project will be evaluated by a faculty committee.

SPECIAL TOPICS

- GEOL 398.3 1/2(3S)
- GEOL 399.6 1&2(3S)
- GEOL 498.3 1/2(3S)
- GEOL 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

**COURSES IN OTHER DEPARTMENTS
AND COLLEGES**

- E P 225 Waves, Fields and Optics
- E P 320 Discrete Linear Systems and Applied Information Theory
- GEO E 314.3 Computer Methods for Geological Sciences
- GEO E 334.3 Gravity, Magnetism and Radiation Methods
- GEO E 335.3 Seismology, Radar and Electrical Methods
- GEO E 411.3 Well-Logging

For details, see the appropriate section of the *Calendar*.

GEOPHYSICS

See the Department of Geological Sciences section of the *Calendar*.

GERMAN

See the Department of Languages and Linguistics section of the *Calendar*.

GREEK

See the Department of Classics section of the *Calendar*.

HEBREW

See the Department of Classics section of the *Calendar*.

HISTORY

What is history? Interest in the past is almost as old as society. The past may be close at hand. We can find it in old photographs of our family and our town. The past may also be so remote that reaching it at all is a challenge. We can

study cultures that ceased to exist many centuries ago and have left scant traces. But does the past matter? It matters when we are curious about ourselves and believe that our existence is rooted, not only in genes, but also in a cultural heritage.

History seeks to discover the past through the methodical study of written and oral sources, increasingly in conjunction with artifacts. History is not a science. Our collective past cannot be analyzed in terms of constant laws and processes that invariably produce the same results. Attention to history rarely prevents old mistakes from being made all over again. But history brings us face to face with real people and the things they did and suffered. Studying them from a distance, we can often understand them better than was possible at the time and better than we can understand developments in our own time.

The outcomes to which history programs and courses are above all directed include:

- ability to read and think critically; ability to write effectively and originally; ability to express ideas and advance arguments orally
- appreciation of the variety and diversity of the past
- finding meaning in past events which resonate with the present
- acquisition of a "common store" of culturally important knowledge
- appreciation of history as an evolving discipline which constantly generates new insights
- understanding how Canada and the world became as they are today.

Students concentrating in history are advised to study a second language and to choose 200-level courses from more than one area. The areas are: Canada, Europe, Asia, The Americas and Great Britain. Students interested in a career in high school teaching or government service are advised to take at least 6 credit units in Canadian history.

All history majors must take at least one 6-credit-unit senior course, or two 3-credit-unit senior courses, having a terminal date of 1815 or earlier. History courses meeting this requirement are marked with the symbol *.

For information or brochures on undergraduate programs and courses, on the M.A. and Ph.D. programs in history, and on career opportunities, students can contact the Department of History at 721 Arts Building, (306)966-5792, Fax: (306)966-5852, Email: hist.dept@usask.ca, or the website: www.usask.ca/history.

HUSA, the History Undergraduate Students' Association, which is open to all students, offers a program of several academic and social events. The History Department publishes *What's Up*, a bi-weekly newsletter, during the regular term; *NowThen*, the department's alumni newsletter, is published once a year. Both newsletters are available on the web.

ST. THOMAS MORE COLLEGE

Sections of some courses are taught by faculty in the Department of History at St. Thomas More College. These course sections are designated in the *Registration*

Guide by section numbers prefixed with the letter "M" (for example HIST 120.6, M11).

MAJOR IN HISTORY (B.A. FOUR-YEAR)

The minimum requirements for this program are 6 credit units in history at the 100-level (for example HIST 120.6 or HIST 121.3 and 122.3), but only 9 credit units may be taken for credit at the introductory 100-level, and 30 senior credit units, at least 6 credit units of which must be at the 300- or 400- level.

MAJOR IN HISTORY (B.A. THREE-YEAR)

The minimum requirements for this program are 6 credit units in history at the 100-level (for example HIST 120.6 or HIST 121.3 and 122.3) and 24 senior credit units. Only 9 credit units may be taken for credit at the introductory 100-level. Students are advised (though not required) to take 6 credit units at the 300-level with a view to strengthening their research, writing and oral skills.

HONOURS PROGRAMS IN HISTORY

An Honours program offers a strong liberal arts foundation for the teaching and legal professions and for those seeking careers in the public service at the federal, provincial or municipal level. It is a standard preparation for students proceeding to the M.A. and Ph.D. in history or to graduate work in archival and library science, with the intention of entering one of the historical professions.

Honours programs must be planned in consultation with the Department of History. Students in Honours programs in history are strongly advised to take 6 credit units in a non-English language at the intermediate level, for example, CHIN 220.6, CREE 120.6, FR 121.3 or 122.3 and 125.3, GERM 215.6, GREEK 202.3, 203.3, LATIN 202.3, 203.3, RUSS 215.6, SPAN 215.6, or UKR 215.6.

HONOURS IN HISTORY

The minimum requirements are:

(1) A total of 54 credit units in history including: 6 credit units (but a maximum of only 9 credit units may be taken) at the 100-level, at least 6 credit units at the 300-level, and at least 12 credit units at the 400-level.

(2) At least 18 credit units, approved by the Department, in a cognate subject. Some cognate fields are: Anthropology and Archaeology, Art History, Classics, Drama, Economics, English, a second language (e.g. French, German, Greek, Latin, Russian, Spanish, Ukrainian), Music, Native Studies, Philosophy, Political Studies, Sociology, and Women's and Gender Studies. Other cognate subjects, including the natural and health sciences, may be selected in consultation with the department. Only exceptionally may the cognate program consist of courses in two fields. Eighteen credit units taken to qualify for Recognition in a Language may be used, with the approval of the department, in meeting its cognate requirement.

(3) Participation in the Honours Colloquium.

DOUBLE HONOURS IN HISTORY AND A SECOND SUBJECT

History may be combined in a Double Honours program with another subject such as Anthropology and Archaeology, Art History, Economics, English, French, German, Greek, Latin, Native Studies, Political Studies, Sociology, Spanish, or Ukrainian. Other combinations may be arranged in consultation with the departments concerned.

The minimum requirements in History are 6 credit units at the 100-level (with a maximum of 9 credit units), 30 credit units at the senior level, including at least 6 credit units at the 300-level and at least 6 credit units at the 400-level; participation in the Honours Colloquium.

ANCIENT HISTORY AND CLASSICAL CULTURE

The Departments of Classics and History have developed a Four-Year program and an Honours program in Ancient History and Classical Culture. These interdisciplinary programs are designed to provide students with a focused course of studies in the main aspects of the ancient Greco-Roman world. Students interested in these programs should see the separate entry under Ancient History and Classical Culture.

INTRODUCTORY COURSES

Only 9 credit units may be taken for credit at the introductory (100-) level.

The following are survey courses dealing with major historical periods and developments. In addition to the study of basic information, students examine conflicting interpretations and historiographical debates on controversial issues, and the diverse scholarly methods used by historians in their study and interpretation of the past. Six credit units earned in any of these courses fulfil the prerequisite for the study of history in any 200-level course.

Instruction normally consists of three hours of lectures a week, and one hour of tutorial instruction in which documents are examined, historical and historiographic issues are discussed, and advice is given on the preparation of essays. Tutorials are designed to help students sharpen their analytical skills and improve their oral expression. The preparation of essays is designed to help students define and demonstrate an understanding of important themes, and to improve their command of written English.

ANCIENT AND MEDIEVAL HISTORY

**HIST 110.3
Landmarks of Ancient History
1/2(3L-1T)**

Themes of Near Eastern history; Greek and Hellenistic experiments in politics and thought; Rome from city-state to world-state; Christianity in a pagan world.

Note: Students with credit for HIST 114 may not take this course for credit.

HIST 111.3 Landmarks of Medieval History 1/2(3L-1T)

The heirs of Rome; Charlemagne; Vikings, Magyars and the rise of feudalism; peasant life; Islam and the Crusades; the rise of France; the twelfth century renaissance; the Holy Roman Empire; the age of Pope Innocent III; medieval women; castles and cathedrals; the late middle ages.

Note: Students with credit for HIST 114 may not take this course for credit.

HIST 114.6 The Ancient and Medieval World 1&2(3L-1T)

Landmarks of Near Eastern history; Greek and Hellenistic experiments in politics, empire and thought; Rome from city-state to world state; Christianity in a pagan world; heirs of Rome; Charlemagne; Vikings, Magyars and the rise of feudalism; peasant life; Islam and the Crusades; the Holy Roman Empire and the Papacy; medieval women; chivalry, castles and cathedrals.

EUROPE

HIST 120.6 (Formerly 112) The History of Europe from the Renaissance to the Present 1&2(3L-1T)

A survey of significant forces in modern Europe from the 15th century; the shaping of the modern world; the concentration of political power and the expansion of Europe in the 17th and 18th centuries; the liberal experiment in the 19th century; the 20th-century dilemma.

HIST 121.3 Europe's Way to the Modern Age, 1348-1789 1/2(3L-1T)

The Black Death; Renaissance and Reformation; the wars of the seventeenth century; the rise of modern science; the agricultural revolution; the Enlightenment.

Note: Students with credit for HIST 112 may not take this course for credit.

HIST 122.3 Europe in the Age of Mass Culture, 1789 to the Present 1/2(3L-1T)

Population growth; the age of political revolutions; Romantics and Liberals; nationalism and socialism; the industrial revolution; towards gender equality; the two World Wars and the Cold War; towards economic and political integration.

Note: Students with credit for HIST 112 may not take this course for credit.

GREAT BRITAIN

HIST 140.6 (Formerly HIST 115) A Survey of British History 1&2(3L-1T)

An introduction to history through the peoples of the British Isles from Roman to modern times. A broad political narrative of dynastic, constitutional, religious, economic, military, and imperial events, as

well as social analyses of family and gender relations, work and industrial change, and cultural and intellectual developments.

EAST ASIA

HIST 148.6 (Formerly HIST 117) East Asia in Modern Times 1&2(3L)

The cultural and political developments of East Asia (mainly China and Japan) from the beginning of the 17th century to modern times; the European presence in this region and the interactions between European and East Asian traditions during this period.

CANADA

HIST 150.6 (Formerly HIST 116) Canadian History for the Indian Student from Earliest Times to the Present 1&2(3L-1T)

Special attention is given to the role of the Indian in this general survey of Canadian history that examines French and Loyalist political traditions, Confederation, the development of a national political life, the rise of staple trades, problems of transportation, economic diversification, and changes in society.

Note: Open only to students registered in the ITEP program. Students with credit for HIST 150 may not take HIST 151 or 152 for credit.

HIST 151.3 Canadian History from the Pre-Contact Period to 1867 1/2(3L-1T)

A survey of the history of Canada from the pre-contact period until 1867, emphasizing social, cultural, economic, political, constitutional, and external policy developments.

Note: Students with credit for HIST 150 and/or 206 may not take this course for credit.

HIST 152.3 Post-Confederation Canada 1/2(3L-1T)

A survey of the history of Canada since Confederation, emphasizing social, cultural, economic, political, constitutional, and external policy developments.

Note: Students with credit for HIST 150 and/or 206 may not take this course for credit.

THE AMERICAS

HIST 170.6 (Formerly HIST 113) The Americas 1&2(3L-1T)

A comparative exploration of the history of Canada, the United States, and Latin America from Pre-Columbian societies to the present, focusing on ethnic and class conflict, gender roles, slavery, the role of religion and the struggle for democracy.

THEMATIC HISTORY

HIST 180.3 History of Industrialization 1/2(3L-1T)

A survey of industrialization in world history, 1750-present, with a focus on how

particular societies and cultures were transformed by industrial growth beginning in Britain and later in western and eastern Europe, North America, Japan, and to varying degrees in other countries of the world.

SENIOR LECTURE COURSES

The following lecture and lecture-tutorial courses are designed to provide more detailed examination of a subfield within one of the survey areas, and a more advanced and detailed discussion of conflicting interpretations and the historiographical debates on issues, themes and developments within that historical subfield.

The Department offers a judicious mix of subfields, which may be defined along national/political, chronological, or thematic lines. The subfields are fairly general, and the instruction is designed to offer greater depth of coverage and to develop a better sense of the varieties of history and of the context for the events studied than is the case in the first year courses.

Instruction normally consists of either three hours of lectures a week or two hours of lectures a week and one hour of tutorial instruction in which documents or assigned readings are examined, and historical and historiographical issues are discussed. The preparation of essays is an integral part of all these courses. In their essays students are expected to define and demonstrate an understanding of major historical themes, develop research skills, and improve their command of written English.

* Denotes courses with a terminal date of 1815 or earlier.

ANCIENT AND MEDIEVAL HISTORY

*HIST 200.6 (Formerly HIST 203) The History of Greece 1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level or 6 credit units from the Department of Classics.

Minoans and Mycenaeans; the Dark Age; political and intellectual experiments of the Archaic Age; Persian Wars; the rise and fall of the Athenian empire; Athenian democracy; Greek thought, featuring historiography; the trials of city states and the rise of Macedon; Alexander and the Hellenistic world; Greece and Rome.

*HIST 201.6 (Formerly HIST 204) History of Rome 1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level or 6 credit units from the Department of Classics.

Etruscan, Greek and Italian neighbours; society and politics in the Roman Republic; creation of an Italian federation and a Mediterranean empire; failure of the Republic; Augustus and the advent of monarchy; the Roman Empire, with emphasis on its constitutional, social, military and ideological fabric; paganism and Christianity; Rome's decline; historiography.

*HIST 202.3 The Formation of Europe 300-1000 1/2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

A history of the West from the Christianization of the Roman Empire in the fourth century to the foundation of the Holy Roman Empire in the tenth century. Themes include: the survival of Romanitas, monasticism and the western Church, the barbarian kingdoms, the Carolingian Renaissance, and the rise of feudalism.

Note: Students with credit for HIST 212 may not take this course for credit.

*HIST 205.3 Europe and the World in the High Middle Ages, 1000-1300 1/2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

Cluny and the Gregorian reform; the rise of feudal monarchy; Byzantium, Islam and the Crusades; twelfth century renaissance; universities and scholasticism; new forms of religious life; the peasantry; medieval women; the Holy Roman Empire and the Papacy; castles and cathedrals; feudal monarchies.

Note: Students with credit for HIST 212 may not take this course for credit.

*HIST 211.3 The Byzantine Empire, 330-1453 1/2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

An introduction to the empire, centered on Constantinople, which dominated much of the Near East for a thousand years after Rome. Themes include religious and cultural developments; the relations between Byzantium and the Latin West; the Islamic world; the Crusades; Byzantium and the political and cultural development of eastern Europe.

*HIST 213.6 (Formerly HIST 251) Medieval England, 1000-1460 1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

Studies elements in the political and constitutional history of medieval England and considers the relevance for the 20th century of documents such as Magna Carta, and emphasizes the cultural achievements of the period and examines the ways of life of the common people.

EUROPE

HIST 220.6 (Formerly HIST 210) Russian History from the 9th Century to the Present 1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

The formative influences on Russian history; unification and expansion of the country; developments in the political, social and economic structure. Russia's relationship with the West; the connection between the Soviet period and earlier developments; the collapse of the Soviet Union in 1991 and post-Soviet Union Russia.

***HIST 225.6 (Formerly HIST 214)
The Age of Renaissance, 1300-1555
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

The waning Middle Ages - Renaissance and Reformation. Black Death, economic recovery and overseas expansion. The Hundred Years' War, the fall of Constantinople and the empire of Charles V. Renaissance thought and art; the impact of printing; social and religious protest. Outstanding individuals: Joan of Arc, Petrarch, Columbus, Copernicus, Machiavelli, Leonardo, Erasmus, Luther.

***HIST 226.6 (Formerly HIST 216)
Early Modern Europe, 1555-1715
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

Europe from the Peace of Augsburg to the death of Louis XIV; political, religious and social unrest and conflict in the age of power. Special attention will be paid to the development of French government, institutions and culture.

***HIST 227.6 (Formerly HIST 217)
The Age of European Revolution,
1715-1815
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

A study of the Old Regime in Europe, the American Revolution and its relationship to European history, the French Revolution, and the Napoleonic period. The changes in methods of warfare, the industrial revolution in England and Europe, and intellectual changes accompanying this period of crisis will be discussed.

**HIST 228.6 (Formerly HIST 218)
Europe in the 19th Century,
1815-1914
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

The impact of the forces of nationalism, liberalism, democracy, industrialization and socialism: an analysis of the European balance of power, the rise of national states, the broadening of the base of government, the development of capitalism, extension of European control, and the causes of World War I.

**HIST 229.6 (Formerly HIST 219)
Europe in the 20th Century
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

The legacies and problems of the late 19th century and the shaping of the 20th-century world. The First World War and the Russian Revolution; the rise of totalitarianism, the League of Nations, the Great Depression and the Second World War; post-war Europe, elements of the Cold War, Europe and the colonial world, international diplomacy of the great powers.

GREAT BRITAIN

***HIST 242.6 (Formerly HIST 253)
Early Modern Britain, 1460-1760
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

From Reformation through civil war in three kingdoms to the emergence of Great Britain as an imperial power, this course examines the intersections of social, economic, intellectual, cultural and political history through local and regional history, family and gender relations, and dynastic and parliamentary affairs.

**HIST 243.6 (Formerly HIST 255)
Modern British Social History, 1760
to the Present
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

The history of the first modern industrial society: urbanization, democratization and class conflict; the rise of the labour movement, the triumph of middle-class values, the decline of the aristocracy; the changing religious and moral climate; the domestic consequences of world power; the social and economic impact of two world wars, the loss of world power.

**HIST 244.6 (Formerly HIST 256)
British Imperialism in Asia, Africa,
and the South Pacific
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

The slave trade; paramourty in India; Afghan and Burmese wars; opium wars and the opening of China; missionaries, traders and convicts in the South Pacific; Boer and British in South Africa; "New Imperialism" and the partition of Africa; Sepoy Rebellion, nationalism, Gandhi, and independence for India; roots of African independence.

EAST ASIA

***HIST 248.6 (Formerly HIST 238)
History of China and Japan to 1800
A.D.
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

A study of the development of Chinese and Japanese cultures from earliest times to 1800, discussing various characteristics of these two cultures and the many institutions which originated in these two countries.

**HIST 249.6 (Formerly HIST 237)
China and Japan in the 20th Century
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

A study of the political, social, economic and cultural development of China and Japan in the twentieth century with substantial emphasis on the importance of these two nations in international politics.

CANADA

***HIST 250.6 (Formerly HIST 224)
Canada and Colonial Neighbours
before 1800
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

Focuses on the colonies of Canada and Acadia in an imperial context and explores their relations with neighbouring colonies, especially the New England colonies, New York, Newfoundland, and the West Indies, as well as neighbouring Indian peoples.

**HIST 252.3
Canadian Political History,
1800-1900
1/2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

A survey of nineteenth-century Canadian political history, emphasizing the emergence and development of parties, political leadership, creation and evolution of a federal system, and the clash of ethnic, regional, class, and religious interests.

Note: Students with credit for HIST 208 may not take this course for credit.

**HIST 254.3
Canadian Political History,
1900-Present
1/2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

A survey of twentieth-century Canadian political history, emphasizing political leadership, emergence of new parties, the threat of Quebec separatism, and other regional tensions.

Note: Students with credit for HIST 208 may not take this course for credit.

**HIST 257.3
History of Canadian Prairies to 1911
1/2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

A study of Rupert's Land and the North-West to the early 20th century, including early contact between European and Aboriginal societies, the development, expansion, and decline of the fur trade, early western communities, environmental changes, Canadian expansionism and national development policies, regional responses, and developments leading to provincehood.

Note: Students with credit for HIST 209 may not take this course for credit.

**HIST 258.3
History of Canadian Prairies in the
20th Century
1/2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

An examination of the three prairie provinces, including the impact of the two World Wars and the Depression, protest movements and parties, urban growth and the modernization of rural life, environmental disasters and new resource developments, Aboriginal renewal, and western alienation.

Note: Students with credit for HIST 209 may not take this course for credit.

**HIST 259.3
Canadian Women's History from the
Pre-Contact Period to 1918
1/2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

Examines the history of Canadian women from the pre-contact period until the end of World War I, emphasizing the complexities of women's experiences and the interplay of such factors as gender, class, race and ethnicity. Employs chronological and thematic approaches while also making reference to historical debates and historiographical developments.

**HIST 260.3
Canadian Women's History from
1919 to the Present
1/2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

Examines the history of Canadian women from the end of World War I to the present, emphasizing the complexities of women's experiences and the interplay of such factors as gender, class, race and ethnicity. Employs chronological and thematic approaches while also making reference to historical debates and historiographical developments.

**HIST 261.3
Canadian-American Relations from
the Pre-Contact Period to the 20th
Century
1/2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

Examines political, economic, social, cultural and diplomatic aspects of Canadian-American relations from the pre-contact period until 1900. Employs chronological and thematic approaches while also making reference to historical debates and historiographical developments.

Note: Students with credit for HIST 221 may not take this course for credit.

**HIST 262.3
Canadian-American Relations from
1900 to the 20th Century
1/2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

Examines political, economic, social, cultural and diplomatic aspects of Canadian-American relations from 1900 to the present. Employs chronological and thematic approaches while also making reference to historical debates and historiographical developments.

Note: Students with credit for HIST 221 may not take this course for credit.

**HIST 263.6 (Formerly HIST 222)
The Canadian North
1&2(3L)**

Prerequisite(s): 6 credit units in history at the 100-level.

A survey of the history of northern Canada (north of 60): the northern environment and aboriginal peoples; the search for the North-West passage; whaling and the fur trade; Klondike Gold Rush and northern sovereignty; police, missionaries and the Hudson's Bay Company; Diefenbaker's northern vision and the Cold War; northern

pipelines, territorial self-government and native land claims.

HIST 264.3
Introduction to the History of
Indian-White Relations to 1880
1/2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

A survey of relations between indigenous peoples and immigrants to Canada from the 15th century to 1880, emphasizing early fur trade, religious, military, and civil interactions.

Note: Students with credit for HIST 223 may not take this course for credit.

HIST 265.3
Introduction to the History of
Indian-White Relations,
1880-Present
1/2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

A survey of relations between Natives and newcomers to Canada from the creation of the modern Department of Indian Affairs to the present, emphasizing assimilative policies, political resistance and organization, land disputes, and Aboriginal involvement in constitutional discussions.

Note: Students with credit for HIST 223 may not take this course for credit.

THE AMERICAS

HIST 270.6 (Formerly HIST 231)
The American Colonies and the
United States
1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

European background of American history; the establishment of the colonies and development of an American nationality. The Revolution, the formation of the Union and the struggle to maintain it. The Civil War and the emergence of modern America; the 20th century and America's rise to world power.

HIST 271.6 (Formerly HIST 233)
Modern Latin American History
1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

A survey of Latin American history, briefly discussing colonial society and the struggle for independence, but concentrating on the modern period. The course focuses on the conflict between the elite and folk/native cultures; the reasons for continued poverty and unrest, militarism, repression, dependency, revolution, and debt.

THEMATIC HISTORY

HIST 280.6
Intellectual History of Modern Europe
1&2(3L)

Prerequisite(s): Completion of 30 credit units at the university.

The conflict between freedom and authority from the 12th to the 20th centuries will be used as a focus for the study of the reactions of European thinkers to the problems of the world around them. Both

proponents and opponents of political and economic freedom, social equality, religious liberty and toleration, and the freedom of inquiry will be discussed.

HIST 281.6
Military History
1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

The evolution of modes of warfare from the Renaissance to the present. Military and naval strategy and tactics, civilian-military relations, weaponry, and military organization are included. Military history is interwoven with general history and particular attention is paid to the social and political aspects of militarism.

***HIST 283.3**
Society and the Rise of Science:
From the Renaissance to the
Industrial Revolution
1/2(3L)

Prerequisite(s): 6 credit units in history at the 100-level or 6 credit units in any natural science.

A study of the development of science in the context of social, political and intellectual change between the Renaissance and the end of the 18th century. Special attention will be paid to the Copernican Revolution, Renaissance technology, the tension between science and religion, and the early Industrial Revolution.

HIST 284.3
Society and the Rise of Science:
From the Industrial Revolution to the
20th Century
1/2(3L)

Prerequisite(s): 6 credit units in history at the 100-level or 6 credit units in any natural science.

A study of the development of science and its interaction with social, political and intellectual change from the Industrial Revolution to the present. The relationship between science and technology in the Industrial Revolution, the transition from alchemy to chemistry, the Darwinian achievement, and the impact of science on the modern world.

HIST 285.6
Christianity in Europe from 1500 to
1965
1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level.

An examination of the development of Christian denominations in Europe from 1500 to 1965. Topics will include the Protestant Reformation, the Catholic or Counter-Reformation, the challenges of the English and French Revolutions, overseas missionary activity, major church councils, and the impact of scientific discoveries.

HIST 287.3
Origins and Development of
Co-operatives in Europe
1/2(3L)

Prerequisite(s): 6 credit units in history at the 100-level and/or social science.

The origins of co-operative enterprises in working-class, lower-middle-class, and farm

communities in response to European industrialization in the nineteenth and twentieth centuries; the development of co-operative movements in Britain, France, Germany, Scandinavia, and eastern Europe to the present day; the history of co-operative ideas.

Note: Students with credit for HIST 286 may not take this course for credit.

HIST 288.3
Co-operatives in the World
1/2(3L)

Prerequisite(s): 6 credit units in introductory history and/or social science

The spread of co-operative enterprises outside Europe; the development of co-operative movements in the United States, Canada, Japan, India, China, Africa, and Latin America; the world co-operative movement; the challenges of co-operatives and development; co-operatives and new social movements in the world today.

Note: Students with credit for HIST 286 may not take this course for credit.

HIST 289.6 (Formerly HIST 234)
History of Development and
Underdevelopment in the Third
World
1&2(3L)

Prerequisite(s): 6 credit units in history at the 100-level or permission of the department.

Examines economic and social change in selected countries of Latin America, Africa, and Asia from the establishment of the European colonial system to the present. A comparative approach is employed to examine the possibilities and results of different economic policy choices in an historical context.

READING COURSES

These are junior seminars featuring major historical and historiographical issues. They are primarily directed readings courses rather than lecture courses, though some courses combine seminar discussions with lectures. In all these courses students are required to do assigned reading and then come to class prepared to discuss critically various themes, issues, events and conflicting historical interpretations. The preparation of written work is an integral part of these courses. Permission of the department must be obtained before enrolling in these courses.

ANCIENT AND MEDIEVAL HISTORY

***HIST 300.3 (Formerly HIST 398)**
The Roman Senate from Tiberius to
Nero
1/2(3S)

Prerequisite(s): 6 credit units in history or classics at the 200-level.

Ancient evidence and modern scholarship are used in a study of the Roman Senate and senatorial class from the death of Augustus to the fall of Nero (14-68).

***HIST 301.3 (Formerly HIST 399)**
The Severan Emperors of Rome,
193-235
1/2(3S)

Prerequisite(s): 6 credit units in history or classics at the 200-level.

Ancient evidence and modern scholarship are used in a study of the conduct and policies of the emperors from Septimius Severus to Severus Alexander.

***HIST 309.3 (Formerly HIST 313)**
The Crusades and their Aftermath
1/2(3S)

Prerequisite(s): 6 credit units in history at the 200-level.

Examines the socio-economic pressures and spiritual goals basic to the Crusades, military encounters, the organization of the Latin Kingdom of Jerusalem (1099-1291), and ensuing contacts between Christians and Muslims to the eighteenth century.

EUROPE

HIST 324.3 (Formerly HIST 310)
Nationalism and the Nationalities of
the Soviet Union
1/2(3S)

Prerequisite(s): 6 credit units in history at the 200-level or Russian 315.

Concentration on the nationalistic developments of the non-Russian peoples of the Soviet Union. Stresses the impact of the Soviet nationalities policy on the Finns, Estonians, Latvians, Lithuanians, Ukrainians, Jews and the Uzbeks.

HIST 325.3
European Imperialism in Africa,
1830-1936
1/2(3S)

Prerequisite(s): 6 credit units in history at the 200-level.

Selected topics in the history of European imperialism in Africa from the French invasion of Algeria in 1830 to the Italian invasion of Abyssinia in 1935.

HIST 326.3
Imperialism in Asia, 1840-1945
1/2(3S)

Prerequisite(s): 6 credit units in history at the 200-level.

Selected topics in the history of empire building in the Near East, Southern Asia, and the Far East, from the Opium War of 1840 to Japan's bid for empire in the 20th century.

HIST 327.3
Stalin, Lenin and the Succession
Question in the USSR: 1879-1929
1/2(3S)

Prerequisite(s): 6 credit units in history at the 200-level.

Treats Stalin, Lenin, Trotsky, and the Russian Revolution of 1905, the February and October Revolutions of 1917, the relationship between Lenin, Stalin and Trotsky, Stalin's rivalry with Zinoviev, Kamenev, and Bukharin before Stalin obtained sole power in the USSR by 1929.

**HIST 328.3 (Formerly HIST 311)
Stalin in Power 1929-1953 and the
Stalinist Legacy
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

Examines Stalin's collectivization and industrialization policy of 1928-1933, the 1934 Congress of Victors, the death of Kirov and the Purge Trials of 1935, Stalin and World War II, Stalin and the Jews, Stalin and the arts, including literature and cinema, and the Stalinist legacy from 1953 to the present.

***HIST 329.3 (Formerly HIST 314)
German History in the Age of
Reformation, 1500-1555
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

An initial study of the German political, economic and intellectual scene will enable students to interpret selections from Luther's writings and records of major Reformation debates. Documents on the Peasants' War and Anabaptist writings will be among the evidence chosen to illustrate the impact of the Reformation on German society.

***HIST 330.3 (Formerly HIST 315)
Humanist Thought in Renaissance
Italy, 1300-1527
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

A reading course in the development of Renaissance Humanism from Petrarch to Machiavelli. Topics will include the cult of the classics, the Greek revival, new trends in education, civic humanism, and Renaissance philosophy, history and political thought.

**HIST 332.3 (Formerly HIST 318)
German History, 1789-1870
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

The impact of the French Revolution and Napoleon, the rise of nationalism, liberalism and radicalism. Austro-Prussian dualism, the revolution of 1848, the wars of Bismarck, and the unification of Germany.

**HIST 339.3 (Formerly HIST 319)
German History, 1871-1945
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

The Second Reich, its position in Europe and the outbreak of the First World War. The revolution of 1918-19, the Weimar Republic and the rise of Hitler. The Nazi regime and the Second World War.

GREAT BRITAIN

***HIST 340.3 (Formerly HIST 352)
Early Modern Towns in Britain and
Europe: 1500-1750
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

What was it like to live in an early modern town? In exploring the social history of small and medium-sized towns in Britain and Europe, this course stresses both the particularity of selected urban communities,

and a common urban culture that cut across national and religious bounds.

***HIST 343.3 (Formerly 353)
Living in London: The Early Modern
Metropolis, 1500-1760
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

The social history of early modern London through recent historiography and contemporary eye-witness accounts, from the aggregate analysis of historical demographers to the personal reflections of diarists. How did the size, expansion, and dynamism of London affect those who lived there? What was life like in early modern London?

***HIST 344.3 (Formerly HIST 353)
Social and Cultural History of Early
Modern Britain
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

Selected topics in English and Scottish history, 1500-1750: i.e. religion and the state; rural society; civil war and revolution; family and household; consumerism; the union of England and Scotland; war and empire; women's lives.

***HIST 345.3 (Formerly HIST 354)
Politics, Protest and Rebellion in
England, 1689-1789
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

An examination of the Revolution Settlement and the tensions it created. The emphasis will be on the social and political pressures in British society, the growth of parties, the Jacobite rebellions, and the relationships between city and country during the early Industrial Revolution.

**HIST 346.3 (Formerly HIST 356)
Women in the Workplace: England
1780-1920
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

Women's participation in the Industrial Revolution and its implications. The home, the factory and other female workplaces. The effect of social and cultural differences among women. Changing views of femininity, masculinity and the gendered division of economic, social and psychological roles.

**HIST 347.3 (Formerly HIST 357)
Feminism and Society: England
1790-1945
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

The emergence of modern feminist ways of rethinking womanhood and manhood. The challenge of politics and the public sphere. Sexuality, morality, medicine, education, welfare and socialism as particular issues where feminism made a difference.

EAST ASIA

***HIST 348.3 (Formerly HIST 337)
History of China to 960 A.D.
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

A study of Chinese history from the beginning of Chinese civilization to the end of the Five Dynasties (907-960 A.D.), stressing the evolution of cultural and political institutions under various dynasties.

***HIST 349.3 (Formerly HIST 338)
History of China, 960-1644
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

A study of Chinese history during the second imperial age, from the Sung Dynasty (960-1279) to the end of the Ming Dynasty (1368-1644), stressing the evolution of the Chinese empire during this period.

CANADA

***HIST 350.3 (Formerly HIST 302)
The Conquest of Canada in
Perspective, 1715-1815
1/2(3S)**

Prerequisite(s): 6 credit units in Canadian history at the 200-level.

The British conquest of 1759-1763 assessed primarily in terms of its effect upon French Canadian society. Historical interpretations of this central event in Canadian history will form the core of study.

**HIST 351.3 (Formerly HIST 375)
Canadian Social History from 1800 to
1914
1/2(3S)**

Prerequisite(s): 6 credit units in Canadian history at the 200-level.

Examines the social history of Canada from 1800 to 1914, considering the impact of such factors as class, gender, ethnicity, race, and regionalism. Employs chronological and thematic approaches while also making reference to historical debates and historiographical developments.

**HIST 355.3
Canadian Social History from 1914 to
the Present
1/2(3S)**

Prerequisite(s): 6 credit units in Canadian history at the 200-level.

Examines the social history of Canada from 1914 to the present, considering the impact of such factors as class, gender, ethnicity, race, and regionalism. Employs chronological and thematic approaches while also making reference to historical debates and historiographical developments.

**HIST 358.3 (Formerly HIST 303)
The Nationalist Awakening of French
Canada, 1800-1850
1/2(3S)**

Prerequisite(s): 6 credit units in Canadian history at the 200-level.

Examines the early development of French Canadian nationalism in a difficult period of social and economic change, its expression in political agitation and thwarted rebellion, and its eventual compromise with English Canada in the 1840s.

**HIST 359.3 (Formerly HIST 304)
French-English Relations in Canada,
1840-1918
1/2(3S)**

Prerequisite(s): 6 credit units in Canadian history at the 200-level.

Examines recurring controversies in French-English relations from the sectionalism of the Union period to the conscription crisis of World War I. The economic, social and political developments underlying these conflicts will also be examined.

**HIST 360.3 (Formerly HIST 305)
French-English Relations in Canada,
1918 to the Present
1/2(3S)**

Prerequisite(s): 6 credit units in Canadian history at the 200-level.

Examines French-English relations since World War I, including evolution of Quebec nationalism between the wars, economic change in Depression and wartime, the Quiet Revolution, the emergence of separatism, and constitutional negotiations from the Victoria Charter onward.

**HIST 361.3 (Formerly HIST 308)
Protest Movements in Canada:
1921-1945
1/2(3S)**

Prerequisite(s): 6 credit units in Canadian history at the 200-level.

An examination of political and socioeconomic protest in Canada between 1921 and 1945 with particular emphasis on the western Canadian experience. Studies protest movements and organizations, new political parties, and incidents of public unrest and violence.

**HIST 362.3
Doing Canadian History
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

An examination of how Canadian history has been presented and interpreted outside the usual academic precincts. Examples include popular history, historic sites and parks, film/video, museums, political rhetoric, and architecture.

**HIST 363.3
The Age of Affluence: A History of
Post-1945 Canada
1/2(3S)**

Prerequisite(s): 6 credit units in Canadian history at the 200-level.

Canadians emerged from World War II confident, optimistic and well-positioned to play a leading role in world events. What happened? Seminar topics devoted to political, social, cultural and economic developments allow students to study the central dichotomy of modern Canadian life—angst in an era of affluence.

THE AMERICAS

**HIST 372.6 (Formerly HIST 334)
Revolution and Social Change in
Latin America
1/2(3S)**

Prerequisite(s): HIST 170 or 271.

Discusses revolution and social change in Latin America ranging from early native

protests against colonial rule to current unrest.

**HIST 373.3 (Formerly HIST 335)
Race, Class and Gender in U.S.
History, 1790-1865
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

An examination of the significant social, economic and political developments in the history of the U.S. from the beginning of the New Republic to the end of the Civil War.

**HIST 374.3 (Formerly HIST 336)
Race, Class and Gender in U.S.
History, 1865-1983
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

An examination of major social and political developments in the history of the U.S. from Reconstruction to the early 1980s.

***HIST 376.3 (Formerly HIST 341)
Native Society under Spanish
Colonial Rule
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

The major elements of native society in colonial Latin America, beginning with pre-conquest native culture (Aztec, Mayan, and Incan). The focus is on native revolt, resistance to colonial rule, and the emergence of a new native culture, community, and economy during the three hundred years of Spanish colonial rule in Latin America.

**HIST 377.3 (Formerly HIST 342)
Rural Communities and the State in
Latin America
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

The continuing conflict between rural communities and the state in modern Latin America (1830 to the present) focusing on cultural conflict between "folk" and elite forces, the struggle for land between peasant communities and export agriculture, the failure or successes of agrarian reform, peasant revolt, and cocaine cultivation.

**HIST 379.3
Slavery in the Americas
1/2(3S)**

Prerequisite(s): HIST 270 or 271 or permission of the department.

This course examines the history of slavery in the Americas, comparing the experience in the United States, Brazil, and the Caribbean. Various themes will be examined: the reasons for slavery, the economics of the slave trade, the development of slave society, slave resistance and revolt, opposition to slavery, the abolition of slavery, and the aftermath of slavery.

THEMATIC HISTORY

**HIST 380.3
Computer-Assisted History
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 200-level.

Examines how historians use computers. The course discusses the debate over the use of computers in history, investigates resources available to historians on the Internet, and introduces students to the use of spreadsheets, graphs, and databases in historical study.

**HIST 381.3
Problems in Modern Military History
1/2(3S)**

Prerequisite(s): One of HIST 227, 228, 229, 281 or POLST 360.

Topics will be selected from the tactical, strategic, and technological history of European warfare from the 18th century to the end of the Second World War.

**HIST 383.3
The Scientific Revolution from
Newton to Darwin
1/2(3S)**

Prerequisite(s): HIST 283 and 284 or one of HIST 226, 227, 228, 242, 280 and 6 credit units in the natural sciences.

The scientific and philosophical discovery of the laws of nature from the period of Newton to Darwin. Emphasis will be given to the status of science, the growth of experiment, the relationship between science and technology, and the decline of the mystical view of nature in the 18th and 19th centuries.

**HIST 385.3
Selected Topics in Central American
History (Antigua)
1/2(3S)**

Prerequisite(s): 6 credit units in history at the 100-level.

This course, part of the "Antigua, Guatemala Semester Abroad Program," will examine selected themes in the history of Central America, concentrating on the 19th and 20th centuries. It will take advantage of its location by including guest lecturers from Central America and field trips in Guatemala, Honduras and Belize.

**HIST 390.3 (Formerly HIST 333)
The Cold War and its Historical
Interpretation
1/2(3S)**

Prerequisite(s): HIST 220 or 229 or 244 or 270.

Topics in the history and historical literature of the Cold War from the Wilson-Lenin era to the present, with primary emphasis on the post-1943 period. Major, analytical focus is on the interaction between politics and historical writing, with attention to assumptions, biases and methodology of various writers.

Note: Students with credit for HIST 433 or 490 may not take this course for credit.

HONOURS SEMINAR CLASSES

These are research seminars in which students are required to do some work with primary sources. The discussion of assigned readings, and the preparation, presentation and criticism of research papers are the main activities. Historical

themes and problems are examined in depth. Conflicting historical interpretations and historiography are discussed.

Note: Permission of the department must be obtained.

COLLOQUIUM

**HIST 494.0
Honours Colloquium**

Prerequisite(s): Admission to an honours program in history.

Oral presentation of a historical paper at a conference of Honours students. The presentation is normally based on a paper already prepared, or in preparation, for a third- or fourth-year seminar course.

Note: HIST 494 is required of all Honours students.

ANCIENT AND MEDIEVAL HISTORY

*HIST 400.6 (Formerly 404) The Age of Augustus, 44 B.C. - A.D. 14 1&2(3S)

*HIST 402.3 Aspects of Late Antiquity 1/2(3S)

*HIST 403.3 (Formerly HIST 422) Topics in the History of Early Medieval England 1/2(3S)

*HIST 413.3 (Formerly HIST 460) Dante's Divine Comedy as an Historical Source

EUROPE

*HIST 421.3 (Formerly HIST 462) Erasmus and Renaissance Humanism 1/2(3S)

*HIST 423.3 (Formerly HIST 463) The Search for Religious Toleration and Church Unity in the 16th Century 1/2(3S)

*HIST 424.3 (Formerly HIST 466) Catholic Reform and Counter-Reformation in Italy, 1540-1650 1/2(3S)

*HIST 425.6 (Formerly HIST 416) France in the 17th Century 1&2(3S)

*HIST 426.6 (Formerly HIST 417) Politics, Economics and Society in the Enlightenment 1&2(3S)

HIST 427.6 (Formerly HIST 410) Russia: Social and Political Ideas in the 19th Century 1&2(3S)

HIST 428.6 (Formerly HIST 411) A History of Siberia from the 16th Century to the Present 1&2(3S)

HIST 429.6 (Formerly HIST 418) Origins of the First World War, 1871-1914 1&2(3S)

HIST 435.3 (Formerly HIST 420) The Nazi State, 1933-1938 1/2(3S)

HIST 438.3 (Formerly HIST 420) The Nazi Catastrophe and its Postwar Legacies 1/2(3S)

GREAT BRITAIN

*HIST 441.6 (Formerly HIST 453) Selected Problems in 17th-Century English History 1&2(3S)

HIST 442.6 (Formerly HIST 456) Imperialism and the Victorians 1&2(3S)

HIST 443.6 (Formerly HIST 457) Victorian England: Culture and Society 1&2(3S)

EAST ASIA

HIST 448.6 (Formerly HIST 437) People's Republic of China 1&2(3S)

CANADA

*HIST 450.6 (Formerly HIST 406) French Canada before 1800 1&2(3S)

HIST 451.6 (Formerly HIST 401) History of Indian-White Relations in Canada 1&2(3S)

HIST 452.6 (Formerly HIST 405) The Canadian North from 1870 1&2(3S)

HIST 458.6 (Formerly HIST 407.6) Confederation and Its Critics, 1860-1920 1&2(3S)

HIST 460.6 (Formerly HIST 409) The Canadian Prairies, 1869-1939 1&2(3S)

HIST 461.6 (Formerly HIST 412) Canadian Women's History 1&2(3S)

HIST 464.6 History of Canadian Popular Culture 1&2(3S)

THE AMERICAS

HIST 471.6 (Formerly HIST 431) The United States in the Nuclear Age 1&2(3S)

HIST 472.6 (Formerly HIST 434) Central American History 1&2(3S)

THEMATIC HISTORY

HIST 480.6 Historical Method 1&2(3S)

*HIST 483.6 Science and Revolution, 1640-1790 1&2(3S)

HIST 490.6 (Formerly HIST 433) The Cold War 1&2(3S)

Note: Students may not take both HIST 390 and 490 for credit.

SPECIAL TOPICS

HIST 298.3 1/2(3S)

HIST 299.6 1&2(3S)

HIST 398.3 1/2(3S)

HIST 399.6 1&2(3S)

HIST 498.3 1/2(3S)

HIST 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

COURSES IN OTHER DEPARTMENTS

A maximum of 6 credit units may be chosen from the following list to be counted towards the history major or honours program, provided that these courses are taken with permission of the Head of the Department of History.

NATST 200.6 History of the Metis People of Canada

NATST 203.3 History of the Indian in Western Canada

NATST 204.3 History of the Indian in Eastern Canada

NATST 213.3 The American (U.S.) Indian

NATST 301.6 Reading Seminar in Metis History

NATST 302.6 Seminar on Indian History

For details see the appropriate section of the Calendar.

INTERDISCIPLINARY PROGRAMS

An Interdisciplinary program is an academic program which permits students to study beyond the boundaries of traditional disciplines or disciplinary programs, to explore the relationship among disciplines in depth, and to integrate knowledge gained into a central theme.

For details of the following programs see: Ancient History and Classical Culture, Biotechnology, Classical and Near Eastern Archaeology, Environmental Earth Sciences, Food Science, International Studies, Land Use and Environmental Studies, Linguistics, Mathematical Physics, Palaeobiology, Public Administration, Regional and Urban Development.

INTERDISCIPLINARY STUDIES

SPECIAL TOPICS

- INTST 298.3 1/2(3S)
- INTST 299.6 1&2(3S)
- INTST 398.3 1/2(3S)
- INTST 399.6 1&2(3S)
- INTST 498.3 1/2(3S)
- INTST 499.6 1&2(3S)

Interdisciplinary Studies courses are taught occasionally as Special Topics courses. These courses are interdisciplinary in nature or are team-taught by faculty from several departments.

INTERNATIONAL STUDIES

Co-ordinator of Program, K. Deonandan (Political Studies)

Committee: A. Anderson (Sociology), A. Akerman (Geography), P. Downe, (Women's and Gender Studies), C. Echevarria (Economics), P. Elabor-Idemudia (Sociology), B. Kordan (Political Studies), representatives of the International Studies Students' Association.

This program is designed to meet the requirements for a B.A. Four-year or Honours degree based on Program Type B in the College of Arts and Science. It will provide a broad introduction to the field of International Studies and a strong grounding in one of the three required streams: Development Studies, International Cooperation and Conflict, and Latin American Studies.

Departments participating in the International Studies Program include Anthropology and Archaeology, Economics, Geography, History, Political Studies, and Sociology, Native Studies, Religious Studies, Women's and Gender Studies. The College of Law, Community Health and Epidemiology, and the Centre for the Study of Cooperatives also contribute courses in the program.

GENERAL REQUIREMENTS

(1) 3 to 6 credit units in 100-level courses in five of the following six disciplines: Anthropology and Archaeology, Economics, Geography, History, Political Studies, and Sociology. (Number of junior courses required will depend on each department's

prerequisites for the senior courses which the student wishes to take.) Students must ensure they have the prerequisites for senior courses they wish to take in each of the streams.

(2) INTNL 200.6 and 400.6

(3) 6 credit units in a modern language other than English: FR 121.3 (or 122.3) and 125.3, or FR 128.3 and 218.3; GERM 115.6 or 215.6; RUSS 115.6 or 215.6; SPAN 115.6 or 215.6; UKR 115.6 or 215.6; or a language approved by the Program Coordinator. It is recommended that students take additional language courses.

(4) At least 6 credit units at the 400-level in the participating disciplines or in INTNL, preferably from the list of recommended courses.

(5) Courses required by streams.

DEVELOPMENT STUDIES

Courses in the Development Studies Stream have been selected to provide students with a broad, interdisciplinary education focussing on the conditions and problems of less-developed countries comprising the so-called "Third World", the history and theory of economic development around the world, and the geographic and environmental consequences of "development".

The recommended courses in this stream include examinations of specific aspects of third world development in all of the disciplines involved in the program. These include courses in the history of European expansion and colonialism, anthropology and sociology courses dealing with comparative cultural and social change, history, political studies, geography and economics courses which deal with specific regions of the third world and courses which discuss in a broad international context issues of particular importance to development (resource use, the environment, urbanization, health, gender, indigenous issues, and agriculture). Courses of particular relevance from the Departments of Native Studies, Women and Gender Studies and Community Health and Epidemiology are also included.

Students specializing in this stream will also have the opportunity (and will be strongly encouraged) to study aspects of development in field courses and study abroad programs held outside of Canada. These currently include opportunities to study in Central and South America and Africa. With the approval of the Coordinator of the International Studies Program, such courses may take the place of recommended courses in this stream.

Requirements

(i) 18 credit units in required courses: ECON 270.3 (Economic Development in Non-Industrialized Nations); GEOG 208.3 (World Regional Development); HIST 289.6 (History of Development and Underdevelopment in the Third World); and POLST 246.6 (The Politics of the Third World) or 247.6 (Comparative Politics of Latin America).

(ii) 24 credit units selected from the following list of recommended courses

(400 level courses may be used to satisfy requirement 4 above): ECON 221.3, 254.3, 256.3, 258.6, 275.3, 277.3, 354.3, 356.3, 377.3, 414.3; POLST 246.6, 247.6, 346.3, 362.3, 385.3; HIST 249.6, 271.6, 244.6, 288.3, 325.3, 326.3, 372.6, 376.3, 448.6, 472.6; GEOG 205.3, 215.3, 241.3, 207.3; SOC 201.3, 204.3, 206.3, 230.3, 237.3, 305.3, 315.3, 402.3, 409.3; ANTH 230.3, 231.3, 232.3, 329.3, 337.3, 339.3, 422.3, 425.3; WGST 202.3, 203.3, 353.3; NATST 305.6; CH&EP 302.3; Guatemala Term Abroad courses (ECON 285.3, POLST 385.3, HIST 385.3, SOC 385.3, ANTH 385.3) or, when appropriate, from POLST 444.6; INTNL 385.3, 388.3, 389.6 (maximum of 6 credit units from INTNL 388 and 389).

INTERNATIONAL COOPERATION AND CONFLICT

This area of concentration provides students with the opportunity to study the relationships between states, the impulses and avenues used for international cooperation, as well as the reasons for and complexity of conflict in the international arena. Both cooperation and conflict in the international arena, of course, is not necessarily limited to states, and courses in this stream examine these two issues at a variety of levels.

A large number of Political Studies courses are included in the required and recommended lists for this stream, but the stream also includes numerous courses in History and Economics which deal with both cooperation and conflict in the international arena. Courses in Sociology and Anthropology which focus on ethnic relations and conflict are also important elements of the stream.

Requirements

(i) 18 credit units in required courses: POLST 260.6 (International Relations); HIST 229.6 (Europe in the 20th Century); SOC 205.3 (Comparative Race and Ethnic Relations) and ECON 254.3 (The International Trading System).

(ii) 24 credit units selected from the following list of recommended courses (400 level courses may be used to satisfy requirement 4 above): POLST 240.6, 241.3, 243.3, 360.6, 362.3, 363.3, 365.6, 367.3, 368.3, 440.6, 444.6, 464.6, 467.6, 468.6, 469.6; ECON 256.3, 354.3, 356.3; HIST 228.6, 256.6, 262.3, 281.6, 324.3, 325.3, 326.3, 381.3, 390.3, 471.6, 490.6; SOC 305.3, 412.3; ANTH 235.3, 425.3; GEOG 241.3, 260.3; LAW 433.3, 457.3, 458.3. or, when appropriate, from INTNL 388.3, 389.6 (maximum of 6 credit units from INTNL 388 and 389).

LATIN AMERICAN STUDIES

What most decidedly sets the Latin American Studies stream apart is the Guatemala Term Abroad. This term is a joint program with the University of Guelph and offers students the opportunity to complete as many as 21 credit units in University of Saskatchewan courses while resident in Guatemala. This is a unique opportunity not duplicated in any other university in Canada (except Guelph) which, combined with required and recommended courses at

the University of Saskatchewan, contributes to a strong Latin American Studies stream.

Students enrolled in this stream will be required to attend the Guatemala Term Abroad and complete at least 12 credit units (which may include 3 credit units in Spanish) there. They will also be required to complete a course in Modern Latin American History or the Comparative Politics of Latin America. This stream also includes 3 more required credit units in a modern language than the other two thematic streams.

Recommended courses in this stream include particular regional or thematic approaches to Latin American history and topical or thematic courses in all of the disciplines which deal with issues of particular importance for Latin America.

Requirements

(i) Students must attend the Guatemala Term Abroad.

(ii) 18 credit units in required courses: 12 credit units from the Guatemala Term Abroad (may include 3 credit units in Spanish) and 6 credit units in either HIST 271.6 (Modern Latin American History) or POLST 247.6 (Comparative Politics of Latin America).

(iii) 24 credit units selected from the following list of recommended courses (400 level courses may be used to satisfy requirement 4 above): ANTH 337.3; ECON 270.3, 308.6; GEOG 205.3, 208.3, 215.3; HIST 271.3, 289.6, 372.6, 376.3, 377.3, 379.3, 472.6; SOC 205.3, 237.3, 305.3, 315.3, 402.3, 409.3; POLST 247.6; INTNL 385.3; NATST 305.6; WGST 203.3, additional courses from the Guatemala Term Abroad, or, when appropriate, from POLST 346.3, 348.6, 444.6; INTNL 388.3, 389.6 (maximum of 6 credit units from INTNL 388 and 389). Students must complete at least 9 credit units in Spanish.

INTNL 200.6 International Studies 1&2(3L)

Prerequisite(s): 18 credit units at the 100-level including at least 12 credit units at the 100-level from two or more of the departments participating in the International Studies program (Anthropology and Archaeology, Economics, Geography (Human), History, Political Studies and Sociology).

An examination of selected international issues in interdisciplinary perspective. Theoretical and methodological contributions of the social sciences and history to international studies. Fields of specialization within international studies, including development studies, international relations and conflict resolution, and area studies.

INTNL 385.3 Latin American Studies 1/2(3S)

Prerequisite: Attendance at the Guatemala Term Abroad.

Offered as part of the Antigua, Guatemala Term Abroad. Specific course topics will change on each occasion it is offered, but will typically cover a range of interdisciplinary topics focused on

Guatemala, Central America, and Latin America.

**INTNL 388.3/389.6
Independent Research
1/2(1S), 1&2(1S)**

Prerequisite(s): Permission of the International Studies Administrative Committee and the project supervisor.

International Studies offers senior students the opportunity to do an interdisciplinary Independent Research course. This will be most attractive to students away from the university on study trips. Research projects and topics must be approved by the International Studies Administrative Committee.

**INTNL 400.6
Honours Seminar in International
Studies
1&2(3S)**

Prerequisite(s): Fourth year standing in the International Studies Program or permission of the Co-ordinator of the International Studies Program.

Discussion of the nature and utility of major approaches to the understanding of international behaviour, and the development of an interdisciplinary and integrated perspective of contemporary international relations.

SPECIAL TOPICS

- INTNL 298.3 1/2(3S)
- INTNL 299.6 1&2(3S)
- INTNL 398.3 1/2(3S)
- INTNL 399.6 1&2(3S)
- INTNL 498.3 1/2(3S)
- INTNL 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the program co-ordinator or administrative committee for more information.

INUUKTITUT

See Department of Anthropology and Archaeology section of the *Calendar*.

**LAND USE AND
ENVIRONMENTAL STUDIES**

Administrative Committee: D. Martz (Geography), M. Gertler (Sociology), M. Rever-DuWors (Biology), J. Romo (Plant Science).

The College of Arts and Science offers a four-year program in Land Use and Environmental Studies leading to the B.A. or B.Sc. Four-year or B.A. or B.Sc. Honours degree. Students wishing to take this program are required to contact one of the members of the administrative committee for advice in choosing their options. It is possible with the careful choice of options either to pursue a major in Land Use and Environmental Studies, or complete a major in biology, economics, geography or sociology, while fulfilling the requirements of this program.

Note: Students opting for Land Use and Environmental Studies must fulfill the requirements of Program Types B or C. The

courses required in (1) and (2) following will fulfill Requirement 6 in Program Types B or C.

The requirements for the program are as follows:

(1) BIOL 110.6, 253.3, CHEM 111.3*, 251.3*; MATH 110.3; ECON 111.3, 114.3, 211.3 and two of ECON 275.3, 277.3, 347.3, AG EC 330.3 (430.3), 432.3; 6 credit units from GEOG 111.3, 112.3, 113.3, 114.3, 210.3, 215.3; GEOG 280.3, LUEST 400.3; and appropriate 3 credit unit senior course in statistics.

(2) 24 credit units chosen from: PL SC 301.3, 423.3, 436.3; SL SC 220.3, 313.3, 332.3, 460.3; BIOL 263.3, 315.3, 323.3, 324.3, 350.3, 364.3, 415.6, 424.3, 425.3, 473.3; CHEM 374.3, 375.3; GEOG 222.3, 225.3, 233.3, 235.3, 270.3, 271.3, 320.3, 321.3, 322.3, 323.3, 325.3, 333.3, 335.3, 351.3, 370.3, 381.3; PHIL 226.3; AP MC 212.3; SOC 110.6, 204.3.

(3) Additional courses** subject to the condition that of the 120 credit units required for the degree not more than 60 may be in one subject and not more than 54 may be junior.***

* Students not planning to take upper-year courses in biology other than BIOL 253 may be permitted to replace CHEM 111 and/or 251 with another approved course in the natural sciences or mathematics.

** These courses may be chosen to complete a major in biology, economics, geography or sociology or to concentrate in Land Use and Environmental Studies.

*** A junior course is a first-year course (numbered in the 100s)

Note: Please consult the Office of the Dean for a list of the courses in this program which are used for the calculation of the C.P.A. in the major for graduation purposes.

**LUEST 400.3
Field Training in Environmental
Management
1/2(3S)**

Prerequisite(s): Completion of three years of the *Land Use and Environmental Studies program*, or permission of the LUEST Administrative Committee.

Land Use and Environmental Studies students will analyze, research and propose solutions to actual problems in environmental management under the direction of professional management personnel and of instructors in the LUEST program. The course will also provide training in field research techniques and report preparation.

SPECIAL TOPICS

- LUEST 298.3 1/2(3S)
- LUEST 299.6 1&2(3S)
- LUEST 398.3 1/2(3S)
- LUEST 399.6 1&2(3S)
- LUEST 498.3 1/2(3S)
- LUEST 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the program co-ordinator or administrative committee for more information.

**CO-OPERATIVE EDUCATION
PROGRAM**

This five-year program is available to students in the B.A. or B.Sc. Four-year and Honours programs. After completion of the second year (at least 54 credit units), students spend the first half of their third year and the last half of their fourth year in a paid work placement. Students complete four or five four-month paid work terms, then return to university for their final year. For program details, see the program description in the Geography section of the *Calendar*.

Entrance Requirements for LUEST students: Students must hold a cumulative C.P.A. of 70% or higher (or have permission of the Interdisciplinary Co-ordinator) and must have completed no fewer than 54 and no more than 84 credit units of course work. To qualify for participation in the Co-operative Education Program, students must have successfully completed the following courses: BIOL 110.6 and 253.3; MATH 110.3; ECON 111.3 and 114.3; one of ECON 275.3, 277.3 or AG EC 330.3 (430.3), 6 credit units in geography selected from GEOG 111.3, 112.3, 113.3, 114.3, 210.3 or 215.3; GEOG 280.3.

LANGUAGES AND LINGUISTICS

The Department of Languages and Linguistics offers instruction in the French, German, Russian, Spanish, and Ukrainian languages; the literatures of these languages, both in the original and in translation; the related civilizations and cultures; and Comparative Literature, and Linguistics.

Most language courses require a computer laboratory fee.

Language Courses:

- FR 103, 106, 121 (or 122), 125, 128, 212, 215, 218, 302, 303, 304, 401, 406
- GERM 115.6, 215.6, 315.6;
- RUSS 115.6, 215.6, 315.6;
- SPAN 115.6, 200.6, 215.6, 315.6;
- UKR 115.6, 215.6, 315.3, 316.3.

Literature and Civilization Courses (lectures given in English; there is no second language prerequisite):

- FR 181.3, 186.3, 285.3, 365;
- GERM 212.6;
- LIT 100.6, 201.6, 300.6;
- RUSS 205.3, 210.3, 235.3;
- SPAN 205.3;
- UKR 205.3, 211.3, 212.3, 220.3, 310.3.

Literature and Civilization Courses (lectures given in the original language):

- FR 210, 213, 251, 252, 271, 272, 308, 309, 317, 318, 319, 320, 334, 340, 343, 345, 350, 365, 407, 408, 409, 417, 418, 419, 420, 423, 434, 436, 438, 443, 445, 482, 495, 496;
- GERM 231.6, 241.6, 251.6, 361.6, 490.6;
- RUSS 216.3, 226.3, 300.3, 350.3, 405.3;
- SPAN 305.6, 306.3, 403.3, 405.3, 406.3, 408.3;
- UKR 216.3, 226.3, 230.3, 300.3, 350.3, 405.3, 410.3.

The study of second languages is fundamental to an education in the liberal

arts, to citizenship in a multicultural nation, and to understanding an increasingly close-knit world. It is an important element in the study of linguistics. Knowledge of specific second languages is important in many undergraduate and graduate programs and an advantage or necessity in many careers. The ability to read and communicate in a second language also opens doors, otherwise closed, to gratifying personal and cultural experiences.

Career opportunities for students of modern languages: These include teaching in schools and universities (for the latter a Ph.D. is the standard qualification); the provincial and federal civil services; tourism; translation; publishing; librarianship; journalism; broadcasting; international commerce.

Courses and programs abroad: Students are strongly encouraged to complement their programs with study and travel abroad. By obtaining prior permission of the University they may be able to apply credits earned abroad towards a University of Saskatchewan degree. Attention is directed especially to:

- the Deutscher Akademischer Austauschdienst (DAAD) (German Academic Exchange Service), which provides scholarships enabling senior undergraduate students to take summer courses in German language, culture and history at a university in Germany;
- the Goethe Institute Scholarships providing eight weeks of language study at one of sixteen Goethe Institutes in Germany;
- the Werkstudentenflug (Student Work Flight), under which summer employment in Germany is arranged for Canadian students of German;
- the Government of Spain awards for study in Spain (administered by the International Council for Canadian Studies);
- the Saskatoon Russian Cultural Club Language Scholarship, which enables a senior student to study Russian in an accredited program in North America or Europe, such as the St. Petersburg Intensive Russian Program;

For information on these and other programs, interested students should contact the department as early as possible. Several book prizes and scholarships, ranging in value from \$200.00 to \$2000.00, are available to students studying French, German, Russian, Spanish or Ukrainian, as described in the *Awards Guides*.

PROGRAMS

The following descriptions state the minimum requirements. Students may not take more than 60 credit units in a subject in the B.A. Four-year programs or more than 42 credit units in a subject in the Three-year programs.

It is suggested that all students in Program A who are majoring in the Department take in their first two years: LING 111 and 112, LIT 100, and two languages. Linguistics majors in Program B should take LING 111 and 112, PSY 110, and, either one

language and LIT 100, or, two languages. These courses may be used to satisfy requirements 1, 2, and 4 of either Program A or B.

LING 111 and 112 and LIT 100 will provide an introduction to the two main emphases of the Department's programs: the study of language and the study of literature. Courses in other areas such as Art History, Classics, English, History, and Political Studies help provide the cultural background necessary for studying senior courses in literature and civilization.

FRENCH

FR 121.3 (or 122.3) and 125.3 now replace FR 120.6; FR 128.3 and 218.3 replace 200.6; FR 212.3 and 215.3 replace FR 202.6.

Courses taught in English, such as FR 181, 186, 285 and 365, cannot be used as part of a French Recognition, Minor, Major or Honours program. These courses can be used to fulfill the humanities requirement by non-majors, and to fulfill requirement 7 for majors.

Depending on a student's background, any of the following can be initial university courses: FR 103, 106, 121, 122, 128. Two streams lead to advanced study: either 121/122, 125, 212, 215; or 128, 218.

MAJOR IN FRENCH (B.A. FOUR-YEAR)

Required courses: FR 121.3 (or 122.3), 125.3, 212.3 and 215.3 (or 128.3 and 218.3), 210.6, 213.6 and 12 (or 18 if FR 128.3 and 218.3 taken) other credit units, 6 of which must be numbered 300 or above.

MAJOR IN FRENCH (B.A. THREE-YEAR)

Required courses: FR 121.3 (or 122.3), 125.3, 212.3 and 215.3 (or 128.3 and 218.3), 210.6, 213.6 and 6 (or 12 if FR 128.3 and 218.3 taken) other senior credit units.

Note: Students allowed to omit FR 121 (or 122), and 125 still have to complete 30 credit units in French.

HONOURS IN FRENCH

FR 121.3 (or 122.3), 125.3, 212.3 and 215.3 (or 128.3 and 218.3), 210.6, 213.6 and 30 credit units (36 if 128.3 and 218.3 taken) chosen after consultation with the Head of the Department. Students must take at least 48 senior credit units in approved French courses.

A suitable stay in a French-speaking milieu or other suitable arrangement is required for students in the Honours Program. FR 212.3 and 215.3 can be counted as graduation requirement 1 or 2 (Humanities or Language) and as part of the major. Students permitted to omit certain courses still have to complete 54 credit units in French. The maximum number of credit units allowed in French is 60. Of these, 6 credit units (or 12, if FR 121 (or 122) and 125 has not been taken) can be unspecified transfer credits from francophone universities. Work done at other universities can count towards the major only if there is an exact equivalent in the University of Saskatchewan program (at least two-thirds

of the major must be taken at the University of Saskatchewan.) Honours students planning on taking advanced grammar courses in Quebec should not take FR 302 at the University of Saskatchewan, but use transfer credits instead.

DOUBLE HONOURS IN FRENCH AND ANOTHER SUBJECT

Students wishing to combine French with any other subject must first apply to the Head of the Department of Languages and Linguistics and the Head of the other department concerned. Such applications will be considered for submission to the appropriate college committee.

Required courses in French: FR 121.3 (or 122.3), 125.3, 212.3 and 215.3 (or 128.3 and 218.3), 210.6, 213.6 and 12 (or 18 if FR 128.3 and 218.3 taken) credit units numbered 300 or higher.

MINOR IN FRENCH

24 credit units of courses (taught in French) numbered 121 or above.

An average of at least 62% is required in courses used for the Minor.

RECOGNITION IN FRENCH

Eighteen credit units taken in the list of language courses and any other course taught in French except FR 107, 108, 205 and 365.

ST. THOMAS MORE COLLEGE

Sections of some courses in French are taught by faculty in the corresponding department of St. Thomas More College. These course sections are designated in the *Registration Guide* by section numbers prefixed with the letter "M."

FREQUENCY OF COURSE OFFERINGS

Depending on availability of staff, the department plans to offer the following senior French courses regularly:

GERMAN

DOUBLE HONOURS IN GERMAN AND ANOTHER SUBJECT

Students in an Honours Program in German and another subject are required to take 42 credit units in German: GERM 115.6, 212.6, 215.6, 231.6, 315.6, 490.6, and 6 credit units from 241.6, 251.6 or 361.6. (Students who do not take GERM 115.6 must take an additional 6 credit units from these courses.)

MAJOR IN GERMAN (B.A. FOUR-YEAR)

GERM 115.6, 212.6, 215.6, 231.6, 315.6, and 6 credit units in German chosen in consultation with the department. (Students who do not take GERM 115.6 must take an additional 6 credit units in German chosen in consultation with the department.)

MAJOR IN GERMAN (B.A. THREE-YEAR)

GERM 115.6, 212.6, 215.6, 231.6, 315.6. (Students who do not take GERM 115.6 must take an additional 6 credit units in

German, chosen in consultation with the department.)

MINOR IN GERMAN

A minor in German may be taken in conjunction with any Four-year, Three-year or Honours degree. Students are required to take 12 credit units from the courses listed in Group One, and an additional 12 credit units from the courses listed in Groups One and Two. At least 6 credit units must be at the 300-level. *Students who have preparation equivalent to GERM 115 must replace it with another course approved by the department.*

Group One: 115, 215, 315

Group Two: 212, 231, 241, 251, 361

RECOGNITION IN GERMAN

Students may obtain Recognition in German by completing 18 credit units from the courses listed in Group One of the Minor in German.

LINGUISTICS

Administrative Committee: M. Marino, Chair (Languages and Linguistics), R. Borowsky (Psychology), C. Foley (Anthropology and Archaeology), R. L. Harris (English), A. Maingon (Anthropology and Archaeology), T. Mildare (Languages and Linguistics), D. Parkinson (English), A. Taylor (English)

"Linguist" has long been a name for one who speaks many languages. The descriptive linguist of today is a social scientist who studies the structures of various languages but who may not be able to speak more than one or two. Linguistics aims at providing concepts and methods that will serve to describe all languages and which can be used to contrast languages in regard to sound system (phonology), rules for word formation (morphology) and rules for word combination (syntax).

For further information about the Linguistics program, please contact M. Marino, Chair, Linguistics Program.

MAJOR IN LINGUISTICS

For the B.A. Four-year, students are required to take the courses listed under (1), (2), 6 credit units from (3) and 18 additional credit units: 6 from each of (4), (5) and (6). For the B.A. Three-year, students are required to take the courses listed under (1) and (2), together with at least 6 credit units from (3), 6 credit units from (4) and 6 from either (5) or (6):

(1) LING 111.3 and 112.3

(2) LING 240.3 and 241.3

(3) ENG 289.3, 292.3, LING 242.3, 243.3

(4) LING 246.3, ENG 290.6, LING 232.3, 233.3

(5) LING 244.3, 342.3, PSY 256.3, ENG 292.3, CLASS 105.3

(6) CHIN 111.6, CREE 101.6, GREEK 111.6, HEB 111.6, LATIN 111.6, ENG 207.6, 208.6, 290.6, FR 303.3, GREEK 310.3

Students should note that it is possible to major in linguistics either in Program Type A or B. Students wishing to major in

Linguistics must consult the Administrative Committee.

Please consult the Office of the Dean for a list of the courses in this Program which are used for the calculation of the C.P.A. in the major for graduation purposes.

Further information may be obtained from the Office of the Dean of Arts and Science.

RUSSIAN

DOUBLE HONOURS IN RUSSIAN AND ANOTHER SUBJECT

Students in an Honours program in Russian and another subject are required to take 42 credit units: RUSS 115.6, 215.6, 216.3, 226.3, 300.3, 315.6, 350.3; and 12 credit units, chosen in consultation with the department, from RUSS 205.3, 210.3, 235.3, 405.3, GEOG 201.3, HIST 220.6, 324.3, 327.3, 328.3.

MAJOR IN RUSSIAN (B.A. FOUR-YEAR)

RUSS 115.6, 215.6, 216.3, 226.3, 300.3, 315.6, 350.3; and 6 credit units, chosen in consultation with the department, from RUSS 205.3, 210.3, 235.3, 405.3, GEOG 201.3, HIST 220.6, 324.3, 327.3, 328.3.

MAJOR IN RUSSIAN (B.A. THREE-YEAR)

RUSS 115.6, 215.6, 216.3, 226.3, 315.6; and 6 credit units chosen from RUSS 205.3, 210.3, 235.3, 300.3, 350.3, 405.3, GEOG 201.3, HIST 220.6, 324.3, 327.3, 328.3.

MINOR IN RUSSIAN

A minor in Russian may be taken in conjunction with any Four-year, Three-year or Honours degree. Students are required to take 12 credit units from the courses listed in Group One, and an additional 12 credit units from the courses listed in Groups One and Two. At least 6 credit units must be at the 300-level. *Students who have preparation equivalent to RUSS 115 must replace it with another course approved by the department.*

Group One: 115, 215, 315

Group Two: 205, 210, 216, 226, 235, 300, 350.

RECOGNITION IN RUSSIAN

Students may obtain Recognition in Russian by completing 18 credit units from the courses listed in Group One of the Minor in Russian.

SPANISH

DOUBLE HONOURS IN SPANISH AND ANOTHER SUBJECT

Students in an Honours Program in Spanish and another subject are required to take 42 credit units: SPAN 115.6, 200.6, 215.6, 305.3, 306.3, 315.6, 403.3, 405.3, 406.3, 408.3.

MAJOR IN SPANISH (B.A. FOUR-YEAR)

SPAN 115.6, 200.6, 215.6, 305.3, 306.3, 315.6 and 6 credit units chosen from 403.3, 405.3, 406.3, 408.3. (Students with a strong background in Spanish may

replace SPAN 115.6 with another 6 credit units approved by the department.)

MAJOR IN SPANISH (B.A. THREE-YEAR)

SPAN 115.6, 200.6, 215.6, 305.3, 306.3, 315.6. (Students with a strong background in Spanish may replace SPAN 115.6 with another 6 credit units approved by the department.)

MINOR IN SPANISH

A minor in Spanish may be taken in conjunction with any Four-year, Three-year or Honours degree. Students are required to take 12 credit units from the courses listed in Group One and an additional 12 credit units from the courses listed in Groups One and Two. At least 6 credit units must be at the 300-level. *Students who have preparation equivalent to SPAN 115 must replace it with another course approved by the department.*

Group One: 115, 215, 315
Group Two: 200, 205, 305, 306.

RECOGNITION IN SPANISH

Students may obtain Recognition in Spanish by completing 18 credit units from the courses listed in Group One of the Minor in Spanish.

UKRAINIAN

DOUBLE HONOURS IN UKRAINIAN AND ANOTHER SUBJECT

Students in an Honours program in Ukrainian and another subject are required to take 42 credit units: (1) UKR 115.6, 215.6, 216.3, 226.3, 300.3, 315.3, 316.3, 350.3; and (2) 12 credit units, chosen in consultation with the department, from UKR 205.3, 211.3, 212.3, 220.3, 230.3, 310.3, 405.3, 410.3. (Students who do not take UKR 115.6 must take an additional 6 credit units selected from the courses listed above.)

With permission of the department, up to 9 credit units may be substituted under (2) from the following: GEOG 201.3, HIST 220.6, 324.3, 327.3, 328.3.

MAJOR IN UKRAINIAN (B.A. FOUR-YEAR)

UKR 115.6, 205.3, 215.6, 230.3, 315.3, 316.3; and 12 credit units chosen from UKR 211.3, 212.3, 216.3, 220.3, 226.3, 300.3, 310.3, 350.3, 405.3, 410.3. (Students who do not take UKR 115.6 must take an additional 6 credit units selected from the courses listed above.)

With permission of the department up to 9 credit units may be substituted under (2) from GEOG 201.3, HIST 220.6, 324.3, 327.3, 328.3.

MAJOR IN UKRAINIAN (B.A. THREE-YEAR)

UKR 115.6, 205.3, 215.6, 230.3, 315.3, 316.3; and 6 credit units chosen from UKR 211.3, 212.3, 216.3, 220.3, 226.3, 300.3, 310.3, 350.3, 405.3, 410.3. (Students who do not take UKR 115.6 must take an additional 6 credit units selected from the courses listed above.)

With permission of the department up to 6 credit units may be substituted under (2)

from GEOG 201.3, HIST 220.6, 324.3, 327.3, 328.3.

MINOR IN UKRAINIAN

A minor in Ukrainian may be taken in conjunction with any Four-year, Three-year or Honours degree. Students are required to take 12 credit units from the courses listed in Group One, and an additional 12 credit units from the courses listed in Groups One and Two. At least 6 credit units must be at the 300-level. *Students who have preparation equivalent to UKR 115 must replace it with another course approved by the department.*

Group One: 115, 215, 315, 316
Group Two: 205, 211, 212, 226, 300, 310, 350.

RECOGNITION IN UKRAINIAN

Students may obtain Recognition in Ukrainian by completing 18 credit units from the courses listed in Group One of the Minor in Ukrainian.

Students should be advised that not all courses listed in the *Calendar* are offered every year. Careful planning in consultation with the department will eliminate problems.

COMPARATIVE LITERATURE

**LIT 100.6
Masterpieces of European Literature in English Translation 1&2(3L)**

A study of representative masterpieces of Greek, Latin, Spanish, French, German and Slavic literatures. Assigned reading, lectures, discussion, essay writing.

**LIT 201.6
Comparative Studies in Germanic, Slavic and Hispanic Literature 1&2(3L)**

Prerequisite(s): LIT 100 or another literature course.
Designed to give students an appreciation for both the common and contrasting elements in style, sensibility and manner of viewing the world of great Germanic, Slavic and Hispanic writers through the study of some of their important representative literary works.

**LIT 300.6
Comparative Literature 1&2(3L)**

Prerequisite(s): 18 credit units in literature.
Intended for advanced students of literature. European and American novels, representing traditional types, are read in English, with attention to conventional structures and the theory of genre.

FRENCH

In addition to multi-media laboratory facilities, discussion groups are provided at both the junior and senior levels. All senior French courses are given in French.

Students who have completed Grade 12 French in the ACFC program, in a Designated School or in Special French, and students with additional background in French beyond Grade 12, must register in FR 128 and 218. Other students who have credit for French 30

(Grade 12 French) must take FR 121 (or 122), 125.

Note: Students taking acceptable immersion French language courses will receive transfer credit for "unspecified" junior or senior French which may be used to satisfy Requirement 7 only.

**FR 103.3
Beginning French I 1/2(4L-1P)**

An introduction to the basic grammatical concepts of French. Instruction will be based on the communicative approach. *Note:* Students with credit for French 20 (Grade 11 French) in the past five years cannot take this course for credit. Students with credit for French 30 (Grade 12 French), regardless of how long ago it was taken, cannot take this course for credit. This course can be used towards the humanities or languages requirement.

**FR 106.3
Beginning French II 1/2(4L-1P)**

Prerequisite(s): French 20 or FR 103.
A continuation of the basic grammatical concepts of French. The communicative approach will be used with greater emphasis on reading and writing. *Note:* Students who have completed French 30 in the past five years, cannot take this course for credit. FR 106 does not count towards a major in French. This course can be used towards the humanities or languages requirement.

FR 120.6 has been split into FR 121.3/122.3 and 125.3.

**FR 121.3 (Formerly 120)
Intermediate French 1A (4L/1P)**

Prerequisite(s): French 30 or FR 106.
For students requiring a detailed review of the basic grammatical concepts of French. Practice in aural comprehension, speaking, and writing: an introduction to reading. The course meets four hours a week, and students also attend a laboratory/conversation group one hour a week.

Note: Students with French 30 or FR 106 must register in either FR 121 or 122. It is recommended that students with grades below 80 per cent in French 30 or FR 106 register in FR 121.

**FR 122.3 (Formerly 120)
Intermediate French 1B (3L/1P)**

Prerequisite(s): French 30 or FR 106.
For students who have an adequate mastery of the basic grammatical concepts of French. Practice in aural comprehension, speaking and writing, and an introduction to reading. The course meets three hours a week, and students also attend a laboratory/conversation group for an additional hour per week.

Note: Students with French 30 or FR 106 must register in either FR 121 or 122. It is recommended that students with grades above 80 per cent in French 30 or FR 106 register in FR 122.

**FR 125.3 (Formerly 120)
Intermediate French 2 (3L/1P)**

Prerequisite(s): FR 121 or 122.
A continuation of the language study done in FR 121 or 122, with more emphasis on reading. Students will attend a laboratory/conversation group one hour a week in addition to three hours of classes.

**FR 128.3 (Formerly 200)
Intermediate French for Bilingual Students 1&2(3L-1P)**

Prerequisite(s): Ecole fransasskoise Grade 12, designated (or immersion) school Grade 12, out-of-province Grade 12. (If it has been more than five years since graduation from these programs, students may take 121 [or 122], and 125.)

Designed to help students with a well-developed pre-university training in oral French language, strengthen and raise their overall, but especially written, performance through grammar review, précis of short documentary videos, and a critique of a choice of articles.

Note: Students with credit for FR 121 (or 122), or 125 may not take this course for credit.

**FR 181.3 (Formerly 107)
Introduction to the Literature of the Francophone World 1/2(3L)**

Prerequisite(s): French 30 or English 30. No knowledge of French is required.
An introduction in English to the literature of the Francophone world, using three or four major works in translation as the basis of study. Deals with the literature of France as well as literature in French in other European countries, Africa, the Caribbean and Canada.

Note: This course cannot be used as part of a French major. It can be used by non-French majors towards the humanities requirements. French majors may use it under Requirement 7.

**FR 186.3 (Formerly 108)
Culture and Civilization of Francophone Countries 1/2(3L)**

Prerequisite(s): No knowledge of French is required.
Examines, in English, some of the underlying myths of French and Quebec culture and civilization. Considers the acculturation of certain French myths in the former French colonies of Africa, Asia and the South Pacific.

Note: This course cannot be used as part of a French major. It can be used by non-French majors towards the humanities requirements. French majors may use it under Requirement 7.

**FR 210.6
Trends and Traditions in French Literature 1&2(3L)**

Prerequisite(s): FR 121 (or 122) and 125; or equivalent.
A survey of French literature from the Middle Ages to the present. Representative works by major French authors are studied.

**FR 212.3 (Formerly 202)
Advanced French I
1&2(3L-1P)**

Prerequisite(s): FR 125.

A French language course that builds on skills acquired in FR 121, 122, 125 or equivalent. Some oral work, but emphasis is placed on the practical application of grammar through reading and writing. A contemporary register of language, vocabulary and style is stressed through the study of magazines, journals and newspapers.

Note: Students with credit for FR 128 or 218 may not take this course for credit.

**FR 213.6
French Canadian Literature
1&2(3L)**

Prerequisite(s): FR 121 (or 122) and 125; or equivalent.

A survey of Canadian literature in French from the 19th century to the present.

**FR 215.3 (Formerly 202)
Advanced French II
1/2(3L-1P)**

Prerequisite(s): FR 212.

A French language course that builds on skills acquired in FR 212.3 or equivalent. Some oral work, but emphasis on the practical application of grammar through reading and writing. A fairly formal register of language, vocabulary and style is stressed through the study of literary and para-literary material.

Note: Students with credit for FR 128 or 218 may not take this course for credit.

**FR 218.3 (Formerly 200)
Advanced French for Bilingual
Students
1/2(3L-1P)**

Prerequisite(s): FR 128.

This course completes the grammar review started in FR 128.3, and enhances writing skills through intensive vocabulary exercises, précis of and commentary on longer documentary videos and a critique of a Québécois novel.

Note: Students with credit for FR 125, 202, 212 or 215 may not take this course for credit.

**FR 251.3
French Civilization Through the Ages
1/2(3L)**

Prerequisite(s): FR 121 (or 122) and 125; or equivalent.

Characterizes the historical periods of France from the Middle Ages to the 20th century and studies the arts (painting, architecture and music) through selected artists and works.

**FR 252.3
France Today
1/2(3L)**

Prerequisite(s): FR 121 (or 122) and 125; or equivalent.

A study of present-day France: the geography, recent history, everyday life, political and economic life, problems and concerns, cultural activities, attitudes, and the changes occurring.

**FR 271.3
French Canadian Civilization: Origins
and Traditions
1/2(3L)**

Prerequisite(s): FR 121 (or 122) and 125; or equivalent.

Explores the presence of French civilization in North America from the 17th century to the industrial era as it is apparent in crafts, architecture, folklore, food, and local traditions.

**FR 272.3
French Canadian Contemporary
Culture and Society
1/2(3L)**

Prerequisite(s): FR 121 (or 122) and 125; or equivalent.

Examines French Canadian civilization today as it is expressed through culture and society.

**FR 285.3 (Formerly 205)
20th-Century French Literature in
Translation
1/2(3L)**

Prerequisite(s): Completion of 30 credit units at the university or ENG 110 or LIT 100.

A study of the 20th-century French novel, short story and drama as a means of expressing varied approaches to the basic problems of modern life.

Note: This course cannot be used as part of a French major. It can be used by non-French majors towards the humanities requirements. French majors may use it under Requirement 7.

**FR 302.6
Special Studies in French Grammar
and Idiom
1&2(3L)**

Prerequisite(s): FR 128 and 218 or 212 and 215.

**FR 303.3
History of the French Language
1/2(3L)**

Prerequisite(s): FR 128 and 218 or 212 and 215.

Describes and exemplifies the history of the dialects spoken in France from Roman times, especially the one which evolved into modern international French.

**FR 304.3
French Phonetics: Theory and
Practice
1/2(3L-1P)**

Prerequisite(s): FR 128 and 218 or 212 and 215.

Conducted entirely in French, this course deals with the theory and practice of standard European and Canadian French pronunciation, corrective phonetics, phonetic transcription and the phenomena of elision, liaison, enchainment and syllabification.

**FR 308.3
Medieval French Literature
1/2(3L)**

Prerequisite(s): FR 210.

Introduction to the civilization of medieval France, as expressed in literary masterpieces of enduring value. Extracts of epics, romances, poems and plays are read in the original language and explained for their linguistic and stylistic relevance.

**FR 309.3
French Literature of the Renaissance
1/2(3L)**

Prerequisite(s): FR 210.

A study of the representative authors, works, and literary movements in French literature during the Renaissance.

**FR 317.3
French Literature of the 17th Century
1/2(3L)**

Prerequisite(s): FR 210.

Representative authors, works, and literary movements will be studied.

**FR 318.3
French Literature of the 18th Century
1/2(3L)**

Prerequisite(s): FR 210.

A study of the writers of 18th-century France who were most influential in the development of the philosophes movement, with particular emphasis on Montesquieu, Voltaire, Diderot and Rousseau.

**FR 319.3
French Literature of the 19th Century
1/2(3L)**

Prerequisite(s): FR 210.

Representative authors, works, and literary movements will be studied.

**FR 320.3
French Literature of the 20th Century
1/2(3L)**

Prerequisite(s): FR 210.

Beginning with Proust, the course will cover major writers and literary movements in the novel, the theatre and poetry, but will concentrate on the novel at the beginning of the century, the literature of the absurd, and the nouveau-roman.

**FR 334.3
The Poetry of Quebec
1/2(3L)**

Prerequisite(s): FR 213.

A study of the development of poetry in Quebec: forms and main themes.

**FR 340.3
Black-African and Caribbean
Literature in French
1/2(3L)**

Prerequisite(s): 6 credit units in French at the 200-level.

Novels, poetry, short stories and essays of French-speaking black Africa, Madagascar and the Caribbean. Traditional African society and cultural and political problems of colonialism and de-colonization will be discussed as background to the literature.

**FR 343.3
The Novel in Quebec
1/2(3L)**

Prerequisite(s): FR 213.

Studies the development of the novel in Quebec with emphasis on contemporary works.

**FR 345.3
The Theatre in Quebec
1/2(3L)**

Prerequisite(s): FR 213.

Studies the development of theatre in French Canada with emphasis on the contemporary period.

**FR 350.3
Francophone Literature of the
Canadian West
1/2(3L)**

Prerequisite(s): FR 213.

A study of the Francophone literature of the Canadian West from 1870 to today. Covers major writers in the novel, poetry and theatre. Students will be made aware of the representative authors and their works produced in French on the Canadian prairies.

**FR 365.3
French Theatre in English Translation
(Formerly 265)
1/2(1L)**

Prerequisite(s): A course in English or literature; completion of 60 credit units in the university.

Representative French plays from the 17th century to the contemporary period, studied in their historical context as expressions of literary movements (e.g., Classicism, Romanticism, Theatre of the Absurd) and as types of theatre (e.g., farce, comedy, tragedy, historical drama). This will be offered as a guided reading course. The class will meet one hour every two weeks for a discussion session.

Note: May not be taken by students with credit for FR 265 or 495.

Note: This course cannot be used as part of a French major. It can be used by non-French majors towards the humanities requirements. French majors may use it under Requirement 7.

**FR 401.3
Advanced Composition
1/2(3L)**

Prerequisite(s): FR 302, or permission of instructor and Department Head.

Advanced composition in modern French prose.

**FR 406.3
Advanced Translation (English-
French)
1/2(3L)**

Prerequisite(s): FR 302, or permission of Instructor and Department Head.

Translation into French of English literary prose. Stylistic analysis of printed English translation of a French classic. Theoretical foundations of translation studies.

**FR 407.3
Language and Civilization of
Southern France: from the
Troubadours to the Revival of Occitan
1/2(3L)**

Prerequisite(s): FR 210.

An introduction to the civilization of Occitania, which formed, in the Middle Ages, a political and cultural unit of great importance. The course concentrates on the lyrics of the troubadours, but also treats social and literary aspects of the revival of the Provençal language in the 19th and 20th centuries.

FR 408.3
Special Topics in Medieval French Literature
1/2(3L)

Prerequisite(s): FR 210.

One special topic in medieval French literature will be studied such as lyric poetry or epic literature.

FR 409.3
Special Topics in French Renaissance Literature
1/2(3L)

Prerequisite(s): FR 210.

One of the following special topics in French literature of the 16th century will be studied: Rabelais or Montaigne.

FR 417.3
Special Topics in 17th-Century French Literature
1/2(3L)

Prerequisite(s): FR 210.

One of the following special topics will be studied: the theatre of Corneille and Racine, the novel (from Urfé to LaFayette), or secondary genres (fables, sermons, maxims, portraits, correspondence).

FR 418.3
Special Topics in 18th-Century French Literature
1/2(3L)

Prerequisite(s): FR 210.

One of the following special topics will be studied: the novel and the theatre or the Encyclopédistes.

FR 419.3
Special Topics in 19th-Century French Literature
1/2(3L)

Prerequisite(s): FR 210.

One of the following topics will be studied: French symbolist poetry (Baudelaire, Verlaine, Rimbaud and Mallarmé); "Victor Hugo cet Inconnu"; The "arriviste" in Stendhal's, Balzac's and Maupassant's novels; The superfluous man in the 19th-century French novel (Constant, Adolphe, Chateaubriand, René, Flaubert, L'Education sentimentale).

FR 420.3
Special Topics in 20th-Century French Literature
1/2(3L)

Prerequisite(s): FR 210.

One of the following topics will be studied: The Nouveau-roman; Dada and Surrealism in French literature; the literature of the absurd.

FR 423.3
Literature and Spirituality: The Catholic Novel in France
1/2(3L)

Prerequisite(s): FR 210.

A study of the three major "Catholic" novelists of 20th-century France: Francois Mauriac, Julien Green, and Georges Bernanos. Emphasis will be placed upon their religious and spiritual preoccupations.

FR 434.3
Special Topics in French Canadian Poetry
1/2(3L)

Prerequisite(s): FR 213.

A special topic in French Canadian poetry will be studied, such as surrealism, women writers, modernism/post-modernism.

FR 436.3
Selected Topics in French
1/2(2 Weekends)

Prerequisite(s): FR 215.3 or 218.3 and 6 senior credit units in French or French Canadian literature.

This course is offered in collaboration with the University of Regina and taught jointly by faculty members from both campuses. It may, for example, be given over two weekends, one in Saskatoon and one in Regina, on two related topics such as literature, civilization, cinema, and translation. Or distance technology could be used. The topics change every year.

FR 438.3 Special Studies in French
1/2(1S)

Prerequisite(s): FR 215.3 or 218.3 and 6 senior credit units in French in literature and/or civilization and/or linguistics.

Independent study, under the direction of a faculty member, of a topic in French or French Canadian literature or civilization or linguistics that is not covered in any of the existing courses in the department.

FR 443.3
Special Topics in the French Canadian Novel
1/2(3L)

Prerequisite(s): FR 213.

A special topic in the French Canadian novel will be studied, such as one of the women writers, the social novel or the nouveau-roman.

FR 445.3
Special Topics in French Canadian Theatre
1/2(3L)

Prerequisite(s): FR 213.

A special topic in French Canadian drama will be studied, such as women writers, a period or author, or the application of a particular theoretical approach to the study of theatrical texts.

FR 482.3
Contemporary French Literary Criticism
1/2(3L)

Prerequisite(s): FR 210 and 213 and one course at the 300-level.

An advanced course in contemporary French literary theories, intended as a practical introduction to the new trends, their vocabulary and analytical interest.

FR 495.3
French Theatre
1/2(3L)

Prerequisite(s): FR 210.

A survey of French theatre from its early origins, with emphasis on the period 1880 to the present.

FR 496.3
French Poetry from the Middle Ages to the 20th Century
1/2(3L)

Prerequisite(s): FR 210.

Representative poets, poems and poetic movements in French literature from the medieval period to the present will be studied.

Note: Special Topics courses are listed at the end of the department listings.

GERMAN

Students registered in any of the language courses (115, 215, 315) should plan to attend weekly oral tutorials as scheduled in the *Registration Guide*. A multi-media laboratory is also available on a library basis.

Students with a background in German (including those who speak the language at home) will not be allowed to take German language courses for credit, until they have contacted the department to arrange for an interview/placement test prior to registering.

GERM 115.6 (Formerly GERM 101)
Elementary German
1&2(4L-1T)

Elements of grammar, written and oral practice, reading, pronunciation and intonation.

Note: Students who have completed German 30 in the past five years may not take this course for credit. Students with a background in German (including those who speak the language at home) will not be allowed to take German 115 for credit.

GERM 200.6
Intermediate German: Emphasis on Literature and Culture
1&2(3L)

Prerequisite(s): GERM 115 or equivalent preparation.

Introduces students to contemporary German literature, culture and life, and enables them to express themselves in German both orally and in writing.

Note: Recommended for students considering taking a 200- or 300-level course.

GERM 212.6
German Culture and Thought
1&2(3L)

Prerequisite(s): Completion of 30 credit units at the university.

Surveys cultural events, emphasizing the important epochs in Central European Literature. Deals with major developments in philosophy, religion, art, architecture and music.

GERM 215.6 (Formerly GERM 120)
Intermediate German
1&2(3L-1T)

Prerequisite(s): GERM 30 or GERM 115 or equivalent preparation.

Reading, translation, grammar and conversation.

GERM 231.6
German Literature Before 1700
1&2(3L)

Prerequisite(s): GERM 215.

The reading, and discussion, of literary texts, and introductions to the history of German literature and the history of the German language.

GERM 241.6
German Literature in the Age of Goethe
1&2(3L)

Prerequisite(s): GERM 215.

Historical and cultural perspective of the time and of such movements as the Enlightenment, Storm and Stress, and of Classicism through the reading and discussion of representative works of Lessing, Goethe, and Schiller.

GERM 251.6
German Literature in the 19th Century
1&2(3L)

Prerequisite(s): GERM 215.

The literature of Romanticism and Realism.

GERM 315.6 (Formerly GERM 210)
Advanced German
1&2(3L-1T)

Prerequisite(s): GERM 215.

Phonetics, composition and conversation. Informal survey of German literature.

GERM 361.6
German Literature in the 20th Century
1&2(3L)

Prerequisite(s): GERM 215.

The works of leading Austrian, Swiss, and German writers, with a focus on artistic form and socio-political ideas. Selections from dramatic literature emphasize the contemporary German idiom.

GERM 490.6
Seminar in German Literature
1&2(3S)

Prerequisite(s): Two senior courses in German and permission of department.

One or two of the following topics will be studied: Die Aufklärung; Lessing: Sturm und Drang; Herder; Goethe; Schiller; Die Romantik; German Drama from Kleist to Brecht; Franz Kafka and Thomas Mann; the German Novelle.

Note: Special Topics courses are listed at the end of the department listings.

LINGUISTICS

LING 111.3
The Structure of Language
1/2(3L)

An introduction to the findings, theories and methods of modern structural linguistics. Includes phonetics, phonology, work-formation, syntax, semantics and pragmatics. Basic analytical skills are emphasized. Examples will be drawn from a wide variety of natural languages.

LING 112.3
The Dynamics of Language
1/2(3L)

An introduction to language acquisition, dialectology and historical linguistics.

Includes how language varies geographically and socially, how it changes, borrowing, common descent and typological similarities among languages. The human biological propensity to acquire language and language universals are considered.

**LING 232.3
Romance Linguistics I: Cultural History**
1/2(3L)

Prerequisite(s): One of ENG 289, 290, LATIN 111, LING 111, 112, 240, or any language course at the 120-level or higher.
The cultural history of the spread of Latin over Europe; the transformation of Latin creoles into the standard languages of modern states; and the social and literary influences which affected the evolution of Latin. Basic concepts of linguistic change and the comparative method will be illustrated.

**LING 233.3
Romance Linguistics II: Historical Phonology and Morphology**
1/2(3L)

Prerequisite(s): One of ENG 289, 290, LATIN 111, LING 111, 112, 240, or any language course at the 120-level or higher.
The evolution of Latin into the Romance languages of French, Spanish, Italian, Portuguese and Romanian, and the study of phonological and morphological development of these languages.

**LING 240.3 (Formerly ANTH 240)
Principles of Phonology**
1/2(3L-1P)

Prerequisite(s): LING 111 or 6 credit units in a language other than English.
Basic concepts of phonology and the procedures of phonological analysis are introduced, with an emphasis on generative phonology. Data from a variety of natural languages is analyzed.

**LING 241.3 (Formerly ANTH 241)
Introduction to Grammar**
1/2(3L-1P)

Prerequisite(s): LING 111 or 6 credit units in a language other than English.
Advanced introduction to traditional, structural, and transformational models of grammar. Emphasizes recent trends in linguistic analysis and theory. Natural language data will be analyzed extensively.

**LING 242.3 (Formerly ANTH 242)
Phonetics**
1/2(3L-1P)

Prerequisite(s): LING 111.
Introduces articulatory phonetics, the structure and functioning of the vocal tract, the major classes of speech sounds and systems of phonetic notation. A brief discussion of acoustic and perceptual phonetics will be given. Recognition, production and notation of speech sounds and the preliminaries of phonological analysis will be emphasized.

**LING 243.3 (Formerly ANTH 243)
Morphological Patterns in Language**
1/2(3L)

Prerequisite(s): LING 111.
Investigates the internal structure of words and the rules by which words are formed. Material from a wide variety of languages is drawn upon to explore morphological

processes, their relationship to syntactic structures, and to language typology. Practical work in morphological analysis is emphasized.

**LING 244.3
Sociolinguistics**
1/2(3L)

Prerequisite(s): LING 111.3 or 112.3 or SOC 110.6 or WGST 210.3.
This course presents language in its social context, covering aspects of linguistic variation within and across speech communities. Topics include language and class, gender, age, speech context and ethnicity. Language standardization, code-switching, bilingualism and diglossia, rules of conversation and appropriate address, and societal features of language change will be discussed.

**LING 246.3 (Formerly ANTH 246)
Language in Time and Space**
1/2(3L)

Prerequisite(s): LING 111.
An introduction to the historical linguistics of unwritten and written languages. Topics will include genetic and topological relationship, comparative reconstruction, dialect formation, phonological, morphological and semantic change, and writing systems. The integration of linguistics with prehistory and historical ethnology will be emphasized.

**LING 342.3 (Formerly ANTH 342)
American Indian Languages**
1/2(3L)

Prerequisite(s): LING 111 and 112, or NATST 110.
Linguistic structures of native America, with special reference to the families of North America. Genetic relationship and areal typology will be included.

**LING 478.3
Honours Project**
1/2(1S)

Prerequisite(s): Permission of Department and instructor.
A reading course on a specialized topic combining at least two of the components of the student's program: linguistics, languages and/or literature. This course will also provide an initiation into research methods leading to a term paper.

Note: Special Topics courses are listed at the end of the department listings.

RUSSIAN

Students registered in any of the language courses (115, 215, 315) should plan to attend weekly oral tutorials as scheduled in the *Registration Guide*. A multi-media laboratory is also available on a library basis.

Students with a background in Russian (including those who speak the language at home) will not be allowed to take Russian language courses for credit until they have contacted the department to arrange for an interview / placement test prior to registering.

**RUSS 115.6 (Formerly RUSS 101)
Elementary Russian**
1&2(4L-1T)

Requires no previous knowledge of Russian. Emphasizes acquiring basic oral and written communication skills.

Note: Students who have completed Russian 30 in the past five years may not take this course for credit. Students with a background in Russian (including those who speak the language at home) will not be allowed to take RUSS 115 for credit.

**RUSS 205.3
A Survey of Russian Literature in English Translation**
1/2(3L)

Prerequisite(s): Completion of 30 credit units at the university.
Surveys the development of Russian literature from its origins to the present. Students will read representative works in English translation of the more important genres in each period of Russian literature.

**RUSS 210.3
Russian Civilization**
1/2(3L)

Prerequisite(s): Completion of 30 credit units at the university.
A survey of the material, spiritual and intellectual culture of Russia.

**RUSS 215.6
Intermediate Russian**
1&2(3L-1T)

Prerequisite(s): RUSS 30 or RUSS 115 or equivalent preparation.
Combines a study of the essentials of grammar with classroom practice in conversation, dictation, composition and translation.

**RUSS 216.3
Russian Prose**
1/2(3L)

Prerequisite(s): RUSS 215.
A survey of Russian prose from the beginnings to the present.

**RUSS 226.3
Russian Poetry**
1/2(3L)

Prerequisite(s): RUSS 215.
The development of Russian poetry from its beginnings to the present. Works of representative poets in each period are studied.

**RUSS 235.3
Turgenev**
1/2(3L)

Prerequisite(s): Completion of 30 credit units at the university.
Introduces the novels, stories and plays of Ivan Turgenev and examines his place in Russian and world literature. Representative works will be read in English translation.
Note: Students with credit for RUSS 236 may not take this course for credit.

**RUSS 300.3
Studies in Russian Authors**
1/2(3L)

Prerequisite(s): RUSS 315 taken previously or concurrently.
One Russian author will be studied, such as Gogol, Turgenev, Dostoevsky, Tolstoy, Pasternak, Solzhenitsyn, Pushkin.

**RUSS 315.6
Advanced Russian (Formerly 201)**
1&2(3L-1T)

Prerequisite(s): RUSS 215.
A detailed review of grammar, composition and conversation.

**RUSS 350.3
Studies in Russian Literary Periods**
1/2(3L)

Prerequisite(s): RUSS 315 taken previously or concurrently.
A single period of Russian literature will be studied, chosen from Classicism, Romanticism (the Golden Age), Realism, Symbolism, the Soviet period.

**RUSS 405.3
Topics in Russian Literature**
1/2(3L)

Prerequisite(s): RUSS 315 taken previously or concurrently.
A special topic will be studied, such as Russian drama, Russian criticism, development of the short story, émigré literature, dissident literature.

Note: Special Topics courses are listed at the end of the department listings.

SPANISH

Students registered in any of the language courses (115, 200, 215, 315) should plan to attend weekly oral tutorials as scheduled in the *Registration Guide*. A multi-media laboratory is also available on a library basis.

Students with a background in Spanish (including those who speak the language at home) will not be allowed to take Spanish language courses for credit until they have contacted the department to arrange for an interview / placement test prior to registering.

**SPAN 115.6
Elementary Spanish (Formerly 101)**
1&2(4L-1T)

Introduction to the study of the Spanish language, oral and written; vocabulary building, essential structures, basic grammar
Note: Students who have completed Spanish 30 in the past five years may not take this course for credit. Students with a background in Spanish (including those who speak the language at home) will not be allowed to take SPAN 115 for credit.

**SPAN 200.6
Intermediate Spanish: Stress on Conversation and Oral Composition**
1&2(4L-1T)

Prerequisite(s): SPAN 115 or equivalent preparation.
Examines readings about Spanish and Latin American cultures, stressing oral exercises, oral discussions and presentations.
Note: It is recommended that students take this course prior to taking SPAN 215. Students with a background in Spanish (including those who speak the language at home) will not be allowed to take SPAN 200 for credit.

SPAN 205.3
Special Topics in the Latin American Novel in English Translation
1/2(3L)

Prerequisite(s): A course in English or literature or another language.

Topics will change from year to year. These may include novels from a particular country or a theme within the Latin American novel.

Note: This course cannot be credited toward a major in Spanish.

SPAN 215.6
Intermediate Spanish (Formerly 199)
1&2(3L-1T)

Prerequisite(s): SPAN 30 or SPAN 115 or equivalent preparation.

Teaches grammar, composition and writing skills. Vocabulary expansion and translation competency will be developed through the short reading of selected short stories, poems, and essays.

Note: It is recommended that students take SPAN 200 before taking this course.

SPAN 305.3
Representative Works in Spanish Peninsular Literature
1(3L)

Prerequisite(s): SPAN 215.

An introduction to the literary masterpieces of Spain, through the reading and study of Spanish texts from the medieval period to modern times.

SPAN 306.3
Introduction to Spanish American Literature
2(3L)

Prerequisite(s): SPAN 215.

Examines the work of twelve writers of Latin America from the 19th century to the present whose works are representative of literary currents in Latin America.

SPAN 315.6 (Formerly 303/304)
Advanced Spanish (Spanish Peninsular and Latin American)
1&2(3L-1T)

Prerequisite(s): SPAN 215.

Includes the study of advanced grammar, oral exercises, conversations, dialogues, translations and compositions, with emphasis on idiomatic speech taken from real situations in everyday life in Spain and Latin America.

SPAN 403.3
Introduction to Spanish Poetry
1/2(3L)

Prerequisite(s): SPAN 305.

Surveys poetry in Spain from the early Renaissance to the present time.

SPAN 405.3
The Spanish Novel in the Golden Age
1/2(3L)

Prerequisite(s): SPAN 305.

Includes selections of readings from Spanish novelists of the Golden Age in Spain.

SPAN 406.3
20th-Century Latin American Poetry
1/2(3L)

Prerequisite(s): SPAN 306.

A study of the style and thematic content of major Modernist and Post Modernist poets.

SPAN 408.3
The Modern Latin American Novel
1/2(3L)

Prerequisite(s): SPAN 306.

A study of the modern novel in Latin America through discussion and close reading of five novels, assigned readings and lectures.

Note: Special Topics courses are listed at the end of the department listings.

UKRAINIAN

Students registered in any of the language courses (115, 215, 315, 316) should plan to attend weekly oral tutorials as scheduled in the *Registration Guide*. A multi-media laboratory is also available on a library basis.

Students with a background in Ukrainian (including those who speak the language at home) will not be allowed to take Ukrainian language courses for credit until they have contacted the department to arrange for an interview/ placement test prior to registering.

UKR 115.6
Elementary Ukrainian (Formerly 101)
1&2(3L-1T)

Requires no previous knowledge of Ukrainian. Emphasizes acquiring basic oral and written communication skills.

Note: Students who have completed Ukrainian 30 in the past five years may not take this course for credit. Students with a background in Ukrainian (including those who speak the language at home) will not be allowed to take UKR 115 for credit.

UKR 205.3
A Survey of Ukrainian Literature in English Translation
1/2(3L)

Prerequisite(s): Completion of 30 credit units at the university.

Surveys the development of Ukrainian literature from its origins to the present. Students will read representative works in English translation of the more important genres in each period of Ukrainian literature.

UKR 211.3
20th-Century Ukraine
1/2(3L)

Prerequisite(s): Completion of 30 credit units at the university.

An introduction to contemporary Ukraine, surveying the land, the people, the culture and the way of life in present-day Ukraine.

UKR 212.3
Survey of Ukrainian Folklore
1/2(3L)

Prerequisite(s): Completion of 30 credit units at the university.

Surveys the material folk culture, calendar traditions, rites, family customs and the oral literature of the Ukrainian people.

UKR 215.6
Intermediate Ukrainian (Formerly 120)
1&2(3L-1T)

Prerequisite(s): UKR 30 or UKR 115 or equivalent preparation.

Emphasis is placed on improving oral and written communication skills through a study of the essentials of grammar and vocabulary building.

UKR 216.3
Ukrainian Prose
1/2(3L)

Prerequisite(s): UKR 215.

Surveys the development of Ukrainian prose from its beginnings to the present. Works of representative authors in each period are studied.

UKR 220.3
Ukrainian Culture in Canada
1/2(3L)

Prerequisite(s): Completion of 30 credit units at the university.

Surveys the development of Ukrainian culture in Canada. It provides an overview of the block settlement architecture, folkloric expression, religious and distinctive political organizations in the process of cultural retention in Canadian society.

UKR 226.3
Ukrainian Poetry
1/2(3L)

Prerequisite(s): UKR 215.

Surveys the development of Ukrainian poetry from its beginning to the present. Works of representative poets in each period are studied.

UKR 230.3
Pre-Soviet Ukrainian Civilization (Formerly 209)
1/2(3L)

Prerequisite(s): UKR 215 and completion of 30 credit units at the university.

A survey of the material, spiritual and intellectual culture in Ukraine from prehistory to the beginning of the 20th century.

UKR 300.3
Studies in Ukrainian Authors
1/2(3L)

Prerequisite(s): UKR 215.

One Ukrainian author, such as Shevchenko, Franko, or Ukrainka, will be studied.

UKR 310.3
Topics in Ukrainian Literature in English Translation
1/2(3L)

Prerequisite(s): 12 credit units in literature or UKR 205.

One author, genre or literacy period will be studied.

UKR 315.3
Advanced Ukrainian I (Formerly 201)
1/2(3L-1T)

Prerequisite(s): UKR 215.

Selected readings, composition exercises and a grammar review focusing on phonetics and morphology are used to improve the student's command of oral and written Ukrainian. There is no translation and the course is conducted entirely in Ukrainian.

UKR 316.3
Advanced Ukrainian II (Formerly 202)
1/2(3L-1T)

Prerequisite(s): UKR 215.

Selected readings, composition exercises and a grammar review are used to improve the student's command of oral and written Ukrainian.

UKR 350.3
Studies in Ukrainian Literary Periods
1/2(3L)

Prerequisite(s): UKR 215.

One period in Ukrainian literature, such as Romanticism, Realism, or Modernism, will be studied.

UKR 405.3
Topics in Ukrainian Literature
1/2(3L)

Prerequisite(s) or Corequisite(s): UKR 315 and 316.

Either a single genre or a special topic in Ukrainian literature will be studied.

UKR 410.3
Topics in Ukrainian Civilization
1/2(3L)

Prerequisite(s): UKR 230; UKR 315 and 316 (concurrently with permission).

One topic in Ukrainian civilization will be studied, such as: the pre-Christian religion and mythology of Kievan Rus; the material folk cultures of the main ethnographic regions of Ukraine; Ukrainian folk arts and folklore under the Soviets.

SPECIAL TOPICS

FR, GERM, LING, RUSS, SPAN and UKR courses numbered 298.3, 299.6, 398.3, 399.6, 498.3 and 499.6 are Special Topics courses offered by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

LATIN

See the Department of Classics section of the *Calendar*.

LINGUISTICS

See the Department of Languages and Linguistics section of the *Calendar*.

LITERATURE

See the Department of Languages and Linguistics section of the *Calendar*.

MATHEMATICAL PHYSICS

Administrative Committee: J.A. Brooke, G.W. Patrick, C.E. Soteris, J. Szmigielski, Department Head (Mathematics and Statistics), C. Rangacharyulu, T.G. Steele, E. Tomusiak, Department Head (Physics and Engineering Physics).

Mathematical Physics is a subject drawing its inspiration from both Mathematics and Physics, its main activity is characterized by those conceptual, mathematical frameworks which describe or explain physical phenomena. Accounting for the essential physical features, one builds

theories of physical phenomena, in which those features are expressed in precise mathematical terms. The deductions of the theory are expected to be both mathematically precise and to capture some aspect of physical reality. Mathematical Physics extends to the deepest, most difficult and fascinating realms of both Mathematics and Physics. This program was designed by the Department of Mathematics and Statistics and Physics and Engineering Physics to meet the needs of students interested in this interdisciplinary subject.

Students in this program are required to consult with the representatives (J. Brooke, Department of Mathematics and Statistics, and C. Rangacharyulu, Department of Physics and Engineering Physics) of the Administrative Committee prior to the selection of their second, third and fourth year classes. Mathematical Physics is available only in the B.Sc. Honours program. A student who does not meet Honours standards will have the option of completing a B.Sc. Four-year in Mathematics or in Physics.

Required program:

First year: MATH 110.3, 116.3; PHYS 121.6: 6 credit units to complete requirement 1 in program type C (students without computing experience are strongly advised to take CMPT 111.3 or CMPT 112.3 and CMPT 115.3); 12 credit units from requirements 2 to 5 in program type C.

Second year: E P 225.3 (or PHYS 216.3 with a grade of 70% or higher); MATH 238.3, 266.3, 276.3, 277.3; PHYS 223.3, 227.3, 251.3; STATS 241.3; 3 credit units from requirements 2 to 5 in program type C.

Third year: E P 356.3; MATH 338.6, 366.3, 371.3, 379.3; PHYS 323.3, 372.3, 381.3, 382.3.

Fourth Year: MATH 350.6, 433.3; 12 credit units from the following, including at least 6 credit units of Physics courses: ASTRO 411.3; E P 421.3; MATH 431.3, 432.3, 434.3, 438.3, 439.3, 485.3; PHYS 373.3, 402.3, 403.3, 452.3, 463.3, 470.3, 482.3; 9 credit units from requirements 2 to 5 in program type C.

Students are required to attend MATH 401.0 Honours Seminar in third and fourth year and PHYS 490.0 Physics Seminar in fourth year.

MATHEMATICS AND STATISTICS

Separate major and Honours programs in each of Mathematics and Statistics are now offered by the department. Also, a Double Honours program in Mathematics and Statistics is available.

PROGRAMS IN MATHEMATICS AND STATISTICS

Descriptions given indicate minimum program requirements. Students may include as many as 60 credit units of courses in one subject in a Four-year program, or as many as 42 credit units in one subject in a Three-year program. Courses bearing the "MATH" and the "STATS" abbreviations are considered as

being in different specializations. The number of credit units of "STATS" courses that may be included in a Mathematics major is limited. Please consult the department for details.

A section entitled "IMPORTANT NOTES" follows the program listings and should be consulted by all students.

MAJOR IN MATHEMATICS (B.SC. FOUR-YEAR)

Students are required to take at least 36 credit units in Mathematics and Statistics including MATH 110.3 and 116.3 (or 175.6), 225.3* or 276.3, 266.3*, STATS 241.3, and additional courses selected from MATH 211.3, 226.3* or 238.3, 258.3, 277.3, STATS 242.3, and 300- and 400-level mathematics and statistics courses such that at least 12 credit units are at the 300- or 400-level and in total, at least 24 credit units are designated MATH. Courses in mathematics and statistics at the 100- and 200-level other than those listed above are not acceptable as part of a major in mathematics. Students are encouraged to include CMPT 111.3 or 112.3, and 115.3 in their programs.

* Students contemplating Honours should replace MATH 225 and 226 with 276 and 238. Students planning on teaching as a career should substitute MATH 358 for 266.

MAJOR IN MATHEMATICS (B.SC. THREE-YEAR)

Students are required to take at least 30 credit units in Mathematics and Statistics including MATH 110.3 and 116.3 (or 175.6), 225.3* or 276.3, 266.3*, STATS 241.3, and additional courses selected from MATH 211.3, 226.3* or 238.3, 258.3, 277.3, and STATS 242.3, and 300- and 400-level mathematics and statistics courses such that at least 6 credit units are at the 300- or 400-level and in total, at least 21 credit units are designated MATH. Courses in mathematics and statistics at the 100- and 200-level other than those listed above are not acceptable as part of a major in mathematics. Students are encouraged to include CMPT 111.3 or 112.3, and 115.3 in their programs.

* Students contemplating Honours should replace MATH 225 and 226 with 276 and 238. Students planning on teaching as a career should substitute MATH 358 for 266.

HONOURS IN MATHEMATICS

(1) At least 54 credit units in Mathematics and Statistics, which shall include: MATH 110.3 and 116.3 (or 175.6), 211.3, 238.3, 266.3, 276.3, 360.6, 366.3, 371.3, 379.3, and STATS 241.3. The other 18 credit units shall be selected from any of MATH 277.3 or third and fourth-year courses offered by the Department of Mathematics and Statistics, with the exceptions of MATH 358.6, 363.3, 364.3, most of which are intended primarily for Education students.

(2) All third and fourth year Honours Mathematics students are required to participate in the Honours seminar, MATH 401.0.

(3) Up to 6 credit units of 300- or 400-level courses offered by other departments and having major mathematical content may be included in the 54 required credit units with permission of the Head of the Department of Mathematics and Statistics.

(4) CMPT 111.3 or 112.3, and 115.3, or their equivalents shall be required and should be taken in first year if possible.

Recommended courses for students wishing to concentrate either in pure mathematics or in applied mathematics are given below.

Honours in Mathematics with a Concentration in Pure Mathematics

A recommended program is:

(1) MATH 110.3 and 116.3 (or 175.6), 211.3, 238.3, 266.3, 276.3, 277.3, 360.6, 366.3, 371.3, 379.3, and STATS 241.3.

(2) CMPT 111.3 or 112.3, and 115.3, or their equivalents, taken in the first year if possible.

(3) At least 15 additional credit units selected from 300- and 400-level courses in pure mathematics. Some areas in pure mathematics together with suggested courses are: Topology: MATH 485.3; Analysis: MATH 373.3; Differential Geometry: MATH 350.6.

Note: It is recommended that students in pure mathematics take a course in differential equations, e.g. MATH 431.3 or 439.3.

Honours in Mathematics with a Concentration in Applied Mathematics

A recommended program is:

(1) MATH 110.3 and 116.3 (or 175.6), 211.3, 238.3, 266.3, 276.3, 277.3, 338.6, 360.6, 366.3, 371.3, 379.3, 438.3, 439.3, and STATS 241.3.

(2) CMPT 111.3 or 112.3 and 115.3, and PHYS 121.6, or their equivalents, preferably in the first year.

(3) At least 3 other Mathematics credits, chosen according to the interests of the student. Various branches of applied mathematics, together with suggested courses, are:

Classical Applied Mathematics and Mathematical Physics - theoretical physics, fluid mechanics, elasticity, scattering theory, partial differential equations, inverse problems: ASTRO 411.3; E P 225.3, 356.3; MATH 350.6, 373.3, 431.3, 432.3, 433.3, 434.3; PHYS 223.3, 227.3, 251.3, 323.3, 372.3, 381.3, 382.3, 482.3;

Numerical Methods - linear algebra, numerical integration/differentiation, approximation of solutions of ordinary/partial differential equations: MATH 313.3, 314.3.

Discrete Mathematics - mathematical programming, combinatorics, optimization, graph theory, operations research: MATH 327.3, 328.3, CMPT 393.3, 496.3;

Statistics - statistical models, time series, stochastic processes: STATS 341.3, 342.3, 349.3.

DOUBLE HONOURS IN MATHEMATICS AND ANOTHER DISCIPLINE

Forty-two credit units of acceptable Honours courses in mathematics will be required, with the same core of 36 credit units as the Honours program.

MAJOR IN STATISTICS (B.SC. FOUR-YEAR)

Students are required to take at least 36 credit units of courses in Mathematics and Statistics including MATH 110.3, 116.3, 225.3* or 276.3, 266.3*; STATS 241.3, 242.3, 342.3, 344.3, 345.3, 348.3, and one of STATS 341.3, 346.3, 349.3, 442.3 or 443.3; and an additional 3 credit units from: MATH 211.3, 226.3* or 238.3, 258.3, 277.3, and 300- and 400-level courses offered by the department. In addition, students are required to take CMPT 111.3 or 112.3, and 115.3.

Students are encouraged to include other courses in mathematics, statistics, and areas of application in their programs.

*Students contemplating Honours should take MATH 276 rather than 225, and MATH 238 rather than 226. Students planning on teaching as a career may substitute MATH 358 for 266 and the additional 3 required credit units.

HONOURS IN STATISTICS

Students are required to take at least 54 credit units of courses in Mathematics and Statistics including MATH 110.3, 116.3, 238.3, 266.3, 276.3, 371.3, 379.3, 401.0; STATS 241.3, 242.3, 341.3, 342.3, 344.3, 345.3, 346.3, 348.3, 349.3, 442.3, 443.3. In addition, students are required to take CMPT 111.3 or 112.3, and 115.3.

Students are encouraged to include additional courses in mathematics and areas of application in their programs. Students may find the transition to 300-level courses easier to make by including MATH 277.3 in their programs. MATH 366.3 and 373.3 are also recommended, especially for students considering graduate study in statistics.

DOUBLE HONOURS IN STATISTICS AND ANOTHER DISCIPLINE

Students are required to take at least 42 credit units of courses in Mathematics and Statistics including: MATH 110.3, 116.3, 238.3, 266.3, 276.3, 401.0; STATS 241.3, 242.3, 341.3, 342.3, 442.3, 443.3; 6 credit units from: STATS 344.3, 345.3, 348.3; 3 credit units from: STATS 346.3, 349.3. In addition, students are required to take CMPT 111.3 or 112.3, and 115.3.

Students are encouraged to include other courses in mathematics, statistics, and areas of application in their programs.

Double Honours in Statistics and Mathematics would require 72 credit units of courses in Mathematics and Statistics, 6 credit units in computer science, and 42 credit units in other subjects.

MINOR IN STATISTICS

This minor may be taken in conjunction with a major or Honours program in any other subject, including Mathematics. Students are required to take at least 18 credit units in courses including: STATS 103.3 or 241.3; a course in linear algebra (such as MATH 264, 266 or 358); an introductory course or courses in statistical methodology (such as STATS 242 or 245, or STATS 244 and SOC 240, or ECON 204, or PSY 233 and 234, or PL SC 314, or COMM 104 and 207, or GE 210); STATS 344.3, 345.3 and 348.3.

MATHEMATICAL PHYSICS

The Departments of Mathematics and Statistics and Physics and Engineering Physics have developed an interdisciplinary program in Mathematical Physics. Interested students, particularly students interested in applied mathematics and theoretical physics, should consult the mathematical physics section of the *Calendar*.

IMPORTANT NOTES

Students who have not taken all of the required courses in their second year are encouraged to discuss alternate routes with the Head of the Department.

Students intending to enter the third or fourth year of a program leading to the Honours degree are required to consult with the Head of the Department of Mathematics and Statistics or his designate for approval of an acceptable program.

In exceptional circumstances a student may be prepared to take a graduate mathematics or statistics course in the final year. Students wishing approval to take such a course and to count it towards the Honours requirements, should consult with the department's Honours Committee.

Students who complete an introductory course in statistical methodology that is essentially equivalent to STATS 242.3 may use such a course to satisfy the prerequisite requirements provided by STATS 242.3. However, such students will be required to add an additional approved 3 credit-unit course in statistics, mathematics or an area of application to their programs.

Students who are planning to do graduate study in statistics should follow the Honours programs and supplement it with additional courses in mathematics and areas of application. An excellent preparation for such graduate study is a Double Honours program in Statistics and Mathematics together with courses in an area of application.

MATH 401.0 must be taken in both the third and fourth years of the Honours and Double Honours programs.

Students who have completed a major or Honours program in mathematics or statistics and who wish to complete an Advanced or Honours Certificate program in the other subject will be required to take at least 18 credit units of additional approved courses from the department's offerings, as well as meeting other college requirements.

Junior Mathematics course credits

Up to 9 credit units may be obtained from the first-year offerings of mathematics and statistics depending on the courses taken and the order in which they are taken.

Students may have credit for MATH 110.3, and 112.3 or 116.3, and STATS 103.3

Students may have credit for MATH 101.3 and STATS 103.3

Students may **not** have credit for both MATH 101.3 and 110.3.

Students may **not** have credit for both MATH 112.3 and 116.3.

Students may have credit for MATH 100.6 and other junior mathematics courses under the following conditions:

- Students with credit for MATH 100.6 may subsequently take **one** of MATH 101.3, 110.3, or STATS 103.3 for credit. If they subsequently take **two** of MATH 101.3, 110.3, 112.3 or 116.3, or STATS 103.3, they will lose half credit for MATH 100.6. If they subsequently take **three** of these courses, they will lose all credit for MATH 100.6.
- Students with credit for **one** of MATH 101.3 or 110.3 or STATS 103.3 may subsequently take MATH 100.6 for half credit only.
- Students with credit for **two** of MATH 101.3, 110.3, 112.3 or 116.3, or STATS 103.3 may not subsequently take MATH 100.6 for credit.

MATHEMATICS
**MATH 100.6
Mathematics for Education Students
1&2(3L)**

Specifically for students in the Elementary Program of the College of Education. For details see College of Education listings.

**MATH 101.3
Elementary Calculus
1&2(3L)**

Prerequisite(s): Mathematics B30 (or Algebra 30).

An elementary introduction to calculus including functions, limits, derivatives, techniques of differentiation, curve sketching and maximum and minimum problems, antiderivatives and the integral.

Note: This course may not be taken for credit towards a major in mathematics or statistics.

Note: This course may not be used as a prerequisite for MATH 112 or 116. Students who have credit for MATH 102.6 may not take this course for credit.

**MATH 110.3
Calculus I
1/2(3L-1.5P)**

Prerequisite(s): Mathematics B30 and Mathematics C30 (or, under the old mathematics curriculum, Algebra 30 and Geometry-Trigonometry 30).

Introduction to derivatives and definite integrals; techniques of differentiation; maximum and minimum problems and other applications; implicit differentiation; anti-derivatives.

Note: Students wishing to complete a full year of calculus should register for either MATH 112 or 116 for Term 2. At the completion of MATH 110, students will be allowed the option of changing their choice of the Term 2 course.

Note: Students who have credit for MATH 112, 116, or 123 may not take this course for credit.

Note: Students who have credit for the former MATH 102 and subsequently take MATH 110 will lose credit for half of MATH 102. Students who have credit for MATH 101 and subsequently take MATH 110 will lose credit for MATH 101.

**MATH 112.3
Rudiments of Integral Calculus
1/2(3L-1.5P)**

Prerequisite(s): MATH 110.

Techniques of integration; the definite integral and simple differential equations - with applications and numerical techniques.

Note: MATH 112 is intended to be a terminal course in calculus and should be taken only by those students who are content to limit their mathematical options. Students who may require a more thorough grounding in calculus are advised to take MATH 116.

Note: Math 112 is not included among the courses meeting the major or Honours requirements of Mathematics and Statistics programs.

Note: Students who have credit for MATH 116 or 124 may not take this course for credit.

Note: Students with credit for MATH 123 may take this course for credit.

Note: Students who take MATH 112 and who subsequently require MATH 116 in their programs, must take MATH 116 but will not receive credit for it toward degree requirements in the College of Arts and Science.

Note: Students who have credit for the former MATH 102 and subsequently take MATH 112 will lose credit for half of MATH 102.

**MATH 116.3
Calculus II
1/2(3L-1.5P)**

Prerequisite(s): MATH 110.

Techniques of integration; the definite integral and simple differential equations - with applications and numerical techniques. The theoretical foundations of limits, including the ϵ - δ formulation; continuity and differentiability; advanced curve sketching; inverse functions; inverse trigonometric functions.

Note: MATH 116 is intended to complete the basic introduction to calculus for students in the mathematical and physical sciences, and for others who require a solid introduction to calculus. MATH 116 is the specified prerequisite for most second-year courses in mathematics and statistics, including all courses accepted in major and Honours programs.

Note: Students who have credit for MATH 112 or 124 may not take this course for credit.

Note: Students with credit for MATH 123 may take this course for credit.

Note: Students who have credit for the former MATH 102 and subsequently take MATH 116 will lose credit for half of MATH 102.

**MATH 124.3
Calculus II for Engineers
2(3L-1.5P)**

Specifically for students in the College of Engineering. For details see College of Engineering section of the *Calendar*.

**MATH 211.3
Numerical Analysis I
1/2(3L-1P)**

Prerequisite(s): MATH 110 and 116.

An introductory course. Topics include: errors, solutions of linear and non-linear equations, interpolation, numerical integration, solutions of ordinary differential equations.

**MATH 213.3
Linear Programming and Game
Theory
2(3L)**

Prerequisite(s): One of MATH 100, 101, (or 102), 110 or STATS 103.

Inequalities, Solutions of Linear Equations, Simplex Method, Transportation Problem, Duality, Game Theory and its transformation into a linear programming problem. Applications will be emphasized.

Note: May not be included in the courses making up a major in mathematics or statistics.

Note: Students with credit for COMM 393 or CMPT 393 may not take this course for credit.

**MATH 223.3
Intermediate Calculus
1(3L-1P)**

Specifically for students in the College of Engineering. For details see College of Engineering section of the *Calendar*.

**MATH 224.3
Differential Equations
2(3L-1P)**

Specifically for students in the College of Engineering. For details see College of Engineering section of the *Calendar*.

**MATH 225.3
Intermediate Calculus I
1(3L-1P)**

Prerequisite(s): MATH 110 and 116.

Discusses analytic geometry, vectors, vector functions, partial differentiation, multiple integration, line integrals and Green's theorem.

Note: Students are not permitted to take both MATH 225 and 276 for credit.

Note: Students obtaining a grade of 80% or better in this course may request permission from the Head of the Department of Mathematics and Statistics to register in courses for which MATH 276 is the stated prerequisite.

**MATH 226.3
Intermediate Calculus II
2(3L-1P)**

Prerequisite(s): MATH 110 and 116.

The topics to be discussed include infinite sequences and series, complex numbers, and first order and linear differential equations.

Note: Students are not permitted to take both MATH 226 and 238 for credit.

Note: Students obtaining a grade of 80% or better in this course may request permission from the Head of the Department of Mathematics and Statistics to register in courses for which MATH 238 is the stated prerequisite.

MATH 238.3
Introduction to Differential Equations and Series
1(3L-1.5P)

Prerequisite(s): MATH 110 and 116.

Solutions of first order and linear differential equations, infinite sequences and series, power series, Taylor's series, power series solutions of differential equations, and elements of mathematical modelling.

Note: Students intending to enter an Honours or Double Honours program are encouraged to take this course.

Note: Students are not permitted to take both MATH 238 and 226 for credit.

MATH 258.3
Euclidean Geometry
1/2(3L-1P)

Prerequisite(s): One of MATH 100, 101, (or 102), 110 or STATS 103.

A course in plane Euclidean geometry. Particularly recommended for teachers of mathematics.

Note: It is recommended that students have a basic introduction to high school geometry.

MATH 264.3
Linear Algebra
1/2(3L)

Prerequisite(s): One of MATH 100, 101, (or 102), 110 or STATS 103.

Vector spaces, matrices and determinants, linear transformations, sets of linear equations, convex sets and n-dimensional geometry, characteristic value problems and quadratic forms.

Note: Students are not permitted to take more than one of MATH 264, 266 or 358 for credit.

MATH 266.3
Linear Algebra I
1/2(3L)

Prerequisite(s): MATH 110 and 116.

A study of linear equations, matrices and operations involving matrices, determinants, vector spaces and their linear transformations, characteristic values and vectors, reduction of matrices to canonical forms, and applications.

Note: Designed to meet the needs of students majoring or honouring in mathematics, statistics, computer science or one of the natural sciences.

Note: Students are not permitted to take more than one of MATH 264, 266 or 358 for credit.

MATH 276.3
Vector Calculus I
1(3L-1.5P)

Prerequisite(s): MATH 110 and 116.

Vector analysis, differentiation and integration of functions of several variables, line integrals and surface integrals.

Note: Students intending to enter an Honours or Double Honours program are encouraged to take this course.

Note: Students are not permitted to take MATH 276 and 225 or 275 for credit.

MATH 277.3
Vector Calculus II
1/2(3L-1.5P)

Prerequisite(s): MATH 276 (or MATH 225 with a grade of 80% or better).

An extension of MATH 276 to include a fuller discussion of parametrized surfaces and surface integrals, derivative as a linear mapping, inverse and implicit function theorems, change of variable formula for multiple integrals, Stokes' theorem and generalizations, max.-min. problems with constraints and analysis of critical points.

MATH 313.3
Numerical Analysis II
1(3L)

Prerequisite(s): MATH 211, and either 266 or an equivalent course in linear algebra.

Numerical methods in linear algebra. Topics covered include approximation theory, least squares, direct methods for linear equations, iterative methods in matrix algebra, eigenvalues, systems of non-linear equations.

MATH 314.3
Numerical Analysis III
2(3L)

Prerequisite(s): MATH 211 and 238.

Numerical differentiation and integration, initial-value problems for ordinary differential equations, boundary-value problems for ordinary differential equations, introduction to numerical solutions to partial-differential equations.

MATH 327.3
Graph Theory
1(3L)

Prerequisite(s): MATH 264 or 266, and either CMPT 260 or 6 credit units of 200-level mathematics.

Graph Theory and its contemporary applications including the nomenclature, special types of paths, matchings and coverings, and optimization problems soluble with graphs.

MATH 328.3
Combinatorics and Enumeration
2(3L)

Prerequisite(s): MATH 264 or 266, and either CMPT 260 or 6 credit units of second year mathematics.

The theory of Combinatorics and Enumeration and its contemporary applications, including generating functions and recurrence relations, and the Polya and Ramsey Theories. A wide variety of practical applications will be presented.

MATH 338.6
Differential Equations II
1&2(3L)

Prerequisite(s): MATH 238 or 226.

Use of Laplace transforms, theory of infinite series, solution of ordinary linear equations in series, Sturm-Liouville problems, Fourier series, Bessel and Legendre functions, the Fourier integral, the Laplace, diffusion, and wave equations, calculus of variations, matrices, quadratic forms, oscillations of conservative systems.

MATH 350.6
Differential Geometry
1&2(3L)

Prerequisite(s): MATH 276 or 225, and 277.

Curves in 3-space, Euclidean motions, surface theory, introduction to differentiable

manifolds, Gaussian and mean curvature, imbedding conditions, geodesics, parallel transport, Gauss-Bonnet theorem.

MATH 358.6
Projective Geometry and Linear Algebra
1&2(3L)

Prerequisite(s): MATH 110 and 112 or 116.

Provides an introduction to the projective line and plane, determinants, vector spaces, linear equations, linear transformations, and eigenvalues.

Note: Particularly recommended for teachers of mathematics. May not be included in the courses making up an Honours program in mathematics or statistics.

Note: Students are not permitted to take more than one of MATH 264, 266 or 358. Students who have credit for a course or half-course in linear algebra are not permitted to take this course for credit.

MATH 360.6
Algebra I
1&2(3L)

Prerequisite(s): MATH 264, 266 or 358.

Groups, rings, unique factorization domains, modules over principal ideal domains, vector spaces, linear transformations and canonical forms.

Note: Students who have credit for MATH 363 or 364 may not take this course for credit.

MATH 363.3
Abstract Algebra
1(3L)

Prerequisite(s): One of MATH 100, 101, (or 102), 110 or STATS 103.

Introduction to algebraic structures, notably groups and rings. Topics include binary operations, groups, subgroups, homomorphisms, cosets, Lagrange's theorem, permutation groups, the general linear group; rings, polynomial rings, Euclidean rings.

Note: Recommended for teachers of mathematics. May not be included in the courses making up an Honours program in either Mathematics or Statistics.

Note: Students having credit for MATH 360 may not take this course for credit.

MATH 364.3
Number Theory
2(3L)

Prerequisite(s): MATH 363.

A course in elementary number theory with emphasis upon the interrelation of number theory and algebraic structures: review of unique factorization and congruences, the ring of integers modulo n and its units, Fermat's little theorem, Euler's function, Wilson's theorem, Chinese remainder theorem, finite fields, quadratic reciprocity, Gaussian integers, and the Fermat theorem on primes congruent to one modulo four.

Note: Recommended for teachers of mathematics. May not be included in the courses making up an Honours program in either Mathematics or Statistics.

Note: Students having credit for MATH 360 may not take this course for credit.

MATH 366.3
Linear Algebra II
1(3L)

Prerequisite(s): MATH 266.

This is a follow-up course to MATH 266. Further important properties of linear transformations, such as spectral theorems and Jordan normal form, will be dealt with.

Note: Designed to meet the needs of Honours mathematics students, students majoring in mathematics, as well as students majoring in computer science or one of the natural sciences.

MATH 371.3
Metric Spaces and Continuous Functions
1(3L)

Prerequisite(s): MATH 238 and 276.

A rigorous construction of the real numbers followed by an introduction to general metric spaces and their basic properties. Continuous functions are studied in detail.

MATH 373.3
Integration Theory
1/2(3L)

Prerequisite(s): MATH 371.

Review of the Newton, Riemann and Riemann-Stieltjes integrals and their shortcomings, the generalized integrals including the Lebesgue integral, the main convergence theorems, Lebesgue measure, Lp-spaces and an introduction to Fourier analysis.

Note: Students with credit for MATH 470 may not take this course for credit.

MATH 379.3
Complex Analysis
2(3L)

Prerequisite(s): MATH 225 or 276, and 226 or 238.

Fundamental concepts, analytic functions, infinite series, integral theorems, calculus of residues, conformal mappings and applications.

MATH 401.0
Seminar
1&2(1.5S)

Students in Honours Mathematics or in Double Honours Programs in Mathematics and a second subject are required to participate in this seminar during their third and fourth years.

MATH 431.3
Ordinary Differential Equations
1/2(3L)

Prerequisite(s): MATH 277, 366 and 371.

Existence and uniqueness of solutions; time dependent and time independent linear systems; submanifolds of euclidean space, phase space, vector fields, flows; equilibria; linearization; stable, unstable and center manifolds; local bifurcations; planar flows; numerical methods.

MATH 432.3
Dynamical Systems and Chaos
1(3L)

Prerequisite(s): MATH 277, 266 and 379.

One dimensional dynamics; the quadratic family, symbolic dynamics and chaos. Period doubling; conservative systems, action angle variables, KAM theory; complex analytic dynamics, the Mandelbrot and Julia sets.

**MATH 433.3
Applied Group Theory
1/2(3L)**

Prerequisite(s): MATH 276 and 366 (or MATH 276 and 266 and permission of the instructor). MATH 277 is desirable.

Treats the following topics from group theory: permutation groups, crystallographic groups, kinematic groups, abstract groups, matrix Lie groups, group representations. Specific topics include the rotation group (spinors and quantum mechanical applications), the Lorentz group (representations and wave equations), SU (3) (its Lie algebra and physical relevance).

**MATH 434.3
Applied Topology in Physics and Chemistry
1/2(3L)**

Prerequisite(s): MATH 276, or 225 with permission of the instructor. It is advisable to complete MATH 371 and 379 either previously or concurrently.

Basic notions of topology, knot theory and graph theory are introduced and applied to the study of physical and chemical problems such as the classification of defects in an ordered medium as well as knotting and linking in models of DNA.

**MATH 438.3
Methods of Applied Mathematics
1(3L)**

Prerequisite(s): MATH 238, 276 and 277. Calculus of variations, integral equations and applications.

**MATH 439.3
Partial Differential Equations
2(3L)**

Prerequisite(s): MATH 238, 276 and 277. Classification of second order partial differential equations, some properties of elliptic, parabolic, and hyperbolic equations, applications.

**MATH 485.3
Elements of General Topology
1/2(3L)**

Prerequisite(s): MATH 371. Topological spaces, separation axioms, products, quotients, convergence, connectedness, extension theorems, and metric spaces.

SPECIAL TOPICS

- MATH 398.3 1/2(3S)
- MATH 399.6 1&2(3S)
- MATH 498.3 1/2(3S)
- MATH 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

STATISTICS

STATS 103, 241 and 341 are courses in probability. All other courses carrying the STATS abbreviation are courses in statistics.

Students who have taken other courses in statistics, either from Arts and Science or from another college, should consult "Regulations on Introductory Courses in Statistics" for information on statistics course equivalencies. See Statistics Courses in the Index section of the Calendar.

**STATS 103.3
Elementary Probability**

Prerequisite(s): Mathematics B30 (or Algebra 30).

An elementary introduction to the concepts of probability, including: sets, Venn diagrams, definition of probability, algebra of probabilities, counting principles, some discrete random variables and their distributions, graphical displays, expected values, the normal distribution, the Central Limit Theorem, applications, some statistical concepts.

Note: This is a course in probability, not an introduction to statistics. Students wishing an introduction to statistics should take STATS 244 or 245. This course may not be taken for credit towards a major in mathematics or statistics. Students with credit for MATH 102.6 may not take this course for credit. Students may receive credit for both STATS 241 or 245, provided STATS 103 is taken and successfully completed first.

**STATS 241.3
Probability Theory
1/2(3L-1P)**

Prerequisite(s): MATH 110 and 116.

Laws of probability, discrete and continuous random variables and their distributions, moments, functions of random variables and their distributions, Central Limit Theorem.

**STATS 242.3
Statistical Theory and Methodology
2(3L-1P)**

Prerequisite(s): MATH 110 and 116, and STATS 241.

Sampling theory, estimation, testing hypotheses, confidence intervals, goodness of fit, analysis of variance, regression and correlation.

Note: Students are not permitted to take more than one of STATS 242, 244, 245 or other introductory statistics courses for credit. For further details on courses in statistics refer to the Index section of the Calendar under Statistics Courses.

**STATS 244.3
Elementary Statistical Concepts
1/2(3L-1P)**

Prerequisite(s): A course in a social science (or Mathematics A30).

Statistical concepts and techniques including graphing of distributions, measures of location and variability, measures of association, regression, probability, hypothesis testing. Students should consult with their department before enrolling in this course to determine the status of the course in their program.

Note: For students in one of the Social Sciences, Education or Nursing. This

course may not be included in the courses making up a major in mathematics or statistics.

Note: Students are not permitted to take more than one of STATS 242, 244, 245 or other introductory statistics courses for credit. For further details on courses in statistics refer to the index section of the Calendar under Statistics.

**STATS 245.3
Introduction to Statistical Methods
1/2(3L-1P)**

Prerequisite(s): MATH 100, 101, 102, 110 or STATS 103.

An introduction to basic statistical methods including frequency distributions, elementary probability, confidence intervals and tests of significance, analysis of variance, regression and correlation, contingency tables, goodness of fit.

Note: May not be included in the courses making up a major in mathematics or statistics.

Note: Students are not permitted to take more than one of STATS 242, 244, 245 or other introductory statistics courses for credit. For further details on courses in statistics refer to the index section of the Calendar under Statistics.

**STATS 341.3
Probability and Stochastic Processes
1/2(3L-1P)**

Prerequisite(s): STATS 241.

Random variables and their distributions; Independence; Moments and moment generating functions; Conditional probability; Markov chains; Stationary time-series.

**STATS 342.3
Mathematical Statistics
1(3L-1P)**

Prerequisite(s): MATH 225 or 276; STATS 241 and 242.

Probability spaces; conditional probability and independence; discrete and continuous random variables; standard probability models; expectations; moment generating functions; Sums and functions of random variables; Sampling distributions; Asymptotic Distributions. Deals with basic probability concepts at a moderately rigorous level.

Note: Students with credit for STATS 340 may not take this course for credit.

**STATS 344.3
Applied Regression Analysis
1/2(3L-1P)**

Prerequisite(s): STATS 242 or 245 or a comparable course in statistics.

Applied regression analysis involving the extensive use of computer software. Includes: linear regression; multiple regression; stepwise methods; residual analysis; robustness considerations; multicollinearity; biased procedures; non-linear regression.

Note: Students with credit for ECON 404 may not take this course for credit. Students with credit for STATS 344 will receive only half credit for ECON 404.

**STATS 345.3
Design and Analysis of Experiments
1/2(3L-1P)**

Prerequisite(s): STATS 242 or 245 or a comparable course in statistics.

An introduction to the principles of experimental design and analysis of variance. Topics will include randomization, blocking, factorial experiments, confounding, random effects, analysis of covariance. Emphasis will be on fundamental principles and data analysis techniques rather than on mathematical theory.

**STATS 346.3
Multivariate Analysis
1/2(3L-1P)**

Prerequisite(s): MATH 266, STATS 241 and 344 or 345.

The multivariate normal distribution, multivariate analysis of variance, discriminant analysis, classification procedures, multiple covariance analysis, factor analysis, computer applications.

**STATS 347.3
Non-Parametric Methods
1/2(3L-1P)**

Prerequisite(s): STATS 242 or 245 or a comparable course in statistics.

An introduction to the ideas and techniques of non-parametric analysis. Included are studies of the one, two and K samples problems, goodness of fit tests, randomness tests, and correlation and regression.

**STATS 348.3
Sampling Techniques
1/2(3L-1P)**

Prerequisite(s): STATS 242 or 245 or a comparable course in statistics.

Theory and applications of sampling from finite populations. Topics discussed include simple random sampling, stratified random sampling, cluster sampling, systematic sampling, probability proportionate to size sampling, and the difference, ratio and regression methods of estimation.

**STATS 349.3
Time Series Analysis
1/2(3L-1P)**

Prerequisite(s): STATS 241, and 344 or 345.

An introduction to statistical time series analysis. Topics include trend analysis, seasonal variation, stationary and non-stationary time series models, serial correlation, forecasting and regression analysis of time series data.

**STATS 442.3
Statistical Inference
2(3L-1P)**

Prerequisite(s): STATS 342.

Parametric estimation, maximum likelihood estimators, unbiased estimators, UMVUE, confidence intervals and regions, tests of hypotheses, Neyman Pearson Lemma, generalized likelihood ratio tests, chi-square tests, Bayes estimators.

Note: Students with credit for STATS 340 may not take this course for credit.

**STATS 443.3
Linear Statistical Models (Formerly 343)
2(3L-1P)**

Prerequisite(s): MATH 266, STATS 342, and 344 or 345.

A rigorous examination of the general linear model using vector space theory. Includes: generalized inverses; orthogonal projections; quadratic forms; Gauss-Markov theorem and its generalizations; BLUE estimators; Non-full rank models; estimability considerations.

Note: Students with credit for STATS 343 may not take this course for credit.

MICROBIOLOGY AND IMMUNOLOGY

The Department of Microbiology and Immunology offers programs leading to the Three-year, Four-year and Honours degree obtained from the College of Arts and Science. The programs provide education in the areas of microbial physiology and pathogenesis, microbial genetics (bacterial, bacteriophage and yeast), virology, tumour biology, immunology and immunopathogenesis. Programs in microbiology include necessary courses for students prepared to enter Graduate studies in biomedical sciences and into health related professional schools such as Medicine, Dentistry, Veterinary Medicine and Pharmacy. Graduates are also prepared for careers in broad aspects of biotechnology and they can find employment in academic/research institutions and related industries.

Students wishing to obtain a B.Sc. degree in microbiology should take the following:

First year: BIOL 110.6; CHEM 111.3 and 251.3; PHYS 111.6; and 12 credit units towards fulfilling Requirements 2, 3, 4 or 5 of a Program Type C program.

Program changes in microbiology are being implemented in the 1999-2000 and 2000-2001 Regular Sessions. A faculty advisor in the Department of Microbiology and Immunology should be consulted before registering for microbiology courses.

MAJOR IN MICROBIOLOGY (B.SC. FOUR-YEAR)

Second Year: MICRO 214.3 or AP MC 212.3; MICRO 216.3; BIOCH 200.3, 211.3, and BIOL 211.3 (considered part of the major); and CHEM 231.3.

Third year: MICRO 387.3, 390.3, 391.3; 3 credit units in statistics (preferably PL SC 314.3).

Third or Fourth year: MICRO 309.3 or 417.3

Fourth year: MICRO 416.3 and 421.3.

To complete the major requirements, an additional 9 credit units must be selected from: ANAT 200.3, 300.3; AP MC 425.3, 430.3, 433.3, 434.3, 435.3, 437.3, 450.3; BIOCH 212.3, 230.3, 310.3, 412.3, 436.3; BIOL 436.3, MICRO 308.3, 309.3, 417.3, 423.3, 425.3, 491.6; PHSIO 212.6; SL SC 343.3.

MAJOR IN MICROBIOLOGY (B.SC. THREE-YEAR)

The required 200- and 300-level classes are MICRO 214.3 or AP MC 212.3, MICRO 216.3, BIOCH 200.3. (considered part of the major), CHEM 231.3, MICRO 390.3 and 391.3, and 3 credit units in statistics (preferably PL SC 314.3). To complete the major requirements, an additional 9 credit units must be selected from: MICRO 308.3, 309.3, 387.3, *416.3, 417.3, 421.3, 423.3, 425.3; AP MC 425.3, 430.3, 433.3, 434.3, 435.3, 437.3, 450.3; SL SC 343.3.

*Students majoring in microbiology who take MICRO 416 must also take BIOCH 211 previously or concurrently.

HONOURS IN MICROBIOLOGY

Students wishing to enter the Honours Program in Microbiology must apply to the College of Arts and Science.

The required courses to be taken in second, third and fourth year are the same as for microbiology students in the B.Sc. Four-year program.

To complete the major requirements, Microbiology Honours students must select 18 rather than 9 additional credit units from among the 200-, 300- and 400-level classes listed in the B.Sc. Four-year program. All Microbiology Honours students must register for MICRO 490.0 in fourth year.

Students completing Double Honours in Biochemistry and Microbiology may use BIOCH 311 in place of MICRO 391 in this program.

HONOURS IN MICROBIOLOGY AND BIOTECHNOLOGY

Program Requirements:

1. BIOL 110.6; CHEM 111.3, 251.3; PHYS 111.6.

2. 27 credit units in core Biotechnology courses: ANAT 200.3; BIOCH 200.3, 211.3, 212.3, BIOL 211.3, MICRO 214.3 or AP MC 212.3; MICRO 216.3, 391.3, 416.3.

3. 12 credit units: MICRO 387.3, 390.3, 417.3, 421.3, 490.0 (Seminar).

4. 18 credit units chosen from AP MC 425.3, 430.3, 433.3, 434.3, 435.3, 437.3, 450.3; ANAT 331.3, AN SC 313.3, 470.3; BIOCH 230.3, 310.3, 412.3, 436.3; BIOL 436.3, 316.3, 420.3; PL SC 411.3, 416.3; MICRO 308.3, 309.3, 423.3, 425.3; PHSIO 212.6; SL SC 343.3. Courses used in #3 [above] cannot be used in #4.

5. PHIL 236.3 plus 27 credit units such that (a) and (b) are satisfied as follows:

(a) 9 credit units are taken from SOC 292.3, 323.3; AG EC 292.3; COMM 345.3, 346.3;

(b) 18 additional credit units are taken such that Type C distribution requirements 2-5 are satisfied with the recommendation that 6 of these credit units are chosen from the courses listed in (a) and/or from HIST 284.3, AGRIC 222.3. [Note that COMM 345.3, 346.3; AGRIC 222.3 cannot be used in Type C distribution requirements.]

6. CHEM 231.3, PL SC 314.3 or equivalent, 9 credit units Science electives.

Students who do not meet the standard for an Honours degree in the Biotechnology

program are eligible to be considered for a four-year degree in Microbiology and Biotechnology.

MICROBIOLOGY

**MICRO 214.3
Basic and Medical Microbiology
1(3L-3P)**

Prerequisite(s): BIOL 110; CHEM 111, 251; (CHEM 251 may be taken concurrently); Students intending to major in Microbiology must take BIOCH 200 concurrently.

An introduction to the structure, physiology, and genetics of micro-organisms, with special consideration given to bacteria and viruses of medical importance and their role in human disease.

Note: Laboratories emphasize techniques used in the study of micro-organisms.

Note: Students with credit for AP MC 212 may not take this course for credit.

**MICRO 216.3
Introductory Prokaryotic Genetics
and Physiology
(3L/1P)**

Prerequisite(s): MICRO 214 or AP MC 212; BIOCH 200.

Introduces the metabolic and genetic properties of bacterial cells. Topics include bacterial growth and culture systems, key metabolic pathways and their regulation, nutrient transport systems, organization of genetic material, regulation of bacterial and viral gene expression and genetic exchange mechanisms. Students will appreciate the central role of bacteria in modern biotechnology. Laboratories illustrate concepts developed in the lectures.

**MICRO 308.3
Medical Bacteriology
1(3L)**

Prerequisite(s): AP MC 212 or MICRO 214; BIOCH 200.

Considers the characteristics of bacterial agents of infectious disease in humans. Host-parasite interactions are emphasized with respect to pathogenesis and the innate immune response. The role of the laboratory in the control of infectious disease is discussed.

**MICRO 309.3
Medical Virology
2(3L)**

Prerequisite(s): AP MC 212 or MICRO 214; BIOCH 200.

The principles of animal virology are covered, including classification, cell-virus relationships, basic techniques in virology, transmission of viruses, and study of viral disease.

**MICRO 387.3 (Formerly 386)
Microbial Genetic Systems
(3L/1T)**

Prerequisite(s): MICRO 214, 216; BIOL 211; BIOCH 200.

Bacterial and bacteriophage genetic systems will be dissected with a view to understanding their genomes, gene regulation, replication, mutagenesis, repair, and recombination, and their practical use as tools for molecular genetics experimentation and biotechnology.

Note: Students with credit for MICRO 386 may not take MICRO 387 for credit.

**MICRO 390.3 (Formerly 395)
Laboratory Aspects of Microbiology
1(3L/4P)**

Prerequisite(s): MICRO 214, 216; BIOCH 200.

The principles and applications of techniques used in microbiology are covered with an emphasis on problem solving. Included are methods relating to safe handling, growth and identification of microbes and methods for studying virology and immunology.

Note: Intended primarily for Microbiology students. Others may be considered if space permits. For permission contact the Department of Microbiology and Immunology.

**MICRO 391.3 (Formerly 395)
Laboratory Aspects of Microbiology II
(3L/4P)**

Prerequisite(s): MICRO 214, 216; BIOCH 200.

The principles and applications of techniques used in microbiology are covered with an emphasis on problem solving. Included are methods for studying microbial physiology and genetics, and basic methods of microbial gene manipulation. Students with credit for MICRO 391 cannot receive credit for BIOCH 311.

Note: Intended primarily for Microbiology students. Others may be considered if space permits. For permission contact the Department of Microbiology and Immunology.

**MICRO 416.3 (Formerly 215)
Microbial Structure and Physiology
2(3L)**

Prerequisite(s): MICRO 216; BIOCH 200 (Students majoring in microbiology must also take BIOCH 211 previously or concurrently).

Considers the ultrastructure of micro-organisms, the relationship between structure and function, mechanisms of cell division, composition of microbial cell walls and membranes, aerobic, fermentative, chemolithotrophic and photolithotrophic metabolism, and regulation of metabolism.

Note: students with credit for MICRO 215 may not take MICRO 416 for credit.

**MICRO 417.3
Molecular Virology
1(3L)**

Prerequisite(s): BIOCH 200; MICRO 214 or AP MC 212.

Representative members of known animal virus families are used as models of biological events at a macromolecular level. Topics covered are virus purification and analysis methods, virus structure and self-assembly, virus genomes and genome expressions, virus proteins and their function, and virus-cell interactions during lytic, transforming, persistent and slow virus infections.

Note: MICRO 417 will not be offered in 2000-2001.

MICRO 421.3

Principles of Immunology 1(3L)

Prerequisite(s): BIOCH 200; MICRO 214 or AP MC 212.

Emphasizes the fundamental aspects of immunology dealing with the structure, genetics and function of antibody molecules, and the cellular and molecular regulation of immune responses. A portion is devoted to regulation of the immune response to tumours and particular parasites.

MICRO 423.3

Immunopathogenesis of Microbial Infections 2(3L)

Prerequisite(s): MICRO 421.

Explores microbial interactions with the host and its immune system. Various models of bacterial, viral and parasitic immunopathogenesis will be covered as well as intervention through vaccines or immune modulation.

MICRO 425.3

Molecular Basis of Microbial Pathogenesis 2(3L)

Prerequisite(s): MICRO 214, a course in genetics or molecular biology; or permission of the department.

Explores ways in which microbial pathogens interact with their hosts from a molecular and genetics perspective. Topics include: general pathogenic mechanisms of bacteria, viruses and parasites; bacterial virulence factors and their genetic regulation; molecular genetic approaches to studying pathogenesis; and various model systems which have been used to understand pathogenic mechanisms.

MICRO 490.0

Seminar 1&2(1S)

In their final year, students in the Honours Microbiology program are required to present one departmental seminar and to attend all departmental seminars.

MICRO 491.6 (Formerly 497)

Research Project in Microbiology

Prerequisite(s): Minimum cumulative average of 70% in those courses counting toward the microbiology requirement of an Honours Degree in Microbiology. Permission of department is required.

A research project is selected in consultation with a faculty supervisor in whose laboratory the research will be carried out. Students will become familiar with the scientific literature and the laboratory techniques pertinent to the project. Experimental work will be undertaken and data compiled and analyzed. To complete the research project, a written report will be tabled and a short oral presentation will be given to faculty and students.

Note: Intended primarily for those students majoring in microbiology who are considering a post-graduate degree in microbiology or another area of the life sciences.

SPECIAL TOPICS

MICRO 398.3 1/2(3S)
MICRO 399.6 1&2(3S)

MICRO 498.3 1/2(3S)

MICRO 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

COURSES IN OTHER DEPARTMENTS AND COLLEGES

The following courses may be credited toward a microbiology major and honours program:

ANAT 200.3 Introduction to Cell Biology

ANAT 300.3 Cell Biology

AP MC 212.3 Applied Microbiology

AP MC 425.3 Principles of Food Microbiology

AP MC 430.3 Microbial Ecology

AP MC 433.3 Microbial Insecticides

AP MC 434.3 Industrial Microbiology I

AP MC 435.3 Microbiological Techniques

AP MC 437.3 Industrial Microbiology II

AP MC 450.3 Microbiology of the Rumen

BIOCH 212.3 Introductory Biochemical Techniques

BIOCH 230.3 Information Transfer - DNA to Protein

BIOCH 310.3 Proteins and Enzymes

BIOCH 412.3 Protein Structure, Function, and Engineering

BIOCH 436.3 Advanced Molecular Biology

BIOL 436.3 Animal Parasitology

PHSIO 212.6 Human Physiology

SL SC 343.3 Soil Microbiology

For details see the appropriate section of the *Calendar*.

MODERN LANGUAGES

See the Department of Languages and Linguistics section of the *Calendar*.

MUSIC

DEGREES IN MUSIC

The Department of Music offers programs in the College of Arts and Science leading to the Bachelor of Music Degree (B.Mus.) and to the Bachelor of Arts Degree (B.A.) with a music major. The department also offers programs in the College of Education. Any information required on Graduate Studies can be obtained by contacting the department. These programs are described under those colleges. Scholarships and financial aid available to music students are described in the Department of Music section of the *Awards Guides*.

ADMISSION PROCEDURES

All students planning to enter Bachelor of Music or the 5-year combined Bachelor of Education/Bachelor of Music in Music Education programs must arrange for an Interview, Audition, and Placement Examination. The latter consists of a theory test. Advanced standing in Applied Music, Theory or History will be given under

certain circumstances. All students will be expected to demonstrate performance ability in their audition for which two contrasting selections from the standard repertoire should be prepared.

Auditions for 2000-2001 are scheduled for April 1, 15 and May 6, 2000.

Auditions for 2001-2002 are scheduled for March 3 (special audition for students seeking scholarship consideration), April 21 and May 5 2001. Priority for student scholarships will be given to those auditioning on March 3rd.

In addition to the Music Department Auditions, application must also be made to Admissions, Office of the Registrar. Official acceptance notifications and registration materials will be issued by that office.

Note: 2000-2001 admissions to the B.Mus. and the 5-year combined B.Ed./B.Mus. (Mus.Ed.) programs will be limited to approximately 30 students.

THE FOLLOWING IS HIGHLY RECOMMENDED AS PREPARATION FOR MUSIC PROGRAMS:

- School or community experiences in teaching and leadership for students interested in Music Education.
- Private study in applied music as well as in Theory and History. Every effort should be made to seek competent instruction in a particular performance medium. Students should seek opportunities for solo and ensemble performance to increase knowledge of literature and skills and to improve awareness of Art Music of various historical periods. Band, Choir and Orchestra participation as further incentive to improving performance skills and increasing knowledge of the literature.
- Keyboard experience is also recommended.

GENERAL INFORMATION

The Department of Music at the University of Saskatchewan offers courses for those who desire a major or minor in music as well as elective courses in music.

In addition to the academic courses, the following performing ensembles are open to all university students. For further information, contact the Department of Music.

Music Theatre: This activity has arisen out of normal class activities in vocal literature, conducting, theatre and applied voice. Short operas, scenes, musicals or excerpts are chosen and students are involved in both the staging and performance. Performances are held at the university and in the community.

Collegium Musicum: This group is open to all singers and instrumentalists interested in the performance of mainly pre-18th-century vocal and instrumental music. The ensemble frequently collaborates with seminars in counterpoint, wind instrument history and literature, and performance practices.

Concert Band: This band is open to all wind and percussion players on campus without

audition. This group plays and performs a variety of literature for Concert Band.

Contemporary Music Ensemble: This group, of variable instrumentation is devoted to the performance of significant contemporary works. The ensemble performs several times a year.

Greystone Singers: Open to all students on campus by audition who love singing and enjoy learning a challenging and varied repertoire of sacred and secular choral music.

Jazz Ensemble: Designed to provide insight into the tradition of large ensemble jazz music via the rehearsal and performance of significant repertoire. Ensemble goals are achieved via the study of historically significant styles and key representative composers as well the exploration of leading contemporary jazz styles and composers.

Percussion Ensemble: Membership is determined by audition and is open to all students on campus. This ensemble involves most of the instruments in the percussion family including xylophone, vibraphone and marimba.

University Chorus: This chorus is open to all interested singers both on campus and in the community. The music studied includes masterworks of the choral literature from all eras. The chorus collaborates every year with the Saskatoon Symphony Orchestra in the presentation of large choral works.

Chamber Ensemble with Piano: Open to all music students. This ensemble provides experience in vocal and instrument chamber music with piano. Third- and fourth-year piano students may use this ensemble for credit.

Wind Orchestra: This organization is open to all wind and percussion players on campus by audition. This ensemble performs a challenging repertoire and a large percentage of music written originally for the modern wind ensemble.

Small Ensembles: Brass, Woodwind (including Recorder), Vocal, String and Keyboard Ensembles are open to all students on campus. Although the nature and number of these groups may vary from year to year, there is always some opportunity for chamber music performances on campus.

CONCERTS AND RECITALS

On the campus many concerts and recitals are presented each year by outstanding artists. A valuable adjunct to any student's education is the opportunity to attend the guest artist series and any departmental ensemble and student recitals. Note that the series involves a fee for tickets. Many significant concerts and recitals are also available in the community.

B.A. PROGRAMS - MAJORS AND HONOURS

Major in Music (B.A. Four-year)

MUSIC 113.2, 114.2, 117.1, 119.1; 140.3, 141.3, 213.2, 214.2, 217.1, 219.1; 240.3, 241.3; and 12 credit units at the 300 or 400 level in music; language; natural science;

social science; humanities or language; art or drama; 54 credit units in electives, 30 of which must be senior. A minimum of 36 and a maximum of 60 music credit units may be taken.

Participation in at least one approved music ensemble each year and attendance at recitals and concerts prescribed by the Department of Music is strongly recommended.

Major in Music (B.A. Three-year)

MUSIC 113.2, 114.2, 117.1, 119.1; 140.3, 141.3; 213.2, 214.2, 217.1, 219.1; 240.3, 241.3; and a 6 credit unit 300- or 400-level course in Music; language; natural science; social science; humanities or language; art or drama; 30 credit units in electives, 18 of which must be senior. A minimum of 30 and a maximum of 42 music credit units may be taken.

Honours Program in Music

Students planning to enter the Honours program must consult with the Head of the Department. The candidate must demonstrate considerable competence in music theory, music history and performance before being admitted to the program. The Honours program includes MUSIC 113.2, 114.2, 117.1, 119.1, 140.3, 141.3; 213.2, 214.2, 217.1, 219.1, 240.3, 241.3; and 36 credit units in music to be chosen from courses numbered 200 or higher; language; social science; humanities or language; natural science; art or drama; and 30 additional non-music credit units.

Honours students will be expected to attend a non-credit seminar that will be concerned with matters pertinent to honours work in music.

A comprehensive examination in music will be given toward the close of the final year. Candidates will be examined in music theory, music literature and history, performance and analysis.

Several Double Honours Programs are available. Interested students should contact the Head of the Department.

STANDARDS OF ACADEMIC PERFORMANCE

It is the expectation of the Department of Music that students attend all rehearsals, recitals, and applied lessons as scheduled. Class attendance policy as established by the University is also to be followed.

BACHELOR OF MUSIC PROGRAM

The Bachelor of Music degree (within the College of Arts and Science) is a four-year program leading to the B.Mus. degree in Theory-Composition, History-Literature or Performance (132 credit units).

The program was revised in 1997, as follows:

Academic Requirements

Students will be required to complete a total of 30 credit units in academic courses, as part of the 132 credit units required in the Bachelor of Music (B.Mus.) program. At least 3 credit units in each of languages, humanities or art or drama, natural sciences, and social sciences, and 18 credit units in

undesignated Arts and Science electives. The academic courses may be at a junior or senior level. Remainder of music courses as described below.

The B.Mus. is conferred if the student has obtained an overall minimum Cumulative Percentage Average (C.P.A.) of 60% on the 132 credit units and a C.P.A. of at least 62.5% on all Music courses. For the B.Mus. the C.P.A. requirement is 75% for Distinction, and 80% for Great Distinction on a 132 credit unit program.

History and Literature

First Year (33 credit units)

MUSIC 129.0, 113.2, 114.2, 117.1, 119.1, 140.3, 141.3; Applied Major* (6 credit units); Applied Ensemble* (0 credit units); Arts** (15 credit units).

Second Year (33 credit units)

MUSIC 229.0, 213.2, 214.2, 217.1, 219.1, 240.3, 241.3; Applied Major* (6 credit units); Arts (12 credit units); music elective (3 credit units) or arts electives (3 credit units); Applied Ensemble (0 credit units).

Third Year (33 credit units)

MUSIC 329.0, 346.3, 347.3; 368.3; Music History/Literature electives (15 credit units); Applied Major* (with recital) (6 credit units); Applied Ensemble* (0 credit units); Arts (3 credit units) or a music elective (3 credit units).

Fourth Year (33 credit units)

MUSIC 429.0, 464.3, 465.3; Music History/Literature electives (15 credit units of which 6 must be at the 300 level); music electives (6 credit units); Applied Major* (with recital) (6 credit units).

Theory and Composition

First Year (33 credit units)

MUSIC 129.0, 113.2, 114.2, 117.1, 119.1, 140.3, 141.3; Applied Major* (6 credit units); Applied Ensemble* (0 credit units); Arts (15 credit units).

Second Year (33 credit units)

MUSIC 202.6, 229.0, 213.2, 214.2, 217.1, 219.1, 240.3, 241.3; Applied Major* (6 credit units); Applied Ensemble* (0 credit units); Arts (6 credit units) and a music elective (3 credit units).

Third Year (33 credit units)

MUSIC 302.6 or Music Elective (permission required); MUSIC 329.0, 346.3, 347.3, 367.3; Applied Major* (with recital) (6 credit units); Applied Ensemble* (0 credit units); Arts (9 credit units) and a music elective (3 credit units).

Fourth Year (33 credit units)

MUSIC 402.6 or Music Elective (permission required); MUSIC 429.0; music electives (21 credit units); Applied Major* (with recital) (6 credit units); Applied Ensemble* (0 credit units).

Performance

First Year (33 credit units)

MUSIC 129.0, 113.2, 114.2, 117.1, 119.1, 140.3, 141.3; Applied Major* (6 credit units); Applied Ensemble* (0 credit units); Arts** (15 credit units).

Second Year (33 credit units)

MUSIC 229.0, 213.2, 214.2, 217.1, 219.1, 240.3, 241.3; Applied Major* (6 credit units); Applied Ensemble* (0 credit units); Arts (12 credit units) and a music elective (3 credit units).

Third Year (33 credit units)

MUSIC 329.0; Music Literature (6 credit units); music electives or required courses** (15 credit units); Applied Major* (with recital) (6 credit units); Applied Ensemble* (0 credit units); Arts (3 credit units) and a music elective (3 credit units).

Fourth Year (33 credit units)

MUSIC 429.0; music electives or required courses** (27 credit units); Applied Major* (with recital) (6 credit units); Applied Ensemble* (0 credit units).

* *Applied Music* is the individual or class study of keyboard, strings, voice, winds or percussion. Students taking these courses will follow a prescribed program consisting of technical studies and solo repertoire.

All students involved in Applied Music will be required to participate in an approved instrumental or choral ensemble as indicated on the program outlines.

Applied Music courses may only be taken for credit by students in the B.Mus. or the combined B.Ed./B.Mus. (Mus.Ed.) programs.

** *Voice Performance Majors* must take MUSIC 311, 312 and 313 in third or fourth year. Careful consultation with the voice program head is required early in the program.

Piano Performance Majors must take MUSIC 354 in third or fourth year. As this course will only be offered biennially, careful consultation with the piano program head is required early in the program.

Students must contact the Department of Music for specific acceptable courses.

PERFORMANCE REQUIREMENTS

1. B.Mus. - All Concentrations

Solo performance during the first year is optional. Performance, however, is mandatory in the second, third and fourth years.

Note: Students who are interested and qualified are encouraged to participate more extensively in performance in each year.

2. B.Mus. - Major in Performance

a - 1st Year: performance on a student recital to allow for faculty evaluation and recommendation;

b - 2nd Year: extensive performance on student recital to allow for faculty evaluation and recommendation;

c - 3rd Year: Junior Recital (25-30 minutes);

d - 4th Year: Senior Recital (45-60 minutes)

With permission of the department, students in Theory-Composition and History-Literature may elect to present a Lecture/Recital or Public Paper in lieu of a Recital. See guidelines set by the department.

3. B.Mus. - Theory-Composition

a - 3rd Year: Lecture-Recital or Recital of Compositions (approximately 30 minutes);

b - 4th Year: Lecture-Recital or Recital of Compositions (approximately 60 minutes).

4. B.Mus. - History-Literature

a - 3rd Year: Lecture-Recital or Public Paper (approximately 30 minutes);

b - 4th Year: Lecture-Recital or Public Paper (approximately 60 minutes).

UNDERGRADUATE COURSES

Alternating of Courses

Students should be advised that not all courses listed in the *Calendar* are offered in any given year. Some courses are given in alternate years. Careful planning in consultation with the Department of Music will eliminate any problem.

MUSIC 129.0, 229.0, 329.0, 429.0 Recitals

Non-credit courses required of all B.Mus. and B.Mus. (Mus.Ed.) students. To obtain a passing grade all students must follow the prescribed guidelines as specified in the Department of Music's Student Handbook. Students should keep open 12:30-13:30 on Mondays, Wednesdays and Fridays, and 20:00-21:30 on Thursdays. Specific Sunday evenings are announced in September.

APPLIED ENSEMBLE (0 CREDIT UNITS)

MUSAP 120, 220, 320, 420

Band [(01) Concert Band, or (02) Wind Orchestra]

MUSAP 121, 221, 321, 421

Chorus [(01) Greystone Singers, (03) University Chorus]

MUSAP 122, 222, 322, 422

Corelli Strings

MUSAP 123, 223, 323, 423

Chamber Ensemble with Piano

MUSAP 124, 224, 324, 424

Percussion Ensemble

MUSAP 125, 225, 325, 425

String Ensemble

MUSAP 126, 226, 326, 426

Vocal Ensemble

MUSAP 127, 227, 327, 427

Small Wind Ensembles

MUSAP 128, 228, 328, 428

Collegium Musicum

MUSAP 130, 230, 330, 430

Music Theatre

MUSAP 131, 231, 331, 431

Contemporary Music Ensemble

MUSAP 132, 232, 332, 432

Jazz Ensemble

In all of these groups, the emphasis is on the study and performance of the most significant literature. Each of these activities is directed or guided by a faculty member.

Note: The activities are open to all students on campus. They are required courses for all students majoring in music.

***APPLIED STUDY**

Major (6 credit unit) Courses

MUSAP 140, 240, 340, 440
Piano

MUSAP 142, 242, 342, 442
Organ

MUSAP 144, 244, 344, 444
Harpisichord

MUSAP 148, 248, 348, 448
Voice

MUSAP 150, 250, 350, 450
Flute

MUSAP 152, 252, 352, 452
Oboe

MUSAP 154, 254, 354, 454
Clarinet

MUSAP 156, 256, 356, 456
Saxophone

MUSAP 158, 258, 358, 458
Bassoon

MUSAP 160, 260, 360, 460
Recorder

MUSAP 162, 262, 362, 462
French horn

MUSAP 164, 264, 364, 464
Trumpet

MUSAP 166, 266, 366, 466
Trombone

MUSAP 168, 268, 368, 468
Baritone horn

MUSAP 170, 270, 370, 470
Tuba

MUSAP 172, 272, 372, 472
Percussion

MUSAP 174, 274, 374, 474
Violin

MUSAP 176, 276, 376, 476
Viola

MUSAP 178, 278, 378, 478
Violoncello

MUSAP 180, 280, 380, 480
Double Bass

MUSAP 182, 282, 382, 482
Guitar

* In all of these Applied Study courses, the emphasis is upon solo, and ensemble literature, orchestral and choral studies (where applicable) the advancement of technique and the development of interpretation and comprehension. The student is required to cover a certain amount of material each year, appear in recitals and perform at juries. Only students in one of the B.Mus. programs may take these courses for credit.

MUSIC

MUSIC 101.3 (Formerly 100)
Fundamentals of Music
1/2(3L)

Introduction to the basic parameters of music including notation, rhythm, intervals, melody, scales, key signatures; aural and written comprehension of the above rudiments. This course could provide foundational material for the music theory sequence.

MUSIC 103.3 (Formerly 100)
Structures of Music
1/2(3L)

The study of the fundamentals of musical architecture and forms without requiring the knowledge of notation, to include folk, popular, rock, jazz and world music materials reflecting upon the highly

developed forms of art music worldwide. Putting structural foundations of music into a broad perspective, this course will offer strategies for developing one's listening procedures and aural cognition.

MUSIC 105.3
An Introduction to Western Art Music
1/2(3L)

The art of listening to music; analysis of structure and form; history of the great periods in music through its literature.
Note: This course involves a small cost in addition to tuition fees.
Note: Open to all students without prerequisite. Students majoring in music may not take this course for credit. Students with credit for MUSIC 109 may not take this course for credit.

MUSIC 109.6
An Introduction to Western Art Music
1&2(3L)

The art of listening to music; analysis of structure and form; history of the great periods in music through its literature.
Note: This course involves a small cost in addition to tuition fees.
Note: Open to all students without prerequisite. Students majoring in music may not take this course for credit.
Note: In 2000-2001 MUSIC 109 will be taught through Independent Studies only.

MUSIC 113.2 (Formerly 115)
Materials of Music I: Acoustics, Modality and Early Tonality
1/2(3L)

Prerequisite(s): Permission of the department. Music majors must register concurrently in MUSIC 113, 114, 117 and 119.
An introduction to the acoustical foundations of music as a basis for the unfolding of theoretical concepts (modes, intervals, pitches, pitch classes, gamuts, scales, rhythm) relating to music up to 1700, focusing on two-part modal counterpoint. The course will develop aural, notational, and analytical tools in the above areas.

MUSIC 114.2 (Formerly 115)
Materials of Music II: Theory and Analysis of Common Practice Repertories
1/2(3L)

Prerequisite(s): MUSIC 113.
The foundations and development of triadic harmony, inclusive of inversions, voice leading in strict four-part, open choral and keyboard scoring, figured bass practices. Implications of harmonic processes and harmonic rhythm on phrase structures and forms, simple modulations, issues of rhythmic and metric patterns, melodic augmentations and diminutions, chordal or non-chordal embellishments. The course will develop aural, notational and analytical tools in the above areas.

MUSIC 117.1
Keyboard Skills I
1&2(1P)

Prerequisite(s) or Corequisite(s): MUSIC 113 and 114.
Corresponds with materials studies in MUSIC 113; keyboard skills including

scales, chords, harmonization of melodies, improvisation, clef reading, transposition and figured bass.

MUSIC 119.1 (Formerly 116 and 118)
Aural/Vocal Skills I
1&2(1P)

Prerequisite(s) or Corequisite(s): MUSIC 113.
Corresponds with materials studies in MUSIC 113 and 114, aural cognition and vocal/notational reproduction through melodic, harmonic and rhythmic dictation of materials from music up to 1700 (first semester) and from the Common Practice period up to 1839 (second semester). Includes singing intervals, tonal melodies, chords, rhythms.

MUSIC 140.3
History of Music I: Western Music Prior to 1650 (Formerly 260)
1(3L)

History of western music from the earliest times to the period of the early Baroque, with an emphasis on the main forms, composers and representative compositions.

MUSIC 141.3
History of Music II: Western Music from 1650-1830 (Formerly 161)
2(3L)

Prerequisite(s): MUSIC 140.
History of western music covering the High Baroque, Classical and High Romantic eras with an emphasis on the main forms, composers and representative compositions.
Note: Students with credit for MUSIC 161 may not take this course for credit.

MUSIC 202.6
Composition
1&2(3L)

Prerequisite(s): MUSIC 213 and 214 which may be taken concurrently.
Composition in small forms for various media.

MUSIC 213.2 (Formerly 215)
Materials of Music III: Extended Harmony and Theory of Common Practice Repertories
1/2(3L)

Prerequisite(s): MUSIC 113 and 114; Music majors will normally register concurrently for MUSIC 213, 214, 217 and 219.
Advanced harmony including seventh chords and their inversions. Advanced figured bass practice. Analysis of harmonic phenomena in diverse textual environments including polyphonic or solo instrument settings. Chromatic harmony, extended chords and embellishments, tonicizations, intervallic projections, a comprehensive theory of modulation to all tonal regions. Expansion of phrase structures and formal procedures in 19th Century repertories. The course will develop aural, notational and analytical tools in the above areas.

MUSIC 214.2 (Formerly 215)
Materials of Music IV: Theory and Analysis of 20th Century Repertories
1&2(3L)

Prerequisite(s): MUSIC 213.
Impressionism, expressionism: material, concepts. Traditional and newly-developed scales. The emancipation of dissonance, fusion tonality, atonal music, twelve-tone and serial techniques including rhythm and timbre. Analytic orchestration (Klangfarben). Techniques of twelve-tone row rotation,

partitioning and combinatoriality. Concepts of electro-acoustic music theory. Stochastic-, chance-based, aleatoric and time-structure techniques.

MUSIC 217.1
Keyboard Skills II
1&2(1P)

Prerequisite(s): MUSIC 117.
Corresponds with materials studies in MUSIC 213 and 214; keyboard skills including chords, figured bass, improvisation, transposition, score reading, lead-sheet notation and sight reading.

MUSIC 219.1 (Formerly 216 and 218)
Aural/Vocal Skills II
1&2(1P)

Prerequisite(s) or Corequisite(s): MUSIC 213.
Corresponds with materials studied in MUSIC 213 and 214; aural cognition and vocal/notational reproduction through melodic, harmonic and rhythmic dictation of materials from music of extended chromatic (19th Century) Common Practice repertoire (first semester) and from 20th Century repertoire (second semester).

MUSIC 235.3
Music Technology: Computer and Music Software
1/2(3L)

Prerequisite(s): MUSIC 113 and 114 or permission of the department.
Recommended for all musicians who are interested in using computer software and new technologies in their everyday work in music. Includes an introduction to computer, digital synthesizer and MIDI language and will explore some important software available on the market.

MUSIC 240.3
History of Music III: Western Music from 1830 to the Present
1(3L)

Prerequisite(s): MUSIC 141.
History of western music covering the High Romantic and Modern eras, with an emphasis on the main forms, composers and representative compositions, including Canadian music.

MUSIC 241.3
Introduction to Music Bibliography (Formerly 372)
2(3L)

Prerequisite(s): MUSIC 240 or permission of the department.
An introduction to the materials and methods of music research, including an examination of historical and contemporary bibliographic resources, analyses and evaluation of reference materials in music education, music history and literature, performance, and music theory.
Note: Students with credit for MUSIC 354 may not take this course for credit.

MUSIC 283.3
Jazz Improvisation
1/2(3L)

Prerequisite: MUSIC 113, 114 and an instrumental proficiency evaluation (to be administered by course instructor).
This course focuses on the study and development of musical skills as they pertain to the performance of jazz improvisation. Topics such as basic jazz-realized theory: chord/scale relationships;

motivic, chord based and modal improvisations are presented in a systematic manner. This course assumes no pre-existing knowledge base of jazz improvisation but does presume a basic working knowledge and control over any given musical instrument. This course is open to all instrumentalists.

**MUSIC 285.3
Jazz History Survey
1/2(3L)**

Prerequisite(s): Completion of 30 credit units in the College of Arts and Science or permission of the department.

An overview of the history and evolution of jazz music. The course will include the examination and discussion of the most historically significant musicians in jazz and their music as well as the examination of the evolution of jazz music as an art form.

**MUSIC 302.6
Composition
1&2(3L)**

Prerequisite(s): MUSIC 202.

A continuation of work begun in MUSIC 202, including composition in larger forms for various media.

**MUSIC 303.3
History of Church Music (Formerly
MUSIC 204)
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

The significant developments in Judaeo-Christian religious music from its origins to the present day. The role of music in Jewish and particularly Western Christian traditions, both Roman Catholic and Protestant, will be examined.

**MUSIC 307.3
Orchestration I
1(3L)**

Prerequisite(s): MUSIC 213 and 214.

A study of the art of orchestration and its practical application to strings, woodwinds and horn. The various styles of scoring, from Bach to the 20th Century, will be analyzed as well as discussion on the history of orchestration. Emphasis will be placed on arranging for full orchestra with particular attention to string, woodwind and horn sections.

Note: Students with credit for MUSIC 305 cannot take this course for credit.

**MUSIC 308.3
Orchestration II
2(3L)**

Prerequisite(s): MUSIC 307.

A study of the art of orchestration and its practical application to brass and percussion. The various styles of scoring, from Bach to the 20th century, will be analyzed as well as discussion on the history of orchestration. Emphasis will be placed on arranging for full orchestra with particular attention to brass and percussion sections and transcribing for piano.

Note: Students with credit for MUSIC 305 cannot take this course for credit.

**MUSIC 311.3
The History of Opera (Formerly 310)
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A survey study of the history of opera from the Florentines to modern times.

**MUSIC 312.3
Vocal Literature (Formerly 253)
1/2(3L-1P)**

Prerequisite(s): Two years of applied voice training, MUSIC 141, 213, 214 and 241 or permission of the department.

Song literature of various western cultures will be studied toward acquiring a broad awareness of the vast repertoire of song.

**MUSIC 313.3
Singing: From Science to Sound
(Formerly 356)
1/2(3L-1P)**

Prerequisite(s): Two years of applied voice training and MUSIC 213 and 214 or permission of the department.

A scientific and pedagogical study of the process of singing, with an emphasis on combining these facets of study toward a better understanding for use as artists and vocal instructors.

**MUSIC 325.3 (Formerly EDMUS 335)
Introduction to Conducting
1/2(3L)**

Prerequisite(s): MUSIC 213 and 214 or permission of the Department.

An introduction to the basic grammar of conducting choral and instrumental music.

Note: students cannot receive credit for EDMUS 335 and MUS 325.

**MUSIC 326.3 (Formerly EDMUS 336)
Intermediate Conducting
1/2(3L)**

Prerequisite(s): MUSIC 325 or the former EDMUS 335.

A continuation of the introductory course in conducting choral and instrumental music with emphasis on score analysis, study, interpretation and performance.

Note: students cannot receive credit for EDMUS 336 and MUS 326.

**MUSIC 335.3
History of Electronic Music
1/2(3L)**

Prerequisite(s): MUSIC 213 and 214.

Explores the rich repertoire of works that have been created over a half century of electronic music. Gives an overview of the major movements, ideas and styles in electronic music as well as studying some important figures and key musical works in detail.

**MUSIC 346.3
Pre-Baroque Counterpoint
1(3L)**

Prerequisite(s): MUSIC 213 and 214.

Mainly a study of 16th-century contrapuntal techniques and forms. Though general stylistic features of the music are emphasized, differences in the styles of various composers are also studied. A brief study of pre-16th-century contrapuntal music is included.

**MUSIC 347.3
Baroque and 20th-Century
Counterpoint
2(3L)**

Prerequisite(s): MUSIC 213 and 214.

Essentially a study of 18th-century contrapuntal techniques and forms including canon, fugue, invention, and chorale prelude; 20th-century contrapuntal techniques; the use of canon and fugue in the 20th century is also introduced.

**MUSIC 350.3
Wind Instrument Literature
1/2(3L)**

Prerequisite(s): MUSIC 113, 114 and 240.

Examines the solo and ensemble literature for winds from the Middle Ages to the present era including the wind band repertoire.

**MUSIC 354.3
A Survey of Keyboard Literature
(Formerly 353)
1/2(3L)**

Prerequisite(s): MUSIC 213, 214, and 240.

A history of piano literature from the origins of the instrument to the 20th century, discussing styles, forms and interpretations of works taken from all periods.

**MUSIC 358.3
Chamber Music
1/2(3L)**

Prerequisite(s): MUSIC 113, 114, 240 and 241.

A survey of chamber music from 1750 to 1950 with particular emphasis on the development and stylistic analyses of the various forms.

**MUSIC 359.3
Piano Pedagogy (Formerly 357)
1/2(3L)**

Prerequisite(s): MUSIC 213, 214, 240, 241 and two years of applied piano.

Examination of materials and methods from the first elementary principles to advanced levels. Stylistic and technical aspects of representative piano literature of all periods. Consideration of fundamental procedures in sight-reading, keyboard transposition, daily practice and interpretation.

**MUSIC 361.3
Music in the Middle Ages
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A history of music from the earliest times to the 14th century. Notation (monophonic and polyphonic), forms, composers, theoretical concepts and performance practices will provide the substance for the course.

**MUSIC 362.3
Music in the Renaissance
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A history of music covering the 14th through the 16th centuries. The chief forms, composers and compositions will be studied. Stylistic analysis of selected compositions will be emphasized.

**MUSIC 363.3
Music of the Baroque Period
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A history of music from approximately 1600 to 1725. Emphasis will be on the main forms, composers and representative compositions from this period.

**MUSIC 364.3
Music of the Classical Period
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A history of music covering the Classical period from approximately 1700 to 1800. Emphasis will be on the main forms, composers and representative compositions from this period.

**MUSIC 365.3
Music of the Romantic Period
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A history of music covering the Romantic period from approximately 1800 to 1900. Emphasis will be on the main forms, composers and representative compositions from this period.

**MUSIC 367.3
The Music of the Twentieth Century
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

Focuses on historically prevalent ideas and on analytic techniques necessary for a definitive understanding of the Twentieth-Century revolution of musical language.

**MUSIC 368.3
Canadian Music
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

An overview of the development of music in Canada including relationships to both European folk and art music and to Aboriginal music.

**MUSIC 370.3
Performance Practices I: Middle
Ages, Renaissance, Baroque
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

Studies the problems involved in the performance of medieval, renaissance, and baroque music. Relates the study of music history to the stylistically correct interpretation of the music. Problems of solo performance and the interpreter's viewpoint will be discussed.

Note: Students who have credit for MUSIC 359 may not take this course for credit.

**MUSIC 371.3
Performance Practices II: Classical,
Romantic, Twentieth Century
1/2(3L)**

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A study of the problems involved in the performance of classical, romantic and

20th-century music. Relates the study of music history with the stylistically correct interpretation of the music. Problems of solo performance and the interpretation of phrasing-notation from a performer's viewpoint will be discussed.

Note: Students who have credit for MUSIC 359 may not take this course for credit.

MUSIC 402.6 Composition 1&2(3L)

Prerequisite(s): MUSIC 302.

Advanced studies in composition and continuation of work begun in MUSIC 302.

MUSIC 403.6 Jazz Arranging 1&2(3L)

Prerequisite(s): MUSIC 113, 114 and basic piano proficiency.

An introduction to the fundamental concepts of jazz arranging. Areas of study include small group (combo) writing and large ensemble orchestration techniques.

MUSIC 446.6 An Introduction to Electronic and Computer Music 1&2(3L)

Prerequisite(s): MUSIC 213 and 214.

An introduction to the use of the electronic sound synthesizer and the computer in musical composition and production including a consideration of aesthetic problems occurring in conjunction with these media.

MUSIC 447.3 Structural Musical Analysis 1/2(3L)

Prerequisite(s): MUSIC 213 and 214.

Complete pieces of music or complete movements of compositions will be analyzed by integrating traditional analytical methods with reductive techniques and approaches based on the scientific analysis of sound and communications. The techniques are applied to music of all styles.

MUSIC 450.3 Notation I Medieval to Renaissance Music 2(3L)

Prerequisite(s): MUSIC 213, 214, 240 and 241 or permission of the department.

A study of the two general systems of music notation - white mensural and black - which preceded our modern system. Deals with lute and early keyboard tablatures. Includes discussions of problems and transcriptions into modern notation of ancient manuscripts.

MUSIC 457.3 Music Since 1950 1/2(3L)

Prerequisite(s): MUSIC 213, 214, 240, and 241 or permission of the department.

A detailed study of important musical ideas and styles from 1950 to the present. Approached through the music and the theoretical writings of composers who have contributed important works during this time.

Note: Students with credit for MUSIC 456 may not take this course for credit.

MUSIC 464.3 Research Seminar in Musicology I 1/2(3L)

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A study of topics of current interest in musicology. Includes the oral presentation of research as well as the preparation of major research papers. The specific topic will be announced each time the course is offered.

MUSIC 465.3 Research Seminar in Musicology II 1/2(3L)

Prerequisite(s): MUSIC 464 and 241 or permission of the department.

Advanced research in musicology. The specific topic will be announced each time the course is offered.

MUSIC 472.3 Seminar in Music Bibliography and Research Techniques 1/2(3L)

Prerequisite(s): MUSIC 240 and 241 or permission of the department.

A seminar designed to deepen the concepts and tools of scholarship developed in MUSIC 241. Emphasizes developing research skills through the preparations of lectures, lecture-recitals, and papers. Special bibliographical topics in the principal areas of music will be discussed.

Note: Students who have credit for MUSIC 354 may not take this course for credit.

MUSIC 474.3 Selected Music Research Topics 1/2(3L)

Prerequisite(s): Students should have advanced standing in a Bachelor of Music (Arts and Science) program.

A seminar devoted to particular areas of study in music which are not covered by curriculum offerings.

SPECIAL TOPICS

MUSIC 298.3 1/2(3S)

MUSIC 299.6 1&2(3S)

MUSIC 398.3 1/2(3S)

MUSIC 399.6 1&2(3S)

MUSIC 498.3 1/2(3S)

MUSIC 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

FINE ARTS

The Department of Music also teaches FINAR 100.6 An Introduction to the Fine Arts through the College of Education. For details, see the College of Education section.

COURSES IN OTHER COLLEGES AND DEPARTMENTS

The following courses are available to students in Bachelor of Music and Bachelor of Arts programs (Permission of the department is required for all music education courses taken by Bachelor of Arts students):

EDMUS 328.3 Pre-School and Primary Music Methods

EDMUS 331.3 Introduction to School Music

EDMUS 332.3 Advanced Elementary School Music Methods

EDMUS 337.3 Jazz Ensemble Techniques

EDMUS 338.3 Classroom Instruments

EDMUS 340.3 Teaching Music in the Secondary School

EDMUS 342.3 Philosophical Basis of Music Education

EDMUS 428.3 Choral Techniques I

EDMUS 435.6 Instrumental Conducting

EDMUS 438.3 Choral Techniques II

The following courses are available to students in the Bachelor of Music program only:

EDMUS 430.6 Woodwind Techniques

EDMUS 433.3 Brass Techniques*

EDMUS 434.6 String Techniques*

EDMUS 436.3 Percussion Techniques*

For details see the College of Education section of the *Calendar*.

NATIVE STUDIES

The Native Studies curriculum aims at a thorough academic examination of all aspects of Indian, Metis and Inuit life and histories. Examining both the Canadian and international contexts, Native Studies seeks to link the processes of the past with contemporary issues. Students will be exposed to a variety of perspectives, world views, sources and intellectual traditions. Students pursuing a Native Studies major will follow Program Type B: Social Sciences.

NATST 110 is a prerequisite to all other courses in Native Studies with the exceptions as noted in the course descriptions. Some upper-year courses require additional prerequisites. In special circumstances, prerequisites may be waived. Please see the instructor of the course to secure a waiver. NATST 110 is required for all degrees in Native Studies.

MAJOR IN NATIVE STUDIES (B.A. FOUR-YEAR)

Required courses: NATST 110.6, 209.3, 309.6, and 21 additional credit units in Native Studies at the senior level, of which 6 credit units must be at the 400 level. Up to 60 credit units in Native Studies may be chosen.

MAJOR IN NATIVE STUDIES (B.A. THREE-YEAR)

Required courses: NATST 110.6, 209.3, and an additional 21 credit units in Native Studies at the senior level, of which 6 credit units must be at the 300 or 400 level.

HONOURS IN NATIVE STUDIES

Required courses: NATST 110.6, 209.3, 309.6 and an additional 33 credit units in Native Studies at the senior level, of which at least 6 credit units must be at the 300 level, and 12 credit units must be at the 400 level. Up to 60 credit units in Native Studies may be taken.

DOUBLE HONOURS

Students wishing to do Double Honours in Native Studies are required to consult with the department head.

Required Courses: NATST 110.6, 209.3, 309.6, and an additional 21 credit units in Native Studies at the senior level, of which at least 6 credit units must be at the 400 level.

NATIVE STUDIES

NATST 110.6 Introduction to Native Studies 1&2(2L-1S)

Introduction to the Native Studies field and a basis for more advanced study. Although not confined to the Canadian context, the course will emphasize Canadian content, ranging from the traditional to the contemporary development of Indian, Metis and Inuit societies.

NATST 200.6 History of the Metis People of Canada 1&2(2L-1S)

Prerequisite(s): NATST 110.

Through lectures and seminar readings, the origin and development of the Metis is analyzed. Emphasizes the historical significance of the Metis in the development of Western Canada. Discusses contemporary issues of the Metis.

NATST 203.3 History of the Indian in Western Canada 1/2(2L-1S)

Prerequisite(s): NATST 110.

Traces the evolution of Western Canadian Indians from earliest contact to the present era. Includes the peoples of the Pacific Coast, the Cordillera, the Western Subarctic and the Plains.

NATST 204.3 History of the Indian in Eastern Canada 1/2(2L-1S)

Prerequisite(s): NATST 110.

Using a lecture-seminar format, the course will examine the evolution of the Algonkian and Iroquoian peoples of the Eastern Woodlands prior to the Confederation era.

NATST 205.3 The Health of Native People 1/2(3L)

Prerequisite(s): NATST 110.

Introduces the student to the health problems of Native people in Canada. Examines the evidence for health and illness in pre-contact populations, traces the decline in health status following contact with the Europeans, and examines the contemporary health status of Native people.

NATST 206.3 Native People and Health Care 1/2(3L)

Prerequisite(s): NATST 110.

Introduces the student to the issues of Native health care in Canada. Topics include traditional medical systems and practices, the development of health services for Native people, the role of Native people in health care, and a critical

evaluation of the Native health care system.

**NATST 207.6
Native Peoples and the Canadian Political Process
1&2(3L)**

Prerequisite(s): NATST 110.

An analysis of contemporary Canadian political and administrative processes as they affect Native Peoples. Emphasis will be placed on the Federal system of government and its effects on Native identity, community programs and local autonomy.

**NATST 208.6
Images of the North American Indian
1&2(3S)**

Prerequisite(s): NATST 110.

Examines how the various historical and contemporary images or representations emerged and changed over time and the cultural world views, ideas and values behind the images. Further discussion will centre around how these images affect our relationships with each other. After critical analysis of images, strategies for changing images will be explored. This will be done through interactive lectures, presentations, group and individual activities, critical viewing and analysis of photographs, films, videos, magazines, newspapers, and other popular media forms.

**NATST 209.3
Introduction to Native Studies Research Methods
1/2(3L)**

Prerequisite(s): NATST 110.

An introduction to basic research concepts applicable to Native Studies as a unique area of interdisciplinary study. The main emphasis will be on secondary research: framing research problems, library strategies, organizing information, writing literature reviews and expositions.

**NATST 211.6
Native Literature
1&2(3L)**

Prerequisite(s): NATST 110.

A survey of Native literature discussing the folklore, biography, drama, poetry and novels written about, and by Native Peoples. Emphasis will be placed on a multifaceted approach (aesthetic, linguistic, psychological, historical and cultural) in examining Native Literature.

**NATST 213.3
The American (U.S.) Indian
1/2(3L)**

Prerequisite(s): NATST 110.

A history of American Indians from the contact period to the development of government policies. The Bureau of Indian Affairs and the American treaties, the removal of the Eastern tribes to the middle west, the termination policy, and contemporary issues will be discussed.

**NATST 219.3
Native People and Justice in Canada
1/2(3L)**

Prerequisite(s): NATST 110.

Examines the causes and consequences of crime involving Native Peoples. Topics include dimensions of Native arrests, law

enforcement, the judicial process and the corrections system.

**NATST 225.3
Native Women in Canada
1/2(3L)**

Prerequisite(s): NATST 110.

Examination of the position of women in traditional, pre-contact Native society, the changes to that position wrought by contact with Europeans, and contemporary issues of concern to Native women.

**NATST 301.6
Reading Seminar in Metis History
1&2(3S)**

Prerequisite(s): 12 credit units in Native Studies.

A reading seminar in Metis History with emphasis on the historiography of the Metis and how capitalism, imperialism, colonialism, neo-colonialism and the state have affected the Metis.

**NATST 302.6
Seminar on Indian History
1&2(3S)**

Prerequisite(s): 12 credit units in Native Studies.

Through seminar presentations and readings, examines major developments and themes in Canadian Indian history.

**NATST 304.6
Native People and Development Issues
1&2(2L-1S)**

Prerequisite(s): 12 credit units in Native Studies.

Surveys the historic, political and economic causes of Native underdevelopment in Canada. Government-sponsored economic development projects will be examined, and the special issues of northern energy development and renewable resources will be discussed. New strategies for Native economic development will be explored.

**NATST 305.6
World Indigenous Peoples: Historical and Contemporary Issues
1&2(3S)**

Prerequisite(s): 12 credit units in Native Studies.

Issues of concern to selected indigenous peoples of the Fourth World. Analogies to the Canadian Native context will be made.

**NATST 306.3
Issues in Traditional Health
1/2(1L-2S)**

Prerequisite(s): NATST 205 or 206.

Examines selected issues in the area of traditional health and healing. Academic perspectives will be combined with those of Elders and other resource people. Topics include collaboration with biomedicine, the "science" of healing, mental health, and New Age appropriation of Aboriginal healing.

**NATST 309.6
Native Studies Research Methods
1&2(3L)**

Prerequisite(s): NATST 209.

Designed to enhance an understanding of research concepts and skills in the Native Studies field. Emphasizes interdisciplinary research approaches, primary source materials, research evaluation and the

application of research to the needs of the Native community.

**NATST 310.3
Native People and the Fur Trade
1/2(1L-2S)**

Prerequisite(s): 12 credit units in Native Studies.

Perspectives on the economic, cultural and geographical aspects of the Native fur trade, emphasizing the subarctic fur trade.

**NATST 312.3
Resource Geography and Native People
1/2(1L-2S)**

Prerequisite(s): NATST 110.

The application of knowledge of resource geography to traditional Native economic activities, especially hunting, fishing and trapping. Conservation problems, which developed with the spread of the commercial economy will be analyzed by examining Aboriginal and European approaches to resource management.

**NATST 314.3
Justice in Aboriginal Communities
1/2(3S)**

Prerequisite(s): NATST 219.

An advanced course on justice reform, focusing on community development and implementation of reform proposals. Students will develop an advanced knowledge of justice reform studies and proposals, and will be expected to complete primary research through attendance and reporting at a sentencing circle, court proceeding or by witnessing and reporting on another function of the justice system.

NATIVE STUDIES HONOURS COURSES

**NATST 400.6
The Churches and Native Peoples in Western Canada, 1818-1870
1&2(3S)**

Prerequisite(s): 18 credit units in Native Studies.

A research seminar course on Church-Native relations in Western Canada.

**NATST 401.3
Native People and Northern Development
1/2(3S)**

Prerequisite(s): 18 credit units in Native Studies.

A research seminar dealing with Native political reactions to northern development, the socio-cultural and economic impacts of large-scale development projects, land claims and renewable resources, and other development issues as they affect Native Peoples.

**NATST 402.6
Honours Research Paper
1&2(3R)**

Prerequisite(s): NATST 309 and permission of the department.

The student will develop a research prospectus, undertake the research, and present a final report under the direction of a faculty advisor. Topics are open, subject to the availability of a faculty advisor.

Note: Students planning to register in this course must submit a proposal before August 15th.

**NATST 403.3
Theoretical Perspectives in Native Studies
1/2(3S)**

Prerequisite(s): 18 credit units in Native Studies.

A research seminar which examines the development of dependency theory in the context of Latin America, and the utility of this concept for understanding the Native American and Native Canadian contexts. Topics include: the "development" of underdevelopment; colonialism; internal colonialism; imperialism; class analysis; and the metropolis-hinterland paradigm.

**NATST 404.6
Research Seminar on the History of the Indians of Saskatchewan
1&2(3S)**

Prerequisite(s): NATST 309 and 12 credit units in Native Studies.

Consists of primary research (based on both written and oral sources) on selected topics on the history of Saskatchewan Indian Peoples.

**NATST 419.3
First Nations Women and the Law
1/2(1L-2S)**

Prerequisite(s): NATST 219 and 225.

Accomplishes two broad objectives. It critically examines the situation of First Nations Women in Canadian law. Concurrently, students learn the structure of the Canadian legal system as well as legal research skills. Topics examined include statutory discrimination, political rights and the justice system.

SPECIAL TOPICS

NATST 398.3 1/2(3S)
NATST 399.6 1&2(3S)
NATST 498.3 1/2(3S)
NATST 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

CREE

**CREE 101.6
Introductory Cree
1&2(3L-3P)**

Presents the elements of the grammar and vocabulary of Cree as spoken in central Canada and will introduce the oral literary tradition associated with it. Its objective will be to develop elementary competence in the language and a basic acquaintance with Cree culture and traditions.

**CREE 120.6
Intermediate Cree
1&2(3L-3P)**

Prerequisite(s): CREE 101.

Continues the study of the Y dialect of Cree at the intermediate level, with increased emphasis on Cree literary traditions. The structure of transitive verbs, noun inflections, various interrogative forms, imperatives, subjunctives and complex syntactic forms will be treated. Textual material will be analyzed and discussed.

PALAEOBIOLOGY

Administrative Committee: *J. F. Basinger* (Geological Sciences), *B. R. Pratt* (Geological Sciences), *M. A. Ramsay* (Biology), *A. Davis* (Biology), *E. G. Walker* (Anthropology and Archaeology).

Palaeobiology is the description of the organisms and the sediments in which they are found as well as the distribution and functional analysis of fossil animals and plants. This includes the definition of the spatial and temporal occurrence of these organisms and the reconstruction of their paths of evolution. Such evolutionary relationships are then tied to environmental data to reconstruct the way of life of fossil species. The palaeobiology program was designed by the Departments of Geological Sciences, Biology, and Anthropology and Archaeology to meet the needs of students interested in this interdisciplinary subject matter. The program is designed to offer guidance, yet allows students some flexibility within their special area of interest.

Courses shall be selected in consultation with the Program Administrative Committee. Palaeobiology is available only in the B.Sc. Honours program and students will receive a B.Sc. Honours in Palaeobiology. A student who does not meet Honours standards will have the option of completing a B.Sc. Four-year in Biology or a B.A. Four-year in Anthropology and Archaeology.

The course requirements for the program are as follows:

- (1) ANTH 111.3 and ARCH 112.3
- (2) BIOL 110.6, 203.6, 205.3
- (3) CHEM 111.3 and one of 221.3, 231.3, 242.3 or 251.3
- (4) GEOL 121.3, 122.3, 243.3, 246.3
- (5) 30 credit units of which at least 12 credit units will be 400-level courses. A minimum of 6 credit units must be taken from each of the following subject areas:
ARCH 250.3, 251.3, 270.3, 375.3, 458.3, 459.3, 461.3, 462.3, 470.3, 471.3

BIOL 204.3, 211.3, 253.3, 263.3, 323.3, 324.3, 325.3, 326.3, 351.6, 367.3, 368.3, 401.3, 422.3, 451.3, 455.3, 458.3, 474.3

GEOL 332.3, 343.3, 433.3, 435.3, 437.3, 439.3, 445.3

PBIO 250.3, 488.3, 489.6

(6) 51 credit units in additional courses including courses to complete the College of Arts and Science requirements C1 to C5. Of the 120 credit units required for the degree not more than 60 credit units may be in any one subject and not more than 54 may be junior credit courses.

Note: Graduation in the program is based on the overall average only.

**PBIO 250.3
The World of Dinosaurs
1(3L)**

Prerequisite(s): 6 credit units in 100-level science course(s).

A survey of the Mesozoic world - its geography, climates, plants and vertebrate

faunas. Particular attention will be given to the history of discovery, and growth of understanding of, the dinosaurs; but attention will also be given to the other terrestrial reptiles, the marine and flying reptiles, and the early mammals and birds. Questions of evolution and extinction will be considered.

**PBIO 488.3
Palaeobiology Research
1/2(1S)**

Prerequisite(s): Open to Palaeobiology honours students, normally in their fourth year of studies, with written permission of the Chair of the Palaeobiology Administrative Committee.

A field or laboratory research project conducted under the supervision of a faculty member. A written report will be submitted to the supervisor. The student will then present to an examining committee an oral account of the research.

**PBIO 489.6
Palaeobiology Research
1&2(1S)**

Prerequisite(s): Open to Palaeobiology honours students, normally in their fourth year of studies, with written permission of the Chair of the Palaeobiology Administrative Committee.

A field or laboratory research project conducted under the supervision of a faculty member. A written report will be submitted to the supervisor in the form of an honours thesis. The student will then present to an examining committee an oral account of the research.

SPECIAL TOPICS

- PBIO 298.3 1/2(3S)
- PBIO 299.6 1&2(3S)
- PBIO 398.3 1/2(3S)
- PBIO 399.6 1&2(3S)
- PBIO 498.3 1/2(3S)
- PBIO 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the program co-ordinator or administrative committee for more information.

PHARMACOLOGY

**PHCOL 350.6
Pharmacology
1&2(3L-3T alt. wks.)**

Prerequisite(s): PHSIO 212, BIOCH 211 (203) or equivalent.

The pharmacodynamics, therapeutic uses and toxicity of drugs. Pharmacological methods and principles are illustrated and discussed in tutorial sessions.

Note: For students taking a B.Sc. Honours or Four-year Program.

**PHCOL 432.6
Special Topics in Pharmacology
1&2(3R/P)**

Work in selected areas of pharmacology may be undertaken by advanced students with the consent of the department. May consist of essays, readings, and reports on assigned topics relating to a common subject and/or a series of laboratory exercises.

PHILOSOPHY

The two philosophy departments in the university, the Department in the College of Arts and Science and the Department in St. Thomas More College offer a single degree in philosophy, with each providing a somewhat different program. Students should seek advisement from the department of their major.

COLLEGE OF ARTS AND SCIENCE

CATEGORIES

A- History: PHIL 208.3, 209.3, 210.3, 211.3, 213.3, 214.3, 215.3, 219.3, 312.3, 313.3, 314.3, 317.3, 319.3, 411.6

B- Problems: PHIL 251.3, 281.3, 292.3, 294.3, 296.3, 326.3, 343.3, 381.3, 396.6, 410.6, 418.3, 446.3, 455.3, 481.3

C- Value: PHIL 224.3, 226.3, 230.3, 231.3, 233.3, 234.3, 235.3, 236.3, 262.3, 271.3, 333.3

Note: PHIL 320 and 420 may count as either *B* or *C* courses, depending on the topic of the course.

**MAJOR IN PHILOSOPHY
(B.A. FOUR-YEAR)**

At least 36 credit units in philosophy, including 6 credit units from each of categories *A*, *B*, and *C*. At least 9 credit units must be at the 300 level or higher. Students must take PHIL 241.3, or CMPT 260 and are encouraged to take PHIL 420.3 in their fourth year.

Note: Students are encouraged to take PHIL 241 or CMPT 260 in their second year; although it is not a prerequisite to senior courses in philosophy, the knowledge of logic will be of value in many upper-year philosophy courses.

**MAJOR IN PHILOSOPHY
(B.A. THREE-YEAR)**

At least 30 credit units in philosophy including 6 credit units from each of categories *A*, *B*, and *C*. At least 6 credit units must be at the 300 level or higher. Students must take PHIL 241.3 or CMPT 260.

HONOURS IN PHILOSOPHY

Students admitted to the Honours program will take from 48 to 60 credit units in philosophy. Students are required to take PHIL 243.3 and 420.3 and at least 9 credit units from each of categories *A*, *B*, and *C*. At least 12 credit units must be at the 300-level or higher. Students considering graduate work in philosophy are strongly urged to plan their programs in consultation with their advisors.

DOUBLE HONOURS PROGRAMS

Various Double Honours programs involving philosophy and another subject are permissible. The student should contact both departments concerned. Students will take at least 36 credit units in philosophy meeting the distribution requirements of the Four-year program with the addition that PHIL 420.3 is required. The courses chosen must also be acceptable to the other department in which the student is doing honours work.

ST. THOMAS MORE COLLEGE

**MAJOR IN PHILOSOPHY
(B.A. FOUR-YEAR)**

Thirty-six credit units in philosophy including at least 30 in senior courses with at least 9 credit units at the 300 level or higher. Students are required to take PHIL 240.3 and are encouraged to take PHIL 404.3 in their fourth year.

**MAJOR IN PHILOSOPHY
(B.A. THREE-YEAR)**

Thirty credit units in philosophy including at least 24 in senior courses, with at least 6 credit units at the 300 level or higher. Students are recommended to take PHIL 240.3

HONOURS IN PHILOSOPHY

Students admitted to an Honours Program in Philosophy will take from 48 to 60 credit units in philosophy. Students are required to take PHIL 240.3 and 404.3. At least 12 credit units must be at the 300 level or higher. Students considering honours must consult the Head of the Department in St. Thomas More College as soon as possible about these courses.

The following progression of courses is recommended as part of the required credit units in philosophy:

First Year: PHIL 110.6, or PHIL 120.3 and 133.3

Second Year: PHIL 204.3, 208.3, 209.3, 210.3, 211.3, 230.3, 234.3, 240.3, 296.3

Third Year: PHIL 213.3, 214.3, 215.3, 219.3, 231.3, 294.3

Fourth Year: PHIL 396.6, 404.3, 412.3, 413.3.

DOUBLE HONOURS PROGRAMS

Various double honours programs involving philosophy and another subject are permissible. The student should consult the heads of the departments concerned. A student in St. Thomas More College will take PHIL 110.6 and 30 other credit units in philosophy, including 12 credit units at the 300-level or higher, chosen in consultation with the Head of the Department in this College. PHIL 240.3 and 404.3 are required. The courses chosen must also be acceptable to the other department in which the student is going to do honours work. The student must also take 36 credit units in the other discipline.

COURSES

PHILOSOPHY COURSE EQUIVALENTS

The MPHIL course designation has been deleted. Students with credit for the following MPHIL courses may not take for credit the PHIL equivalents listed below:

MPHIL	Equates To
105	PHIL 105
110	PHIL 110
202	PHIL 202
203	PHIL 203
204	PHIL 304
218	PHIL 215
219	PHIL 219
222	PHIL 225
290	PHIL 230

291	PHIL 231
292	PHIL 234
293	PHIL 240
294	PHIL 294
296	PHIL 296
297	PHIL 210
298	PHIL 211
304	PHIL 404
396	PHIL 396
410	PHIL 410
420	PHIL 411

Note: PHIL 110, 120, 133 and 140 have no prerequisites and are suitable for first year students.

PHIL 202, 203, 224, 230, 231, 233, 234, 235, 236, 240, 294 may be taken by students who have had no previous courses in philosophy but who have completed 24 credit units at the University. In addition PHIL 233, 251, 262, 271 and 296 may be taken by students who do not have 6 credit units in philosophy, though these courses all have prerequisites.

A bulletin listing all courses offered in the current academic year is available at the department office, Room 619 Arts Building, and the department office in St. Thomas More College.

Course sections designated in the *Registration Guide* by section numbers prefixed with the letter "M" are taught by faculty of St. Thomas More College.

**PHIL 110.6
Introduction to Philosophy
1&2(3L)**

An introduction to the perennial issues in Western philosophy which arise out of the search for truth and meaning in life: good and evil, appearance and reality, the rational grounds for belief in God, scepticism and knowledge, social justice. Emphasizes critical thinking and the development of understanding through reasoned argument.

Note: No previous training in philosophy is required or presupposed.

Note: Students with credit for PHIL 120 and 133 may not take this course for credit.

**PHIL 120.3
Knowledge, Mind, and Existence:
Introductory Topics in Philosophical
Problems
1/2(3L)**

Introduces students to philosophy by exploring fundamental problems about reality, the limits of human knowledge, and the nature of the mind. Topics include whether we have free will, whether there are grounds for doubt about the basic beliefs about other people or the world, and the nature and role of cognition in the composition of a human being.

Note: Students with credit for PHIL 110 may not take this course for credit.

**PHIL 133.3
Introduction to Ethics and Values
1/2(3L)**

Introduces students to theories of the nature and justification of ethical concepts and decision procedures. Issues include the relation of motivation to moral justification, whether morality is subjective, relative or absolute, whether moral knowledge is possible, the relation between

morality and legality, and the relation of morality to religion.

Note: Students with credit for PHIL 110 may not take this course for credit.

**PHIL 140.3
Critical Thinking
1/2(3L)**

An introduction to essential principles of reasoning and critical thinking, designed to introduce the students to the analysis of concepts, to enhance their ability to evaluate various forms of reasoning and to examine critically beliefs, conventions and theories, and to develop sound arguments. Topics include fundamentals of logic and analysis, definition, logical fallacies, and conceptual analysis.

Note: Students with credit for MPHIL 105, 293, or PHIL 105, 240, 241, 242, 243 or CMPT 260 may not take this course for credit.

Note: Students may not take PHIL 140 concurrently with PHIL 240 or PHIL 241 or PHIL 243 or CMPT 260.

**PHIL 202.3
Introduction to the Philosophy of
Religion
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

The concept of religion; different theories explaining the origin of religion; the philosophical conception of religion in contrast to mythology, ideology, magic, superstition and theology; God: mystery or problem; different ways to approach the mystery of God, the meaning of religious terms and language, varieties of atheism and unbelief; the problem of evil.

Note: Students with credit in MPHIL 202 may not take this course for credit.

**PHIL 203.3
Contemporary Philosophy of Religion
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

The impact of Existentialism, Structuralism, Transcendentalism and Linguistic Analysis on contemporary religious thinking; dialogue between Marxism and religion; "Christian Atheism" and the "Death of God" movement, the necessity of "demythologization" and "remythologization" in religious experience and language; the problem of evil.

**PHIL 204.3
Philosophy of Religion: The Christian
Philosophical Tradition
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

An introduction to major constructive thinkers of the Christian tradition. Clarifies the differences between Christian philosophy, theology and philosophy of religion by explaining how distinctively philosophical questions arise out of the context of Christian belief and practice. Thinkers to be studied will range from the patristic period to the 20th century.

**PHIL 208.3
Ancient Philosophy: The Presocratics
to Plato
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

A study of the origins of philosophical reasoning in ancient Greece to its most extensive development in the philosophy of Plato. Classical views of the ultimate nature of reality, the scope and limits of human knowledge, and the grounds for aesthetic and moral evaluations will be examined.

**PHIL 209.3
Ancient Philosophy: Aristotle to
Plotinus
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy or completion of 24 credits at the university.

The development of philosophy in ancient Greece and Rome from the time of Aristotle to the emergence of Christianity. In addition to a survey of several of the most important aspects of Aristotle's philosophy, this course will examine such schools of thought as Stoicism, Epicureanism, and Neoplatonism.

**PHIL 210.3
Medieval Philosophy I
1(3L)**

Prerequisite(s): 6 credit units in philosophy.

The study of major thinkers of the early middle ages, including Augustine, Boethius, Eriugena, Anselm, and Abelard. Background will be provided to Neoplatonic themes that shape this period. Topics include free will, happiness, the existence of God, theories of truth, and the problem of universals.

Note: Students with credit in MPHIL 297 may not take this course for credit.

**PHIL 211.3
Medieval Philosophy II
2(3L)**

Prerequisite(s): 6 credit units in philosophy.

The study of major Jewish, Muslim, and Christian thinkers of the high middle ages, including Moses Maimonides, Avicenna, Averroes, Bonaventure, Thomas Aquinas, Duns Scotus, and William of Ockham. Background to Aristotle and his tradition will be provided. Topics include the relation of faith and reason, existence and nature of God, human nature, voluntarism, and the critique of metaphysics.

Note: Students with credit in MPHIL 298 may not take this course for credit.

**PHIL 213.3
Origins of Modern Philosophy - The
Rationalists
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy.

A study of 17th-century Continental Rationalism. The writings of such figures as Descartes, Malebranche, Spinoza and Leibniz will be examined.

**PHIL 214.3
Origins of Modern Philosophy - The
Empiricists
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy.

A study of the development of British Empiricism in the 17th and 18th centuries. The writings of such figures as Locke, Berkeley and Hume will be examined.

**PHIL 215.3
19th-Century Idealism and the
Existential Revolt
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy.

A study of the major 19th-century thinkers concentrating on the development of, and reactions to, idealism and the origins of contemporary existentialism. Readings in representative figures such as Hegel, Schopenhauer, Marx, Kierkegaard, and Nietzsche.

Note: Students with credit in MPHIL 218 may not take this course for credit.

**PHIL 219.3
Human Destiny in Contemporary
Continental Philosophy
2(3L)**

Prerequisite(s): 6 credit units in philosophy.

Investigates current continental European trends in philosophy. The focal point will be "Human Destiny". The philosophers studied from year to year will be selected from such thinkers as: Scheler, Heidegger, Sartre, Marcel, Camus, Teilhard de Chardin, Maritain, Ricoeur, Levi-Strauss, Lonergan, Bloch.

Note: Students with credit in MPHIL 219 may not take this course for credit.

**PHIL 224.3
Philosophy of Sexuality
1/2(3L)**

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

A philosophical examination of the fundamental assumptions about the nature of sexuality. Philosophical theories about "natural" or "proper" male and female roles, mental and physical sexual distinctions and the sexual aspects of rationality and emotion will be examined along with their implications for such topics as work, marriage, love, friendship, communication, and politics.

**PHIL 225.6
Death in Western Thought
1&2(3L)**

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

An examination of western thinkers' reflections on death: the pre-Socratics, Plato, Augustine, Aquinas, Descartes, Kant, Hegel, Freud and Heidegger.

Note: Students with credit in MPHIL 222 may not take this course for credit.

PHIL 226.3
Environmental Philosophy
1/2(3L)

Prerequisite(s): PHIL 110, or 120 and 133, or completion of 24 credit units at the university.

A philosophical study of moral, social and political issues concerning the environment, whether natural or constructed. Topics may include: the nature of Nature, nonanthropocentric ethics, animal rights, political and cultural roots of environmental abuse, evolutionary perspectives, the Gaian hypothesis, ecotopias, environmental aesthetics, the place of environment in the Good Life.

PHIL 227.3
An Introduction to Feminist Philosophy
1/2(3L)

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

Examines ways feminist philosophers have critiqued traditional western philosophy. Looks at feminist criticism of major positions in recent philosophy as well as the rich variety of constructive responses to these critiques. Introduces students to a number of feminist positions.

PHIL 230.3
Introduction to General Ethics
1/2(3L)

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

Ethical anthropology and theories of moral values; freedom and determinism, law and conscience, present ethical thinking about human fulfillment and personalism; the relationship between religion and morality, the sources of morality.

Note: Students with credit in MPHIL 290 may not take this course for credit.

PHIL 231.3
Ethical Problems
1/2(3L)

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

Contemporary ethical problems such as the morality of human sexuality, abortion, euthanasia, manipulation of human beings, war and revolution, environmental ethics, prejudice and discrimination.

Note: Students with credit in MPHIL 291 may not take this course for credit.

PHIL 233.3
Ethical Theory
1/2(3L)

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

An examination of the presuppositions underlying moral reasoning and action. Topics will include nihilism, relativism, emotivism, utilitarianism, deontological theories and the status of human rights. Representative classical and contemporary theories about the nature and status of morality will be considered.

PHIL 234.3
Biomedical Ethics
1/2(3L)

Prerequisite(s): PHIL 110, or 120 and 133, or completion of 24 credit units at the university.

An examination of contemporary biomedical ethical issues such as the definition of a person, determination of life and death, euthanasia, abortion, prenatal diagnosis and intervention, problems in the physician-patient relationship, reproductive technologies, genetic engineering and accessibility to health care.

Note: Students with credit in MPHIL 292 may not take this course for credit.

PHIL 235.3
Ethical Issues in Business and Professions
1/2(3L)

Prerequisite(s): PHIL 110, or 120 and 133, or completion of 24 credit units at the university.

Introduces ethical issues that are related to business enterprises and professional practices such as the questions of striking and advertising; preferential hiring; responsibility to society; the organization and the profession. It will also consider theoretical questions about free enterprise, socialist politics, and government controls and regulations.

PHIL 236.3
Ethics and Technology
3L

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

An overview of ethical issues related to the impact of modern technology on scientific research and the activities of corporations and professionals. Topics include: moral responsibility in the age of technology, genetic engineering of plants and animals, environmental ethics, privacy in the computer age, and ethical issues in international markets.

PHIL 240.3
Aristotelian Logic
1(3L)

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

The meaning of concept, term, judgement and proposition, categorical and hypothetical reasoning and induction; mathematical logic (Venn diagrams, truth trees, elementary deductions, syllogism). Frequent exercises will be assigned.

Note: Students with credit in MPHIL 293 may not take this course for credit.

PHIL 241.3
Introduction to Symbolic Logic I
1/2(3L)

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

An introduction to modern logic. Truth-functional statement logic and first order predicate logic. Formalization of natural language statements and arguments.

Note: Students may not count both PHIL 241 and CMPT 260 as part of their major or honours in philosophy. Students with credit

for PHIL 242 may not take this course for credit.

PHIL 243.3
Introduction to Symbolic Logic II
1/2(3L)

Prerequisite(s): PHIL 241 or CMPT 260.

Review of sentential logic. First order predicate logic with relations, identity, and definite descriptions. Formalization of natural language statements and arguments. Introduction to modal logic.

Note: Students with credit for PHIL 242 may not take this course for credit.

PHIL 251.3
Philosophy of Science
1/2(3L)

Prerequisite(s): 6 credit units in philosophy or 12 credit units in a natural science.

An introduction to the nature, extent and significance of scientific knowledge. Problems about the nature of scientific theories and models, scientific explanation and prediction, scientific growth, and issues about the relationship between science, religion and morality will be discussed.

PHIL 262.3
Social and Political Philosophy
1/2(3L)

Prerequisite(s): 6 credit units in philosophy, history or a social science.

An examination of philosophical theories of political organization. Such issues as justice and power, rights, freedom and the public good will be discussed.

PHIL 271.3
Aesthetics
1/2(3L)

Prerequisite(s): 6 credit units in philosophy, fine arts or literature.

An introduction to philosophical problems related to the arts; such as the nature of art, meaning, expression, and the nature of critical and evaluative judgments.

PHIL 281.3
Theory of Knowledge
1/2(3L)

Prerequisite(s): 6 credit units in philosophy.

Examines the status and extent of our knowledge of the world, of ourselves, and other people. Problems about the nature of knowledge, the justification of claims of knowledge, the relationship of knowledge to belief and truth, perception, and the viability of scepticism will be discussed.

Note: Students with credit in PHIL 221 may not take this course for credit.

PHIL 292.3
Introduction to Metaphysics
1/2(3L)

Prerequisite(s): 6 credit units in philosophy.

Surveys the principal types of theories of reality that have been produced in western philosophy, e.g., materialism, idealism, dualism, monism, atomism, and investigates major problems and concepts in metaphysics, e.g., time, space, substance, essence, free will and determinism, causality, the nature of the self and the problem of universals.

Note: Students with credit in PHIL 222 may not take this course for credit.

PHIL 294.3
Philosophy of Human Nature
2(3L)

Prerequisite(s): 6 credit units in philosophy or completion of 24 credit units at the university.

An introductory survey of major philosophic conceptions of human nature, its principles and operations. Such thinkers as Plato, Aristotle, Thomas Aquinas, Hegel, Schopenhauer, Marx, Nietzsche, Freud, and contemporary sociobiologists will be considered.

Note: Students with credit in MPHIL 294 or PHIL 229 may not take this course for credit.

PHIL 296.3
The Nature of Material Reality
1/2(3L)

Prerequisite(s): 6 credit units in philosophy or 12 credit units in natural science.

A study of the philosophy of nature which examines ancient and modern views on the material constitution of bodies, organisms, and persons. Major topics include the nature of substance, the distinction between properties and substances, artifacts and natural things, and the mind-body problems.

Note: Students with credit in MPHIL 296 may not take this course for credit.

PHIL 312.3
Great Philosophers: Historical Figures
1/2(3S)

Prerequisite(s): 12 credit units in philosophy. Detailed reading in the work of a major philosopher such as Aristotle, Hume or Russell.

PHIL 313.3
Great Philosophers: Contemporary Figures
1/2(3S)

Prerequisite(s): 12 credit units in philosophy. Consists of detailed reading in the work of some major philosopher.

PHIL 314.3
Kant
1/2(3L)

Prerequisite(s): 12 credit units in philosophy. A study of Kant's Critical Philosophy, with emphasis on the Critique of Pure Reason.

PHIL 317.3
Analytic Philosophy
1/2(3L)

Prerequisite(s): PHIL 241 or CMPT 260 and 9 credit units in philosophy.

Traces the development of analytic tradition from the realism of Russell and Moore through logical positivism and linguistic analysis to subsequent contemporary approaches in analytic philosophy.

Note: Students with credit in PHIL 217 may not take this course for credit.

PHIL 319.3
Studies in 20th-Century Continental Philosophy
1/2(3L)

Prerequisite(s): 12 credit units in philosophy.

Contemporary continental philosophy focusing on phenomenology, existentialism and existential phenomenology.

Consideration will be given to such figures as Husserl, Heidegger, Sartre, Merleau-Ponty, Ricoeur, and Gadamer.

Note: Students with credit for PHIL 216 may not take this course for credit.

PHIL 320.3 Studies in Philosophy 1/2(3S)

Prerequisite(s): 12 credit units in philosophy.

The topic, movement or philosophers studied will vary from year to year.

PHIL 326.3 Philosophy of Mind 1/2(3S)

Prerequisite(s): 12 credit units in philosophy, or PHIL 110, or 120 and 133, and 12 credit units in psychology.

An examination of major philosophic theories of the human mind. The traditional dualistic theory that the mind and body are distinctly different will be contrasted with contemporary logical behaviourism and with the modern materialist's theory that the mental can be explained in terms of brain states and brain functions.

PHIL 333.3 Ethical Studies 1/2(3L)

Prerequisite(s): 12 credit units in philosophy including one of 231, 233, 234 or 235.

Concerned with topics such as the cognitive status of judgements about what is right and good, about the grounds of ethical judgement and the logic of ethical argument, and about the role of rules and principles in ethical dispute.

PHIL 343.3 Philosophical Logic 1/2(3L)

Prerequisite(s): PHIL 241 or CMPT 260 and 9 credit units in philosophy.

An introduction to basic topics in philosophical logic such as propositions and the problem of abstract entities, necessity, analyticity and the a priori, theories of truth, theories of meaning and reference, existential commitment and presupposition, essentialism, entailment.

PHIL 362.3 Topics in Political Philosophy 1/2(3S)

Prerequisite(s): PHIL 262 or POLST 235.

The topic, political philosopher, movement or theories studied will vary from year to year.

PHIL 381.3 Topics in Metaphysics and Epistemology 1/2(3S)

Prerequisite(s): 12 credit units in philosophy.

Metaphysical theories and problems, and the nature of metaphysics. Perception, belief and knowledge.

Note: Students with credit for PHIL 344 may not take this course for credit.

PHIL 396.6 Metaphysics 1&2(3L)

Prerequisite(s): 12 credit units in philosophy.

Study of philosophical attempts to achieve knowledge of reality beyond the empirical; approached historically in terms of ancient, medieval, modern and contemporary theory; and problematically-in terms of present day concerns, such as space, time, motion, nature, existence, essence, God, soul, mind, idea, freedom, person, death, anxiety and art.

Note: Students with credit in MPHIL 396 may not take this course for credit.

PHIL 404.3 Advanced Problems in Philosophy and Theology 1(3L)

Prerequisite(s): 12 credit units in philosophy.

Philosophical aspects of contemporary psychological and theological problems treated at an advanced level. Selected readings in Freud, Jung, Ryle, Merleau-Ponty, Marcel, Ricoeur and others.

PHIL 410.6 Philosophical Method 1&2(3S)

Prerequisite(s): 18 credit units in philosophy, or 12 credit units in philosophy and 6 credit units in historical method or scientific method in another discipline.

The historical development and application of method in Greek and Medieval thought (elenchus, axiomatic method, etc.); Kantian background for contemporary methodological theories: dialectical hypothetico-deductive, and analogical models; the methods of philosophy as identical to or distinct from those of science.

PHIL 412.3 Philosophy of Thomas Aquinas I 1/2(3S)

Prerequisite(s): 18 credit units in philosophy.

The philosophy of Aquinas considered in the areas of philosophical theology, metaphysics, and philosophy of nature.

Note: Students with credit for PHIL 411 may not take this course for credit.

PHIL 413.3 Philosophy of Thomas Aquinas 2 1/2(3S)

Prerequisite(s): 18 credit units in philosophy.

The philosophy of Aquinas considered in the areas of human nature, epistemology, and ethics.

Note: Students with credit for PHIL 411 may not take this course for credit.

PHIL 418.3 20th-Century Analytic Philosophy 1/2(3S)

Prerequisite(s): PHIL 241 or CMPT 260 and 9 credit units in philosophy.

Studies developments in analytic philosophy since World War II, examining representative works of the period including those of such philosophers as Wittgenstein, Ryle, Austin,

Ayer, Quine, Davidson, Nagel, Strawson, Dummet, Putnam, Kripke and Rorty.

PHIL 420.3 Honours Seminar 1/2(2S)

Prerequisite(s): 18 credit units in philosophy and acceptance into the Honours program, or high standing and permission of department.

An advanced seminar in contemporary philosophy primarily for honours students. Focuses on a recent important book or a set of related journal articles on a central philosophical subject. Emphasis will be on student presentations and discussion.

PHIL 446.3 Philosophy of Language 1/2(3S)

Prerequisite(s): PHIL 241 or CMPT 260 and 9 credit units in philosophy.

An introduction to philosophical problems about language and linguistic approaches to philosophy. How language represents reality; how language colours our thoughts about reality; language as a vehicle of communication. Traditional accounts of truth, meaning, reference, predication and expression will be discussed, as well as methodology in language study and linguistic philosophy.

PHIL 455.3 Philosophy of Social Science 1/2(3S)

Prerequisite(s): PHIL 251 or 12 credit units in philosophy or 6 credit units in philosophy and 12 credit units in a social science or history.

Examines current conceptual, ontological, epistemological, and methodological issues in philosophy of social science; generalization and prediction in the social sciences, reasons vs. causes, interpretation and meaning of social phenomena, intentionality, explanation of action, reductionism, supervenience, individualism vs. holism, objectivity, realism, constructivism, relativism, facts vs. values, feminism, postmodernism, sociology of knowledge.

PHIL 481.3 Topics in Metaphysics and Epistemology 1/2(3S)

Prerequisite(s): 12 credit units in philosophy.

A second course in metaphysics and epistemology. Topics not considered in PHIL 381 will be discussed, topics such as personal identity, universals, scepticism, substance, properties and relations, and necessity and possibility.

Note: Students with credit for PHIL 345 may not take this course for credit.

SPECIAL TOPICS

PHIL 298.3 1/2(3S)
PHIL 299.6 1&2(3S)
PHIL 398.3 1/2(3S)
PHIL 399.6 1&2(3S)
PHIL 498.3 1/2(3S)
PHIL 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these

courses should contact the department for more information.

PHYSICS AND ENGINEERING PHYSICS

What is physics? The word physics derives from a Greek word meaning "knowledge of nature". Since many physical phenomena are easily observed to be repeatable, there must be fundamental rules which dictate the behaviour of the natural world. The search for these fundamental rules, or laws, is the objective of physics.

The laws of physics apply to a wide variety of natural phenomena, from the study of subatomic particles to the study of astronomical objects many times larger than the Sun. The heat generated by a burning match and the heat generated by a rocket engine are governed by the same physical principles. The laws which enable astronomers to infer that distant galaxies are receding from us at extremely high speed are also used by the police to catch speeding cars using radar. Physics applies to all of these situations because it focusses on the fundamental laws of nature.

The strength of physics lies in the fact that these laws must be verified by rigorous, quantitative experimentation. A physical theory is only accepted as valid if it successfully predicts and explains reproducible observations. Since experimentation is at the heart of the subject, it is also an important component of any undergraduate program in physics.

In order to describe repeatable relationships between physical quantities, the laws of physics are expressed in mathematical form. Mathematics is therefore another important component of any undergraduate physics program. Mathematics B30 and C30 are prerequisites for all of our first-year courses (except ASTRO 101), and several mathematics courses are required up to the 300 level.

Three degree programs in Physics are currently offered: B.Sc. Three-year, B.Sc. Four-year, and B.Sc Honours. The first two years are identical for all three programs. Students interested in applied physics should also consider the Engineering Physics program described in the College of Engineering section of the Calendar.

For further information on physics courses or programs, on graduate programs in physics leading to the M.Sc. or Ph.D. degrees, or on career opportunities, students should contact the Department of Physics and Engineering Physics through its website at <http://physics.usask.ca>.

NEW PHYSICS PROGRAM

A new Physics curriculum is under development and will be introduced in 2001-02. Students currently enrolled in a Physics program are required to consult with an advisor in the Department of Physics and Engineering Physics to determine which courses are required to complete their programs. Students considering entering a Physics program are likewise encouraged.

MAJOR IN PHYSICS (B.SC. FOUR-YEAR)

Students in the Four-year program are required to take 120 credit units as follows: PHYS 121.6 (or PHYS 111.6 with a grade of 70% or better and permission of the Department), 223.3, 227.3, 251.3, 490.0; CMPT 116.3; EP 271.3; MATH 110.3, 116.3 (or MATH 112.3 with a grade of 80% or better), 238.3, 266.3, 276.3, 338.6; 18 credit units of Physics/Astronomy courses from List 1; and 63 credit units of electives chosen to satisfy Requirements 1--5 and 7 of Program Type C.

List 1: PHYS 322.3, 323.3, 372.3, 373.3, 381.3, 382.3; ASTRO 212.3, 310.3, 312.3, 320.3; EP 356.3.

The department recommends the following course sequence:

First Year: PHYS 121; MATH 110 and 116; 18 additional credit units.

Second Year: PHYS 223, 227, 251; CMPT 116; EP 271; MATH 238, 266, 276; 6 additional credit units.

Third and Fourth Years: MATH 338; 18 credit units of Physics/Astronomy courses from List 1; 36 additional credit units.

Note 1: Students who plan to take 400-level Physics courses are strongly encouraged to take PHYS 323, 372, 381 and EP 356 in their third year of study.

Note 2: Senior Astronomy courses may be used to fulfill Requirement 7 of Program Type C.

MAJOR IN PHYSICS (B.SC. THREE-YEAR)

Students in the Three-year program are required to take 90 credit units as follows: PHYS 121.6 (or PHYS 111.6 with a grade of 70% or better and permission of the Department), 223.3, 227.3, 251.3; CMPT 116.3; EP 271.3; MATH 110.3, 116.3 (or MATH 112.3 with a grade of 80% or better), 238.3, 276.3, 338.6; 12 credit units of Physics/Astronomy courses from List 2; and 39 credit units of electives chosen to fulfill Requirements 1--5 and 7 of Program Type C.

List 2: PHYS 322.3, 323.3, 372.3, 373.3, 381.3; ASTRO 212.3, 310.3, 312.3, 320.3; EP 356.3.

The department recommends the following course sequence:

First Year: PHYS 121; MATH 110 and 116; 18 additional credit units.

Second Year: PHYS 223, 227, 251; CMPT 116; EP 271; MATH 238, 276; 9 additional credit units.

Third Year: MATH 338; 12 credit units of Physics/Astronomy courses from List 2; 12 additional credit units.

HONOURS IN PHYSICS

Students in the Honours program are required to take 120 credit units as follows: PHYS 121.6 (or PHYS 111.6 with a grade of 70% or better and permission of the Department), 223.3, 227.3, 251.3, 323.3, 372.3, 373.3, 381.3, 382.3, 402.3, 404.3, 452.3, 463.3, 470.3, 490.0; CMPT 116.3; EP 271.3, 356.3, 421.3; MATH 110.3,

116.3 (or MATH 112.3 with a grade of 80% or better), 238.3, 266.3, 276.3, 338.6, 379.3; 6 credit units of Physics courses from List 3; and 33 credit units of electives chosen to satisfy Requirements 1--5 and 7 of Program Type C.

List 3: PHYS 403.3, 465.3, 466.3, 482.3.

The department recommends the following course sequence:

First Year: PHYS 121; MATH 110 and 116; 18 additional credit units.

Second Year: PHYS 223, 227, 251; CMPT 116; EP 271; MATH 238, 266, 276; 6 additional credit units.

Third Year: PHYS 323, 372, 373, 381, 382; EP 356; MATH 338, 379; 3 additional credit units.

Fourth Year: PHYS 402, 404, 452, 463, 470, 490; EP 421; 6 credit units from List 3; 3 additional credit units.

Note: Senior Astronomy courses may be used to fulfill Requirement 7 of Program Type C.

A student entering the Honours Program in Physics must consult the Head of the Department on selection of courses not later than the beginning of the third year. In fourth year, these students must take part in physics seminars.

MATHEMATICAL PHYSICS

The Departments of Mathematics and Statistics and Physics and Engineering Physics have developed an interdisciplinary program in Mathematical Physics. Interested students, particularly students interested in applied mathematics and theoretical physics, should consult the mathematical physics section of the *Calendar*.

MINOR IN ASTRONOMY

Students with an interest in Astronomy may take courses leading to a Minor in Astronomy in conjunction with any Four-year, Three-year or Honours degree in any other discipline within the College of Arts and Science. Students are required to complete 18 credit units of Astronomy, including ASTRO 101.6, in addition to courses needed for their major. As most senior Astronomy courses will only be offered in alternate years, students are advised to consult with the Department of Physics and Engineering Physics for assistance in selecting appropriate courses.

FIRST-YEAR COURSES

PHYS 111 is a one-year survey course which is designed for students not planning to major in physics. It is specifically designed to meet the needs of students in the Life Sciences, Health Sciences and other related disciplines. Although PHYS 111 is usually a terminal course for most students, it may be used towards a major in physics provided the student obtains a grade of 70% or better and permission of the department.

PHYS 121 is a calculus-based one-year survey course in physics. Students taking this course require a knowledge of calculus which may be gained concurrently.

It should be noted that laboratory work forms an integral part of all first-year physics courses.

ASTRONOMY
**ASTRO 101.6
Descriptive Introduction to
Astronomy
1&2(3L-3P)**

Prerequisite(s): Mathematics B30 (or, under the old mathematics curriculum, Algebra 30 or Mathematics 30).

A descriptive introduction to astronomy without advanced mathematics covering constellations, historical astronomy, telescopes, spectral analysis, planetary motion, including recent discoveries about planets, properties and evolution of stars, pulsars, black holes, galaxies and cosmology. The evening labs will allow students to use telescopes and to analyze data.

**ASTRO 212.3
Astronomical Observation
Techniques
1(2L-4P)**

Prerequisite(s): ASTRO 101 or PHYS 111 or 121 or 128 (formerly E P 128).

An introduction to the use of astronomical telescopes for imaging of celestial objects and for photometric studies of variable stars and star clusters. Astronomical co-ordinate systems and techniques for measurement of stellar and galactic distances and masses will be discussed. Evening labs will acquaint students with telescopes and related equipment. The evening lab will acquaint students with telescopic and photometric techniques.

**ASTRO 310.3
Galactic Astronomy and
Cosmography
2(3L)**

Prerequisite(s): ASTRO 212 or 211; PHYS 128 (formerly E P 128) or PHYS 251.

Offered in 2000-2001, then in alternate years.

An examination of spiral, elliptical, peculiar and radio galaxies, dark matter, Hubble's law of universal expansion, galactic collisions and cannibalism, quasars and supermassive black holes. The course also investigates Big Bang nucleosynthesis, the age, expansion and future of the universe, space curvature, rival cosmographical theories and dark sky paradox.

**ASTRO 312.3
Theoretical Models of Stars and
Stellar Evolution
2(3L)**

Prerequisite(s): PHYS 111 or 121 or 128 (formerly E P 128); MATH 110 or 123, and 112 or 116 or 124.

Offered in 2001-2002, then in alternate years.

An examination of the successes and failures of stellar evolution theory in tracking the protostar, main-sequence, red giant, supernova, pulsar and black hole stages in the lives of stars. Students will study physical models of stellar structure and nuclear energy generation and investigate the solar neutrino mystery.

**ASTRO 320.3
Astronomy of the Solar System
2(3L)**

Prerequisite(s): ASTRO 212; PHYS 128 (formerly E P 128) or PHYS 251; MATH 224 or 238.

Offered in 2000-2001, then in alternate years.

An investigation of the formation, evolution and dynamics of the solar system. The physical properties of the sun, planets and other bodies are examined and used to constrain evolutionary models. The prospects and evidence for the existence of life elsewhere in the solar system and the detection of extrasolar planets are also considered.

**ASTRO 411.3
Gravitation and Cosmology
1/2(3L)**

Prerequisite(s): E P 315 or PHYS 251; MATH 338, and at least 3 credit units in astronomy, or permission of the department.

Offered in 2001-2002, then in alternate years.

An introduction to general relativity as a theory of gravitation with emphasis on applications to cosmology. Includes: principles of special and general relativity, tensor calculus in curved spacetime, Einstein's field equations, Schwarzschild solution, experimental tests of general relativity, black holes, standard cosmological models, unresolved cosmological issues.

PHYSICS
**PHYS 111.6
General Physics
1&2(3L-2.5P-1T)**

Prerequisite(s): Mathematics B30 and C30 (or, under the old mathematics curriculum, Algebra 30 and Geometry-Trigonometry 30); Physics 30.

Emphasizes the basic principles of Physics and their applications to the various scientific fields. Also gives the students an insight into the benefits and problems of technology. Topics are mechanics, wave motion and sound, heat, electricity and magnetism, light and modern physics.

Note: Students with credit for PHYS 121 may not take this course for credit.

**PHYS 121.6
General Physics
1&2(3L-3P)**

Prerequisite(s): MATH 110, and 116 or 112 (may be taken concurrently); Physics 30.

A calculus based one year survey course in physics. Topics include: mechanics, waves and optics, electricity and magnetism, quantum physics and special relativity.

Note: PHYS 121 is for students planning to take an honours program in physics, chemistry, geophysics or mathematics and for students intending to major in physics or who plan on taking further physics courses. Students with credit for PHYS 111 may not take this course for credit.

**PHYS 128.3 (Formerly E P 128)
Contemporary Physics
2(3L/1.5P)**

Prerequisite(s): Physics 30; MATH 110. Introduces students to recent discoveries in physics. As well as the traditional topics of "Modern Physics", Relativity and Quantum Theory, students will learn about recent developments in Nuclear, Atomic, Molecular and Particle Physics as well as Solid State Physics and Optics.

Note: Students may receive credit for both PHYS 128 and for PHYS 111 or 121. Physics majors may receive physics credit for PHYS 128. PHYS 128 may be used toward the natural science requirement in B.Sc. and B.A. degree programs. Only 6 credit units in a subject may be used for distribution in Requirement 1 in Program Type C.

**PHYS 216.3
Waves, Optics and Quantum Physics
2(3L-3P)**

Prerequisite(s): MATH 110 and 116; PHYS 121 or 111.

Properties common to all waves are studied and particular attention is paid to geometrical and wave optical phenomena. The basic principles of optics are applied to optical instruments. In the latter part of the course Quantum physics is introduced. Lectures are complemented by laboratory and regular problem assignments.

**PHYS 223.3
Mechanics I
2(3L)**

Prerequisite(s): MATH 110, 116, 276 or 223; PHYS 111 or 121. MATH 238 recommended or MATH 224 (taken concurrently) recommended.

The motion of a particle in one, two and three dimensions; the motion of a system of particles; dynamics of the motion of rigid bodies; statics, gravitation.

**PHYS 227.3
Electricity and Magnetism I
2(3L-3P)**

Prerequisite(s): PHYS 251; MATH 223 or 276.

Electric and magnetic interactions are considered in terms of their associated fields; the concepts of capacitance, inductance, and resistance are developed and used in AC circuits.

**PHYS 251.3
Relativistic Mechanics and Quantum Physics
1(3L-3P)**

Prerequisite(s): PHYS 111 or 121 or both G E 125 and E P 155.

Introduction to frames of reference and the variation of mass, length and time with relative velocity; the atomic theory of matter and a historical introduction to quantum mechanics leading to Schrodinger's Equation. Many of the laboratory experiments illustrate the early development of quantum mechanics.

**PHYS 322.3
Meteorology
2(3L)**

Prerequisite(s): MATH 110 and 116; PHYS 111 or 121.

An introduction to the processes underlying observed weather phenomena. Topics include thermodynamic processes; stability and convection; radiation and heat budget. The dynamics of the atmosphere and its circulation are described, and related to synoptic meteorology. Weather forecasting is discussed. There are projects on weather observation and forecasting.

**PHYS 323.3
Mechanics II
2(3L)**

Prerequisite(s): MATH 238 and 276; PHYS 223 or G E 226.

Newton's laws for the general motion of particles in non-inertial reference systems. Other topics include Hamiltonian systems, Lagrange's equations, rotation of rigid bodies and the theory of small vibrations.

**PHYS 371.3
Statistical and Thermal Physics
(First Offered 2001/02)
1(3L)**

Prerequisite(s): PHYS 251 and 381 (may be taken concurrently); E P 271.

Following a brief introduction to basic probability concepts the course applies statistical ideas to systems of particles in equilibrium so as to develop the basic notions of statistical mechanics. Macroscopic and microscopic aspects are discussed and illustrated in detail. Topics covered include partition functions, specific heats of molecules, effusion, quantum statistics of ideal gases, systems of interacting particles and chemical equilibrium.

**PHYS 372.3
Statistical Physics I
1(3L-1P)**

Prerequisite(s): E P 225 or PHYS 216; MATH 276, or 225 and 226; PHYS 227.

The subjects of thermodynamics, statistical thermodynamics, statistical mechanics, stationary stochastic processes and information theory are united to provide a description of physical systems in equilibrium.

**PHYS 373.3
Statistical Physics II
2(3L)**

Prerequisite(s): PHYS 372.

The probabilistic concepts introduced in PHYS 372 are used to introduce the partition function. This is used to develop the quantum statistics of Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac systems. The formalism is applied to molecular and electronic specific heats, effusion, thermionic emission, electronic paramagnetism, and other topics. The statistical mechanics of reactions is introduced with examples drawn from astrophysics and biophysics.

**PHYS 381.3
Quantum Mechanics I
1(3L-4P)**

Prerequisite(s): E P 225 or PHYS 216; PHYS 251; MATH 338 (may be taken concurrently); PHYS 227.

Designed to acquaint students with some of the concepts of wave mechanics. Schrodinger wave equation is studied and applied to a number of problems including

the one-electron atom. Perturbation theory and angular momentum operators are discussed.

**PHYS 382.3
Quantum Mechanics II
2(3L)**

Prerequisite(s): MATH 338 (may be taken concurrently); PHYS 381.

Linear vector spaces and quantum mechanics; hermitian and unitary linear operators; Schrodinger equation in various representations; the operator method as applied to the harmonic oscillator and to angular momentum eigenvalues; the spin statistics theorem; minimal coupling of hamiltonian and electromagnetic fields; time independent perturbation theory and applications.

**PHYS 402.3
Techniques of Theoretical Physics I
1(3L)**

Prerequisite(s): E P 356, MATH 338; and PHYS 381 or E P 325.

Designed to develop those mathematical skills which are required for solving physical problems. Emphasis is placed on the various initial value and boundary value problems occurring in physics and engineering. This course requires that students do a large number of homework problems.

**PHYS 403.3
Techniques of Theoretical Physics II
2(3L)**

Prerequisite(s): PHYS 402.

Some special techniques of mathematical physics are dealt with in detail. The subjects covered include integral equations, calculus of variation, and the application of group theory to physical problems.

**PHYS 404.3
Techniques of Experimental Physics
2(1L-5P)**

Prerequisite(s): E P 356, PHYS 372, and 381 or E P 325.

Intended to make the student familiar with a variety of modern techniques in Experimental Physics including physical properties of materials and their use in the laboratory, radiation sources and radiation detection, vacuum techniques and cryogenics.

**PHYS 452.3
Subatomic Physics
2(3L)**

Prerequisite(s): E P 325 or PHYS 381.

This course will introduce students to various topics in nuclear and particle physics. A selection could include: NN forces; deuteron properties; shell model of nuclei; deformed nuclei; collective motion in nuclei; mesons, baryons and leptons; quantum numbers; strong, weak and electromagnetic interactions; SU(3) classification; QCD; and valence quark models of hadrons.

**PHYS 463.3
Electricity and Magnetism III
1(3L)**

Prerequisite(s): MATH 338 and E P 356.

After a review of Maxwell's equations, the following topics will be studied: Applied

electro/magnetic statics and quasi-electrostatics, radiation, microwave systems and relativistic electrodynamics.

**PHYS 465.3
Electronics I
1(3L-3P)**

Prerequisite(s): MATH 110 and 116 (or equivalent); PHYS 227.

An introduction to electronics for students in the Physical Sciences. Includes AC networks using phasor notation, non-linear devices, general network analysis, signal processing and operational amplifiers.

**PHYS 466.3
Electronics II
2(3L-3P)**

Prerequisite(s): PHYS 465.

A second course in electronics for students in the physical sciences. Includes Boolean algebra and digital logic, microprocessors, large signal amplifiers and small signal analysis.

Note: Students with credit for E P 365 may not take this course for credit.

**PHYS 470.3
Solid State Physics
2(3L)**

Prerequisite(s): PHYS 381 or E P 325.

Covers perturbation theory, crystal structure and binding of solids, lattice vibrations, electrons in crystalline lattices, magnetic and transport properties of solids, and superconductivity.

**PHYS 482.3
Quantum Mechanics III
2(3L)**

Prerequisite(s): PHYS 382.

Continues PHYS 382 and begins with an extensive discussion of time dependence in quantum mechanics. Exactly solvable problems such as spin-magnetic resonance are used to illustrate the time-dependent perturbation series. Applications include emission and absorption of radiation, multipole selection rules, and electron scattering from atoms and nuclei; Further topics discussed in detail are symmetry in quantum mechanics, rotation matrices and applications, many particle systems, collision theory, and variational methods including Hartree-Fock theory.

**PHYS 490.0
Physics Seminars
1&2(1S)**

Students in the fourth year of the Honours Physics program are required to attend both Departmental seminars and special student seminars. In each case the seminar material is intended to introduce students to some of the new developments in Physics and Engineering Physics.

Note: Required for Engineering Physics, Physics Honours and Physics four-year Major programs.

SPECIAL TOPICS

PHYS 398.3 1/2(3S)

PHYS 399.6 1&2(3S)

PHYS 498.3 1/2(3S)

PHYS 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these

courses should contact the department for more information.

COURSES FROM OTHER DEPARTMENTS AND COLLEGES

The following Engineering Physics courses may be credited towards a physics major or honours program:

E P 225.3 Waves, Fields and Optics
E P 356.3 Electric and Magnetic Field Theory
E P 421.3 Optical Systems and Materials
For details see the College of Engineering section of the *Calendar*.

PHYSIOLOGY

The focus of the undergraduate programs is homeostasis in mammals, including humans. Students will study body functions at cellular, organ and organ systems levels and the ways that these functions are integrated in the whole animal.

Note: The programs in physiology have been changed recently. All students must contact the department before registering in the B.Sc. programs or any 300- or 400-level class in physiology.

ALL PROGRAMS - YEARS 1 & 2

The following courses should be completed before entering year three of any Physiology program:

BIOL 110.6; CHEM 111.3, 251.3; MATH 110.3, and 112.3 or 116.3; PHYS 111.6; BIOCH 200.3 and 211.3; CHEM 242.3 and 221.3 or 231.3; PHSIO 212.6; 12 credit units from Requirements C2 to C5, inclusive; electives to make a total of 60 credit units.

Note: BIOL 110 and CHEM 111 and 251 must be taken in first year because they are prerequisites for some of the 200-level classes required.

Note: Students who wish to continue in the study of physiology but who have taken BIOL 217 and 218 instead of PHSIO 212 should contact the department.

MAJOR IN PHYSIOLOGY (B.SC. FOUR-YEAR)

Third Year

PHSIO 334.6, 336.3, 337.3 and 6 credit units from PHSIO 346.3, 347.3, 348.3 or 350.3; PL SC 314.3 or equivalent course in statistics; 6 credit units from Requirements C2 to C5 inclusive; electives to make 30 credit units.

Fourth Year

PHSIO 433.6, 490.0 and at least 6 credit units from PHSIO 346.3, 347.3, 348.3 or 350.3; 6 credit units from Requirements C2 to C5 inclusive; electives to make 30 credit units.

MAJOR IN PHYSIOLOGY (B.SC. THREE-YEAR)

Third Year

PHSIO 334.6, 336.3, 337.3 and 6 credit units from PHSIO 346.3, 347.3, 348.3 or 350.3; 12 credit units from Requirements C2 to C5 inclusive.

Students who work toward the B.Sc. Three-year degree program may transfer to the B.Sc. Four-year degree program or, if a

sufficiently high standing has been obtained, to the B.Sc. Honours program, by fulfilling the requirements of these degrees.

HONOURS IN PHYSIOLOGY

Third Year

PHSIO 334.6, 336.3, 337.3 and 6 credit units from PHSIO 346.3, 347.3, 348.3 or 350.3; PL SC 314.3 or equivalent course in statistics; 6 credit units from Requirements C2 to C5 inclusive; electives to make 30 credit units.

Fourth Year

PHSIO 432.6, 433.6, 490.0 and at least 6 credit units from PHSIO 346.3, 347.3, 348.3 or 350.3; 6 credit units from Requirements C2 to C5 inclusive; electives to make 30 credit units.

For admission requirements see the index section of the *Calendar* for Arts and Science, Honours Programs.

PHYSIOLOGY

PHSIO 212.6 Human Physiology 1&2(3L)

Prerequisite(s): BIOL 110 and CHEM 111.

Introduces the major physiological systems of the human body and how they function.

Note: Credit will not be granted for this course if the student has taken BIOL 217 and 218.

PHSIO 334.6 Experimental Basis of Physiology 1&2(6-8P)

Prerequisite(s): BIOCH 200 and 211; PHSIO 212; PHYS 111.

A laboratory course on the various approaches and techniques commonly used to investigate physiological phenomena and to study their underlying mechanisms.

Note: Since enrolment will be limited, students are advised to contact the department early if they wish to take this course.

PHSIO 336.3 (Formerly 335) Excitable Cells 1/2(3L)

Prerequisite(s): PHSIO 212 or ANAT 200.

The integrated study of bioelectrical mechanisms of cellular excitability and excitation coupled functions including contraction, secretion and signal transduction.

Note: Students with credit for PHSIO 335 may not take this course for credit.

PHSIO 337.3 (Formerly 335) Cellular Basis of Physiological Function 1/2(3L)

Prerequisite(s): BIOCH 200, 211; CHEM 242 and PHSIO 212.

Cellular mechanisms underlying physiological functions in mammals. Topics include mechanisms of communication between cells, uptake and secretion of water, ions, nonelectrolytes and macromolecules, and integration of cell functional and metabolic activities.

Note: Students with credit for PHSIO 335 may not take this course for credit.

PHSIO 346.3 Cardiovascular Physiology 1/2(3L)

Prerequisite(s): PHSIO 212; PHYS 111.

Functions and controls of the heart and blood vessels in humans and other mammals, and the mechanisms regulating arterial pressure, blood volume and blood flow.

PHSIO 347.3 Respiratory Physiology 1/2(3L)

Prerequisite(s): CHEM 242 or 241 or 249; PHSIO 212; PHYS 111.

Mechanisms of respiratory gas exchange at lungs and tissues, gas transport in the blood, and the regulation of the respiratory system at rest and during exercise.

PHSIO 348.3 Endocrinology 1/2(3L)

Prerequisite(s): PHSIO 212; BIOCH 200 and 211; completion of or enrolment in PHSIO 336 and 337 (or 335).

Hormonal control mechanisms. Topics include neuroendocrinology and examples of hormonal control in reproduction, metabolism, growth, calcium homeostasis and gastrointestinal function.

Note: Students with credit for PHSIO 434 may not take this course for credit.

PHSIO 350.3 (Formerly 349) Integrative Neuroscience 1/2(3L)

Prerequisite(s): PHSIO 212 or ANAT 202.

Mechanisms of integration of neural signals. Examples will be used to show how different types of sensory input are integrated at various levels of the nervous system to evoke appropriate effector responses.

Note: Students with credit for PHSIO 349 may not take this course for credit.

PHSIO 432.6 Physiological Research 1&2(10P)

Prerequisite(s): PHSIO 334, 336, 337 (or 335).

Advanced work in a selected area of physiology. This normally consists of a laboratory research project done under the direct supervision of a faculty advisor.

Note: This course is usually restricted to students in the Honours program in physiology, but may, under special circumstances, be offered to others in the fourth year of a physiology major.

PHSIO 433.6 Integrative and Environmental Physiology 1&2(3L)

Prerequisite(s): PHSIO 334, 336, 337 (or 335).

An advanced course focusing on the integration and coordination of body functions in homeostatic responses to various environmental and other challenges. Includes topics such as physiological responses and adaptations to changes in temperature, respiratory gases, hydration, acid/base balance, and gravity, effects of exercise, and life in the uterine environment.

PHSIO 490.0 Seminars in Physiology

Prerequisite(s): PHSIO 334, 336, 337 (or 335) and registration in the fourth year of a major or Honours program in physiology.

Students in the fourth year of the Four-year or Honours program in physiology are required to attend departmental seminars and to participate in the presentation and discussion of papers in the departmental journal club.

COURSES IN OTHER DEPARTMENTS AND COLLEGES

The following course may be taken for credit towards a physiology major and honours program:

VT P 428.3 Gastrointestinal Physiology

For details see the Veterinary Medicine section of the *Calendar*.

Students with interests in the neurosciences are encouraged to take ANAT 334.3 and 404.3 as electives.

POLITICAL STUDIES

MAJOR IN POLITICAL STUDIES (B.A. FOUR-YEAR)

POLST 110.6, 203.6, 235.6 and 18 other credit units, at least 6 of which must be at the 300 level and at least 6 of which must be at the 400 level. Within this framework, students must choose 6 credit units from one of the following three subfields: Comparative Politics; Political Processes and Political Sociology; and International Relations.

MAJOR IN POLITICAL STUDIES (B.A. THREE-YEAR)

POLST 110.6, 203.6, and 18 other credit units, at least 6 of which must be at the 300 level or higher.

HONOURS IN POLITICAL STUDIES

Students taking an Honours Program in Political Studies are required to take the following: POLST 110.6, 203.6, 235.6, two 400-level seminars and 24 other political studies credit units. Within this framework, students must take 6 credit units from each of two of the three following subfields: Comparative Politics, Political Processes and Political Sociology, and International Relations. Students must take at least 6 credit units from among the following: POLST 255.6 (recommended), CMPT 100.3, STATS 244.3, ECON 204.6, or a language other than English. Students must consult with the department in the selection of their other courses.

DOUBLE HONOURS

Students who wish to do Double Honours in Political Studies and another subject are required to take POLST 110.6, 203.6, 235.6, 6 credit units at the 400 level and 12 other credit units in political studies.

SUBFIELDS IN POLITICAL STUDIES

The following numbering system may help students to see the subfields in the

discipline more clearly and to gauge better the level of a course.

Canadian Politics and Administration: 203, 220, 305, 306, 307, 320, 327, 403, 420.

Political Thought: 235, 331, 333, 335, 336, 337, 432, 433, 437, 438.

Comparative Politics: 240, 241, 242, 243, 246, 247, 343, 346, 348, 385, 440, 444.

Political Processes and Political Sociology: 252, 255, 351, 352, 354, 356, 358, 452.

International Relations: 260, 360, 362, 363, 365, 367, 368, 369, 464, 467, 468, 469.

Students are advised that a second language is a valuable asset. French, in particular, should be considered by students, especially if they intend to pursue a career in the federal public service.

PUBLIC ADMINISTRATION

Interested students should refer to the Public Administration section of the *Calendar* and contact the Chairperson of the Administrative Committee.

ST. THOMAS MORE COLLEGE

Sections of some courses in this department are taught by faculty in the corresponding department of St. Thomas More College. These course sections are designated in the *Registration Guide* by section numbers prefixed with the letter "M."

POLITICAL STUDIES

**POLST 110.6
Introduction to Political Studies
1&2(3L)**

An introduction to the study of government and politics by way of an examination of political processes and structures, the Canadian political system, and major themes and concepts such as power, freedom, rights, equality, authority and legitimacy.

POLST 110 is prerequisite for all courses in political studies, except as noted.

**POLST 203.6
Government of Canada
1&2(3L)**

A study of the institutions and processes of Canadian government. Particular attention is given to the constitution, federalism, the executive, legislative and judicial processes, the electoral system and voting behaviour, political parties, and pressure groups.

**POLST 220.6
Public Administration
1&2(3L)**

A comparative analysis of the public services and the machinery of government in Great Britain, the United States, and Canada, with particular reference to the legal basis, organization, management, and political and judicial control of the administrative processes.

**POLST 235.6
Introduction to the History of
Political Thought
1&2(3L)**

Introduces the political visions of key political thinkers from the ancient Greeks to

the end of the nineteenth century. The perennial problems of politics and various alternative solutions will be discussed.

**POLST 240.6
West European Politics
1&2(3L)**

Examines the major West European political systems, policy processes from a comparative perspective, and the European Union.

**POLST 241.3
East Central European Politics
1/2(3L)**

Designed to introduce the student to the politics and society of East Central Europe. Focusing on the idea of "failed modernity," the legacies of empire and authoritarianism will be examined and assessed with respect to how each has shaped and defined the course of 20th century East Central European political development.

**POLST 242.6
Government and Politics of the
United States
1&2(3L)**

An inquiry into the evolution and workings of the American national government. The course will study American political thought, political culture, political institutions and political processes.

**POLST 243.3
Russia and the Former Soviet Union:
The Politics of Change
1/2(3L)**

Focuses on the politics associated with efforts to transform the Soviet successor states into capitalist liberal democratic systems. Topics include: nature of the previous Soviet system, the economic transformations, emergence of civil society, ethnic divisions and conflicts, the development of multi-party systems, nation building and foreign relations.

**POLST 246.6
The Politics of the Third World
1&2(3L)**

An analysis of the political processes and structures within developing countries with primary emphasis on sub-Saharan Africa and the countries of the South Pacific. Major topics for consideration include the colonial period, the rise of nationalist parties, and within the independence period, ideology and political leadership, the effects of social and economic structures, the roles of traditional and modern groups and the problems of development and underdevelopment.

**POLST 247.6
Comparative Politics of Latin
America
1(3L)**

An introduction to the problems of development and change in Latin America through the comparative analysis of four case studies: Mexico, Cuba, Chile and Nicaragua. Designed to provide an understanding of modern Latin American politics through the examination of various factors affecting the political systems.

**POLST 252.6
Political Sociology
1&2(3L)**

Prerequisite(s): POLST 110 or SOC 110.

A study of the relationships between societal structures and the state. It will examine the political sociology of Marx, Weber, Michels, Parsons and others, as well as such themes as political socialization, the structure of power in industrial society, political culture, political participation and public opinion.

**POLST 255.6
Political Inquiry
1&2(3L)**

An introduction to selected methods of investigating political behaviour and political institutions. Examples are drawn from several subfields of the discipline to illustrate the interplay of theory and observation, and problems of measurement and research design.

**POLST 260.6
International Relations
1&2(3L)**

An analysis of the major features of international relations - the nature and evolution of international actors, the issues and ideas which motivate them, and their behaviour in world politics.

**POLST 305.3
Provincial Politics
1/2(3L)**

A study of the institutions and processes of Canadian provincial political systems with particular attention paid to the Saskatchewan experience.

**POLST 306.3
Local Government
1/2(3L)**

A study of various aspects of local government. The historical part will trace the development of local government in Canada and the profound influence of the British and American systems of local government. The analytical part will be concerned with such topics as structure, machinery, functions and the operation of local government.

**POLST 307.3
Topics in Canadian Politics
1/2(3L)**

Prerequisite(s): POLST 203.

Examines issues of major contemporary concern in Canadian politics such as women and politics, environment and politics, and current constitutional issues. The content of the course may be expected to alter from year to year according to the significance of political events and issues. The precise content of the course taught in any particular term will be made known to students in advance of registration deadlines.

**POLST 320.6
Comparative Public Policy: Canada
and the United States
1&2(3L)**

Prerequisite(s): POLST 203 or 220.

Focuses on the study of public policy. Emphasis will be placed on policy formulation and implementation at the federal level of government in Canada and the United States and the role of the State in the policy process.

**POLST 327.6
Public Policy Analysis
1&2(3L)**

Prerequisite(s): POLST 203 or 220.

Familiarizes students with various approaches, perspectives and techniques employed in public policy analysis, as well as theories and models commonly employed in the analysis of various stages and facets of the policy process.

**POLST 331.3
Classical Political Thought
1/2(3L)**

Prerequisite(s): POLST 235 or PHIL 262.

An intensive examination of ancient Greek and Roman political thought. Particular attention will be paid to Socrates, Plato, Aristotle and Stoicism.

**POLST 333.3
Medieval and Renaissance Political
Thought
1/2(3L)**

Prerequisite(s): POLST 235 or PHIL 262.

An intensive examination of political thought from the classical Christian period through the Renaissance and to the Reformation. Particular attention will be paid to such thinkers as Augustine, Aquinas, Machiavelli, Luther and Calvin and to such themes as constitutionalism, state, power, and the individual.

**POLST 335.6
Modern Political Thought
1&2(3L)**

Prerequisite(s): POLST 235 or PHIL 262.

A study of developments in political thought from the 17th century onwards, with special attention to those thinkers who have made important and enduring contributions to our understanding of politics and to the political and social philosophies of the modern era.

**POLST 336.3
Contemporary Political Thought
1/2(3L)**

Prerequisite(s): POLST 235 or PHIL 262.

An examination of important theoretical trends in post-1945 political thought, including existentialism, communitarianism, neoliberalism, neoconservatism and feminism.

**POLST 337.3
Topics in Political Thought
1/2(3L)**

Prerequisite(s): POLST 235 or 335 or PHIL 262.

Focuses on a thinker, issue, or approach in political philosophy not covered in the other political philosophy courses offered by the department.

**POLST 343.3
Politics of Change, Society in
Transition: Post-Soviet Ukraine
1/2(3L)**

Prerequisite(s): One of POLST 241, 243, HIST 324 (310) or UKR 211.

Examines the process of institution-building, the character of domestic and foreign political innovation, and the results of social and economic policy initiation which have marked the period of transition in post-Soviet Ukraine.

POLST 346.3
Topics in the Politics of the Developing World
1/2(3L)

Prerequisite(s): POLST 246 or 247; or permission of the department.

Designed to provide students with an intensive analysis of current topics in the politics of developing areas: leadership and ideology; democracy and re-democratization; women and development; sustainable development; and ethnic relations and politics.

POLST 348.6
Topics in Comparative Politics
1&2(3L)

Analysis of politics in selected countries or areas. Emphasis will be on political culture, political structures and political processes.

POLST 351.3
Women and Political Power
1/2(3L)

Introduces students to the study of women and politics by focusing on how women are represented in the western political tradition and how feminist analyses challenge this tradition. Exploring several central political ideas within the context of the women's movement helps to explain how and why women have sought specific political objectives such as the franchise and reproductive rights.

POLST 352.3
Women, Political Participation and Public Policy
1/2(3L)

Introduces students to the study of women and politics by focusing on women's participation in formal democratic processes. Specific investigation of the feminization of political institutions and women's public policy activism helps students to understand how and why women participate in politics.

POLST 354.6
Political Processes
1&2(3L)

An analysis of political parties; pressure groups; public opinion; public opinion polls; and voting behaviour.

POLST 356.3
Methods of Election
1/2(3L)

Examines the principal methods of election in use in the democratic world. Included are plurality methods (Canada), the alternative vote (Australia) and proportional representation (Germany, Ireland). Proposals for electoral reform in Canada are considered.

POLST 358.3
Political Leadership in Western Democracies
1/2(3L)

A comparative analysis of political leadership in Great Britain, the United States, and Canada, with particular reference to the selection of party leaders and the characteristics of those who lead political parties.

POLST 360.6
International Conflict
1&2(3L)

Prerequisite(s): POLST 260.

An analysis of theories of the causes, dynamics, and termination of international conflict. Included are analyses of international strategy and diplomacy, contemporary international conflicts, and conflict resolution.

POLST 362.3
International Political Economy
1/2(3L)

Prerequisite(s): POLST 260.

Examines the impact of political actors and institutions on the world economy. To this end, it introduces students to the major theoretical approaches in the study of the politics of global economic relations, so that they can better understand such issues as the debt crisis, trade disputes, the emergence of NAFTA and the expansion of the European Union.

POLST 363.3
Contemporary Regional Organizations in Europe and North America
1/2(3L)

Prerequisite(s): POLST 240 or 260.

Examines the phenomenon of regional organizations in its various economic, security and political manifestations in the North Atlantic area, by focusing on such organizations as the European Union, NAFTA, NATO, WEU, the Council of Europe, and OSCE.

POLST 365.6
Canadian Foreign Policy
1&2(3S)

Devoted to the study of Canada's external relations mainly in the post-World War II period. In particular, it examines specific cases of Canadian foreign policy decision-making for the purpose of illuminating the character of and the factors shaping foreign policy.

POLST 367.3
International Organizations
1/2(3L)

Prerequisite(s): POLST 260.

Focuses primarily on international governmental organizations, both universal and regional. Examines the role and impact of selected institutions such as the League of Nations, the United Nations, and the European Union. Specifically, assesses to what extent these organizations have been effective in promoting international peace and security, and global economic development.

POLST 368.3
Ideology and American Foreign Policy
1/2(3L)

Prerequisite(s): POLST 260.

An examination of American foreign policy since 1945, with an emphasis on how American ideological perspectives affect U.S. political, economic and military objectives and strategies. Major attention is given to imagery in the post-Cold War period and to U.S. efforts to promote democracy and human rights.

POLST 369.3
Chinese Politics and Foreign Policy
1/2(3L)

Prerequisite(s): POLST 260.

An analysis of Chinese politics and foreign policy since 1949. This course examines China's efforts to develop socialism internally while coping with an international environment which often threatens its security and socialist objectives.

POLST 385.3
Selected Topics in Central American Politics
2(3L)

Part of the La Antigua, Guatemala Study Term Abroad. An analysis of the contemporary politics of Central America. Topics include democracy, development, integration, inter-American relations, and political process. Includes guest lecturers from the region and field trips within Guatemala.

SEMINAR COURSES

These courses are open to third and fourth year students majoring in political studies. Other qualified students may be admitted with permission of the Head of the Department. However, because of the need to ensure that enrolments in these courses are compatible with their designation as seminars, all students must obtain permission in writing from the department before their registration can be completed.

POLST 403.6
Seminar in Canadian Politics and Government
1&2(3S)

An examination of the main primary and secondary sources of Canadian political institutions and theory.

POLST 420.6
Public Management in Canada: Challenges, Choices and Constraints
1&2(2.5S)

Prerequisite(s): POLST 220 and one of POLST 320 or 327.

Examines important theoretical and practical issues of public management at the federal, provincial and municipal levels in Canada. Some attention will also be devoted to public management issues in other countries which contribute to an understanding of public management in Canada.

POLST 432.6
Contemporary Political Thought
1&2(3S)

Selected topics on ethics and politics, political philosophy and public policy, will be studied: justice, public interest, obligation, violence, equality, rights, democracy and others. Both the process and goals of politics will be considered.

POLST 433.6
Political Philosophy and Literature
1&2(3S)

An examination of some issues in political philosophy through great literature.

POLST 437.6
Democratic Theory
1&2(3S)

A survey of major contributions to the theory of representative democracy from the late 18th century to the present, with

emphasis on the themes of liberty, equality and majority rule.

POLST 438.6
Rights and Community
1&2(3S)

Prerequisite(s): Fourth-year standing in Political Studies; POLST 235.

A survey of major theoretical issues underlying questions of rights in the context of contemporary politics, with special attention to Canada. A central concern will be questions of conflict between individual liberty and community concerns and interests.

POLST 440.6
Public Policy and Government Bureaucracy
1&2(3S)

Prerequisite(s): At least one of POLST 220, 240, 252, 320.

An examination of selected issues in policy and policy making in Western European and North American states.

POLST 444.6
Seminar in Comparative Politics
1&2(3S)

Prerequisite(s): 6 credit units from POLST 240, 241, 242, 243, 246, 247.

An analysis of selected issues in comparative politics, or the politics of a selected region or area of the world.

POLST 452.6
Seminar in Political Sociology
1&2(3S)

A critical examination of the theoretical literature on various topics in political sociology. The topics will include: political elites, bureaucracy, the economic role of the state, political culture, industrial democracy. Both classical works (e.g., those by Weber and Marx) and contemporary works (e.g., such writers as Habermas, Giddens, Dahl, and Offe) will be examined.

POLST 464.6
Seminar in International Relations
1&2(3S)

Prerequisite(s): POLST 260.

An analysis of selected issues in international relations.

POLST 467.6
Ethical Issues in International Relations
1&2(3S)

Prerequisite(s): POLST 260.

Examines the nature and limits of ethical values in international relations and explores the responsibilities and difficulties of states, statesmen and individuals in seeking to act ethically in an anarchic international system. Ethical issues involved in war, nuclear strategy, humanitarian intervention, sanctions and the promotion of human rights are examined.

POLST 468.6
Nationalism, Conflict and Security
1&2(3S)

Prerequisite(s): POLST 260.

Examines nationalism both as a historical and political force in the formation of modern international society and as a threat to the existence of that order. Exploring the sources, meaning and development of nationalism, the course will assess the

implications of the phenomenon for conflict and security in international relations.

**POLST 469.6
Challenges to Sovereignty:
Implications for Cooperation and
Conflict
1&2(3L)**

Prerequisite(s): POLST 260
An analysis of the post-Cold War International system. Specifically, the focus is on the nature of new challenges to the nation-state and the implications of these for international cooperation and conflict.

SPECIAL TOPICS

- POLST 398.3 1/2(3S)
- POLST 399.6 1&2(3S)
- POLST 498.3 1/2(3S)
- POLST 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

PSYCHOLOGY

All degree programs in Psychology have been revised. Students enrolled prior to the 1999-2000 Regular Session should consult with the department. All students are expected to consult with an academic advisor each year.

The department has introduced breadth requirements to enhance a student's understanding of the scope of the discipline. Some of the courses at the 200- and 300-level have been arranged into two broadly-defined areas:

Group 1 - Courses related to the cultural, social, and environmental influences on behaviour:

- 200-level courses: PSY 213.3, 214.3, 216.3, 222.3, 223.3, 224.3, 225.3, 226.3
- 300-level "A" courses: PSY 315.3, 317.3, 323.3, 325.3
- 300-level "B" courses: PSY 316.3, 318.3, 324.3, 326.3, 328.3

Group 2 - Courses related to the cognitive, neuropsychological, and biological influences on behaviour:

- 200-level courses: PSY 242.3, 243.3, 246.3, 252.3, 253.3, 255.3, 256.3
- 300-level "A" courses: PSY 343.3, 347.3, 353.3, 355.3
- 300-level "B" courses: PSY 344.3, 348.3, 356.3

**MAJOR IN PSYCHOLOGY (B.A.
FOUR-YEAR)**

The four-year major requires a minimum of 36 and permits a maximum of 60 credit units in psychology.

Students are required to take the following courses:

- (1) PSY 110.6
- (2) PSY 233.3, 234.3, 235.3
- (3) 6 credit units at the 200-level from Group 1
- (4) 6 credit units at the 200-level from Group 2
- (5) 3 credit units at the 300-level from Group 1 "A"
- (6) 3 credit units at the 300-level from Group 2 "A"

(7) 3 credit units at the 300-level from Group 1 or 2 "B".

**MAJOR IN PSYCHOLOGY (B.A.
THREE-YEAR)**

The three-year major requires a minimum of 30 and permits a maximum of 42 credit units in psychology.

Students are required to take the following courses:

- (1) PSY 110.6
- (2) PSY 232.3
- (3) 3 credit units at the 200-level from Group 1
- (4) 3 credit units at the 200-level from Group 2
- (5) 3 credit units at the 300-level from Group 1 "A"
- (6) 3 credit units at the 300-level from Group 2 "A"
- (7) 9 credit units of additional 200-, 300-, or 400-level courses.

HONOURS IN PSYCHOLOGY

Honours Programs in Psychology must be planned in consultation with the Head of the Department, preferably by the end of the second year. For a four-year honours degree, the student is required to take 60 credit units in psychology.

Students are required to take the following:

- (1) PSY 110.6
- (2) PSY 233.3, 234.3, 235.3
- (3) 6 credit units at the 200-level from Group 1
- (4) 6 credit units at the 200-level from Group 2
- (5) 3 credit units at the 300-level from Group 1 "A"
- (6) 3 credit units at the 300-level from Group 2 "A"
- (7) 3 credit units at the 300-level from Group 1 "B"
- (8) 3 credit units at the 300-level from Group 2 "B"
- (9) 3 credit units of additional 300-level course
- (10) PSY 472.6
- (11) 6 credit units of additional 400-level courses
- (12) 6 credit units of additional 200-, 300-, or 400-level courses.

DOUBLE HONOURS

Double Honours programs are possible in psychology and a number of other subjects. The respective departments must be consulted in planning such programs. For a double honours degree a student is required to take 36 credit units in psychology.

Students are required to take the following:

- (1) PSY 110.6
- (2) PSY 233.3, 234.3, 235.3
- (3) 3 credit units at the 300-level from Group 1 "A"
- (4) 3 credit units at the 300-level from Group 2 "A"
- (5) 3 credit units at the 300-level from either Group 1 "B" or Group 2 "B"
- (6) PSY 472.6
- (7) 6 credit units of additional 400-level courses.

All students in PSY 110 will be asked to participate in research studies conducted within the Department of Psychology. Research participation is desirable both as a means of advancing the science of human behaviour and as a means of providing the introductory student with first-hand educational experience in psychological research.

ST. THOMAS MORE COLLEGE

Sections of some courses in this department are taught by faculty in the corresponding department of St. Thomas More College. These course sections are designated in the *Registration Guide* by section numbers prefixed with the letter "M."

PSYCHOLOGY

**PSY 110.6
General Psychology
1&2(3L)**

An introduction to the scientific study of human behaviour, dealing with the essential problems of psychology, the methods of investigation, and the advances which have been made in some of the major fields such as motivation, perception, learning and personality.

PSY 110 is the prerequisite for all courses in psychology.

**PSY 211.3
Introduction to Psychological Tests
and Measurements
1/2(3L)**

Principles of psychological measurement including: sources of test information; quantitative concepts with applications to test construction; factors influencing test performance; uses and misuses of tests in counselling, educational and industrial settings.

**PSY 213.3
Child Psychology
1/2(3L)**

An examination of the biological, cognitive and personal growth of children from conception to early adolescence. Topics include: perceptual learning, sensory abilities, motivation, parent-child relationships, vocalization and communication, intelligence, creativity, development of social relationships and personality. Materials will be drawn from human and comparative psychology.

**PSY 214.3
Adolescent Psychology
1/2(3L)**

This course will deal with the social problems characteristic of this age group. Attention will be given to problems in the study of adolescence, physical growth patterns, to development of interpersonal relationships in adolescence, cognitive growth and adolescent educational problems. Material will be drawn from human and comparative psychology.

**PSY 216.3
Psychology of Aging
1/2(3L)**

The study of normal psychological development through maturity to old age. Topics include: consideration of critical issues of research methods; problems of adjustment of the aged such as physical decline, retirement, aloneness, disengagement; the needs and care of the aged, antecedents of successful aging; the psychology of dying and death; theories of aging.

**PSY 222.3
Personality
1/2(3L)**

A systematic survey of basic principles of motivation, learning, conflict and problem solving as applied to the study of personality. Major problem areas and contemporary theories of personality are reviewed.

**PSY 223.3
Abnormal Psychology
2(3L)**

Prerequisite(s): PSY 222 recommended.
Major patterns of abnormal behaviour are reviewed and studied with respect to origins, course and treatment. The focus is upon understanding abnormal behaviour with an integrated knowledge of basic principles of general psychology.

**PSY 224.3
Introduction to Culture and
Psychology
1/2 (3L)**

A survey of theory and research on cultural issues in psychology, including developmental, cognitive and social psychology. By the end of the course, the student will be able to demonstrate an understanding of fundamental concepts and theoretical perspectives pertinent to the study of culture and human behaviour, knowledge of the findings of relevant classic and contemporary empirical studies, and familiarity with methodological issues pertaining to research in this area.

**PSY 225.3 (Formerly PSY 221.6)
Group Dynamics and Intergroup
Relations
1/2 (3L)**

This survey course is designed to give the student a broad overview of an important area of social psychology. The course covers 1) research methods in social psychology, 2) group dynamics and 3) intergroup relations. The latter two topics include lectures, readings, and assignments on topics such as group decision-making, leadership, prejudice, and minority-majority relations.

**PSY 226.3 (Formerly PSY 221.6)
Social Psychology I: Intrapersonal
and Interpersonal Processes
1/2 (3L)**

This introductory course focuses on social psychological phenomena internal to the individual, such as social cognition, emotion, the self, and attitudes and attitude change. It also considers issues associated with relations between individuals, such as altruism, aggression, affiliation, and social influence processes. Students who wish to pursue further studies in social psychology are encouraged to take both this course and

PSY 225.3 (Group Dynamics and Intergroup Relations).

**PSY 230.3
Theories and Treatment of Criminal Behaviour
1/2(3L)**

Prerequisite(s): PSY 222, 223, 257 recommended.

The application of psychological theories to the understanding of criminal behaviour. An overview of assessment and treatment issues as these apply to specific types of criminals (e.g., sexual offenders, psychopathic offenders) will also be provided.

**PSY 232.3
Research Methods in the Psychological Sciences: An Introduction
1/2 (3L-1P)**

An introduction to research methods, design, and statistical analyses used in psychology. The course will examine the origin of psychological theories, the use of experimental and non-experimental methods, various research designs, and hypothesis testing using various types of statistical procedures. The course will involve both lecture and lab.

Note: This is a required course for all three-year degree students. Students who have taken PSY 233.3, 234.3, 235.3 or equivalent cannot take PSY 232.3 for credit. Similarly, students who have taken PSY 232.3 cannot take PSY 235.3 for credit. In addition, students who take PSY 232 instead of PSY 235 will not be admitted into the advanced 300-level project courses (i.e., PSY 316.3, 318.3, 324.3, 326.3, 328.3, 344.3, 348.3 356.3).

**PSY 233.3
Statistical Methods in the Behavioural Sciences
1/2(3L)**

The role of statistics in research including: statistical concepts and models, estimation, simple tests of significance, linear regression and correlation, and introduction to analysis of variance.

Note: For further detail on statistics, see Statistics Courses in the Index section of the *Calendar*.

**PSY 234.3
Statistical Methods in the Behavioural Sciences
1/2(3L)**

Prerequisite(s): PSY 233.

A continuation of the role of statistics in research covering methods of analysis of variance including cross-classification, introduction to multiple comparisons, factorials, multiple regression and covariance.

Note: Students who have taken other courses in statistics, either from Arts and Science or from another college, should consult "Regulations for Introductory Courses in Statistics" for information on statistics course equivalencies. See Statistics Courses in the Index section of the *Calendar*.

**PSY 235.3 (Formerly 372.6)
Research Methods and Design in Psychology (Formerly 372.6)
1/2 (3L-1P)**

Prerequisite: PSY 233.3, and 234.3 (234 may be taken concurrently).

This course introduces students to both experimental and nonexperimental research methods and designs used in psychology. The course focuses on the interplay between research questions, theory, the selection of appropriate research procedures and resulting conclusions. The laboratory component will consist of training in the utilization of statistical software.

Note: Students with credit in PSY 235.3 cannot take PSY 232.3 for credit.

**PSY 242.3
Physiological Psychology
1/2(3L)**

An introduction to the language, techniques, concepts and general subject matter of physiological psychology. Topics will include: sensory processes, motor systems, the brain, memory and learning. This core knowledge will be useful to those wanting an exposure to the biological study of behaviour, or to those wanting a primer for more advanced study.

**PSY 243.3 (Formerly 244)
Evolutionary Psychology
1/2(3L)**

The human mind and the behaviour that emerges as products of the mind, will be considered as the outcome of a large number of adaptations brought about by natural selection. The possibility of, and evidence for, a universal human nature at the level of evolved psychological mechanisms will be presented. The evolutionary significance of altruism, cooperation and conflict, morality, deceit, self-deception and illness will be examined.

Note: Students with credit for PSY 244.3 cannot take this course for credit.

**PSY 246.3
Introduction to Human Neuropsychology
1/2(3L)**

An introduction to research and theory on the topic of human brain function. Topics include research techniques and strategies, developmental neuropsychology, localization and lateralization of function, recovery of function, and deficits associated with lesions of the neocortex.

**PSY 252.3
Perceptual Processes
1/2(3L)**

A brief survey of the principles that have emerged from the empirical investigation of perception, with special reference to vision and hearing. An examination of the factors which underlie such fundamental features of behaviour as the perception of objects and of three-dimensional space and the maintenance of perceptual constancy.

**PSY 253.3
Introduction to Cognitive Psychology
1/2(3L)**

An introduction to research and theory on the topic of human cognitive functioning. The course will explore how humans attend to, encode and remember their experiences, communicate using both written and spoken language, and engage in higher order processes such as reasoning, problem solving, and decision making.

**PSY 255.3
Human Memory
1/2(3L)**

An introduction to research and theory on the structures and processes involved in human memory. Topics include the evidence for distinct sensory, short-term, and long-term memory stores, the format of representation in memory, and the determinants of effective memory performance.

**PSY 256.3
Psychology of Language
1/2(3L)**

This course explores and evaluates theories and research involving the psychology of language. Broadly defined, the topics will include visual and auditory language issues regarding: encoding, representation, comprehension, production, acquisition, biological foundations, dysfunction, and cultural influences. Students will also learn about current research projects, and the preparation of research papers.

**PSY 257.3
Clinical and Counselling Psychology
1/2(3L)**

Review of the relevant topics in clinical and counselling psychology including psycho diagnostic testing, and the major approaches to therapeutic change.

**PSY 258.3
Industrial Psychology
1/2(3L)**

The application of psychological theory and methods to problems and processes concerning the human aspects of industry. Important areas include: selection, training, attitudes and motivation, psychological factors in organizational work, and consumer behaviour.

**PSY 315.3 (Formerly PSY 314.6)
Advanced Developmental Psychology: Social and Emotional Development
1(2L-2P)**

Prerequisites: 12 credit units of 200-level Psychology including 3 credit units from PSY 213.3, 214.3, and 216.3 ; and one of PSY 232.3 or 235.3.

This course will introduce students to the theoretical foundations, research designs, and methods used to study social and emotional development. The course will involve lectures and a lab component. In the lab component, students will participate in a collaborative research project.

Note: Students who take PSY 232.3 rather than PSY 235.3 will not be allowed to register for PSY 316.3.

**PSY 316.3 (Formerly PSY 314.6)
Research in Social and Emotional Development
2 (3P)**

Prerequisites: PSY 233.3, 234.3, 235.3, and 315.3.

In this course, students will develop independent research projects designed to answer an empirical question in the domain of social and emotional development. Each student will be responsible (either individually or as a member of a small group) for designing a study, testing participants, analyzing data, and writing up a research report.

**PSY 317.3 (Formerly PSY 314.6)
Advanced Developmental Psychology: Cognitive Development
1 (2L-2P)**

Prerequisites: 12 credit units of 200-level psychology, including one of PSY 213.3, 214.3, and 216.3; and one of PSY 232.3 or 235.3

This course will introduce students to an in-depth study of major content areas, theoretical orientations, and research methods which are necessary to advance knowledge in the study of cognitive development. Students will learn about the special features of the cognitive developmental perspective and will conduct research projects in the laboratory component of the course.

Note: Students who take PSY 232.3 rather than 235.3 will not be allowed to register for PSY 318.3.

**PSY 318.3 (Formerly PSY 314.6)
Research in Cognitive Development
2 (3P)**

Prerequisites: PSY 233.3, 234.3, 235.3, and 317.3.

In this course, students will develop independent research projects designed to answer an empirical question in the domain of cognitive development. Each student will be responsible (either individually or as a member of a small group) for designing a study, testing participants, analyzing data, and writing up a research report.

**PSY 323.3
Narrative Study of Lives and Social Practices
1(2L-2P)**

Prerequisites: 12 credit units of 200-level psychology, including 3 credit units from Group 1, and either PSY 232.3 or PSY 235.3.

In a narrative approach, a coherent and illuminating story, informed by psychological knowledge, is constructed to understand individual lives and social practices. Social constructionist and qualitative methods are introduced. Topics include: psychological biographies, case studies, dialogical construction of the self, rhetorical and discourse analyses of everyday social life.

Note: Students who take PSY 232.3 rather than PSY 235.3 will not be allowed to register for PSY 324.3.

**PSY 324.3
Research in the Narrative Study of
Lives and Social Practices
2(3P)**

Prerequisites: PSY 233.3, 234.3, 235.3 and 323.3.

A research course linked to Narrative Study of Lives and Social Practices (PSY 323.3). Students participate in the design, data collection, analysis and write up of one group research project in narrative psychology. Qualitative methods are used, including: interviews, naturalistic observation and participant observation, discourse analysis of everyday talk, grounded theory analysis.

**PSY 325.3 (Formerly PSY 321.6)
Advanced Social Psychology
1(2L-2P)**

Prerequisites: 12 credit units of 200-level psychology, including one of PSY 225.3 or 226.3, and one of PSY 232.3 or 235.3.

Students will be introduced to the research methods used in social psychology by examining a particular content area determined by the instructor (e.g., prejudice, discrimination, attitude change, interpersonal conflict, impression management, aggression, media violence, prosocial behaviour, conformity, group processes, attraction, applying social psychology to the law, workplace, health problems, etc.).

Note: Students who take PSY 232.3 rather than 235.3 will not be allowed to register for PSY 326.3 or 328.3.

**PSY 326.3 (Formerly PSY 321.6)
Interview, Surveys, and
Observational Methods in Social
Psychology
2(3P)**

Prerequisites: PSY 233.3, 234.3, 235.3 and 325.3.

This course focuses on interview, survey, and/or observational methods. Topics covered will include survey construction, sampling, structured and unstructured research interviews, and qualitative and quantitative data analysis. Students will conduct a full-semester individual research project using one or more of the methods presented in the course.

**PSY 328.3 (Formerly PSY 321.6)
Research in Experimental Methods
in Social Psychology
2(3P)**

Prerequisites: PSY 233.3, 234.3, 235.3 and 325.3.

This course is designed to give students a practical understanding of experimental methods commonly used in social psychology. The course will cover experimental research design; the collection, coding and analysis of experimental data; the ethical and administrative issues that arise when conducting experiments of this kind; and how to interpret and report the results of such experiments.

**PSY 343.3 (Formerly PSY 342.6)
Laboratory in Behavioural
Neuroscience
1(2L-2P)**

Prerequisites: 12 credit units of 200-level psychology, including one of PSY 242.3, 243.3, or 246.3 and one of PSY 232.3 or

235.3.

This course is an introduction to the techniques, theory and methods in behavioural neuroscience. The focus will be upon brain and behaviour and the techniques used to study nervous system function. The lab and seminar components will include a series of experiments to be carried out by the students.

Note: Students who take PSY 232.3 rather than 235.3 will not be allowed to register for PSY 344.3.

**PSY 344.3 (Formerly PSY 342.6)
Research in Behavioural
Neuroscience
2(3P)**

Prerequisites: PSY 233.3, 234.3, 235.3, and 343.3.

This course is a laboratory course in behavioural neuroscience. The course will provide students with the opportunity to conceptualize, design, and implement an independent research project in the area of behavioural neuroscience. Emphasis will be placed on brain and behaviour and the techniques used to study nervous system function.

**PSY 347.3 (Formerly PSY 346.6)
Advanced Human Neuropsychology
1(2L-2P)**

Prerequisites: 12 credit units of 200-level psychology, including one of PSY 242.3 or 246.3 and one of PSY 232.3 or 235.3.

This course will introduce the student to the theoretical and methodological issues in the study of the structure and function of the human neocortex. The course will involve lectures, seminars, and a lab component in which a series of experiments will be carried out by the students.

Note: Students who take PSY 232.3 rather than 235.3 will not be allowed to register in PSY 348.3.

**PSY 348.3 (Formerly PSY 346.6)
Research in Human Neuropsychology
2(3P)**

Prerequisites: PSY 233.3, 234.3, 235.3, and 347.3.

A laboratory course concerned with the concepts, theories, and experimental investigation of the structures and functions of the human neocortex. The course will provide the students with the opportunity to conceptualize, design, and implement an independent research project to answer an empirical question related to experimental neuropsychology.

**PSY 353.3 (Formerly PSY 352.6)
Advanced Cognitive Science: Basic
Cognitive and Perceptual Processes
1(2L-2P)**

Prerequisites: 12 credit units of 200-level psychology including one of PSY 252.3, 253.3, or 256.3 and one of PSY 232.3 or 235.3.

This lecture and laboratory course exposes students to current theory and research methods in the study of cognitive and perceptual processes. Students will be expected to review, design, conduct, analyse and report a series of class experiments. Topics may include perception, sensory memory, attention, pattern recognition and word recognition.

Note: Students who take PSY 232.3 rather than 235.3 will not be allowed to register in PSY 356.3.

**PSY 355.3 (Formerly PSY 352.6)
Advanced Cognitive Science:
Memory, Thinking, and Problem
Solving
1(2L-2P)**

Prerequisites: 12 credit units of 200-level psychology, including one of PSY 253.3, 255.3, or 256.3 and one of PSY 232.3 or 235.3.

This lecture and laboratory course exposes students to current theory and research methods in higher-order cognitive processes. Students will be expected to review, design, conduct, analyse and report a series of class experiments. Topics may include human memory, reasoning, thinking, and problem solving.

Note: Students who take PSY 232.3 rather than 235.3 will not be allowed to register for 356.3.

**PSY 356.3 (Formerly PSY 352.6)
Research in Cognitive Science:
Independent Research Projects
2(3P)**

Prerequisites: PSY 233.3, 234.3, 235.3 and one of PSY 353.3 or 355.3

In this laboratory course students develop independent experimental research projects in some area of cognitive science. Each student (either individually or as a member of a small group) is responsible for designing a study, testing participants, analysing the data, and writing up a research report following American Psychological Association style conventions.

**PSY 360.6
Community Psychology
1&2(3L)**

Prerequisite(s): Twelve 200-level credit units in psychology. Students are advised to take at least one of PSY 222 or 223 prior to taking PSY 360.

Research on the effects of the physical and social environments on human behaviour, and the design and evaluation of changes which might promote adaptive behaviour.

Students require permission of the department to take 400-level courses. Additional prerequisites are listed. Not all 400-level courses will be available in any given year.

**PSY 401.3 (Formerly PSY 400.6)
Historical and Philosophical
Foundations of Psychology
1/2 (3S)**

Prerequisite: permission of the department and 6 credit units of 300-level psychology.

The major theories of psychology will be presented in such a way that the student can evaluate their strengths and weaknesses with respect to their application in fields such as education and psychotherapy.

**PSY 418.3
Advanced Seminar in Developmental
Psychology
1/2(3S)**

Prerequisites: permission of the department and 6 credit units from PSY 213.3, 214.3, 216.3, 315.3, 317.3.

This course is an advanced seminar focussed on theoretical and empirical analyses of human development. A set of original research articles covering diverse areas of developmental psychology (e.g., behavioural genetics, development and psychopathology, cognitive development, social development, aging) will be assigned, read, and discussed by the class.

**PSY 425.3 (Formerly PSY 420.6)
Advanced Group Dynamics and
Intergroup Relations
1/2(3S)**

Prerequisites: permission of the department and PSY 225.3 and one of PSY 226.3, 323.3 or 325.3.

This course is designed to give the student an in-depth knowledge of the social psychology of group dynamics and intergroup relations. Therefore, the course covers both the major theories and research in this area. Students will study important contemporary primary source articles. They will also give in-class presentations on selected topic areas. The course is designed to allow students to study this topic at an advanced level.

**PSY 426.3 (Formerly PSY 420.6)
Advanced Seminar in Intrapersonal
and Interpersonal Processes
1/2(3S)**

Prerequisites: permission of the department and PSY 226.3 and one of 225.3, 323.3 or 325.3.

This advanced seminar examines social psychological phenomena internal to the individual, such as social cognition, emotion, the self, and attitudes and attitude change. It also considers issues associated with relations between individuals, such as altruism, aggression, affiliation and social influence processes.

**PSY 444.3 (Formerly PSY 440.6)
Advanced Seminar in the
Evolutionary Basis of Behaviour
1/2 (3S)**

Prerequisites: permission of the department and 6 credit units from PSY 242.3, 243.3, 246.3, 343.3, 347.3.

Using a seminar format, this course will examine the possibility that human behaviours such as mate selection, parenting, and cooperation are still influenced by our evolutionary past. The primary objective of the course is to demonstrate the value of integrating evolutionary and psychological theory when explaining individual and group behaviour.

**PSY 448.3 (Formerly PSY 440.6)
Advanced Seminar in the Neural
Basis of Behaviour
1/2 (3S)**

Prerequisites: permission of the department and 6 credit units from PSY 242.3, 246.3, 343.3, 347.3.

Using a seminar format, this course will survey some recent research into the biological basis of behaviour. Topics

covered will include the neural basis of sensory/perceptual processes, motor systems, memory, language, emotion, attention, consciousness, or other topics of interest to the faculty and students.

PSY 456.3
Advanced Seminar in Cognitive Science
1/2 (3S)

Prerequisites: permission of the department and 6 credit units from PSY 252.3, 253.3, 255.3, 256.3, 353.3, 355.3.

This course is an advanced seminar focussed on theoretical and experimental analyses of human perception, cognition, and performance. A set of original research articles covering diverse areas of cognitive science (e.g., basic perception, memory, language comprehension, human reasoning) will be assigned, read, and discussed by the class.

PSY 472.6
Honours Thesis
1&2(1L-2P)

Prerequisite(s): Open only to honours students or with written permission of the department.

Students will carry out a major project under the supervision of a faculty member, and report the project in the form of an honours thesis. The project will usually involve empirical research.

SPECIAL TOPICS

- PSY 298.3 1/2(3S)
- PSY 299.6 1&2(3S)
- PSY 398.3 1/2(3S)
- PSY 399.6 1&2(3S)
- PSY 498.3 1/2(3S)
- PSY 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

PUBLIC ADMINISTRATION

Administrative Committee: J. Garcea (Political Studies), L.V. St. Louis (Economics), **J. S. Steeves** (Political Studies), Co-ordinator.

The College of Arts and Science offers a four-year program in Public Administration leading to the B.A. Four-year or B.A. Honours degree. Students wishing to register as Public Administration majors MUST consult the co-ordinator to determine whether they will enter the economics or political studies stream.

The requirements for the program are as follows:

- (1) POLST 110.6, 203.6, 220.6, 305.3, 306.3; 320.6 or 327.6.
- (2) ECON 111.3, 114.3, 204.6 or CMPT 100.3 and at least 3 credit units in statistics*; ECON 211.3 (recommended) or 213.3, and 214.3; ECON 350.3 and 352.3 or 6 credit units from: ECON 327.3, 344.3, 347.3, 348.3 or 349.3.
- (3) 6 credit units at the upper level in either political studies or economics.
- (4) 6 credit units at the fourth-year level in either political studies or economics**.

(5) A junior course in calculus (MATH 110.3 is recommended) to be taken as a prerequisite or corequisite for ECON 204.6, 211.3 or 213.3, and 214.3.

(6) COMM 201.3 and 301.3.

(7) 6 credit units from the following: ECON 234.3 or 275.3 or 316.3; COMM 202.3, 203.3, 206.3; 345.3, 348.3; or SOC 316.3; LAW 340.3. Students who have an interest in LAW 340.3 must consult the Co-ordinator of the Public Administration Program.

(8) 24 credit units to fulfill Program Type B Requirements 2 to 5. (It is recommended that a language other than English be taken.)

(9) 15 credit units of electives.

* For further detail on statistics see the Index section of the *Calendar* under Statistics Courses.

** Students should be aware that some senior courses may require prerequisites that may not be used for credit towards their degree.

HONOURS REQUIREMENTS

Honours status in Public Administration is achieved by the attainment of an average of at least 70% overall and in the Public Administration major. Only POLST 110.6 or ECON 111.3 and 114.3 can be used in the calculation of the major.

Note: Please contact the Office of the Dean for a list of the courses in this program which are used for the calculation of the C.P.A. in the major for graduation purposes.

DEGREE CHOICES

If the course electives are chosen properly, one can meet the degree requirements for Public Administration and Economics or Political Studies. However, a student may receive only one degree. The additional concentration can be recognized formally by letter from the College of Arts and Science.

REGIONAL AND URBAN DEVELOPMENT

Administrative Committee: **A. Akkerman** (Geography); J. Garcea (Political Studies); M. E. Gertler (Sociology); D. Gilchrist (Economics); M. R. Olfert (Agricultural Economics); J. Pooler and J. Randall (Geography); A. Sarkar (Commerce); G. A. Sparks (Civil Engineering); J. C. Stabler (Agricultural Economics); Student (President, Planning Students' Association).

Planning has long been practiced by communities and cities, provincial and national governments as well as by private organizations. Today with an expanding population which is increasingly living in urban-industrial areas the need for persons trained to think incisively about the development of, and planning for regions and urban areas is greater than ever before.

The Regional and Urban Development program is designed to acquaint the student with the organization and functioning of cities and regions. The central required core of the program is comprised of social science classes, and it is the social science approach to planning that underlies the program's philosophy for planning education. Social and economic planning for communities, together with

policy aspects, are the emphases, and students are encouraged to engage in critical, survey and analytical research of local planning problems. In past years a report compiled by students in an Advanced Land Use Planning class was the basis for a brief presented to Saskatoon City Council concerning the reuse of closed-school sites.

In order to complete a B.A. (Four-year or Honours) degree in the R.U.D. Program (Planning Option), students are required to take 120 credit units, including:

- (1) 51 credit units in specified, required senior courses;
- (2) a minimum of 12 credit units selected from one specialty track; and
- (3) primarily junior courses to satisfy the College of Arts and Science Program Type B (Social Sciences) requirements.

REQUIRED R.U.D. PROGRAM COURSES

First Year

ECON 111.3, 114.3; GEOG 113.3, 114.3; POLST 110.6; SOC 110.6.

Second Year

BIOL 253.3; ECON 211.3, 214.3; GEOG 246.3, 247.3; MATH 110.3 as a prerequisite or corequisite for ECON 211.3 and 214.3; STATS 244.3 (or an approved course in statistics*); SOC 204.3 or 206.3 or 230.3.

Third Year

AG EC 432.3; ECON 347.3 or 349.3, 348.3; GEOG 249.3 or 349.3, 343.3, 346.3; POLST 305.3, 306.3.

Fourth Year

ECON 442.3, 446.3

* For details see Index section of the *Calendar* under Statistics Courses.

Note: R.U.D. administers the pre-architecture requirements at the University of Saskatchewan. Students interested in architecture should consult the R.U.D. Program Co-ordinator for advice on course selection.

SPECIALTY TRACKS IN THE R.U.D. PROGRAM (PLANNING)

Each of the three specialty tracks (Community Development, Physical Environment, and Modelling and Analysis) is comprised of 39 to 66 credit units of classes. To complete the program, the student will be required to complete a minimum of 12 credit units of classes from one of the specialty-tracks of his or her choice. No more than 9 credit units shall be taken from a single department within a chosen specialty-track. As students will most probably be completing the College's Program Type B requirements during their first two years of university attendance, they will tend to complete their specialty-track courses in their third and fourth years.

The prerequisite courses for the majority of the upper-year courses in each specialty track are included within the tracks. The student may obtain any additional prerequisite courses, if these are specified, by selecting appropriately from requirements 3 and 5 of the College of Arts and Science Program Type B. Alternatively,

special permission to enter a course may be required from the relevant instructor and/or the College.

COMMUNITY DEVELOPMENT SPECIALTY TRACK

GEOG 208.3, 241.3, 249.3, 349.3, 381.3; AG EC 433.3; KIN 255.3, 355.3; ECON 351.6; NATST 110.6, 304.6, 401.3, SOC 204.3, 206.3, 237.3, 308.3, 319.3, 337.3

PHYSICAL ENVIRONMENT SPECIALTY TRACK

AGRIC 112.3; AG EC 330.3 (430.3); ECON 275.3, GEOG 210.3, 225.3, 235.3, 270.3, 271.3, 280.3, 321.3, 323.3, 325.3

MODELLING AND ANALYSIS SPECIALTY TRACK

GEOG 219.3, 222.3, 265.3, 303.6, 319.3, 320.3, 321.3, 322.3, 345.3, 419.3; CMPT 100.3, 101.3; C E 227.3, 271.2, 316.3, 467.3; SOC 437.3.

Two degree options are available:

- (1) Students completing the core of required courses, and the minimum credit units in a specialty track, will receive a B.A. Four-year or Honours in Regional and Urban Development (Planning).
- (2) Students may use their elective courses to fulfill the requirements for a departmental (subject) specialization and be awarded a B.A. Four-year or Honours in a single discipline, such as in economics, geography or sociology, together with the requirements of the R.U.D. (Planning) program.

Further information about this program may be obtained from the Office of the Dean of Arts and Science or from the RUD Program website at <http://www.usask.ca/rud/>.

CO-OPERATIVE EDUCATION PROGRAM

This five-year program is available to students in the B.A. Four-year and Honours programs. After completion of the second year (at least 54 credit units), students spend the first half of their third year and the last half of their fourth year in a paid work placement. Students complete four or five four-month paid work terms, then return to university for their final year. For program details, see the program description in the Geography section of the *Calendar*.

Entrance Requirements for RUD students: Students must hold a cumulative C.P.A. of 70% or higher (or have permission of the Program Co-ordinator) and must have completed no fewer than 54 and no more than 84 credit units of course work. To qualify for participation in the Co-operative Education Program, students must successfully complete the following courses: one of ECON 111.3 and 114.3; one of GEOG 113.3 or 114.3; POLST 110.6, SOC 110.6, MATH 110.3, STATS 244.3 or equivalent, GEOG 246.3, 247.3 and 249.3.

**RUD 413.0
Practicum in Planning
(P)**

Prerequisite(s): GEOG 247, 346 and permission of the department.

An applied course that provides students with professional experience and the ability to critique urban, rural, regional or community planning standards and procedures. The course must include a minimum 12-week work program approved by the Practicum Supervisor.

Note: Graduation in the program is based on the overall average only.

SPECIAL TOPICS

This course is offered occasionally by visiting faculty and in other special situations. Students interested in this course should contact the Program Coordinator, Administrative Committee, or visit www.usask.ca/rud/ for more information.

RELIGIOUS STUDIES

The specific objective of the Religious Studies program is to ascertain and examine the human experiences and the processes involved in the emergence, growth, sustenance or modification of religious ideas and institutions and their implications for the individual and society. To this end, the department will provide students with an in-depth study of the traditions, texts, and themes of the major religions of the world through a variety of perspectives. The program is designed to reflect the diversity of content as well as approaches in the academic study of religion.

THE MAJORS AND HONOURS PROGRAMS

The Department of Religious Studies offers the majors and Honours programs to meet the following objectives:

- to offer significant exposure to all Religious Studies majors and Honours students to the central themes, ideas, and institutions of the major world religions;
- to provide necessary methodological orientation for the academic study of religion to all Religious Studies majors and Honours students; and
- to develop a specialization in one religious tradition and impart basic language training which will constitute the foundation for graduate level work in the area of specialization for Honours students.

COURSE AREAS

Area A - Western Religious Traditions: RELST 220.3, 221.3, 223.3, 224.3, 225.3, 227.3, 228.3, 240.3, 250.6, 252.6, 314.3, 315.3, 316.3, 320.3, 326.3, 327.3, 328.3, 353.3, 355.3, 356.3, 357.3, 360.3, 363.3, 391.3; CLASS 252.3, 341.3; HIST 285.6; PHIL 204.3.

Area B - Eastern Religious Traditions: RELST 211.3, 214.3, 217.3, 218.3, 230.3, 231.3, 234.3, 329.3, 330.3, 331.3, 341.3, 342.3, 390.3.

Area C - Themes and Approaches: RELST 280.3, 282.3, 283.3, 284.3, 285.3, 321.3, 392.3; ANTH 321.3; ENG 277.3, PHIL 202.3, 203.3; SOC 217.3, 321.3, 413.3.

Major in Religious Studies (B.A. Four-year)

Students must take a minimum of 36 credit units in Religious Studies and cognate classes designated for credit in Religious Studies. Area distribution requirements will include RELST 110.6, 9 credit units in *Area A*, 9 credit units in *Area B*, and 3 credit units in *Area C*. At least 9 credit units must be taken at the 300-level or above. Students must take RELST 280.3.

Major in Religious Studies (B.A. Three-year)

Students must take a minimum of 30 credit units in religious studies and cognate classes designated for credit in religious studies. Area distribution requirements will include RELST 110.6, 9 credit units in *Area A*, 9 credit units in *Area B*, and 3 credit units in *Area C*. At least 6 credit units must be taken at the 300-level or above. Students must take RELST 280.3.

Honours in Religious Studies

Students must take a minimum of 54 credit units in religious studies and cognate classes designated for credit in religious studies. Area distribution requirements will include RELST 110.6, 9 credit units in *Area A*, 9 credit units in *Area B*, and 3 credit units in *Area C*. Students must take at least 15 credit units at the 300-level or above. Students must take RELST 280.3 and 425.3. All Honours students are required to take at least 6 credit units in an appropriate source language pertaining to the area of specialization within the Western or Eastern Religious Traditions.

Areas of specialization currently possible in the department are: History of Christianity and New Testament Studies; Old Testament Studies; Chinese Religions; Buddhism; and Hinduism.

Note: Students intending to enter a major or Honours program in Religious Studies are advised to plan their program at an early stage in consultation with the Department Head or a designated advisor.

Note: Honours students intending to enter into a Graduate program are recommended to take an additional 6 to 12 credit units in their area of specialization. Honours students are advised to discuss their program with the Department Head or designate in advance for selection of the area of specialization and the language requirement.

Honours Seminars: RELST 411.3, 412.3, 413.3, 422.3, 423.3, 425.3.

Honours Language Requirement: Students must take one of CHIN 111.6, GREEK 111.6, HEB 111.6, LATIN 111.6, or SANSK 101.6.

Students are further recommended to take CHIN 220.6, GREEK 201.6; HEB 201.6.

Note: Not more than 6 credit units in cognate classes may be counted towards the departmental requirements for majors and honours, excluding language classes.

Double Honours

Various Double Honours programs involving religious studies and another department are permissible. Students must take at least 36 credit units in religious studies and cognate classes designated for credit in religious studies. Area distribution requirements will include RELST 110.6, 9 credit units in *Area A*, 9 credit units in *Area B*, and 3 credit units in *Area C*. Double Honours students must take at least 9 credit units at 300-level or above. Students must take RELST 280.3 and 425.3. The details of the program should be discussed in advance with the two department heads or their designates.

MINOR IN RELIGIOUS STUDIES

The Religious Studies Minor program shall consist of at least 24 credit units in religious studies including 6 credit units in *Area A* (Western Religions), 6 credit units in *Area B* (Eastern Religions), 3 credit units in *Area C* (Themes and Approaches) and 9 credit units elective course work in one or more of these areas; at least 6 credit units out of 24 credit units should be at the 300- or 400-level.

ST. THOMAS MORE COLLEGE

Sections of some courses in this department are taught by faculty in the corresponding department of St. Thomas More College. These course sections are designated in the *Registration Guide* by section numbers prefixed with the letter "M."

RELIGIOUS STUDIES

**RELST 110.6
World Religions
1&2(3L)**

A critical survey of the history, sources and chief characteristics of major world religions, including, in particular, Hinduism, Buddhism, Taoism, Islam, Judaism and Christianity. Particular attention will be given to an investigation of the phenomenon called religion, and to the relationships between religion and culture.

All 200-level courses have as a prerequisite RELST 110 or 30 credit units at the university.

**RELST 211.3
Hindu Religious Tradition
1/2(3L)**

A study of the historical, social, doctrinal, and ritual aspects of Hinduism.

**RELST 214.3
An Introduction to the Philosophies
of India
1/2(3L)**

An introduction to the philosophical thought of India with special reference to early speculations on the nature of human reality, God, world, and human destiny.

**RELST 217.3
Buddhist Religious Tradition
1/2(3L)**

An examination of Buddhist religious history with emphasis on its socio-cultural dimensions. Topics include early Buddhism and its Indian evolution; culture contact and the spread of Buddhism to South East Asia, China, Japan and Tibet; Buddhism and change in modern Asia and the West.

**RELST 218.3
Developments in Buddhist Thought
1/2(3L)**

An introduction to Buddhist philosophy and the development of its major schools of religious thought – Theravada, Mahayana and Vajrayana. Buddhist views of the interdependence of morality, knowledge and liberation will be studied in their historical and contemporary contexts.

**RELST 220.3 (Formerly 325)
Women in Western Religious
Traditions
1/2(3L)**

Study of women in major Western Religious Traditions: influence of conceptual systems and language; women's embodiment and religion, feminine spirituality, women's contributions to Western faiths, and feminine aspects of divinity.

Note: Students with credit for RELST 325 may not take this course for credit.

**RELST 221.3
Introduction to Christianity
1/2(3L)**

A systematic examination of the foundations of belief in the major divisions of Christianity - Orthodoxy, Protestantism, and Catholicism - with emphasis on various theories of revelation, of religious authority, and of public worship.

**RELST 223.3
Fundamental Teachings of
Christianity
1/2(3L)**

A study of the fundamental teachings of Christianity - the Trinity, creation, redemption, and sanctification - with an examination of the forms of worship and theories about morality, both individual and social, as these are found in the various sectors of contemporary Christianity.

**RELST 224.3
Christian Ritual and Worship: An
Introduction
1/2(3L)**

Examines Christian ritual and worship through historical and comparative approaches. Special emphasis will be placed on the role of the rites of initiation and Eucharist. Students will examine the contemporary practices of Orthodox, Catholic and Protestant Churches.

**RELST 225.3
Perspectives on Jesus
1/2(3L)**

The findings of modern biblical and historical research will be applied to the figure of Jesus as he is presented in the New Testament and to the development of doctrine about him in Christianity.

**RELST 227.3
Introduction to Judaism
1/2(3L)**

An introduction to basic Jewish ideas, beliefs, and practices from the biblical times to the present.

**RELST 228.3
Jewish Religious Thought
1/2(3L)**

An introduction to Jewish theology and the treatment of the concepts of God, Torah, and Israel by major Jewish philosophers.

**RELST 230.3
Taoism: Mysticism, Metaphysics and Magic**
1/2(3L)

A survey of the Taoist tradition in its various dimensions: mystical (meditation, inner alchemy, sexuality and immortality), metaphysical (the philosophy of the 'Way'), and magical (the magic powers of the Taoist priesthood). All these aspects will be studied in their own terms and related to the overall cultural heritage of China.

**RELST 231.3
Confucianism: Continuity and Change**
1/2(3L)

Explores the significance and changing role of the Confucian tradition: its ancient roots in China, historical elaboration and expansion, and relevance for personal and social vision today.

**RELST 234.3
Chinese Folk Religion and Folk Culture**
1/2(3L)

Study of the religious world view inherent in the folklore tradition of China and of folk religious concepts and practices including mythology, divination, magic, and communal worship.

**RELST 240.3
Introduction to Islam**
1/2(3L)

A study of Islam focusing on the religion's origin and development, its basic beliefs and practices, and its influence in defining Moslem cultures.

**RELST 253.3
Introduction to the Old Testament**
1/2 (3L)

A basic introduction to the Old Testament, focussing on the historical, literary and theological characteristics of the various writings. Scholarly methods by which they are studied, and their relationship to the history of Israel will also be examined.

Note: Students with credit for RELST 250 may not take this course for credit.

**RELST 254.3
Introduction to the New Testament**
1/2 (3L)

A basic introduction to the New Testament, focussing on the historical, literary and theological characteristics of the various writings. Scholarly methods by which they are studied, and their relationship to Christianity will also be examined.

Note: Students with credit for RELST 252 may not take this course for credit.

**RELST 280.3
Methodologies and Approaches to the Study of Religion**
1/2(3L)

An introduction to theories and approaches in the academic study of religion. Origins and development of social scientific, historical, phenomenological and comparative approaches will be examined.

**RELST 282.3
Religious Perspectives on Death and Dying**
1/2(3L)

Examines how various world religions have understood the significance of death and dying.

**RELST 283.3
Comparative Mysticism**
1/2(3L)

An examination of the theoretical and methodological issues involved in a systematic study of mysticism in world religions. Topics include the nature, theories, and typologies of mysticism, and techniques of mystical experience.

**RELST 284.3
Religion and Non-Violence**
1/2(3L)

An examination of the ideal of non-violence according to the scriptures of the world-religions, with examples of its historical and contemporary application in Asia and the West.

**RELST 285.3 (Formerly 381)
Religion and Ethnicity**
1/2(3L)

A systematic exploration of the contribution of religion to ethnic identification and ethnic community organization.

Note: Students with credit for RELST 381 cannot take this course for credit.

**RELST 314.3
Contemporary Catholic Thought**
1/2(3L)

Prerequisite(s): A 200-level religious studies course in Christianity.

An analysis of contemporary Catholic thought with emphasis on the Second Vatican Council (1962-1965) and its effects. Themes include: identity of and membership in the church; liturgical renewal; post-conciliar forms of spirituality and community; social doctrine; moral issues.

**RELST 315.3
Eastern Christian Thought in the First Millennium**
1/2(3L)

Prerequisite(s): A 200-level religious studies course in Christianity.

A survey of individuals and movements that shaped and influenced the development of Eastern Christianity during the first millennium.

**RELST 316.3
Eastern Christianity in the 2nd Millennium**
1/2(3L)

Prerequisite(s): A 200-level religious studies course in Christianity.

A survey of individuals and movements that shaped Eastern Christianity from the conversion of the Slavs to the present-day diaspora.

**RELST 320.3
Contemporary Protestant Thought**
1/2(3L)

Prerequisite(s): A 200-level religious studies course in Christianity.

Analysis of 20th-century Protestant Thought. Special emphasis given to problems of religious knowledge and to the stance of Christianity in the modern world. The relationship of Catholic thought is included.

**RELST 321.3
Feminist Theologies**
1/2(3L)

Prerequisite(s): A 200-level religious studies course in Christianity or WGST

200.

An overview of feminist theological perspectives, both as critiques of traditional culture and theology and as constructions of new visions and ways of religious life.

**RELST 326.3 (Formerly 226)
Christian Thought in Art**
1/2(3L)

Prerequisite(s): A 200-level religious studies course in Christianity.

Introduction to iconography in Christianity with emphasis on exploring the relationship between uniquely Christian themes and art as a bearer of meaning. Attention will be given to the historical and doctrinal developments relating to icons and their use in worship and reflection in early Christianity and the Eastern Christian Churches.

Note: Students with credit for RELST 226 cannot take this course for credit.

**RELST 328.3
Jewish-Christian Relations in Historical Perspective**
1/2(3L)

Prerequisite(s): A 200-level religious studies course in Judaism or Christianity.

Christianity emerged out of Judaism, and this course examines the relationships that have existed between the two religions through the ages. Both Christian and Jewish sources will be examined to develop a critical perspective on this important aspect of Western religious heritage.

**RELST 329.3
Studies in the Bhagavad Gita**
1/2(3L)

Prerequisite(s): RELST 211 or 214; or permission of the department.

Students will be reading the Bhagavad Gita in translation along with some of the commentarial literature to acquire a critical understanding of fundamental philosophical assumptions of Hinduism. Primary approach being textual study, the course will also attempt to draw upon the Hindu hermeneutical tools in search for the meaning structures in the Bhagavad Gita.

**RELST 330.3
Taoist Philosophy**
1/2(3L)

Prerequisite(s): RELST 230 or permission of the department.

Intensive reading and discussion of major texts (in translation) of Taoism: Tao Te Ching, Chuang-tzu, Lieh-tzu, and Huai-nan-tzu. Compares Taoism and some other major schools of Chinese thought: Confucianism and Buddhism.

**RELST 331.3
Neo-Confucian Thought**
1/2(3L)

Prerequisite(s): RELST 231 or permission of the department.

Reading and discussion of major Neo-Confucian texts in translation. The focus will be on the interpretive communities in which Confucian classics were understood as living spiritual wisdom in dialogue with Buddhists and Taoists.

**RELST 341.3
The Bodhisattva Doctrine in Buddhism**
1/2(3S)

Prerequisite(s): A 200-level religious studies course in Buddhism or permission of the department.

The Buddhist view of human perfection is epitomized in the concept of the bodhisattva. This course explores the origins and development of the bodhisattva ideal and examines its role in Asian cultural history.

**RELST 342.3
Tibetan Buddhism**
1/2(3L)

Prerequisite(s): RELST 217 or 218; or permission of the department.

A survey of Tibetan Buddhism with a focus on its socio-cultural dimensions. Topics include: characteristic features of Tibetan culture and Tantric Buddhism, the role of the monastery in religion and society, Buddhist folk religious traditions, and the condition of Tibetan Buddhism in the modern era.

**RELST 350.3
Canonical Formation of the Hebrew Bible**
1/2 (3L)

Prerequisite: RELST 253.3 or permission of the department.

This course investigates the Hebrew Bible through a critical reconstruction of the process of its canonization as sacred scripture in the post-exilic period. Study of the history of the period is followed by consideration of the narratives, the prophetic and miscellaneous books ("Writings") viewed as the product of the interaction of a variety of socio-religious interests.

Note: Students with credit for RELST 250 may not take this course for credit.

**RELST 351.3
Origins and Literary Character of the Hebrew Bible**
1/2(3L)

Prerequisite: RELST 350.3.

This course surveys the pre-exilic literary origins of the Hebrew Bible in the context of the monarchical regimes under which the literature was produced. The course will also consider the literary impact of the Hebrew Bible on the modern reader using for comparison other traditions of literature old and new.

Note: Students with credit for RELST 250 may not take this course for credit.

**RELST 352.3
Christian Origins and the New Testament I**
1/2(3L)

Prerequisite: RELST 254.3 or permission of the department.

An investigation of Christianity in its formative period (30-100 CE), on the basis of a critical examination of the New Testament and other relevant material. The focus in this course is on the activity of Jesus, the origin of the Christian movement, and the first century Jewish context.

Note: Students with credit for RELST 252 may not take this course for credit.

**RELST 354.3
Christian Origins and the New Testament II
1/2 (3L)**

Prerequisite: RELST 352.3.
A further examination of the formative period of Christianity (30-100 CE) based on in-depth study of the New Testament and other related literature. The focus in this course is on the development of the Christian movement, and on resultant issues of unity and diversity.

Note: Students with credit for RELST 252 may not take this course for credit.

**RELST 356.3
The Synoptic Gospels
1/2(3L)**

Prerequisite(s): RELST 252.
A study of the Gospels of Matthew, Mark and Luke, and of the Synoptic tradition that lies behind them. Attention will be paid to the literary relationships among the Gospels; the written and oral traditions that they incorporate; and the literary and theological characteristics of each Gospel.

**RELST 359.3
Women and the Bible
1/2 (3L)**

Prerequisite: 200-level RELST Area A (Western Religions) course or 200-level WGST course.
This course examines historical, social and theological aspects of women's relationship to the Old and New Testament, the portrayal of women in biblical texts, the interpretation of biblical texts about women, biblical attributions of gender to the divine, the history of women as biblical interpreters, and feminist hermeneutics.

**RELST 361.3
Rabbinic Literature
1/2(3L)**

Prerequisite(s): RELST 227 or 228 or 250.
A study of post-Biblical Jewish religious literature, including legal, ethical and theological material. Emphasis will be placed on both methodology and content, with illustrative texts read in English.

**RELST 363.3
Early Christian Literature
1/2(3L)**

Prerequisite(s): RELST 252 or 3 credit units in Christianity.
A study of extra-biblical Christian writings up to A.D. 150 with emphasis on the beliefs of early Christianity, its relationship with paganism and Judaism, and the development of its internal organizational structures.

Note: Students with credit for RELST 309 or 311 may not take this course for credit.

**RELST 390.3
Readings in Eastern Religions
1/2(3S)**

Prerequisite(s): 6 credit units in Eastern Religious Traditions at the 200-level; or permission of the department.
A reading course in primary writings in Eastern religious traditions such as the Bhagavadgita, Brahmasutrabhasya, Tao Te Ching, or the Analects of Confucius.

**RELST 391.3
Readings in Western Religions
1/2(3S)**

Prerequisite(s): 6 credit units in Western Religious Traditions at the 200-level; or permission of the department.
Exposes the student to primary source materials. Emphasis is placed on individual study and research.

**RELST 392.3
Readings in Themes and Methods of Religious Studies
1/2(3S)**

Prerequisite(s): At least 6 credit units at the 200-level in religious studies; or permission of the department.
A reading course dealing with methodological issues or comparative themes in religious studies.

400-level seminars are open only to students with at least 3 credit units at the 300 level or a minimum of 18 credit units in religious studies or permission of the department.

**RELST 411.3
Seminar in Religion and Literature
1/2(3S)**

An advanced seminar in religious literature, chosen from either Eastern or Western religious traditions. Student presentations and discussions are emphasized.

**RELST 412.3
Seminar in Religion and Culture
1/2(3S)**

A critical examination of religious ideas, beliefs, and practices in varied cultural contexts.

**RELST 413.3
Seminar in Religious Thought
1/2(3S)**

An advanced seminar in contemporary religious thought focusing on an important theme such as the nature of religious belief, the problem of suffering and evil, or religious pluralism.

**RELST 414.3
Seminar in Biblical Literature
1/2(3L)**

Prerequisite: RELST 350.3 and 351.3; or RELST 352.3 and 354.3; or permission of the department.
An advanced seminar in a selected portion or aspect of the literature of either the Hebrew Bible or the New Testament. Student presentations and discussions are emphasized.

**RELST 423.3
Comparative Approaches to the Study of Religion
1/2(3S)**

A survey of contemporary theories and methods in the comparative study of religion. Issues and problems in the application of the comparative approach will be examined. Selected readings in major figures in the discipline, including Canadian contributors.

**RELST 425.3
Honours Paper/Colloquium
1&2(1S)**

Prerequisite(s): 3 credit units at the 300-level or completion of 18 credit units in religious studies or permission of the department.
Students will carry out a major project under the supervision of a faculty member and present the completed project in the form of a major paper and departmental colloquium.
Note: Required for Honours in Religious Studies.

SPECIAL TOPICS

- RELST 298.3 1/2(3S)
- RELST 299.6 1&2(3S)
- RELST 398.3 1/2(3S)
- RELST 399.6 1&2(3S)
- RELST 498.3 1/2(3S)
- RELST 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

COURSES IN OTHER DEPARTMENTS

The following courses are credited towards a religious studies major and honours program.

- ANTH 321.3 Myth, Ritual and Symbolism (Area C)
- CLASS 252.3 Paganism and Christianity in the Early Christian Centuries of the Roman Empire (Area A)
- ENG 277.3 Literary Uses of Mythology (Area C)
- HIST 285.6 (formerly HIST 234) History of Development and Underdevelopment in the Third World (Area A)
- PHIL 202.3 Introduction to the Philosophy of Religion (Area C)
- PHIL 203.3 Contemporary Philosophy of Religion (Area C)
- PHIL 204.3 Philosophy of Religion (Area A)
- SOC 217.3 The Sociology of Contemporary Religious Movements (Area C)
- SOC 321.3 The Sociology of Religion (Area C)
- SOC 413.3 Seminar in Sociology of Religion (Area C)

CHINESE

Students planning to take courses in Chinese must contact the instructor and obtain written permission before registering.

**CHIN 111.6
Introductory Chinese
1&2(3L)**

Provides conversational and reading knowledge of Chinese, with emphasis on the colloquial style. Restricted to students with no previous knowledge of Chinese.

**CHIN 130.6
Introduction to Classical Chinese Language and Literature
1/2(3L)**

Prerequisite(s): Permission of the

department.

An introduction to the classical Chinese language and literature. Topics include principles of the writing system; major features of grammar and syntax; philosophical and literary vocabulary; and translation practice using original texts from Tao Ta Ching, the Analects, and other Chinese classics.

**CHIN 220.6
Intermediate Chinese I and II
1&2(3L)**

Prerequisite(s): CHIN 111 or permission of the department.
Further studies of selected Chinese historical, philosophical and literary materials, with emphasis on the literary (wen-yen) style.

SANSKRIT

**SANSK 101.6
Introduction to Sanskrit
1&2(3L)**

An elementary course in classical Sanskrit language. Topics include phonology and nagari script; major features of morphology, grammar and syntax; translation practice and reading in narrative literature.

SPECIAL TOPICS

- SANSK 398.3 1/2(3S)
 - SANSK 399.6 1&2(3S)
- These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

RUSSIAN

See the Department of Languages and Linguistics section of the *Calendar*.

SANSKRIT

See the Department of Religious Studies section of the *Calendar*.

SEMITIC LANGUAGES

See the Department of Classics section of the *Calendar*.

SOCIOLOGY

MAJOR IN SOCIOLOGY (B.A. FOUR-YEAR)

Students are required to take the following: SOC 110.6; STATS 244.3 and SOC 240.3; SOC 232.3 and 233.3; SOC 232.3 should be taken as early as possible in the program and before any course at the 300 level; 18 other senior credit units, at least 12 of which must be at the 300 or 400 level.

Up to 60 credit units in sociology may be chosen. Students are encouraged to take cognate courses in other departments such as Anthropology and Archaeology, Computer Science, Economics, Geography, History, Mathematics and Statistics, Native Studies, Philosophy, Political Studies, Psychology, Religious Studies, and Women's and Gender Studies. Students

planning to apply for honours retroactively must take the same courses as Honours students (see below).

MAJOR IN SOCIOLOGY (B.A. THREE-YEAR)

Students are required to take the following:

SOC 110.6; SOC 232.3 and 233.3; SOC 232.3 should be taken as early as possible in the program and before any course at the 300 or 400 level; 18 other senior credit units, of which at least 6 must be at the 300 or 400 level.

Up to 42 credit units in sociology may be chosen. Students are encouraged to take cognate courses in other departments such as Anthropology and Archaeology, Computer Science, Economics, Geography, History, Mathematics and Statistics, Native Studies, Philosophy, Political Studies, Psychology, Religious Studies, and Women's and Gender Studies.

HONOURS IN SOCIOLOGY

The Honours degree is considered the minimum professional degree in sociology. The Honours program, or its equivalent, is required for admission to graduate work.

Students are required to take the following:

SOC 110.6; STATS 244.3 and SOC 240.3; SOC 232.3 and 233.3; SOC 232.3 should be taken as early as possible in the program and before any course at the 300 level; SOC 303.6; SOC 332.6; 21 additional senior credit units subject to the condition that of the 51 credit units prescribed for honours at least 9 must be at the 400 level;

Students are encouraged to take cognate courses in other departments such as Anthropology and Archaeology, Computer Science, Economics, Geography, History, Mathematics and Statistics, Native Studies, Philosophy, Political Studies, Psychology, Religious Studies, and Women's and Gender Studies.

DOUBLE HONOURS

There are various Double Honours Programs in sociology and another subject. Students are required to consult the departments concerned.

The sociology requirements are:

SOC 110.6; STATS 244.3 and SOC 240.3; SOC 232.3, 233.3, 303.6, and 332.6; 12 other credit units of which at least 6 must be at the 400 level.

ABORIGINAL JUSTICE AND CRIMINOLOGY PROGRAM FOR NATIVE STUDENTS

Major in Sociology (B.A. Three-year)

This program is intended to prepare Native students for careers in the criminal justice system. It includes required courses in sociology, focusing on criminology and related courses, and in Native Studies. This course work includes two 12-week practicum-based courses, normally held in the summer, designed to provide students with the ability to evaluate critically two substantive areas of relevance to the program. Students intending to complete this program must consult the department in the spring of their final year in high school or during their first year of

university studies to determine an appropriate sequence of courses and to arrange registration in the practicum.

Required courses: SOC 110.6, 203.3, 212.3, 232.3, 233.3, 313.6, 314.6; NATST 110.6, 219.3; ENG 110.6; STATS 244.3. It is recommended students also take additional courses selected from SOC 312.3, 319.3, 320.3, 329.3, 330.3, 341.3, 418.3, and NATST 225.3. Students are allowed to take up to 42 credit units in the B.A. Three-year program.

MAJOR IN SOCIOLOGY OF BIOTECHNOLOGY (B.A. FOUR-YEAR)

Students are required to take the following:

SOC 110.6; STATS 244.3 and SOC 240.3; SOC 232.3, 233.3, 292.3, 323.3; 12 senior credit units in Sociology including at least 9 credit units at the 300-400 level; BTECH 200.3, 300.3, 400.3; AG EC 292.3; COMM 345.3; PHIL 236.3. Recommended: HIST 284.3.

PRE-SOCIAL WORK PROGRAM

For a description of this program see Index section of the *Calendar* under Arts and Science, "Admission to Professional Colleges."

ST. THOMAS MORE COLLEGE

Sections of some courses in this department are taught by faculty in the corresponding department of St. Thomas More College. These course sections are designated in the *Registration Guide* by section numbers prefixed with the letter "M."

SOCIOLOGY

SOC 110.6 Introduction to Sociology 1&2(3L)

An introduction to sociological analysis of social institutions, relations, and groups, with emphasis on Canadian society. Contemporary and classical perspectives are used to study social structures and processes such as class, gender, race, ethnicity, community, work, education, justice, conflict, cooperation, and change. *Note:* SOC 110 is an alternative prerequisite for POLST 252.

SOC 110 is the prerequisite for all 200-level courses in sociology.

SOC 201.3 Economy and Society 1/2(3L)

Examination of relationships between economic and social structures in contemporary industrial and pre-capitalist societies. Mode of production and social exchange analysis in study of social reproduction and social crises.

SOC 203.3 Race and Ethnic Relations in Canada 1/2(3L)

An introduction to and general overview of the various theoretical perspectives on race and ethnic relations and ethnicity. Addresses such issues as assimilation, racism, ethnic persistence, multiculturalism, and domination.

SOC 204.3 Rural Sociology 1/2(3L)

Analysis of social change in rural areas with emphasis on links between the social organization of resource-based industries and the social characteristics of rural communities. Rural Canada is the primary focus but international rural development issues are considered.

SOC 205.3 Comparative Race and Ethnic Relations 1/2(3L)

A comparative sociological analysis of ethnic relations will include discussion of ethnic stratification, separatism, pluralism, and politicization of ethnic minorities in selected societies.

SOC 206.3 The Community 1/2(3L)

Communities as forms of social organization, and community as a particular kind of social relationship; power, politics, and resistance in contemporary communities; research problems and case studies.

SOC 207.6 The Family 1&2(3L)

Analysis of sex, marriage, family and kinship institutions in contemporary society.

SOC 208.3 La Sociologie des Francophones Hors-Quebec (The Sociology of French Canadian Society Outside Quebec) 1/2(3L)

Prerequisite(s): FR 121 (or 122) and 125; or equivalent.

The study of the social structure, and social processes which have shaped the development of French Canadian society outside Quebec, from their origins to the contemporary period, with a particular emphasis on Western Canada.

Note: French will be the language for instruction, examinations, readings and assignments.

SOC 212.3 Sociology of Crime and Delinquency 1/2(3L)

The epidemiology of crime in society; the etiology of criminal and delinquent careers; the psychogenic, sociogenic and "role-career" perspectives of crime; problems of criminal statistics; patterns of police organization; the problem of police deviance and brutality; the effect of poverty upon "equal" treatment in the legal process.

SOC 213.3 Immigration and the Canadian Mosaic 1/2(3L)

Prerequisite(s): SOC 203 recommended.

Explores the process of immigration and its impact on Canadian society. Topics include theories of immigration, public immigration policies, ideology and acculturation, pluralism and ethnic identity, race relations and immigrant communities.

SOC 214.3 Social Deviance and Social Control 1/2(3L)

The social structure of "unacceptable" behaviour and roles; problems associated with the labelling of deviant behaviour; the relativity of normality and deviance; selected types of contemporary deviant labels; homosexuality; mental illness; radical political movements; the physically stigmatized; suicide; the illness role; ethnic minorities; prostitution.

SOC 215.3 Sociology of Work 1/2(3L)

A study of work and workers in historical and cross-cultural context. The course examines the social dimensions of various orientations to and kinds of work.

SOC 217.3 The Sociology of Contemporary Religious Movements 1/2(3L)

A survey of contemporary religious movements with emphasis upon structural and functional similarities and differences.

SOC 220.6 Sociology and Social Welfare Organization 1&2(3L)

The development of organized social welfare as a component of an industrialized society; an investigation of the sociological forces that influenced each developmental stage, resulting in the present social welfare phenomena.

SOC 222.3 Sociology of Education Institutions and Processes 1/2(3L)

An introduction to the sociology of education through an examination of the major theoretical approaches; conflict theory, structural functionalism, and symbolic interactionism. Examines the school as a social institution and a complex organization, and the ethnography of classroom relations between students and teachers.

SOC 224.3 Collective Behaviour 1/2(3L)

The study of social movements, institutional formation, and other collective phenomena such as fads, crazes, manias, panics, rumours, riots and mob outbreaks. Collective behaviour theory and related sociological approaches are surveyed and applied.

SOC 226.3 Social Stratification 1/2(3L)

The study of systematic rankings in society: caste, feudal and class systems of stratification; the consequences of differential distribution of power, prestige and status; the correlatives of position in systems of stratification.

SOC 227.6 Critical Issues in Canadian Society 1&2(3L)

Canadian social structure and social change will be examined. The topics discussed will include: social class and inequality; elites; poverty; regionalism and

separatism; labour; ethnicity; and other relevant social issues.

**SOC 230.3
Comparative Urban Sociology
1/2(3L)**

Comparative analysis of the implications of urban growth and urbanization for urbanism and urban planning in selected countries.

**SOC 232.3
Methods of Social Research
1/2(3L)**

Introduces the language of social research; research design; techniques of data collection; methods of measurement, scaling and sampling, and the interpretation and presentation of research findings.

**SOC 233.3
Introduction to Sociological Theory
1/2(3L)**

An introduction to sociological theory through an examination of the relationship between theory and research, and consideration of some of the better known theoretical models of the "middle range" (e.g., social structure and anomie, reference group theory, etc.).

**SOC 235.3
The Sociology of Aging
1/2(3L)**

Provides an introductory sociological analysis of aging and old age. Issues will include demographic changes; theoretical approaches to old age; changing family systems and old age; work, leisure and retirement; socio-economic aspects and selected social policy issues. Course content will emphasize the Canadian situation.

**SOC 237.3
Comparative Social Demography
1/2(3L)**

An introduction to social demography in comparative perspective. Causes and consequences of rapid population growth, and effectiveness of fertility control in selected countries. The interrelation between the principal demographic variables: fertility, mortality, and migration.

**SOC 238.3
Sociology of Health, Illness and Health Care
1/2(3L)**

Introduction to sociological perspectives on Canadian health care policy and practice, and an examination of various socio-structural determinants of health and illness.

**SOC 240.3
Application of Statistical Techniques in Sociology
1/2(3L)**

Prerequisite(s): STATS 244.
The application of statistical techniques to sociology, with an emphasis on the understanding of assumptions, uses, strengths and weaknesses of the various tests of significance and measures of association.

Note: Students who have taken other courses in statistics, either from Arts and Science or from another college, should consult "Regulations for Introductory Courses in Statistics" for information on statistics course equivalencies. See Statistics Courses in the Index section of the *Calendar*.

**SOC 242.3
An Introduction to the Sociology of Women's Studies
1/2(3L)**

An introduction to sociological analyses of gender, in traditional as well as feminist perspective. Emphasizes gender differentiation and stratification as social processes as well as critical assessment of the assumptions, evidence, and arguments within the various theoretical approaches.

Note: Students with credit for SOC 239 may not take this course for credit.

**SOC 244.3
The Sociology of Mass Media in Canada
1/2(3L)**

Introduction to the sociological study of mass media institutions in Canadian society. Primary focus on the theoretical and historical context of print, broadcast and film media. Issues of ownership, regulation and the socialization of media workers will also be discussed.

**SOC 246.3
Ideology and Mass Communication: A Sociological Approach
1/2(3L)**

Introduction to the study of ways in which doctrines, opinions or ways of thinking of certain individuals or groups come to dominate the content of our mass media. Primary focus on the "manufacture of consent" in our society through an analysis of media messages about work, consumption and leisure in Canadian society.

**SOC 292.3
Biotechnology and Social Change
1/2(3L)**

Prerequisite(s): 6 credit units in sociology or 30 credit units of university courses.

Examines the evolution and development of the biotechnology industry, considered as part of the Information Revolution, and its relationship to the processes of social and cultural change. Various issues associated with the development and application of biotechnology are examined along with proposals for their practical management.

**SOC 301.6
Reading Course
1&2(3L)**

Provides the advanced student with an opportunity to engage in supervised reading in an advanced field of sociology. (Given only in special circumstances after consultation with the department head.)

**SOC 302.3
Sociology of Agriculture
1/2(3L)**

Prerequisite(s): 12 credit units in sociology including SOC 204, or 6 credit units of sociology and third-year standing in the College of Agriculture.

Contemporary sociological approaches to the social organization of farming and agribusiness, including property, gender, and work relations, structural and institutional change, and the social ecology of resource management. Emphasis is on North America, with comparison to other regions.

**SOC 303.6
History of Sociological Theory
1&2(3L)**

Prerequisite(s): 12 credit units in sociology, including SOC 233.

The development of sociological thought in Europe and America since the 18th century. Description and criticism of principal historical and contemporary contributions to sociological theory.

**SOC 304.3
Contemporary Marxist Sociology
1/2(3L)**

Prerequisite(s): 12 credit units in sociology including SOC 233.

An introduction to the study of contemporary Marxist thought. Focuses specifically on the ontological, conceptual and methodological issues, problems and implications inherent in the divergent schools of Marxist sociology.

**SOC 305.3
Ethnic Stratification
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

The study of the ideology and practice of ethnic stratification from a comparative perspective, and a critical review of theories and research in the area, including analyses of social-psychological approach, colonial model, split labour market, reserve army of labour, slavery, and other models.

**SOC 306.3
Contemporary Class Structure
1/2(3L)**

Prerequisite(s): 12 credit units in sociology, preferably including SOC 233.

An examination of theoretical models and empirical studies of the structure of social class relations in advanced industrial society. The course will examine patterns of class relations in the Western industrialized nations, and will also study selected "formally" socialist countries.

**SOC 308.3
Community Development in Canada
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

A sociological examination of community development concepts, approaches, and policies, with emphasis on recent Canadian experience. Local and regional projects, programs, and movements provide case material. The overseas record of Canadian development organizations is also considered.

**SOC 309.3
Theories of Social Change
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

A study of classical and contemporary sociological approaches to social change. The consequences of rapid change in institutional structures.

**SOC 312.3
Current Issues in Criminal Justice
1/2(3L)**

Prerequisite(s): SOC 212, and SOC 329 or 330.

Analysis of current developments in theories and research on criminogenesis, and the administration of criminal justice. Topics

include inequalities of involvement and treatment in the justice system based upon race, class and gender. Developing a general theoretical structure of justice system operation and reform is a key concern.

**SOC 313.6
Practicum in Criminal Justice I
(P)**

Prerequisite(s): SOC 110 and enrolment in the Aboriginal Justice and Criminology Program for Native Students.

An applied course that provides students with professional experience and the ability to critique criminal justice processing and services for aboriginal people. Students are placed in a 12-week work program after consultation with the program co-ordinator.

**SOC 314.6
Practicum in Criminal Justice II
(P)**

Prerequisite(s): SOC 313 and enrolment in the Aboriginal Justice and Criminology Program for Native Students.

An applied course that provides students with professional experience and the ability to critique criminal justice processing and services for aboriginal people. Students are placed in a 12-week work program after consultation with the program co-ordinator.

**SOC 315.3
Cross Cultural Perspectives on Poverty
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

Discussion of the concept and definition of poverty. Structural conditions that produce poverty at national and international levels. Internal and external factors related to the gap between rich and poor nations.

**SOC 316.3
Sociology of Work Organizations
1/2(3L)**

Prerequisite(s): 12 credit units in sociology, including SOC 215.

An advanced course dealing with work in diverse settings in modern society. It examines the formal and informal structures and processes in work organizations.

**SOC 319.3
Native People in Urban Areas
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

Describes and analyzes the growth, distribution and integration of the native population in Canadian urban centres as well as the causes and consequences of the urbanization of Canadian Native Peoples. Issues covered will include: education, law, family life and native-white relations.

**SOC 320.3
Social Welfare and the Native Peoples
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

Examines the involvement of the Native Peoples with the structures and processes of the Canadian social welfare system. It will investigate the extent to which the program meets the needs of the Native Peoples, and assess the total impact of the welfare system on them and their response to it.

**SOC 321.3
The Sociology of Religion
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

An analysis of religion in terms of the processes (for example, secularization and urbanization), which have affected the religious institutions of the West, and of the social and personality structures which, in interaction, shape religion and are shaped by it.

**SOC 322.3
Sociology of Education and Labour Markets
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

An analysis of the relationship between formal education systems and change in labour markets and work processes. Emphasis is given to theories and research concerning the role of state policy, the degree of "fit" between education and work, and structured inequalities in the transition from school to work.

**SOC 323.3
The Public Sphere and Public Opinion
1/2(3L)**

12 credit units in sociology or 60 credit units in university courses.

Public opinion is a potent political force that affects the nature and pace of social, cultural and technological change. This course explores the relationship between public opinion, the public sphere and democratic will formation and policy-making in contemporary societies with particular reference to biotechnology.

Note: This course has been revised to include focus on Biotechnology Industry.

**SOC 329.3
Penology and Corrections
1/2(3L)**

Prerequisite(s): 12 credit units in sociology including SOC 110 and 212.

An overview of the correctional system; from police, through courts and sentencing, to incarceration, to release and post-release processes; a look at the key positions and principles involved in custody, punishment and rehabilitation, with an emphasis on the Canadian system, but in a comparative context.

**SOC 330.3
Sociology of Law
1/2(3L)**

Prerequisite(s): 12 credit units in sociology, including one of SOC 214 or 212, or second or third year standing in the College of Law.

Analyzes law as a social institution. Topics include the history of law as social control, the structures and processes of legal agents and legal agencies, law as a profession, law in the international context, and law and social change.

**SOC 332.6
Principles of Research Design
1&2(3L)**

Prerequisite(s): SOC 232, 240, STATS 244.

Examination of a series of issues to be resolved in formulating a comprehensive research design. Topics include: formulating the problem; plan of data organization; defining and selecting cases; collection of

data; organization, analysis and interpretation of data. Each student is expected to develop a number of research projects during the year.

**SOC 336.3
Sociology of Professions
1/2(3L)**

Prerequisite(s): 12 credit units in sociology including SOC 233.

Provides a sociological analysis of the role of professions in contemporary society; the nature and organization of their work; and their relationship to other occupations and to the state.

**SOC 337.3
Demographic Issues in Canada
1/2(3L)**

Prerequisite(s): 12 credit units in sociology, including SOC 237.

A systematic examination of the theories, methodology and empirical research of social demography in the Canadian context. Note: Students with credit for SOC 318 may not take this course for credit.

**SOC 338.3
Sociology of Psychiatry and Mental Health Care
1/2(3L)**

Prerequisite(s): 12 credit units in sociology, including SOC 238.

Examines the changing definition of, and institutional response to, mental health problems, focusing on Canadian policy and practice.

**SOC 340.3
Marriage, Family and Society
1/2(3L)**

Prerequisite(s): 12 credit units in sociology, including SOC 207.

Emphasis will be placed on the analysis of changing patterns of marriage and the family within the contemporary social structure and on consequences and resulting trends from such structural changes.

**SOC 341.3
Institutional Racism and Canadian Native People
1/2(3L)**

Prerequisite(s): 12 credit units in sociology.

A sociological analysis of various models of institutional racism will be examined, and their applications to native experiences will be evaluated. Topics include: colonial domination, native reserves, urban natives, resource development, and welfare services.

**SOC 342.3
Sociological Theories of Gender Relations
1/2(3L)**

Prerequisite(s): 12 credit units in sociology including SOC 242, or 6 credit units in sociology and WGST 200.

Provides an in-depth theoretical examination of gender stratification and differentiation. It explores issues such as gender and race, gender and justice, and the gendered body. Issues will be analyzed from feminist perspectives using the theories of Marxism, symbolic interactionism, and post structuralism.

**SOC 345.3
Evaluation and Applied Social Research
1/2(3L)**

Prerequisite(s): SOC 232 and 240.

Designed to introduce students to the logic, design, conduct and analyses of evaluative and applied social research. Selective case studies of evaluation research will be presented and discussed.

**SOC 385.3
Selected Topics in Central American Sociology
2(2.5L-1.5S)**

Prerequisite(s): 6 credit units in 100-level sociology.

Part of the La Antigua, Guatemala Study Term abroad. Examines selected themes in contemporary Central American Sociology. May feature guest lecturers and field trips in neighbouring countries of the region.

400-level courses are open only to students in their third and fourth years who have completed at least 18 credit units in sociology with good standing. (Some courses have other specific prerequisites). All 400-level courses will be conducted as seminars and will emphasize theoretical considerations.

**SOC 402.3
Advanced Seminar in the Sociology of Agriculture
1/2(3S) or 1&2(1.5S)**

Prerequisite(s): 18 credit units in sociology including SOC 204 or 302.

Theoretical and research approaches to the political and social economy of agriculture. Emphasis is given to contemporary works on agro-industrial reorganization, agro-food technology, sustainability, state intervention, international trade, aid, and agrarian reform.

**SOC 405.3
Social Change
1/2(3S) or 1&2(1.5S)**

The use of various social models in the analysis of social change. Selected theories of and research on change and development.

**SOC 409.3
Sociology of Development
1/2(3S) or 1&2(1.5S)**

A review of present theories of development. The main emphasis will be on the search for missing variables in theories of development produced by western social scientists.

**SOC 411.3
The Family: Developments in Research and Theory
1/2(3S) or 1&2(1.5S)**

Prerequisite(s): SOC 207.

Selected topics concerning marriage and family behaviour: recent developments in research and theory.

**SOC 412.3
Advanced Seminar in Ethnic Relations
1/2(3S) or 1&2(1.5S)**

Theoretical aspects of inter-ethnic processes. Comparative analysis of empirical research on ethnic minorities within Canada and other selected societies.

**SOC 413.3
Seminar in Sociology of Religion
1/2(3S) or 1&2(1.5S)**

Prerequisite(s): SOC 217 or 321.

An advanced seminar in sociological theories of religious behaviour.

**SOC 415.3
Selected Problems in Social Control
1/2(3S) or 1&2(1.5S)**

Theoretical analysis of and empirical research on selected problems in social deviancy and social control.

**SOC 416.3
Industrialism and Social Welfare
1/2(3S) or 1&2(1.5S)**

Prerequisite(s): SOC 220 or 215 or 315 or 316.

An advanced course which investigates various theoretical perspectives on social welfare as a social institution in the context of industrialism. Selected issues particularly relevant to Canada, such as resource development and social policy will be included.

**SOC 418.3
Advanced Criminology
1/2(3S) or 1&2(1.5S)**

Prerequisite(s): SOC 212 and either SOC 329 or 330.

An analysis and critique of current developments in Canadian criminological discourse, with an emphasis on the specific research issues and their relation to theoretical and policy developments.

**SOC 420.3
Medical Sociology
1/2(3S) or 1&2(1.5S)**

Prerequisite(s): 18 credit units in sociology including SOC 238.

Comparative study of health-care systems; the structure and functions of medical institutions; and the relationship between the organization of health-care delivery systems and the medical profession, society and the state.

**SOC 422.3
Social Stratification and Social Mobility
1/2(3S) or 1&2(1.5S)**

Prerequisite(s): 18 credit units in sociology including SOC 226.

A review of classical and modern theories of stratification and introduction to methods of studying social mobility. Emphasis on recent developments in models of social stratification and social mobility.

**SOC 425.3
Sociology of Educational Policy
1/2(3S) or 1&2(1.5S)**

Prerequisite(s): SOC 222 or permission of the department.

An applied sociological analysis of educational policy as it relates to various

levels of education, to the social structure, and to interest groups. Examines the development and evaluation of educational policy within government, school boards and non-governmental organizations.

SOC 426.3

Advanced Seminar in Social Policy 1/2(3) or 1&2(1.5S)

Prerequisite(s): 18 credit units in sociology; SOC 220 or 320 recommended.

Examines the formulation, development, management and impact of social policies. Includes analysis and evaluation of social policies in income security, social services, employment, housing and other areas.

SOC 435.3

New Directions in the Sociology of Education 1/2(3S) or 1&2(1.5S)

Prerequisite(s): SOC 222.

Critical review and analysis of significant recent developments in sociological theory and research on education.

SOC 436.3

An Advanced Seminar in the Sociology of Women and Health 1/2(3S) or 1&2(1.5S)

Prerequisite(s): 18 credit units in sociology including SOC 242 and one of SOC 335 or 342.

Examines the relationship between women and the institution of medicine as a social practice. Specifically, it will explore the basis for women's health issues as rooted in their social position.

SOC 442.3

An Advanced Seminar in Contemporary Developments in Women's Studies 1/2(3S) or 1&2(1.5S)

Prerequisite(s): SOC 242 and 342.

Theoretical debates regarding the roles and relations of women and men, gender stratification, and the oppression of women, including critiques of traditional sociological theory, discourses on feminist epistemology, and the relationship between research methodology and the development of theory.

SPECIAL TOPICS

- SOC 398.3 1/2(3S)
- SOC 399.6 1&2(3S)
- SOC 498.3 1/2(3S)
- SOC 499.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

COURSES IN OTHER DEPARTMENTS

The following courses may be credited towards sociology major and honours programs as courses in sociology:

- POLST 252.6 Political Sociology
- STATS 244.3 Elementary Statistical Concepts for the Social Sciences

For details on the above courses, see the appropriate section of the *Calendar*.

SPANISH

See the Department of Languages and Linguistics section of the *Calendar*.

SPECIAL STUDIES

The guidelines for Special Studies individual research projects are described in detail at the beginning of the "Description of Courses and Programs" section. Special Studies projects credit either as electives or in a major. Special Studies in Languages projects (which can be at the 200-level) are also available. Please consult the Dean's Office for more information.

SP ST 298.3, 398.3, 498.3

Special Studies

SP ST 299.6, 399.6, 499.6

Special Studies

SPECIAL TOPICS COURSES

These are courses numbered 298.3, 299.6, 398.3, 399.6, 498.3 and 499.6 taught occasionally by faculty and visiting scholars in departments. They are listed in each department program. Students may receive credit for more than one Special Topics course in a department.

STATISTICS

See the Department of Mathematics and Statistics section of the *Calendar*.

UKRAINIAN

See the Department of Languages and Linguistics section of the *Calendar*.

URBAN PLANNING

See the Regional and Urban Development Program section or the Urban Planning minor in the Geography section of the *Calendar*

WOMEN'S AND GENDER STUDIES

Women's and Gender Studies examines human behaviour, institutions and culture in order to reveal and analyze the gender assumptions on which they are based. It examines the changing position of women and the changing understanding of gender primarily within Western societies but also in a cross-cultural context. It utilizes an interdisciplinary approach to such topics as the relation between biology and gender construction, patterns of language use by men and women in contemporary society, the role of gender in the processes of identity formation and socialization, the representation of gender in literature, art and religion, and women's changing economic and political roles. While Women's and Gender Studies utilizes concepts developed within longer-established disciplines, it has developed distinctive conceptual frameworks and analytic methodologies which challenge

and complement those of other academic disciplines.

Women's and Gender Studies offers a Three-year major program, a Four-year major program and an 18 credit unit minor program. The Three-year program will provide excellent preparation for students planning to take a professional program. The Four-year program features specialization options with other disciplines. The Four-year program integrates 30 credit units of gender content with 30 credit units in the disciplinary specialization. Students may choose one of seven sub-specialty options.

Women's and Gender Studies is primarily a 3-credit-unit course program. Students are strongly advised against registering in a 3-credit-unit course after having missed more than 3 hours of the class.

MAJOR IN WOMEN'S AND GENDER STUDIES (B.A. FOUR-YEAR)

Required courses:

- (1) WGST 110.6, 310.3, 311.3, 312.3;
- (2) 9 other credit units of WGST and/or cross-listed courses;
- (3) One of the following options:

Art and Art History Specialization (30 credit units): ART 120.3, 121.3; 6 credit units of 100-level studio art; 6 credit units in the history of art before 1800; 6 credit units in the history of art after 1800; 6 credit units from the following: ART 257.6, 319.6, 324.3, 325.3, 326.3, 328.3, 440.6, WGST 201.3, 352.3. WGST 201 and 352 may not be used to fulfil requirement (2) above.

Students must complete Program Type D requirements. Students intending to go on to graduate work in fine arts should seek advice from the Department of Art and Art History regarding graduate entrance requirements.

Economics Specialization (30 credit units): ECON 111.3, 114.3, 204.6, 211.3 or 213.3, 214.3; 6 other credit units of ECON at the 300- or 400-level; 6 credit units from the following: ECON 221.3, 227.3, 327.3. ECON 221 and 327 may not be used to fulfil requirement (2) above.

Students must complete Program Type B requirements. Students intending to go on to graduate work in economics should seek advice from the Department of Economics.

English Specialization (30 credit units): ENG 110.6; 6 credit units of pre-20th-century English Literature (refer to categories 1, 2 and 3 in the English section of the *Calendar*); 12 other credit units in English; ENG 281.6 (cross-listed). This course may not be used to fulfill requirement (2) above.

Students must complete Program Type A requirements. Students intending to go on to graduate work in English should seek advice from the Department of English regarding graduate entrance requirements.

History Specialization (30 credit units): 6 credit units in history at the 100-level; 12 credit units selected from HIST 259.3, 260.3, 340.3, 343.3, 346.3, 347.3, 351.3, 355.3, 373.3, 374.3, 461.6, 464.6 (courses

used to fulfil this requirement may not also be used for requirement (2) above; and, 12 credit units in other history courses not listed in the previous requirement. All students specializing in history must take at least 6 credit units having a terminal date of 1815 or earlier.

Students must complete Program Type A requirements. Students intending to go on to graduate work in history should seek advice from the Department of History regarding graduate entrance requirements.

Native Studies Specialization (30 credit units): NATST 110.6, 209.3, 211.6, 225.3 (cross-listed); 12 credit units in Native Studies at the 300-and/or 400-level. NATST 225. may not be used to fulfil requirement (2) above.

Students must complete Program Type B requirements. Students intending to go on to graduate work in native studies should seek advice from the Department of Native Studies regarding graduate entrance requirements.

Philosophy Specialization (30 credit units): PHIL 224.3, 227.3; and at least 24 senior-credit units in philosophy including 6 credit units from each of Philosophy course categories A, B, and C and including at least 6 credit units at the 300- or 400-level. Students are encouraged to take PHIL 242.3. PHIL 224 and 227 may not be used to fulfil requirement (2) above.

Students must complete Program Type A requirements. Students intending to go on to graduate work in philosophy should seek advice from the Department of Philosophy.

Sociology Specialization (30 credit units): SOC 110.6; SOC 232.3 and 233.3; SOC 232.3 should be taken as early as possible in the program and before any course at the 300- or 400-level; STATS 244.3 and SOC 240.3; 6 other senior credit units, of which at least 3 must be at the 300- or 400-level; 6 credit units from cross-listed Sociology courses. Courses used to fulfill this requirement may not be used to fulfill requirement (2) above.

Students must complete Program Type B requirements. Students intending to go on to graduate work in sociology should seek advice from the Department of Sociology regarding graduate entrance requirements.

MAJOR IN WOMEN'S AND GENDER STUDIES (B.A. THREE-YEAR)

Required courses:

- (1) WGST 110.6, 310.3, 311.3, 312.3;
- (2) 9 other credit units of WGST;
- (3) 6 credit units of cross-listed courses.

Students must complete Program Type A, B, or D requirements.

ADVANCED CERTIFICATE PROGRAM

Students who have already received a B.A. Three-Year, Four-year, or Honours degree will be awarded an Advanced Certificate in Women's and Gender Studies upon the completion of a minimum of 30 additional credit units, including the requirements for the WGST Four-year major.

MINOR IN WOMEN'S AND GENDER STUDIES

A minor program in Women's and Gender Studies may be taken in conjunction with any major or honours bachelor's degree in the College of Arts and Science. The program is designed to offer students an opportunity to integrate their understanding of the role of women in society and culture with other disciplines.

Required courses (18 credit units):

WGST 110.6 and 310.3; WGST 311.3 or 312.3; 6 other credit units of WGST and/or cross-listed courses at the 200-level or higher.

To achieve the minor in Women's and Gender Studies, a CPA of 62.50% must be obtained on all WGST and cross-listed courses taken.

WOMEN'S AND GENDER STUDIES

**WGST 110.6
Introduction to Women's and Gender Studies
1&2(3L or 2L & 1T)**

Introduces students to the research and writings in the area of Women's and Gender Studies. Examines the changing position of women in developed and developing societies since the 19th century. Special attention will be given to the analysis of women's experiences in the Canadian context.

Note: Students with credit for WGST 200.6 may not take WGST 110.6 for credit.

Note: Students majoring in Program Type A, B or C may use this course for Requirement 5. Any student may use this course as an elective.

**WGST 201.3
Images of Women and Men in Popular Culture
1/2(2L-1S)**

Prerequisite(s): Completion of 30 credit units at the university or permission of the department.

An introduction to a variety of feminist critical approaches to mass media art forms. Focuses on visual and literary images of women and men in post-World War II North American popular culture.

**WGST 202.3
Gender and Environment
1/2(3L)**

Prerequisite(s): WGST 110.6, or 6 credit units in WGST and/or cross-listed courses, or permission of the department.

An interdisciplinary and cross-cultural introduction to theories and practices linking gender and the environment, with particular emphasis on the emergence of ecofeminism in the late 20th century.

Note: Students with credit for WGST 298 (Special Topics: Gender and Environment) may not take this course for credit.

**WGST 203.3
Introduction to Women and Development
1/2(3L)**

Prerequisite(s): WGST 110 or 6 credit units in WGST and/or cross-listed courses, or permission of the department. ECON 221 is

strongly recommended.

An introduction to feminist analysis, theories, and practices of development affecting and engaged in by women, both locally and in the Third World. Topics include: Women's experience of development under colonialism/imperialism, and neocolonialism; the role of governments, non-governmental organizations, and international aid; the role of the international women's movement and women-centered models of development.

Note: Students with credit for WGST 298 (Special Topics: Women and Development) may not take this course for credit.

**WGST 210.3
Gendered Perspectives on Social Issues
1/2(3L)**

Prerequisite(s): Completion of 30 credit units at the university or permission of the department.

An interdisciplinary examination of selected contemporary social problems from the perspective of gender. Students will be introduced to gender as an ideology, a category of analysis, and a theme common to issues such as racism, homophobia, militarism, and environmental crisis.

Note: Students with credit for WGST 101.3 may not take WGST 210.3 for credit.

Note: Students majoring in Program Type A, B or C may use this course for Requirement 5. Any student may use this course as an elective.

**WGST 309.3
Understanding Western Patriarchy
1/2(3L)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and cross-listed courses or permission of the department. A course in philosophy, political studies, classics or religious studies is highly recommended.

Examination of a selection of texts which helped to shape gender arrangements in Western culture from 1700 BCE to the early 20th Century. The focus will be on influential sacred, legal, philosophical, and political writings that made the emergence of feminist thought and the rise of political feminism both necessary and possible.

**WGST 310.3
Feminist Thought to 1980
1/2(3L)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and/or cross-listed courses, or permission of the department. PHIL 227 is recommended.

Examination of the evolution of feminist theory within the larger context of Western political and philosophical thought from the 18th century to 1980. Special attention is given to the relationship of feminist theory to the 19th and 20th century waves of political feminism.

**WGST 311.3
Contemporary Feminist Thought
1/2(3L)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and/or cross-listed courses, or permission of the department. WGST 310 and/or PHIL 227 is recommended.

Examination of contemporary feminist theory from 1980 to the present. Feminist theory will be set within the larger context of anti-Enlightenment philosophy and political thought, including postmodernism, postcolonialism, post-Freudian psychoanalysis and psycholinguistics.

**WGST 312.3
Feminist Research Methodologies
1/2(3L)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and/or cross-listed courses, or permission of the department.

Examines various feminist methodologies and approaches to the formal construction of knowledge. A survey of the major methods of research in diverse fields is presented in the context of feminist critique and epistemology. Androcentric bias, feminist epistemology, ethics and subjectivity are central themes of the course.

Note: Students with credit for WGST 398 (Special Topics: Feminism and the Construction of Knowledge) may not take this course for credit.

**WGST 313.3
Community Practicum
1/2(3L)**

Prerequisite(s): WGST 312 and permission of the instructor.

A collaborative effort between the individual student, a community organization and the Department of Women's and Gender Studies. It provides students with the opportunity to apply the theoretical and methodological tenets of feminism and Women's Studies, and to benefit from first-hand research and community work. Students must design and implement a project that meets the approval of a particular organization and the Department of Women's and Gender Studies.

**WGST 350.3
Women and Current Legal Issues
1/2(3S)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and/or cross-listed courses, or permission of the department.

An examination of current legal issues from a feminist perspective. Issues may include: gender dominance and dependency; occupational segregation; pay equity; sexual harassment; reproductive technologies; pornography; gender violence.

Note: Students with credit for WGST 398 (Special Topics: Women and Current Legal Issues) may not take this course for credit.

**WGST 351.3
Women, Depression and Writing
1/2(3S)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and/or cross-listed courses, or permission of the department.

Examines the phenomenon of depression, particularly women's depression, from clinical, theoretical, and literary perspectives. Traces the development of a language, theoretical and/or poetic, that articulates women's experience of depression and challenges the traditional,

largely male-constructed discourses on clinical depression.

Note: Students with credit for WGST 398 (Special Topics: Women, Depression and Writing) may not take this course for credit.

**WGST 352.3
Gender Gadgets, Technologies of Cultural Construction
1/2(3S)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and/or cross-listed courses, or permission of the department.

An interdisciplinary examination of the material and conceptual tools, used today and in the past, in a range of media to construct or challenge culturally received notions of gender and other dimensions of identity such as race and ethnicity, class, ability, age, sexuality. Media studied will include some of the following: literature, art, cinema, music, magazines and newspapers, television theatre and performance, scientific texts.

Note: Students with credit for WGST 398 (Special Topics: Four Canadian Women Writers/Painters) may not take this course for credit.

**WGST 353.3
Gender, Culture and Contagion
1/2(3L)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and/or cross-listed courses, or permission of the department.

An examination of theories of contagion and knowledge of contagious disease from a feminist perspective. A survey of major diseases, of past and present importance, explores how men and women experience contagious disease and how these experiences are represented in technical and popular literature. The current HIV/AIDS pandemic figures prominently in the course.

**WGST 354.3
Women and Addiction
1/2(3L)**

Prerequisite(s): WGST 110.6 or 6 credit units in WGST and/or cross-listed courses, or permission of the department.

An examination of the experiences of women with various forms of addiction. Surveyed are how women live with problems of dependency, how they are represented in popular and technical media, how they care for others with substance abuse problems, and how they are treated in existing medical and social service facilities.

Note: Students with credit for WGST 398 (Special Topics: Women and Addiction) may not take this course for credit.

SPECIAL TOPICS

WGST 298.3 1/2(3S)
WGST 299.6 1&2(3S)
WGST 398.3 1/2(3S)
WGST 399.6 1&2(3S)

These courses are offered occasionally by visiting faculty and in other special situations. Students interested in these courses should contact the department for more information.

ARTS & SCIENCE • *Women's and Gender Studies*

COURSES FROM OTHER DEPARTMENTS

CLASS 225.3 Women and Antiquity	HIST 259.3 Canadian Women's History from Pre-Contact Period to 1918	NATST 225.3 Native Women in Canada	RELST 359.3 Women and the Bible
ECON 221.3 Women and the Economy	HIST 260.3 Canadian Women's History from 1919 to the Present	NATST 419.3 First Nations' Women and the Law	SOC 335.3 Sociology of Domestic Labour
ECON 327.3 The Economics of Pay Inequality	HIST 346.3 Women in the Workplace: England, 1780-1920	PHIL 224.3 Philosophy of Sexuality	SOC 342.3 Sociological Theories of Women's Studies.
EDFDT 482.3 Women and Education	HIST 347.3 Feminism and Society: England, 1790-1945	PHIL 227.3 An Introduction to Feminist Philosophy	SOC 436.3 Advanced Seminar in the Sociology of Women and Health.
EDFDT 483.3 Women and the Teaching Profession	HIST 373.3 Race, Class and Gender in U.S. History, 1790-1865	POLST 351.3 Women and Political Power	SOC 442.3 Advanced Seminar in Contemporary Developments in Women's Studies.
EDFDT 486.3 Gay and Lesbian Issues in Education	HIST 374.3 Race, Class and Gender in U.S. History, 1865-1983	POLST 352.3 Women, Political Participation and Public Policy	
ENG 281.6 Feminist Critical Theory and Literature by Women	HIST 461.6 Canadian Women's History	RELST 220.3 Women in Western Religions	For details, see the appropriate section of the <i>Calendar</i> .
		RELST 321.3 Feminist Theologies	